

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 20-F

- (Mark One)
[] REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934
OR
[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2021
OR
[] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
OR
[] SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission file number 001-36130

voxeljet AG

(Exact name of Registrant as specified in its charter)

Not Applicable

(Translation of Registrant's name into English)

Federal Republic of Germany

(Jurisdiction of incorporation or organization)

Paul-Lenz Straße 1a

86316 Friedberg, Germany

(Address of principal executive offices)

Rudolf Franz, Telephone: (49) 821 7483 100, Facsimile: (49) 821 7483 111,

Address: Paul-Lenz Straße 1a, 86316 Friedberg, Germany

(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act.

Table with 3 columns: Title of each class, Trading symbol, Name of each exchange on which registered. Row 1: American Depository Shares each representing one ordinary share, VJET, NASDAQ Capital Market. Row 2: Ordinary shares, €1.00 nominal value per share*, VJET, NASDAQ Capital Market*.

* Not for trading purposes, but only in connection with the registration of American Depository Shares pursuant to the requirements of the Securities and Exchange Commission. Securities registered or to be registered pursuant to Section 12(g) of the Act.

None
(Title of Class)

Securities registered for which there is a reporting obligation pursuant to Section 15(d) of the Act.

None
(Title of Class)

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report.

Ordinary shares: 7,026,711

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. [] Yes [X] No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. [] Yes [X] No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. [X] Yes [] No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). [X] Yes [] No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See definition of "accelerated filer," "large accelerated filer" and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer [] Accelerated filer [] Non-accelerated filer [X] Emerging growth company []

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. []

†The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. [] Yes [X] No

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP [] International Financial Reporting Standards as issued by the International Accounting Standards Board [X] Other []

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow. [] Item 17 [] Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). [] Yes [X] No

(APPLICABLE ONLY TO ISSUERS INVOLVED IN BANKRUPTCY PROCEEDINGS DURING THE PAST FIVE YEARS)

Indicate by check mark whether the registrant has filed all documents and reports required to be filed by Sections 12, 13 or 15(d) of the Securities Exchange Act of 1934 subsequent to the distribution of securities under a plan confirmed by a court. [] Yes [] No

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This annual report on Form 20-F contains forward-looking statements concerning our business, operations and financial performance and condition as well as our plans, objectives and expectations for our business operations and financial performance and condition. Any statements that are not of historical facts may be deemed to be forward-looking statements. You can identify these forward-looking statements by words such as “believes,” “estimates,” “anticipates,” “expects,” “plans,” “intends,” “may,” “could,” “might,” “will,” “should,” “aims,” or other similar expressions that convey uncertainty of future events or outcomes. Forward-looking statements appear in a number of places throughout this annual report and include statements regarding our intentions, beliefs, assumptions, projections, outlook, analyses or current expectations concerning, among other things, our indebtedness and ability to continue as a going concern, results of operations, cash needs, financial condition, liquidity, prospects, growth and strategies, intellectual property position, the industry in which we operate and the trends that may affect the industry or us.

By their nature, forward-looking statements involve risks and uncertainties because they relate to events, competitive dynamics and industry change, and depend on economic circumstances that may or may not occur in the future or may occur on longer or shorter timelines than anticipated. Although we believe that we have a reasonable basis for each forward-looking statement contained in this annual report, we caution you that forward-looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties and other factors that are in some cases beyond our control. All of our forward-looking statements are subject to risks and uncertainties that may cause our actual results to differ materially from our expectations.

Actual results could differ materially from our forward-looking statements due to a number of factors, including, without limitation, risks related to:

- health epidemics and other widespread outbreaks of contagious disease, such as COVID-19, which could significantly disrupt our operations and impact our operating results and/or cash flows;
- our ability to maintain our operations as a going concern;
- matters arising from the results of our Audit Committee investigation regarding potential illegal acts, including any identified material weaknesses, recommended remediations, potential regulatory investigations and proceedings, litigation matters, and additional expenses;
- our ability to maintain sufficient internal controls over financial reporting to comply with Section 404 of the Sarbanes-Oxley Act, as applicable, and to mitigate and remediate effectively the material weaknesses in our internal control over financial reporting;
- our ability to raise additional capital on attractive terms, or at all, to meet our growth strategy as well as to support the continuation of our operation;
- fluctuations in our revenues and operating results;
- our ability to manage the expansion of our operations, including sales efforts, effectively, including in difficult market environments like India and China, in order to achieve our projected levels of growth;
- our ability to attract and retain key management or other key employees;
- rapid changes in government, economic and political policies and conditions, political or civil unrest or instability, war or terrorism, climate change, epidemics or pandemics;
- our ability to introduce new 3D printers and related print materials acceptable to the market and to improve the technology and print materials used in our current 3D printers;
- the long sales cycle for our products, which makes the timing of our production planning and our revenues difficult to predict;

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- our ability to adequately increase demand for our products;
- declines in the prices of our products and services, or in our volume of sales;
- our dependence upon sales to certain industries;
- our relationships with suppliers, especially with limited source suppliers of components of and consumables for our products;
- significant fluctuations in the price of our American Depositary Shares (“ADSs”);
- our ability to maintain our exemption, as a foreign private issuer, from certain requirements under United States (or “U.S.”) securities laws and NASDAQ Capital Market (the “NASDAQ”) corporate governance rules;
- our ability to obtain patent protection for our products or otherwise protect our intellectual property rights;
- our ability to protect our trade secrets and intellectual property; and
- the other factors listed in “Item 3. Key Information—D. Risk Factors” and elsewhere in this annual report.

Any forward-looking statements that we make in this annual report speak only as of the date of such statement, and we undertake no obligation to update such statements to reflect events or circumstances after the date of this annual report or to reflect the occurrence of unanticipated events. Comparisons of results for current and any prior periods are not intended to express any future trends or indications of future performance, unless expressed as such, and should only be viewed as historical data. You should, however, review the factors and risks we describe in the reports we will file from time to time with the Securities and Exchange Commission, or SEC after the date of this annual report. See “Item 10. Additional Information—H. Documents on Display.”

You should also read carefully the factors described in “Item 3. Key Information—D. Risk Factors” section of this annual report and elsewhere to better understand the risks and uncertainties inherent in our business and underlying any forward-looking statements. As a result of these factors, we cannot assure you that the forward-looking statements in this annual report will prove to be accurate. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified timeframe, or at all.

In this annual report, unless the context otherwise requires, the “Company,” “voxeljet,” “we,” “us,” and “our” refer to voxeljet AG and its subsidiaries.

SUMMARY OF RISK FACTORS

Investing in our securities involves a high degree of risk. The following is a summary of the principal factors that make an investment in our securities speculative or risky, all of which are more fully described below in “Item 3. Key Information—D. Risk Factors” section of this annual report. This summary should be read in conjunction with the “Item 3. Key Information—D. Risk Factors” section and should not be relied upon as an exhaustive summary of the material risks facing our business.

Risks Related to Our Business and Industry

- We face risks related to health epidemics such as COVID-19;
- We have incurred losses to date and anticipate continuing to incur losses in the future;
- Matters relating to or arising from our Audit Committee investigation may adversely affect our business and results of operations;

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- Material weaknesses in our internal control over financial reporting have been identified;
- Our indebtedness could adversely affect our financial condition;
- We need to raise additional financial resources in form of equity or debt to fund our operation and may be unable to do so on attractive terms, or at all;
- Our revenues, operating results, margins and EBIT may fluctuate from quarter-to-quarter and year-to-year;
- Our strategic restructurings may not achieve intended benefits;
- Our operations could suffer if we are unable to attract and retain key management or skilled employees;
- We face significant competition in many aspects of our business;
- Our operations outside of Germany and related risks could adversely affect our results of operations;
- We may engage in future acquisitions that could disrupt our business;
- Global economic, political and social conditions have adversely impacted our sales and may continue to do so;
- Failure to comply with the U.S. Foreign Corrupt Practices Act could result in fines and criminal penalties;
- Our operations are subject to government regulations which could result in liabilities;
- We may not have adequate insurance, including for liabilities arising from litigation.

Risks Related to Our Products

- We may not be able to introduce new 3D printers and related print materials to meet customer demands;
- Declines in the prices of our products and services, or in our sales may adversely affect our results;
- Demand for our products may not increase adequately;
- Defects in new products could result in material expenses, diversion of management time and attention, and damage to our reputation;
- Disruption of our manufacturing facility could result in loss of revenues and unforeseen costs.

Risks Related to Information Technology and Information Security

- A disruption of our information technology systems could adversely affect our results of operations;
- Regulation in the areas of privacy, data protection and information security could increase our costs.

Risks Related to Our Dependence on Third Parties

- We are highly dependent upon sales to certain industries;
- If our relationships with suppliers were to terminate or be disrupted, our business could be adversely affected.

Risks Related to Ownership of Our ADSs

- The price of our ADSs may fluctuate significantly;

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- Substantial future sales of our ordinary shares or ADSs could cause the price of the ADSs to decline;
- Our principal shareholders and management will be able to exert significant influence over matters subject to shareholder approval;
- Holders of our ADSs may not have the same rights as the holders of our ordinary shares;
- We have no present intention to pay dividends on our ordinary shares in the foreseeable future;
- As a foreign private issuer, we are exempt from a number of rules under the U.S. securities laws and NASDAQ corporate governance rules;
- We incur significant costs to operate as a company whose ADSs are publicly traded in the United States;
- U.S. investors may have difficulty enforcing civil liabilities against our Company;
- Your rights as a shareholder in a German corporation may differ from those in a U.S. corporation;
- Exchange rate fluctuations may reduce the amount of U.S. dollars you receive in respect of any dividends;
- In the event we are or become treated as a passive foreign investment company, U.S. holders of our ADSs could be subject to adverse U.S. federal income tax consequences.

Risks Related to Our Intellectual Property

- If we are unable to obtain patent protection for our products, our business could suffer;
- We have license rights of certain patents and cannot adequately estimate the effects of their expiration;
- We may be subject to claims alleging patent infringement and may incur substantial costs;
- Obtaining and maintaining our patent protection depends on compliance with various requirements;
- Certain of our employees and patents are subject to German law;
- If we fail to comply with our obligations under our intellectual property-related agreements, we could lose rights that are important to our business;
- Certain technologies and patents have been developed with partners and we may face restrictions thereon.

SERVICE OF PROCESS AND ENFORCEMENT OF CIVIL LIABILITIES

voxeljet AG is a German stock corporation (*Aktiengesellschaft* or *AG*), and its registered offices and most of its assets are located outside of the United States. In addition, most of the members of our Management Board, our Supervisory Board, and our senior management are residents of Germany and jurisdictions other than the United States. As a result, it may not be possible for you to effect service of process within the United States upon these individuals or upon voxeljet AG or to enforce judgments obtained in U.S. courts based on the civil liability provisions of the U.S. securities laws against voxeljet AG in the United States. Awards of punitive damages in actions brought in the United States or elsewhere are generally not enforceable in Germany. In addition, actions brought in a German court against voxeljet AG or the members of its Management Board and Supervisory Board, and its senior management to enforce liabilities based on U.S. federal securities laws may be subject to certain restrictions; in particular, German courts generally do not award punitive damages. Litigation in Germany is also subject to rules of procedure that differ from the U.S. rules, including with respect to the taking and admissibility of evidence, the conduct of the proceedings and the allocation of costs. Proceedings in Germany would have to be conducted in the German language, and all documents submitted to the court would, in principle, have to be translated into German. For these reasons, it may be difficult for a U.S. investor to bring

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an original action in a German court predicated upon the civil liability provisions of the U.S. federal securities laws against us, the members of our Management Board, Supervisory Board and senior management. In addition, even if a judgment against our Company, the non-U.S. members of our Management Board, Supervisory Board or senior management based on the civil liability provisions of the U.S. federal securities laws is obtained, a U.S. investor may not be able to enforce it in U.S. or German courts.

PART I

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

ITEM 3. KEY INFORMATION

A. SELECTED FINANCIAL DATA

Not applicable.

B. CAPITALIZATION AND INDEBTEDNESS

Not applicable.

C. REASONS FOR THE OFFER AND USE OF PROCEEDS

Not applicable.

D. RISK FACTORS

Risks Related to Our Business and Industry

We face risks related to health epidemics and other widespread outbreaks of contagious disease, such as COVID-19, which could significantly disrupt our operations and impact our operating results and/or cash flows.

We face various risks related to health epidemics, pandemics and similar outbreaks, including the global outbreak of COVID-19. The continued spread of COVID-19 has led to disruption and volatility in the global economy and capital markets, which increases the cost of capital and adversely impacts access to capital.

As the COVID-19 pandemic continues to cause significant disruption and delays, it is likely that the COVID-19 pandemic could continue to impact investment performance and cause other unpredictable events. We have been impacted and continue to be impacted by adverse effects from the COVID-19 pandemic, including a decline in revenues for the Services segment and service and maintenance business of the Systems segment in 2020. Although beginning in the third quarter of 2021, we have seen increases in the revenues from our Systems and Services segments, which reflected a positive trend of recovery from the economic slow-down due to the COVID-19 pandemic, nevertheless, we have experienced and continue to expect some delays in installation of 3D printers at customers' facilities, which has and may lead to further postponed revenue recognition for those transactions. Furthermore, if significant portions of our workforce are unable to work effectively, including because of illness, quarantines, government actions, facility closures, remote working or other restrictions in connection with the COVID-19 pandemic, our operations will likely be negatively impacted. Pursuant to government closure orders, including reimpositions of travel restrictions and other closures, intended to contain or slow the spread and resurgence of COVID-19, we may be required to close certain of our facilities in the regions voxeljet operates that perform work that is deemed non-essential. One or more additional facilities could become subject to similar orders, which could further disrupt our operations if the work performed at such facilities cannot be conducted remotely, potentially necessitating the furloughing of some of our employees or a permanent reduction in our workforce.

Our sales, installation and service of 3D printing machines in China and other countries have been and may continue to be disrupted, and the spread of COVID-19 has disrupted our commercial efforts in other countries. If the COVID-19 crisis continues for a prolonged duration, we or our customers may be unable to perform fully on our contracts, which will likely result in increases in costs and reduction in revenue. These cost increases may not be fully recoverable or adequately covered by insurance. If we experience difficulty in generating sufficient cash flow to meet

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our obligations and sustain our operations, which could affect our ability to continue as a going concern, we may have difficulty accessing government and state aid.

We continue to work with our stakeholders (including customers, employees, suppliers and local communities) to address responsibly this global pandemic. The long-term effects of COVID-19 to the global economy and to us are difficult to assess or predict, and may include a further decline in the market prices of our ADSs, risks to employee health and safety, risks for the deployment of our products and services (including by limiting our customer support, among others effects resulting from government measures) and reduced sales in geographic locations impacted. The prolonged restrictive measures put in place in order to control COVID-19 or other adverse public health development in any of our targeted markets have had and may have a material and adverse effect on our business operations, financial position, results of operations and/or cash flows. These uncertainties could affect our ability to continue as a going concern.

We have incurred losses to date and anticipate continuing to incur losses in the future, and there are uncertainties which could affect our ability to continue as a going concern.

Our consolidated financial statements as of and for the year ended December 31, 2021 have been prepared on the basis that we will continue as a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. We have incurred significant losses since our IPO and we expect that we will continue to incur losses as we aim to successfully execute our business plan and will be dependent on additional public or private financings, collaborations or licensing arrangements with strategic partners, or additional credit lines or other debt financing sources to fund continuing operations.

We expect that we will continue to incur losses and negative cash flows from operations for at least the next 12 months following the issuance of the financial statements. As of December 31, 2021, we had an accumulated deficit of € 85.8 million and had cash and cash equivalents and short-term financial assets of total € 22.7 million. We have significant outstanding debt and contractual obligations related to interest payments and leases. As of December 31, 2021, our debt totaled € 24.1 million, of which € 14.3 million is classified as current. Our debt service obligations over the next twelve months are significant, including more than € 0.7 million of anticipated interest payments, exclusive of the performance participation interest for tranche A related to the loan granted by the European Investment Bank (the “EIB”). Furthermore, our debt agreement with the EIB contains financial covenants, the breach of which could trigger the acceleration of our loan repayment obligations, which would put us at risk of default.

As of December 31, 2019, we were in breach of the Total Net Financial Debt to EBITDA financial covenant under the Finance Contract with the EIB (the “Finance Contract”), which requires that we maintain certain minimum ratios. In March 2020, we received a waiver for the covenant breaches in 2019 and a grace period ending March 31, 2021, during which (i) voxeljet can rectify such breaches and (ii) the EIB shall not demand immediate repayment. In June 2020, we amended the financial covenants in the Finance Contract to replace the Total Net Financial Debt to EBITDA ratio with a Minimum Cash/Cash Equivalents requirement (the “Minimum Cash Covenant”). As of June 30, 2020, pursuant to the semi-annual financial testing prescribed by the Finance Contract, as amended, we were in compliance with the Minimum Cash Covenant. However, in March 2021, we discovered that our calculation of cash and cash equivalents for determining compliance with the Minimum Cash Covenant was incorrect and, accordingly, we were not in compliance with the Minimum Cash Covenant as of December 31, 2020. Also in March 2021, we received a waiver from the EIB for the noncompliance with the Minimum Cash Covenant, pursuant to which (i) the EIB agreed that it will not demand immediate repayment of the outstanding amounts owed and (ii) the EIB and the Company amended the financial covenants in the Finance Contract to clarify the calculation of cash and cash equivalents for determining compliance with the Minimum Cash Covenant. We have been in compliance with the Minimum Cash Covenant, and all other requirements under the Finance Contract, since March 2021.

In addition, as of December 31, 2019, we were in non-compliance with the financial covenants related to loan agreements with Kreissparkasse Augsburg, Germany and consequently pledged € 2.0 million in favor of Kreissparkasse. The circumstance that those € 2.0 million have been pledged and therefore are restricted since then, has been considered within management’s assessment of going concern.

We expect to incur additional costs and expenses related to the continued development and expansion of our business, including the maintenance of operation of our manufacturing facilities, contract manufacturing and research and

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development operations. There can be no assurance that we will ever achieve or sustain profitability on a quarterly or annual basis.

During 2021, in January, February and July, we successfully completed three registered direct offerings and sales (the “2021 Offerings”) of a total of 2,190,711 ADSs, which provided voxeljet with total gross proceeds of approximately USD 32 million (€ 26.6 million) before deducting fees and expenses. Those capital increases improved our liquidity as well as equity ratio significantly. In spite of this success, management is taking further steps to raise further funds which may include debt or equity financing, not without mentioning, that there can be no assurance that we will be able to raise further funds on terms favorable to us, if at all.

Those capital increases improved our liquidity as well as equity ratio significantly. In spite of this success, we have significant financial obligations, related to the repayment of tranche A including the performance participation interest from the loan received from the EIB. Tranche A will become due in December 2022 amounting to € 14.6 million reduced or increased by fair value changes of the performance participation interest. Additionally, we have to ensure, compliance with all covenants, in the Finance Contract, including a Minimum Cash/Cash Equivalents requirement (the “Minimum Cash Covenant”). We are taking several steps to mitigate the situation. Currently we are in discussion with the EIB in order to agree upon a drawn down of tranche B2 and tranche C of the loan amounting to € 10.0 million and therefore restructure the debt. Moreover, we are taking further steps to raise further funds which may include debt or equity financing, not without mentioning that there can be no assurance that we will be able to raise further funds on terms favorable to us, if at all.

The ongoing conflict between Russia and Ukraine raises further risks and uncertainties. The heightened use of trade restrictions and sanctions, including tariffs or prohibitions on technology transfers to achieve diplomatic ends could impact our ability to conduct our business as planned. A spill-over of the conflict to neighboring countries, the European Union or NATO members, could result into further adverse impacts on our business, like a drop in market demand, price increases for raw materials and energy or delays in the global supply chain.

These events and conditions described above raise material uncertainties that may cast significant doubt upon our ability to continue as a going concern. Despite the ongoing losses, reduced cash flow and cash facilities as well as the significant financial obligations becoming due, we assume that we will continue as a going concern. However, while we assume of continuing as a going concern, the going concern is dependent upon we being successful in:

- successful negotiations with the EIB over the draw down of tranche B2 and tranche C under the Finance Contract
- achievement of budgeted sales
- successful fund raising in form of equity or debt

If these dependencies are not successfully achieved, management would consider the sale of voxeljet AG’s properties to raise sufficient funds for continuing the business as a going concern.

Those assumptions are included in the our current liquidity forecasts and we believe that we have the ability to meet our financial obligations for at least the next 12 months from the authorization for issuance of these consolidated financial statements as of and for the year ended December 31, 2021 by the Management Board on March 31, 2022 and therefore continues as a going concern.

Matters relating to or arising from our Audit Committee investigation, including potential regulatory investigations and proceedings, litigation matters, and additional expenses, may adversely affect our business and results of operations.

As previously disclosed in our public filings with the SEC, our Audit Committee completed an internal investigation (the “Audit Committee Investigation”). The Company has self-reported to the Enforcement Division of the SEC on these matters and will fully cooperate in any review by the SEC, although we are unable at this time to predict what action, if any, it may take.

The Audit Committee Investigation concluded in April 2020. The Audit Committee did not find fraud or intentional misconduct by the Company’s management or accounting personnel. However, the Audit Committee did note certain weaknesses and a degree of informality with respect to certain processes pertaining

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to aspects of the review and tracking of financial reporting and disclosure. The Audit Committee proposed certain recommendations, including implementing additional training with respect to the Company's reporting and auditing obligations and requirements and developing and documenting an enhanced risk assessment process and internal controls system in corresponding areas.

We may devote significant time and attention, and incur significant expenses, in connection with remediation of the deficiencies in our risk management and controls identified by the Audit Committee Investigation. For more information on our material weaknesses, see “—Material weaknesses in our internal control over financial reporting have been identified, and if we fail to implement and maintain effective internal control over financial reporting, we may be unable to accurately report our results of operations, meet our reporting obligations or prevent fraud.” And “Item 15. Controls and Procedures.”

Any resulting SEC actions in connection with the Audit Committee Investigation cannot be predicted. If the SEC initiates an enforcement proceeding, we could be required to pay civil penalties, which could be substantial, and/or be subject to other remedies. We can provide no assurances as to the outcome of any governmental investigation.

We have incurred, and may continue to incur, significant expenses related to legal and other professional services in connection with the Audit Committee Investigation, which may continue to adversely affect our business and financial condition. In addition, the outcome of any regulatory proceedings, litigation or government enforcement actions that may result from these matters is difficult to predict, and the cost to defend, settle, or otherwise resolve these matters may be significant. Regulatory agencies or authorities, or other parties in these matters may seek very large or indeterminate amounts. An unfavorable resolution of litigations, proceedings or actions could have a material adverse effect on our business, financial condition, and results of operations and cash flows and also could result in a significant burden on management time and resources. Any future investigations or additional lawsuits may also adversely affect our business, financial condition, results of operations, and cash flows.

Material weaknesses in our internal control over financial reporting have been identified, and if we fail to implement and maintain effective internal control over financial reporting, we may be unable to accurately report our results of operations, meet our reporting obligations or prevent fraud.

The Sarbanes-Oxley Act requires, among other things, that we maintain effective internal control over financial reporting and disclosure controls and procedures. As of December 31, 2021, we did not maintain an effective control environment attributable to certain identified material weaknesses. We describe these material weaknesses in Item 15. Controls and Procedures. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the entity's annual or interim financial statements will not be prevented or detected and corrected on a timely basis.

Management has disclosed material weaknesses in each of its Forms 20-F over a period of eight years, from fiscal year 2013 through the current fiscal year 2021.

To remediate the material weaknesses, we will continue to develop and implement our remediation plan as described in “Item 15. Controls and Procedures”. Our remediation efforts are not yet complete. There can be no assurance as to when the remediation plan will be fully implemented or whether the remediation efforts will be successful.

Until our remediation plans are fully implemented, our management will continue to devote time and attention to these efforts. The existence of these or other material weaknesses in our internal control over financial reporting could require us to restate our financial statements, cause us to fail to meet our reporting obligations, and cause stockholders to lose confidence in our reported financial information, all of which could materially and adversely affect our business and stock price.

Our indebtedness could adversely affect our financial condition.

We have a total debt of € 24.1 million outstanding as of December 31, 2021 out of which € 19.7 million is borrowed from the EIB. We are obliged to pay a Performance Participation Interest (“PPI”) to the EIB based on the market price of our shares at the maturity of a Synthetic Warrant Agreement with the EIB. Payment of PPI to the EIB may adversely affect our financial condition and have a significant negative impact on our cash flows. As of December

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31, 2019, we were in breach of our Total Net Financial Debt to EBITDA ratio financial covenant under the Finance Contract with the EIB. However, in March 2020, we received a waiver for the covenant as of June 30, 2019 and December 31, 2019 and a grace period, ending March 31, 2021, within which the EIB cannot demand immediate repayment and we can rectify the breach. In June 2020, we amended the financial covenants in the Finance Contract to replace the Total Net Financial Debt to EBITDA ratio with the Minimum Cash Covenant. As of June 30, 2020, pursuant to the semi-annual financial testing prescribed by the Finance Contract, as amended, we were in compliance with the Minimum Cash Covenant. However, in March 2021, we discovered that our calculation of cash and cash equivalents for determining compliance with the Minimum Cash Covenant was incorrect and, accordingly, we were not in compliance with the Minimum Cash Covenant as of December 31, 2020. Also in March 2021, we received a waiver from the EIB for the noncompliance with the Minimum Cash Covenant, pursuant to which (i) the EIB agreed that it will not demand immediate repayment of the outstanding amounts owed and (ii) the EIB and the Company amended the financial covenants in the Finance Contract to clarify the calculation of cash and cash equivalents for determining compliance with the Minimum Cash Covenant. We have been in compliance with the Minimum Cash Covenant, and all other requirements under the Finance Contract, since March 2021.

While we have obtained waivers for curing the prior breaches of the financial covenants in our Finance Contract with the EIB, our ability to meet the financial covenants or requirements going forward may be affected by events beyond our control, and we cannot assure you that we will satisfy such covenants and requirements. A breach of these covenants or our inability to comply with the restrictions could result in an event of default under our debt arrangements which, in turn, could result in an event of default under the terms of our other indebtedness. If this were to happen, we cannot assure you that our assets would be sufficient to repay in full the payments due under those arrangements or our other indebtedness or that we could find alternative financing to replace that indebtedness.

We need to raise additional capital in the short term and in the foreseeable future in order to meet our growth strategy as well as to support the continuation of our operation and may be unable to do so on attractive terms, or at all.

We intend to continue to make investments to support the growth of our business and may require additional funds to respond to business challenges, including the need to implement our growth strategy, increase market share in our current markets or expand into other markets, or broaden our technology, intellectual property or service capabilities. Accordingly, we require additional investments of capital in the short term and in the foreseeable future, and our existing sources of cash and any funds generated from operations may not provide us with sufficient capital. For various reasons, including material uncertainties that cast significant doubt about our ability to continue as a going concern, any noncompliance with existing or future lending arrangements, additional financing, including raising capital through government or other grant funding, or issuing equity and lease financing for sale and leaseback transactions, may not be available when needed, or may not be available on terms favorable to us. If we fail to obtain adequate capital on a timely basis or if capital cannot be obtained on terms satisfactory to us, we may not be able to achieve our planned rate of growth, which will adversely affect our results of operations.

Our revenues and operating results may fluctuate.

Our revenues and operating results may fluctuate from quarter-to-quarter and year-to-year and are likely to continue to vary due to a number of factors, many of which are not within our control. A significant portion of our 3D printer orders are typically received during the second and fourth quarters of the fiscal year as a result of the timing of capital expenditures of our customers. Our 3D printers typically are shipped between three and nine months after an order is received. Thus, revenues and operating results for any future period are not predictable with any significant degree of certainty. We also typically experience weaker demand for our 3D printers in the first and third quarters. For these reasons, comparing our operating results on a period-to-period basis may not be meaningful. Until our business grows more significantly, the timing of individual printer sales, because of the cost of our largest printers, can have meaningful effects on our quarterly results. You should not rely on our past results as an indication of our future performance. Please also refer to the risk factor “We face risks related to health epidemics and other widespread outbreaks of contagious disease, such as COVID-19, which could significantly disrupt our operations and impact our operating results and/or cash flows.”

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Fluctuations in our operating results and financial condition may occur due to a number of factors, including, but not limited to, those listed below and those identified throughout this annual report:

- the degree of market acceptance of our products;
- the mix of machines and products that we sell during any period;
- our long sales cycle including our ability to adapt production to demand;
- the entry of new competitors into our market;
- generally weaker demand for 3D printers in the first and third quarters;
- weaker demand for products from our Services segment due to the slow-down of the automotive industry in Europe
- development of new competitive systems or processes by others;
- changes in our pricing policies or those of our competitors, including our responses to price competition, impacting our ability to realize work in progress at expected gross margins;
- delays between our expenditures to develop and market new or enhanced 3D printers and products and the generation of sales from those products;
- changes in the amount we spend in our marketing and other efforts;
- delays between our expenditures to develop, acquire or license new technologies and processes, and the generation of sales related thereto;
- changes in the cost of satisfying our warranty obligations and servicing our installed base of products;
- our level of research and development activities and their associated costs and rates of success;
- changes in the size and complexity of our organization, including our operations outside of Europe;
- increased expenses in connection with improving our internal control over financial reporting;
- interruptions to or other problems with our website and interactive user interface, information technology systems, manufacturing processes or other operations;
- general economic and industry conditions that affect end-user demand and end-user levels of product design and manufacturing;
- changes in accounting rules and tax laws; and
- changes in interest rates and currency exchange rates that affect returns on our cash balances and short-term investments.

Our margins and EBIT may fluctuate.

Margins and EBIT in both our Systems and Services segments may fluctuate from quarter-to-quarter and year-to-year and are likely to continue to vary due to a number of factors, many of which are beyond our control, including fluctuations in foreign exchange rates, increased competition and increased expenses. To pursue our growth strategy, we have expanded by establishing operations in different countries. While the subsidiary in China is in the start-up phase, we may not be able to achieve our desired gross margin and EBIT targets for this subsidiary, which may

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lead to a weaker margin and EBIT contribution from these subsidiaries to us. At our German operation, gross margin and EBIT could also fluctuate significantly, for instance due to changes in demand and other economic factors.

We may not be able to manage the expansion of our operations effectively in order to achieve our projected levels of growth.

We have expanded our operations significantly in recent periods, including our German, U.S. and Chinese operations, and our business plan calls for further expansion over the next several years, including Asia and North America. Our expansion in Asia is proceeding through our subsidiaries in India and China. The legal, market and cultural environment in both India and China represent challenges for our management. We anticipate that further development of our infrastructure and an increase in the number of our employees will be required to achieve our planned broadening of our product offerings and client base, improvements in our 3D printers and materials used in our 3D printers, and our planned international growth. In particular, we must increase our marketing and services staff to support new marketing and service activities and to meet the needs of both new and existing customers. Our ability to successfully increase our marketing efforts is not guaranteed, and if we are not able to successfully increase our marketing efforts, we may not be able to grow our business as intended. Our future success will depend in part upon the ability of our management to manage our growth effectively. If our management is unsuccessful in meeting these challenges, we may not be able to achieve our anticipated level of growth, which would adversely affect our results of operations.

Our operations could suffer if we are unable to attract and retain key management or other skilled employees.

Our success depends upon the continued service and performance of our senior management and other key personnel. Our senior management team is critical to the management of our business and operations, as well as to the development of our strategy. The loss of the services of any members of our senior management team could delay or prevent the successful implementation of our growth strategy, or the commercialization of new applications for our 3D printers or other products, or could otherwise adversely affect our ability to manage our Company effectively and carry out our business plan. Members of our senior management team may resign at any time. High demand exists for senior management and other key personnel in the additive manufacturing industry, and there can be no assurance that we will be able to retain such personnel. We do not carry key-man insurance on any member of our senior management team.

Our growth and success will also depend on our ability to attract, retain and train additional highly-qualified scientific, technical, sales, managerial and finance personnel, including qualified personnel with experience and knowledge of IFRS. We have experienced and expect to continue to experience intense competition for qualified personnel. While we intend to continue to provide competitive compensation packages to attract and retain key personnel, some of our competitors for these employees have greater resources and more experience, making it difficult for us to compete successfully for key personnel. Engineering personnel and other employees in the technology industry are increasingly able to work remotely, which in turn increases employee mobility and our risk of unwanted employee attrition. If we cannot attract and retain sufficiently qualified technical employees for our research and development and manufacturing operations, we may be unable to develop and commercialize new products or new applications for existing products. Furthermore, possible shortages of skilled personnel, including engineers, in the regions surrounding our European facilities as well as our facilities in China and India could require us to pay more to hire and retain skilled personnel, thereby increasing our costs.

A loss of a significant number of our sales agents would impair our ability to sell our products and services and could reduce our revenues and adversely impact our operating results.

We expect a significant portion of our sales of our products to be made with the assistance of our network of sales agents. We rely heavily on these sales agents to facilitate sales of our products to end-users in their respective geographic regions. Furthermore, we rely on sales agents to service our products. These sales agents are generally not precluded from selling our competitors' products in addition to ours. In addition, they may not be effective in selling our products or servicing our end-users. Further, if a significant number of these sales agents were to terminate their relationships with us or otherwise fail or refuse to facilitate sales of our products, we may not be able to find replacements that are as qualified or as successful. If these sales agents do not perform as anticipated or if we are unable to find qualified and successful replacements, our sales will suffer, which would have a material adverse effect on our revenues and operating results.

We face significant competition in many aspects of our business, which could cause our revenues and gross profit margins to decline. Competition could also cause us to reduce sales prices or to incur additional marketing or production costs, which could result in decreased revenue, increased costs and reduced margins.

We compete for customers with a wide variety of producers of equipment for models, prototypes, other 3D objects and end-use parts as well as producers of print materials and services for this equipment. Some of our existing and potential competitors are researching, designing, developing and marketing other types of competitive equipment, print materials and services. Many of these competitors have financial, marketing, manufacturing, distribution and other resources that are substantially greater than ours.

We also expect that future competition may arise from the development of allied or related techniques for equipment and print materials that are not encompassed by our patents, from the issuance of patents to other companies that may inhibit our ability to develop certain products, from our entry into new geographic markets and industries and from improvements to existing print materials and equipment technologies. In addition, a number of companies have announced beginning production of 3D printers, which will further enhance the competition we face.

We intend to continue to follow a strategy of continuing product development to enhance our position to the extent practicable. We cannot assure you that we will be able to maintain our current position in the field or continue to compete successfully against current and future sources of competition. If we do not keep pace with technological change and introduce new products, our revenues and demand for our products may decrease.

If we are not able to convert our work in progress into sales, it could lead to an undesirable increase of inventory and consequently to an allowance for slow-moving inventory.

Our operations outside of Germany subject us to various risks, and our failure to manage these risks could adversely affect our results of operations.

Our business is subject to certain risks associated with doing business globally. Our sales outside of Germany represented 83%, 78%, and 82% of our total sales in 2021, 2020, and 2019, respectively. We currently have subsidiaries in China, India and the United States. The liquidation of voxeljet UK, our UK subsidiary, was finalized on February 17, 2022. One of our growth strategies is to further pursue opportunities for our business in several areas around the world, both inside and outside of Germany and Europe, any or all of which could be adversely affected by the risks set forth below. Accordingly, we face significant operational risks as a result of doing business internationally, such as:

- fluctuations in foreign currency exchange rates;
- potentially longer sales and payment cycles;
- potentially greater difficulties in collecting accounts receivable;
- potentially adverse tax consequences;
- challenges in providing solutions across a significant distance, in different languages and among different cultures;
- different, complex and changing laws governing intellectual property rights, sometimes affording reduced protection of intellectual property rights in certain countries;
- difficulties in staffing and managing foreign operations, particularly in new geographic locations;
- restrictions imposed by local labor practices and laws on our business and operations;
- rapid changes in government, economic and political policies and conditions, political or civil unrest or instability, war or terrorism, climate change, epidemics or pandemics like COVID-19 and other similar outbreaks or events;

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- operating in countries with a higher incidence of corruption and fraudulent business practices;
- seasonal reductions in business activity in certain parts of the world, particularly during the summer months in Europe;
- costs and difficulties of customizing products for foreign countries;
- compliance with a wide variety of complex foreign laws, treaties and regulations;
- transportation delays;
- tariffs, trade barriers and other regulatory or contractual limitations on our ability to sell or develop our products in certain foreign markets; and
- becoming subject to the laws, regulations and court systems of multiple jurisdictions.

Our failure to manage the market and operational risks associated with our international operations effectively could limit the future growth of our business and adversely affect our results of operations.

Our international operations pose currency risks, which may adversely affect our operating results and net income.

Our operating results may be affected by volatility in currency exchange rates and our ability to effectively manage our currency transaction risks. Currency exchange rate fluctuations have had an impact on our results because voxeljet AG provided intercompany loans to its subsidiaries in foreign currency. As we realize our strategy to expand internationally, our exposure to currency risks will increase. We do not manage our foreign currency exposure in a manner that would eliminate the effects of changes in foreign exchange rates. Therefore, changes in exchange rates between these foreign currencies and the Euro will affect our revenues, cost of goods sold, and operating margins, and could result in exchange losses in any given reporting period.

We incur currency transaction risks whenever we enter into either a purchase or a sale transaction using a different currency from the currency in which we report revenues. In such cases we may suffer an exchange loss because we do not currently engage in currency swaps or other currency hedging strategies to address this risk.

Given the volatility of exchange rates, we can give no assurance that we will be able to effectively manage our currency transaction risks or that any volatility in currency exchange rates will not have an adverse effect on our results of operations.

We may engage in future acquisitions that could disrupt our business, cause dilution to our shareholders and harm our financial condition and operating results.

While we currently have no specific plans to acquire any other businesses, we may, in the future, engage in joint ventures with or make acquisitions of, or investments in, companies that we believe have products or capabilities that are a strategic or commercial fit with our current business or otherwise offer opportunities for our Company. In connection with these acquisitions or investments, we may:

- issue ADSs or other forms of equity that would dilute our existing shareholders' percentage of ownership;
- incur debt and assume liabilities; and
- incur amortization expenses related to intangible assets or incur large and immediate write-offs.

We may not be able to complete future acquisitions on favorable terms, if at all. If we do complete an additional acquisition, we cannot assure you that it will ultimately strengthen our competitive position or that it will be viewed

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positively by customers, financial markets or investors. Furthermore, future acquisitions could pose numerous additional risks to our operations, including:

- problems integrating the purchased business, products or technologies;
- challenges in achieving strategic objectives, cost savings and other anticipated benefits;
- increases to our expenses;
- the assumption of significant liabilities that exceed the limitations of any applicable indemnification provisions or the financial resources of any indemnifying party;
- inability to maintain relationships with key customers, vendors and other business partners of the acquired businesses;
- diversion of management's attention from their day-to-day responsibilities;
- difficulty in maintaining controls, procedures and policies during the transition and integration;
- entrance into marketplaces where we have no or limited prior experience and where competitors have stronger marketplace positions; and
- potential loss of key employees, particularly those of the acquired entity.

Global economic, political and social conditions have adversely impacted our sales and may continue to do so.

The recent declines in the global economy, difficulties in the financial services sector and credit markets, continuing geopolitical uncertainties and other macroeconomic factors all affect spending behavior of potential end-users of our products. The economic uncertainty in Europe, the United States, India, China and other countries may cause end-users to further delay or reduce technology purchases. In particular, a substantial portion of our sales are made to customers in countries in Europe, which is experiencing an ongoing conflict between Russia and Ukraine. In addition, heightened use of trade restrictions and sanctions, including tariffs or prohibitions on technology transfers to achieve diplomatic ends could impact our ability to conduct our business as planned.

In addition, the UK ceased to be a member state of the EU on January 31, 2020 commonly referred to as "Brexit," and the transition period provided for in the withdrawal agreement entered by the UK and the EU ended on December 31, 2020. In December 2020, the UK and the EU agreed on a trade and cooperation agreement, which became effective in May 2021. Notably, under the trade and cooperation agreement, UK service suppliers no longer benefit from automatic access to the entire EU single market, UK goods no longer benefit from the free movement of goods and there is no longer the free movement of people between the UK and the EU. The lack of clarity about future U.K. laws and regulations creates uncertainty for us, as the application of the trade and cooperation agreement may affect our business and operations. For example, the imposition of tariffs following Brexit may have a material adverse effect on our financial position or results of operations. Additionally, there also is a risk that other countries may decide to leave the EU. The uncertainty surrounding Brexit not only potentially affects our business in the U.K. and the EU, but may have a material adverse effect on global economic conditions and the stability of global financial markets, which in turn could have a material adverse effect on our business, financial condition, and results of operations. In extreme cases, we could experience interruptions in production due to the processing of customs formalities or reduced customer spending in the wake of weaker economic performance. If global economic conditions remain volatile for a prolonged period or if European economies experience further disruptions, our results of operations could be adversely affected.

Failure to comply with the U.S. Foreign Corrupt Practices Act or other applicable anti-corruption legislation could result in fines, criminal penalties and an adverse effect on our business.

We operate in a number of countries throughout the world, including countries known to have a reputation for corruption. We are committed to doing business in accordance with applicable anti-corruption laws. We are subject, however, to the risk that our officers, directors, employees, agents and collaborators may take action determined to be in violation of such anti-corruption laws, including the U.S. Foreign Corrupt Practices Act of 1977, the UK Bribery Act

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2010 and the European Union Anti-Corruption Act, as well as trade sanctions administered by the Office of Foreign Assets Control and the U.S. Department of Commerce. Any such violation could result in substantial fines, sanctions, civil and/or criminal penalties or curtailment of operations in certain jurisdictions, and might adversely affect our results of operations. In addition, actual or alleged violations could damage our reputation and ability to do business.

Workplace accidents or environmental damage could result in substantial remedial obligations and damage to our reputation.

Accidents or other incidents that occur at our facilities or involve our personnel or operations could result in claims for damages against us. In addition, in the event we are found to be financially responsible, as a result of environmental or other laws or by court order, for environmental damages alleged to have been caused by us or occurring on our premises, we could be required to pay substantial monetary damages or undertake expensive remedial obligations. The amount of any costs, including fines or damages payments that we may incur under such circumstances could substantially exceed any insurance we have to cover such losses. Any of these events, alone or in combination, could have a material adverse effect on our business, financial condition and results of operations and could adversely affect our reputation.

Our operations are subject to environmental laws and other government regulations which could result in liabilities in the future.

We are subject to domestic and foreign environmental laws and regulations governing our operations, including, but not limited to, emissions into the air and water and the use, handling, disposal and remediation of hazardous substances. A certain risk of environmental liability is inherent in our production activities. Under certain environmental laws, we could be held solely or jointly and severally responsible, regardless of fault, for the remediation of any hazardous substance contamination at our facilities and at facilities where our products are used and the respective consequences arising out of human exposure to such substances or other environmental damage. We may not have been and may not be at all times in complete compliance with environmental laws, regulations and permits, and the nature of our operations exposes us to the risk of liabilities or claims with respect to environmental and worker health and safety matters. If we violate or fail to comply with environmental laws, regulations and permits, we could be subject to penalties, fines, restrictions on operations or other sanctions, and our operations could be interrupted.

The cost of complying with current and future environmental, health and safety laws applicable to our operations, or the liabilities arising from past releases of, or exposure to, hazardous substances, may result in future expenditures. Any of these developments, alone or in combination, could have a material adverse effect on our business, financial condition and results of operations.

Climate change may have an impact on our business.

Risks related to climate change are increasing in both impact and type of risk. We believe there will not be significant near-term impacts to our offices worldwide due to climate change, but long-term impacts remain unknown. However, there may be business operational risk due to the significant impacts climate change could pose to our employees' lives, our supply chain, or electrical power availability from climate-related weather events. In addition, rapidly changing customer and regulatory requirements to reduce carbon emissions present a risk of loss of business if we are not able to meet those requirements.

We may not have adequate insurance for potential liabilities, including liabilities arising from litigation.

In the ordinary course of business, we have been, and in the future may be, subject to various product and non-product related claims, lawsuits and administrative proceedings seeking damages or other remedies arising out of our commercial operations, including litigation related to defects in our products. We maintain insurance to cover our potential exposure for most claims and losses. However, our insurance coverage is subject to various exclusions, self-retentions and deductibles, may be inadequate or unavailable to protect us fully, and may be cancelled or otherwise terminated by the insurer. Furthermore, we face the following additional risks related to our insurance coverage:

- we may not be able to continue to obtain insurance coverage on commercially reasonable terms, or at all;

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- we may be faced with types of liabilities that are not covered under our insurance policies, such as environmental contamination or terrorist attacks, and that exceed any amounts that we may have reserved for such liabilities;
- the amount of any liabilities that we may face may exceed our policy limits; and
- we may incur losses resulting from the interruption of our business that may not be fully covered under our insurance policies.

Even a partially uninsured claim of significant size, if successful, could have a material adverse effect on our business, financial condition, results of operations and liquidity. However, even if we successfully defend ourselves against any such claim, we could be forced to spend a substantial amount of money in litigation expenses, our management could be required to spend valuable time defending these claims and our reputation could suffer, any of which could adversely affect our results of operations.

We may have exposure to greater than anticipated tax liabilities which could adversely affect our operating results.

Our future income taxes could be adversely affected by changes in tax laws, regulations, accounting principles or interpretations thereof, in jurisdictions around the world. In addition, there is a risk that amounts paid or received in transactions between us and one of our international subsidiaries could be deemed for transfer pricing purposes to be lower or higher than we previously recognized or expected to recognize, or that distributions to us from one of our international subsidiaries could be subject to withholding tax. Our determination of our tax liability is always subject to review by applicable tax authorities. Any negative outcome of such a review could have an adverse effect on our operating results and financial condition. In addition, the determination of our worldwide provision for income taxes and other tax liabilities requires significant judgment, and there are many transactions and calculations where the ultimate tax determination is uncertain. Although we believe our estimates are reasonable, the ultimate tax outcome may differ from the amounts recorded in our financial statements and could adversely affect our operating results.

Risks Related to Our Products

We may not be able to introduce new 3D printers and related print materials acceptable to the market or to improve the technology and print materials used in our current 3D printers to meet customer demands.

Our revenues are derived from the sale of new or used and refurbished 3D printers and from the sale of products manufactured using additive manufacturing. Our market is subject to innovation and technological change. A variety of technologies compete against one another in our market, which is, in part, driven by technological advances and end-user requirements and preferences, as well as the emergence of new standards and practices. Our ability to compete in the industrial additive manufacturing market depends, in large part, on our success in enhancing and developing new 3D printers, enhancing and adding to our technology and developing and qualifying new materials in which we can print. In 2019, we developed the VX1300 X, which is characterized by a very fast layer time. Meanwhile we installed five units at a German premium car maker. In 2021, we received the acceptance from the main contractor for two units, which were installed in 2019. The development of the VX1000 HSS which will upscale the HSS technology to one of our larger scale platforms proceeded in 2021. Currently we are working on two VX1000 HSS Beta units which are expected to be ready for installation in 2022. With these recent developments, the HSS technology is made available on the VX200 HSS and the new VX1000 HSS system. We believe that to remain competitive we must continuously enhance and expand the functionality and features of our products and technologies. However, we may not be able to:

- enhance our existing products and technologies;
- continue to leverage advances in industrial printhead technology;
- develop new products and technologies that address the increasingly sophisticated and varied needs of prospective end-users, particularly with respect to the physical properties of print materials and other consumables;

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- respond to technological advances and emerging industry standards and practices on a cost-effective and timely basis;
- develop products that are cost effective or that otherwise gain market acceptance;
- adequately protect our intellectual property as we develop new products and technologies; or
- ensure the availability of cash resources to fund research and development.

Even if we successfully enhance our existing 3D printers or create new 3D printers, it is likely that new 3D printers and technologies that we develop will eventually supplant our existing 3D printers or that our competitors will create 3D printers that will replace our 3D printers. As a result, any of our products may be rendered obsolete or uneconomical by our or others' technological advances.

The long sales cycle for our products makes the timing of our revenues difficult to predict.

Generally, our 3D printers have a long sales cycle. Because our 3D printers are complex and typically involve significant capital investments by prospective purchasers, we and our sales agents generally need to invest a significant amount of time educating prospective purchasers about the benefits of our products. As a result, before purchasing our products, potential purchasers may spend a substantial amount of time performing internal assessments before making a purchase. This may cause us to devote significant effort in advance of a potential sale without any guarantee of receiving any related revenues. Delays in sales could cause significant variability in our revenues and operating results for any particular period. In addition to that, delays in sales could lead to an increase in work in progress resulting in an allowance for slow-moving inventories.

Declines in the prices of our products and services, or in our volume of sales, together with our relatively inflexible cost structure, may adversely affect our financial results.

Our business is subject to price competition. Such price competition may adversely affect our ability to maintain the same degree of profitability, especially during periods of decreased demand. Decreased demand also adversely impacts the volume of our systems sales. If our business is not able to offset price reductions resulting from these pressures, or decreased volume of sales due to contractions in the market, by improved operating efficiencies and reduced expenditures, then our operating results will be adversely affected.

Certain of our operating costs are fixed and cannot readily be reduced, which diminishes the positive impact of our restructuring programs on our operating results. To the extent the market for our products slows, or the 3D printing market contracts, we may be faced with excess manufacturing capacity and excess related costs that cannot readily be reduced, which will adversely impact our results of operations.

Demand for our products may not increase adequately.

The marketplace for industrial manufacturing is dominated by conventional manufacturing methods that do not involve additive manufacturing technology. We may not be able to develop effective strategies to raise awareness among potential customers of the benefits of our additive manufacturing technology. If additive manufacturing technology does not gain market acceptance as an alternative for industrial manufacturing, or if the marketplace adopts additive manufacturing based on a technology other than our technology, we may not be able to increase or sustain the level of sales of our products and machines and our results of operations would be adversely affected as a result. If we are not able to manage the conversion from work in progress to sales, it could lead to an undesirable increase of inventory resulting in allowance for slow-moving inventory.

We may not be able to significantly increase the number of materials for use in our 3D printers quickly enough to meet our business plan, and, if we are successful, we may attract more competitors into our markets, some of which may be much larger than we are. Furthermore, we may not be able to develop our 3D printers to serve in a mass production environment.

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Our business plan is dependent in part upon our ability to steadily increase the number of qualified materials in which our 3D printers can print, since this will increase our addressable market. However, qualifying new materials is a complicated engineering task, and there is no way to predict whether, or when, any given material will be qualified. If we cannot hire a sufficient number of skilled people to work on qualifying new materials for printing or if we lack the resources necessary to create a steady flow of new materials, we will not be able to meet our business goals and a competitor may emerge that is better at qualifying new materials, either of which would have an adverse effect on our business results.

If, however, we succeed in qualifying a growing number of materials for use in our 3D printers as well as developing our 3D printers to serve in a mass production environment, that should increase our addressable market, both as to customers and products for customers. However, as we create a larger addressable market, our market may become more attractive to other 3D printing companies or large companies that are not 3D printing companies but which may see an economic opportunity in the markets we have created. Similarly, if our focus on selling large 3D printers and 3D printed products to industrial companies proves successful, an increase in the number of competitors in that particular market is likely to adversely affect our business and financial results.

Customers may decide to order parts rather than to purchase new or used and refurbished 3D printers. This may result in a significant loss of revenues in the Systems segment.

Our Systems segment revenues largely depend on our ability to sell new or used and refurbished 3D printers to customers. There may be various reasons why customers may choose to order parts from us rather than to purchase the full 3D printer equipment, such as increased convenience, lower maintenance costs, etc. If there is an increasing trend for our customers to place parts orders in lieu of equipment purchase orders and we are unable to reverse that trend, we may experience significant losses in revenues in the Systems segment, which in turn could adversely affect our business and financial results.

Defects in new products or in enhancements to our existing products that give rise to product returns or warranty or other claims could result in material expenses, diversion of management time and attention, and damage to our reputation.

Our 3D printing systems may contain undetected defects or errors when first introduced or as enhancements are released that, despite testing, are not discovered until after a system has been used. This could result in delayed market acceptance of those systems or claims from sales agents, end-users or others, which may result in litigation, increased end-user service and support costs and warranty claims, damage to our reputation and business, or significant costs to correct the defect or error. We may from time to time become subject to warranty or product liability claims related to product quality issues that could lead us to incur significant expenses.

We could face liability if our 3D printers are used by our customers to print dangerous objects.

Customers may use our 3D printers to print parts that could be used in a harmful way or could otherwise be dangerous. For example, there have been news reports that 3D printers were used to print guns or other weapons. We have little, if any, control over what objects our customers print using our 3D printers, and it may be difficult, if not impossible, for us to monitor and prevent customers from printing weapons with our 3D printers. While we have never printed weapons in any of our service centers, there can be no assurance that we will not be held liable if someone were injured or killed by a weapon printed by a customer using one of our 3D printers.

If our manufacturing facility or any of our on-demand parts service centers are disrupted, sales of our products may be affected, which could result in loss of revenues and unforeseen costs.

We manufacture our machines at our facilities in Germany and China. We currently operate on-demand parts service centers located in Germany, the United States, and China and plan to operate in other locations in the future. If the operations of our production facilities are materially disrupted, whether by natural disasters, climate change, epidemics or pandemics like COVID-19, demonstrations, acts of terror, or otherwise, we would be unable to fulfill customer orders for the period of the disruption, we would not be able to recognize revenues on orders, we could suffer damage to our reputation, and we may need to modify our standard sales terms to secure the commitment of new customers during the period of the disruption and perhaps longer. Depending on the cause of the disruption, we could

incur significant costs to remedy the disruption and resume product shipments. Such a disruption could have an adverse effect on our results of operations.

Risks Related to Information Technology and Information Security

We rely on our information technology systems to manage numerous aspects of our business and customer and supplier relationships, and a disruption of these systems could adversely affect our results of operations.

We rely on our information technology, or IT, systems to manage numerous aspects of our business and provide analytical information to management. Our IT systems allow us to efficiently purchase products from our suppliers, provide procurement and logistic services, ship products to our customers on a timely basis, maintain cost-effective operations and provide service to our customers. Our IT systems are an essential component of our business and growth strategies, and a disruption to our IT systems could significantly limit our ability to manage and operate our business efficiently. In 2021, we had effective general information technology general controls (GITCs) over our Enterprise Resource Planning system that supports the Company's financial reporting processes. We are required to further automate our processes and reduce the dependence on manual controls. In late 2020, we set up an automated consolidation process in the test environment of our existing Enterprise Resource Planning system, which went live in the first quarter of 2021. Although we assume this will not be the case, we could fail with the technical realization of further automating our processes. In addition, our computer systems are subject to damage and interruption from power outages, computer and telecommunications failures, computer viruses, cyber-attack or other security breaches, catastrophic events such as fires, floods, earthquakes, tornadoes, hurricanes, acts of war or terrorism, and usage errors by our employees. External events, like the ongoing conflict between Russia and Ukraine, can increase the likelihood of attacks. If our computer systems are damaged or cease to function properly, or, if we do not replace or upgrade certain systems, we may incur substantial costs to repair or replace them and may experience an interruption of our normal business activities or loss of critical data. Any such disruption could adversely affect our reputation, brand and financial condition.

Regulation in the areas of privacy, data protection and information security could increase our costs and affect or limit our business opportunities and how we collect and/or use personal information.

As privacy, data protection and information security laws, including data localization laws, are interpreted and applied, compliance costs may increase, particularly in the context of ensuring that adequate data protection and data transfer mechanisms are in place. In recent years, there has been increasing regulatory enforcement and litigation activity in the areas of privacy, data protection and information security in the U.S., Germany, and in various other countries in which we operate.

In addition, state and federal legislators and/or regulators in the U.S., Germany, and other countries in which we operate are increasingly adopting or revising privacy, data protection and information security laws that potentially could have significant impact on our current and planned privacy, data protection and information security-related practices, our collection, use, sharing, retention and safeguarding of consumer and/or employee information, and some of our current or planned business activities. New legislation or regulation could increase our costs of compliance and business operations and could reduce revenues from certain business initiatives. Moreover, the application of existing or new laws to existing technology and practices can be uncertain and may lead to additional compliance risk and cost.

Our European activities are subject to the European Union General Data Protection Regulation, or GDPR, which has created additional compliance requirements for us. GDPR broadens the scope of personal privacy laws to protect the rights of EU citizens and requires organizations to report on data breaches within 72 hours and be bound by stringent rules for obtaining the consent of individuals on how their data can be used. GDPR became enforceable on May 25, 2018, and non-compliance exposes entities such as our company to significant fines or other regulatory claims.

Compliance with current or future privacy, data protection and information security laws relating to consumer and/or employee data could result in higher compliance and technology costs and could restrict our ability to provide certain products and services, which could materially and adversely affect our profitability. Our failure to comply with privacy, data protection and information security laws could result in potentially significant regulatory and/or governmental investigations and/or actions, litigation, fines, sanctions, ongoing regulatory monitoring, customer attrition, decreases in the use or acceptance of our products and services and damage to our reputation and our brand.

Risks Related to Our Dependence on Third Parties

We are highly dependent upon sales to certain industries.

Our revenues of machines and products are relatively concentrated in companies in the automotive, foundry, aerospace and art and architecture industries and those industries' respective suppliers. To the extent any of these industries experiences a downturn and we are unable to penetrate and expand into other industries, our results of operations may be adversely affected. Additionally, if any of these industries or their respective suppliers or other providers of manufacturing services develop new technologies or alternatives to manufacture the products that are currently manufactured using our 3D printers, it may adversely affect our results of operations. In 2020, we saw a decrease in demand in the automotive industry in Europe, which, although it recovered in 2021, had a negative impact on our revenues.

If our relationships with suppliers, especially with limited source suppliers of components of and consumables for our products, were to terminate or our manufacturing arrangements were to be disrupted, our business could be adversely affected.

We purchase components and certain sub-assemblies for our systems and consumables that are used in our print materials from third-party suppliers. While there are several potential suppliers of most of the components and sub-assemblies for our systems, and for most of the consumables for our print materials, we currently choose to use only a limited number of suppliers for several of these components and materials. Our reliance on a limited number of vendors involves a number of risks, including:

- potential shortages of some key components;
- product performance shortfalls, if traceable to particular product components, since the supplier of the faulty component cannot readily be replaced;
- discontinuation of a product on which we rely;
- potential insolvency of these vendors; and
- reduced control over delivery schedules, manufacturing capabilities, quality and costs.

For example, since the first half of 2021, we have experienced price increases for energy, electronic equipment and raw materials such as metals, as well as longer supply chain lead times and delays. In addition, we require any new supplier to become "qualified" pursuant to our internal procedures. The qualification process involves evaluations of varying durations, which may cause production delays if we were required to qualify a new supplier unexpectedly. We generally assemble our systems based on our internal forecasts and the availability of consumables, assemblies, components and finished goods that are supplied to us by third parties, which are subject to various lead times. If certain suppliers were to decide to discontinue production of an assembly, component or consumable that we use, the unanticipated change in the availability of supplies, or unanticipated supply limitations, could cause delays in or loss of sales, increased production or related costs and, consequently, reduced margins, and damage to our reputation. If we are unable to find a suitable supplier for a particular component, consumable or compound, we could be required to modify our existing products to accommodate substitute components, consumables or compounds. In addition, because we use a limited number of suppliers, increases in the prices charged by our suppliers may have an adverse effect on our results of operations, as we may be unable to find a supplier who can supply us at a lower price. As a result, the loss of a limited source supplier could adversely affect our relationships with our customers and our results of operations and financial condition.

Risks Related to Ownership of Our ADSs

The price of our ADSs has fluctuated significantly and may continue to be volatile in the future, and as a result, investors in our ADSs could incur substantial losses.

The stock market generally, and the Nasdaq Capital Market in particular including our ADSs, has experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of listed companies. These broad market and industry factors may seriously harm the market price of our ADSs, regardless of our operating performance. There can be no guarantee that the market price of our ADSs will remain at current prices.

Our ADSs may become the target of a “short squeeze.”

Securities of certain companies have increasingly experienced significant and extreme volatility in stock price due to short sellers of shares of common stock, known as a “short squeeze.” These short squeezes have caused extreme volatility in those companies and in the market and have led to the price per share of those companies to trade at a significantly inflated rate that is disconnected from the underlying value of the company. Many investors who have purchased shares in those companies at an inflated rate face the risk of losing a significant portion of their original investment as the price per share has declined steadily as interest in those stocks have abated. There can be no assurance that we will not, in the future be, a target of a short squeeze, and you may lose a significant portion or all of your investment if you purchase our shares at a rate that is significantly disconnected from our underlying value.

Substantial future sales of our ordinary shares or ADSs in the public market, or the perception that these sales could occur, could cause the price of the ADSs to decline.

Future sales of a substantial number of our shares or ADSs, or the perception that such sales will occur, could cause a decline in the market price of the ADSs. During 2021, pursuant to two shelf registration statements on Form F-3, and through the 2021 Offerings, we issued a total of 2,190,711 ordinary shares, equivalent to an equal number of ADSs.

To the extent that we raise additional funds through the issuance and sale of equity or other securities that are convertible into or exchangeable for, or that represent the right to receive, ordinary shares or substantially similar securities, the terms may include liquidation or other preferences that adversely affect shareholder rights and the existing shareholders' ownership interests will be diluted if the statutory shareholders' subscription right is not exercised by the shareholders or is excluded by the general shareholders' meeting or the Management Board.

Under the German Stock Corporation Act, every shareholder is entitled to subscription rights for new ordinary shares to be issued or for other new securities that are convertible into or exchangeable for, or that represent the right to receive, ordinary shares or substantially similar securities.

However, our shareholders at the general shareholders' meeting can resolve to exclude such statutory subscription rights with an affirmative vote of a majority of at least three-quarters of the share capital represented at the meeting. An exclusion of subscription rights also requires a report from the Management Board to the effect that the interests of our Company in excluding the subscription rights outweigh the interests of the shareholders to be entitled to a subscription. An exclusion of subscription rights may be permissible without such justification if our Company is increasing the capital in return for cash contributions, the amount of the capital increase does not exceed 10 percent of the existing share capital of our Company, and the issue price of the new shares is not significantly lower than the trading price for shares in our Company of the same class and having the same features already listed at the time of the final determination of the issue price. The trading price may also be determined by the market price of an ADS listed on the NASDAQ, multiplied by the number of ADSs which represent a share.

Shareholders at the general shareholders' meeting may also authorize the Management Board to exclude the statutory shareholders' subscription right for new ordinary shares to be issued or for other new securities that are convertible into or exchangeable for, or that represent the right to receive, ordinary shares or substantially similar securities.

At the general shareholders' meeting on May 26, 2021, the Management Board utilized the authorized share capital pursuant to Section 5 of the articles of association of our Company – which authorizes the Management Board,

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with the consent of the supervisory board, to increase our Company's registered share capital in one or more tranches by up to an additional € 2,950,292 by issuing up to 2,950,292 new no-par value ordinary shares (equivalent to 2,950,292 ADSs) against contributions in cash or in kind until May 25, 2026. The Management Board is authorized to exclude the statutory shareholders' subscription rights with the consent of the supervisory board (i) to exclude fractional amounts resulting from the subscription ratio from the statutory shareholders' subscription right, (ii) in case of capital increases in kind, in particular, but without limitation, to acquire companies, divisions of companies or interests in companies, (iii) in case of capital increases in cash provided that the issue price of the new shares is not substantially lower than the trading price for shares in our Company of the same class and having the same conditions already listed at the time of the final determination of the issue price (the trading price shall also be understood to mean the price of an ADS listed on the NASDAQ multiplied by the number of ADSs representing one share) and further provided that the amount of the share capital represented by the shares issued in this context under the exclusion of the statutory shareholders' subscription right does not exceed 10 percent of the share capital both at the time when such authorization came into effect and when it is utilized or (iv) in case of capital increases in cash if this is done for the purpose of issuing shares to be placed at the U.S. capital market or with institutional and/or private investors through ADSs and in this connection also to cover an over-allotment option granted to the issuing banks, to the extent that the total number of shares issued in accordance with this authorization to exclude subscription rights does not exceed 30% of the share capital and the issue price of the new shares is not substantially lower than the stock exchange price for shares in the Company of the same class and having the same conditions already listed at the time of the final determination of the issue price (the stock exchange price shall also be understood to mean the price of an ADS listed on the NASDAQ multiplied by the number of ADSs representing one share). The authorization pursuant to (iv) above following the July 2021 offering can still be utilized in an amount of up to 1,824,165 new shares (equivalent to 1,824,165 ADSs).

In addition, shareholders at the general shareholders' meeting may from time to time cancel, amend or grant new authorizations to the Management Board to exclude the statutory shareholders' subscription rights, also for capital increases in cash for the purpose of issuing shares that are to be placed on the U.S. capital market or with institutional investors from any jurisdiction by means of ADSs, and in the same context also to cover an over-allotment option granted to the issuing banks.

Our principal shareholders and management own a significant percentage of our ordinary shares and will be able to exert significant influence over matters subject to shareholder approval.

Members of our Management Board currently beneficially own 15.3% of our ordinary shares (including ordinary shares represented by ADSs). These shareholders have significant influence over the outcome of all matters requiring shareholder approval. For example, these shareholders may be able to influence the outcome of elections of members of our Supervisory Board, amendments of our organizational documents, or approval of any merger, sale of assets, or other major corporate transactions. This may prevent or discourage unsolicited acquisition proposals or offers for our ordinary shares or ADSs that you may feel are in your best interest as one of our shareholders. The interests of this group of shareholders may not always coincide with your interests or the interests of other shareholders, and they may act in a manner that advances their best interests and not necessarily those of other shareholders, including seeking a premium value for their ordinary shares, which might affect the prevailing market price for our ADSs.

Holders of our ADSs may not have the same voting rights as the holders of our ordinary shares and may not receive voting materials in time to be able to exercise your right to vote.

Except as described in this annual report and the deposit agreement relating to our ADSs, holders of the ADSs will not be able to exercise voting rights attaching to the ordinary shares evidenced by the ADSs on an individual basis. Under the terms of the deposit agreement, holders of the ADSs appoint the depository or its nominee as their representative to exercise the voting rights attaching to the ordinary shares represented by the ADSs. You may not receive voting materials in time to instruct the depository to vote, and it is possible that you, or persons who hold their ADSs through brokers, dealers or other third parties, will not have the opportunity to exercise a right to vote.

You may not receive distributions on our ordinary shares represented by the ADSs or any value for them.

Under the terms of the deposit agreement relating to our ADSs, the depository for the ADSs has agreed to pay to you the cash dividends, if any, or other distributions it or the custodian receives on our ordinary shares or other deposited securities after deducting its fees and expenses. You will receive these distributions in proportion to the number of our ordinary shares your ADSs represent. However, in accordance with the limitations set forth in the deposit

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agreement, it may be unlawful or impractical to make a distribution available to holders of ADSs. In addition, with respect to distributions of rights to subscribe for additional ordinary shares or ADSs, such distributions will only be made if we request such rights be made available to holders of the ADSs. We have no obligation to take any other action to permit the distribution of the ADSs, ordinary shares, rights or anything else to holders of the ADSs. This means that you may not receive the distributions we make on our ordinary shares or any value from them. These restrictions may have a material adverse effect on the value of your ADSs.

We have no present intention to pay dividends on our ordinary shares in the foreseeable future and, consequently, your only opportunity to achieve a return on your investment during that time is if the price of our ADSs appreciates.

We have no present intention to pay dividends on our ordinary shares in the foreseeable future. Any recommendation by our Management and Supervisory Boards to pay dividends will depend on many factors, including our financial condition, results of operations, legal requirements and other factors. Accordingly, if the price of our ADSs declines in the foreseeable future, you will incur a loss on your investment, without the likelihood that this loss will be offset in part or at all by potential future cash dividends.

As a foreign private issuer, we are exempt from a number of rules under the U.S. securities laws and are permitted to file less information with the SEC than U.S. companies. This may limit the information available to holders of ADSs.

We are a “foreign private issuer,” as defined in the SEC rules and regulations, and, consequently, we are not subject to all of the disclosure requirements applicable to companies organized within the United States. For example, we are exempt from certain rules under the Securities Exchange Act of 1934, as amended, or the Exchange Act, that regulate disclosure obligations and procedural requirements related to the solicitation of proxies, consents or authorizations applicable to a security registered under the Exchange Act. In addition, members of our Management Board and Supervisory Board and our principal shareholders are exempt from the reporting and “short-swing” profit recovery provisions of Section 16 of the Exchange Act and related rules with respect to their purchases and sales of our securities. Moreover, we are not required to file periodic reports and financial statements with the SEC as frequently or as promptly as U.S. public companies. Accordingly, there may be less publicly-available information concerning our Company than there is for U.S. public companies.

As a foreign private issuer, we are required to file an annual report on Form 20-F within four months of the close of each year ended December 31 and furnish reports on Form 6-K relating to certain material events promptly after we publicly announce these events. In addition, under the NASDAQ Listing Rules, we must submit to the SEC a Form 6-K that includes interim earnings reports on a semi-annual basis. Although we intend to issue quarterly financial information, because of the above exemptions for foreign private issuers, we are not required to do so and may not provide quarterly information if we are not able to do so. Therefore, holders of our ADSs may not be afforded the same protections or information generally available to investors holding shares in public companies organized in the United States.

As a foreign private issuer, we are not subject to certain NASDAQ corporate governance rules applicable to U.S. listed companies.

We rely on provisions in the NASDAQ Listing Rules that permit us to follow our home country corporate governance practices with regard to certain aspects of corporate governance. This allows us to follow German corporate law and the German Corporate Governance Code, which differ in significant respects from the corporate governance requirements applicable to U.S. companies listed on the NASDAQ.

In accordance with our NASDAQ listing, our Audit Committee is required to comply with or satisfy an exemption from the provisions of Section 301 of the Sarbanes-Oxley Act and Rule 10A-3 of the Exchange Act, both of which are also applicable to listed U.S. companies. Because we are a foreign private issuer, however, we generally are permitted to follow home country practice in lieu of the corporate governance standards provided in the NASDAQ Listing Rules. In particular, we are not required to comply with the requirements that the members of our Audit Committee satisfy financial literacy standards, that a majority of the members of our Supervisory Board and all members of our Audit Committee and Compensation and Nomination Committee must be independent, and that our Audit Committee and Compensation and Nomination Committee adopt written charters. In addition, we are not required to comply with requirements for a specific quorum or executive sessions. If some investors find the ADSs less attractive as

a result of these differences, there may be a less active trading market for the ADSs and the price of the ADSs may be more volatile. See “Item 16.G Corporate Governance.”

We may lose our foreign private issuer status in the future, which could result in significant additional costs and expenses.

As a foreign private issuer, we are not required to comply with all the periodic disclosure and current reporting requirements of the Exchange Act and related rules and regulations. The determination of foreign private issuer status is made annually on the last business day of an issuer’s most recently completed second fiscal quarter. Accordingly, we will next make a determination with respect to our foreign private issuer status on June 30, 2022. There is a risk that we will lose our foreign private issuer status in the future.

We would lose our foreign private issuer status if, for example, more than 50% of our assets are located in the United States and we continue to fail to meet additional requirements necessary to maintain our foreign private issuer status. As of December 31, 2021, approximately 12% of our assets were located in the United States, although this may increase as we expand our operations in the United States. The regulatory and compliance costs to us under U.S. securities laws as a U.S. domestic issuer may be significantly greater than the costs we incur as a foreign private issuer. If we are not a foreign private issuer, we will be required to file periodic reports and registration statements on U.S. domestic issuer forms with the SEC, which are more detailed and extensive in certain respects than the forms available to a foreign private issuer. We would be required under current SEC rules to prepare our financial statements in accordance with U.S. GAAP and modify certain of our policies to comply with corporate governance practices associated with U.S. domestic issuers. Such conversion and modifications would involve additional costs. In addition, we may lose our ability to rely upon exemptions from certain corporate governance requirements of the NASDAQ Listing Rules that are available to foreign private issuers such as the ones described above and exemptions from procedural requirements related to the solicitation of proxies.

We incur significant increased costs as a result of operating as a company whose ADSs are publicly traded in the United States, and our management is required to devote substantial time to new compliance initiatives.

As a company whose ADSs commenced trading in the United States in October 2013, we incur significant legal, accounting, insurance and other expenses that we did not incur before going public. In addition, the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act and related rules implemented by the SEC and the NASDAQ have imposed various requirements on public companies, including requiring establishment and maintenance of effective disclosure and financial controls. Our management and other personnel must devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations increase our legal and financial compliance costs and make some activities more time-consuming and costly. For example, these rules and regulations have made it more difficult and more expensive for us to obtain director and officer liability insurance, and we may be required to incur substantial costs to maintain the same or similar coverage. These laws and regulations could also make it more difficult and expensive for us to attract and retain qualified persons to serve on our Supervisory Board or its committees or on our Management Board. Furthermore, if we are unable to satisfy our obligations as a public company, we could be subject to delisting of the ADSs, fines, sanctions and other regulatory action and potentially civil litigation.

U.S. investors may have difficulty enforcing civil liabilities against our Company or members of our Management and Supervisory Boards.

The members of our Management and Supervisory Boards are non-residents of the United States, and all or a substantial portion of the assets of such persons are located outside the United States. As a result, it may not be possible, or may be very difficult, to serve process on such persons or us in the United States or to enforce judgments obtained in U.S. courts against them or us based on civil liability provisions of the securities laws of the United States. In addition, awards of punitive damages in actions brought in the United States or elsewhere may be unenforceable in Germany. An award for monetary damages under the U.S. securities laws would be considered punitive if it does not seek to compensate the claimant for loss or damage suffered and is intended to punish the defendant. The enforceability of any judgment in Germany will depend on the particular facts of the case as well as the laws and treaties in effect at the time. Litigation in Germany is also subject to rules of procedure that differ from the U.S. rules, including with respect to the taking and admissibility of evidence, the conduct of the proceedings and the allocation of costs. Proceedings in Germany would have to be conducted in the German language, and all documents submitted to the court would, in principle, have

to be translated into German. For these reasons, it may be difficult for a U.S. investor to bring an original action in a German court predicated upon the civil liability provisions of the U.S. federal securities laws against us and the members of our Management and Supervisory Boards. The United States and Germany do not currently have a treaty providing for recognition and enforcement of judgments (other than arbitration awards) in civil and commercial matters, though recognition and enforcement of foreign judgments in Germany is possible in accordance with applicable German laws.

You may be subject to limitations on the transfer of your ADSs.

Your ADSs are transferable on the books of the depositary. However, the depositary may close its books at any time or from time to time when it deems doing so expedient in connection with the performance of its duties. The depositary may close its books from time to time for a number of reasons, including in connection with corporate events such as a rights offering, during which time the depositary needs to maintain an exact number of ADS holders on its books for a specified period. The depositary may also close its books in emergencies, and on weekends and public holidays. The depositary may refuse to deliver, transfer or register transfers of our ADSs generally when our share register or the books of the depositary are closed, or at any time if we or the depositary thinks that it is advisable to do so because of any requirement of law or of any government or governmental body, or under any provision of the deposit agreement, or for any other reason in accordance with the terms of the deposit agreement. As a result, you may be unable to transfer your ADSs when you wish to.

If securities or industry analysts do not publish research or reports about our business, or if they or anyone else gives negative recommendations regarding our ADSs, the market price for our ADSs and trading volume could decline.

The trading market for our ADSs will be influenced by research or reports that industry or securities analysts publish about our business. If one or more analysts who cover us downgrade our ADSs, the market price for our ADSs would likely decline. If other individuals, including short sellers, disseminate negative information regarding our business or our ADSs, the market price for our ADSs may also decline. If one or more of these analysts cease to cover us or fail to regularly publish reports on us, we could lose visibility in the financial markets, which, in turn, could cause the market price or trading volume for our ADSs to decline.

Your rights as a shareholder in a German corporation may differ from your rights as a shareholder in a U.S. corporation.

We are organized as a stock corporation (*Aktiengesellschaft*) under the laws of Germany. You should be aware that the rights of shareholders under German law differ in important respects from those of shareholders in a U.S. corporation. These differences include, in particular:

- Under German law, certain important resolutions, including, for example, capital decreases, measures under the German Transformation Act (*Umwandlungsgesetz*), such as mergers, conversions and spin-offs, the issuance of convertible bonds or bonds with warrants attached and the dissolution of the German stock corporation apart from insolvency and certain other proceedings, require the vote of a 75% majority of the capital present or represented at the relevant shareholders' meeting. Therefore, the holder or holders of a blocking minority of 25% or, depending on the attendance level at the shareholders' meeting, the holder or holders of a smaller percentage of the shares in a German stock corporation may be able to block any such votes, possibly to our detriment or the detriment of our other shareholders.
- As a general rule under German law, a shareholder has no direct recourse against the members of the management board or supervisory board of a German stock corporation in the event that it is alleged that they have breached their duty of loyalty or duty of care to the German stock corporation. Apart from insolvency or other special circumstances, only the German stock corporation itself has the right to claim damages from members of either board. A German stock corporation may waive or settle these damages claims only if at least three years have passed and the shareholders approve the waiver or settlement at the shareholders' meeting with a simple majority of the votes cast, provided that a minority holding, in the aggregate, 10% or more of the German stock corporation's share capital does not have its opposition formally noted in the minutes maintained by a German civil law notary.

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For more information, we have provided summaries of relevant German corporation law and of our articles of association under “Item 6. Directors, Senior Management and Employees—C. Board Practices” and “Item 10. Additional Information—B. Memorandum and Articles of Association.”

Exchange rate fluctuations may reduce the amount of U.S. dollars you receive in respect of any dividends or other distributions we may pay in the future in connection with your ADSs.

Under German law, the determination of whether we have been sufficiently profitable to pay dividends is made on the basis of our unconsolidated annual financial statements prepared under the German Commercial Code (*Handelsgesetzbuch*) in accordance with accounting principles generally accepted in Germany. Exchange rate fluctuations may affect the amount in U.S. dollars that our shareholders receive upon the payment of cash dividends or other distributions we declare and pay in Euros, if any. Such fluctuations could adversely affect the value of our ADSs and, in turn, the U.S. dollar proceeds that holders receive from the sale of our ADSs.

In the event we are or become treated as a passive foreign investment company, or PFIC, for U.S. federal income tax purposes, U.S. holders of our ADSs could be subject to adverse U.S. federal income tax consequences.

In the event we were treated as a PFIC, U.S. holders (as defined in “Item 10. Additional Information—E. Taxation—U.S. Taxation of ADSs”) of our ADSs could be subject to adverse U.S. federal income tax consequences. These consequences include the following: (i) if our ADSs are “marketable stock” for purposes of the PFIC rules and a U.S. holder makes a mark-to-market election with respect to its ADSs, the U.S. holder will be required to include annually in its U.S. federal taxable income an amount reflecting any year-end increase in the value of its ADSs, (ii) if a U.S. holder does not make a mark-to-market election, it may incur significant additional U.S. federal income taxes on income resulting from distributions on, or any gain from the disposition of, our ADSs, as such income generally would be allocated over the U.S. holder’s holding period for its ADSs and subject to tax at the highest rates of U.S. federal income taxation in effect for such years, with an interest charge then imposed on the resulting taxes in respect of such income, and (iii) dividends paid by us would not be eligible for reduced individual rates of U.S. federal income tax. We do not intend to furnish holders with the information necessary to make a “qualified electing fund” election in lieu of a mark-to-market election. In addition, U.S. holders that own an interest in a PFIC are required to file additional U.S. federal tax information returns.

A U.S. holder may in certain circumstances mitigate adverse tax consequences of the PFIC rules by filing an election to treat the PFIC as a qualified electing fund, or a QEF. However, in the event that we are or become a PFIC, we do not intend to comply with the reporting requirements necessary to permit U.S. holders to elect to treat us as a QEF. See “Item 10. Additional Information—E. Taxation—Additional United States Federal Income Tax Consequences—PFIC Rules.”

Risks Related to Our Intellectual Property

If we are unable to obtain patent protection for our products or otherwise protect our intellectual property rights, our business could suffer.

We rely on a combination of patents, trademarks, trade secrets and confidentiality agreements and other contractual arrangements with our employees, end-users and others to maintain our competitive position. Our success depends, in part, on our ability to obtain patent protection for or maintain as trade secrets our proprietary products, technologies and inventions and to maintain the confidentiality of our trade secrets and know-how, operate without infringing upon the proprietary rights of others and prevent others from infringing upon our business proprietary rights.

Despite our efforts to protect our proprietary rights, it is possible that competitors or other unauthorized third parties may obtain, copy, use or disclose our technologies, inventions, processes or improvements. We cannot assure you that any of our existing or future patents or other intellectual property rights will be enforceable, will not be challenged, invalidated or circumvented, or will otherwise provide us with meaningful protection or any competitive advantage. In addition, our pending patent applications may not be granted, and we may not be able to obtain foreign patents or elect to file applications corresponding to our U.S. and EU patents. The laws of certain countries outside the United States and EU may not provide the same level of patent protection as in the United States and the EU, so even if we assert our patents or obtain additional patents in countries outside of the United States and the EU, effective enforcement of such patents may not be available. If our patents do not adequately protect our technology, our competitors may be able to

offer additive manufacturing systems or other products similar to ours. Our competitors may also be able to develop similar technology independently or design around our patents, and we may not be able to detect the unauthorized use of our proprietary technology or take appropriate steps to prevent such use. Any of the foregoing events would lead to increased competition and lower revenues or gross margins, which could adversely affect our operating results.

We may not be able to protect our trade secrets and intellectual property.

While some of our technology is licensed under patents belonging to others or is covered by process patents which are owned or applied for by us, much of our key technology is not protected by patents. Furthermore, patents are jurisdictional in nature and therefore only protect us in certain markets, rather than globally. In particular, in fast-growing markets such as China and India, our technology is not protected by patents. We have devoted substantial resources to the development of our technology, trade secrets, know-how and other unregistered proprietary rights. While we enter into confidentiality and invention assignment agreements intended to protect such rights, such agreements can be difficult and costly to enforce or may not provide adequate remedies if violated. Such agreements may be breached and confidential information may be willfully or unintentionally disclosed, or our competitors or other parties may learn of the information in some other way. Since we cannot legally prevent one or more other companies from developing similar or identical technology to our unpatented technology, it is likely that, over time, one or more other companies may be able to replicate our technology, thereby reducing our technological advantages. If we do not protect our technology or are unable to develop new technology that can be protected by patents or as trade secrets, we may face increased competition from other companies, which may adversely affect our results of operations.

We have license rights and exclusivity of certain patents and intellectual property and cannot adequately estimate the effects of their expiration upon the entrance or advancement of competitors into the additive manufacturing industrial market.

We have exclusive and non-exclusive license rights to certain patents that we utilize in the industrial market. Some of these patents have already expired, and others will expire within the next one to three years. We cannot adequately estimate the effect that the expiration of these patents will have upon the entrance or advancement of other additive manufacturing manufacturers into the industrial market. See “Item 4. Information on the Company—B. Business Overview—Intellectual Property.”

We may be subject to claims alleging patent infringement.

Our products and technology, including the technology that we license from others, may infringe the intellectual property rights of third parties. Patent applications in the United States and most other countries are confidential for a period of time until they are published, and the publication of discoveries in scientific or patent literature typically lags actual discoveries by several months or more. As a result, the nature of claims contained in unpublished patent filings around the world is unknown to us, and we cannot be certain that we were the first to conceive inventions covered by our patents or patent applications or that we were the first to file patent applications covering such inventions. Furthermore, it is not possible to know in which countries patent holders may choose to extend their filings under the Patent Cooperation Treaty or other mechanisms. In addition, we may be subject to intellectual property infringement claims from individuals, vendors and other companies, including those that are in the business of asserting patents, but are not commercializing products in the field of 3D printing. Any claims that our products or processes infringe the intellectual property rights of others, regardless of the merit or resolution of such claims, could cause us to incur significant costs in responding to, defending and resolving such claims, and may prohibit or otherwise impair our ability to commercialize new or existing products. Any infringement by us or our licensors of the intellectual property rights of third parties may have a material adverse effect on our business, financial condition and results of operations.

Third-party claims of intellectual property infringement successfully asserted against us may require us to redesign infringing technology or enter into costly settlement or license agreements on terms that are unfavorable to us, prevent us from manufacturing or licensing certain of our products, subject us to injunctions restricting our sale of products and use of infringing technology, cause severe disruptions to our operations or the markets in which we compete, impose costly damage awards or require indemnification of our sales agents and end-users. In addition, as a consequence of such claims, we may incur significant costs in acquiring the necessary third-party intellectual property rights for use in our products or developing non-infringing substitute technology. Any of the foregoing developments could seriously harm our business.

We may incur substantial costs enforcing or acquiring intellectual property rights and defending against third-party claims as a result of litigation or other proceedings.

In connection with the enforcement of our intellectual property rights, opposing third parties from obtaining patent rights or disputes related to the validity or alleged infringement of our or third-party intellectual property rights, including patent rights, we have been and may in the future be subject or party to claims, negotiations or complex, protracted litigation. Intellectual property disputes and litigation, regardless of merit, can be costly and disruptive to our business operations by diverting attention and energies of management and key technical personnel, and by increasing our costs of doing business. We may not prevail in any such dispute or litigation, and an adverse decision in any legal action involving intellectual property rights, including any such action commenced by us, could limit the scope of our intellectual property rights and the value of the related technology. While we strive to avoid infringing the intellectual property rights of third parties, we cannot provide any assurances that we will be able to avoid any infringement claims.

Obtaining and maintaining our patent protection depends on compliance with various procedural, documentary, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

Periodic maintenance fees on any issued patent are due to be paid to the U.S. Patent and Trademark Office, or USPTO, and foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. If we or our exclusive licensors fail to maintain the patents and patent applications covering our products and processes, our competitive position would be adversely affected.

We may be subject to claims that our employees have wrongfully used or disclosed alleged trade secrets of their former employers.

Certain of our past and present employees were previously employed at other additive manufacturing companies, including our competitors or potential competitors. Some of these employees executed proprietary rights, non-disclosure and non-competition agreements in connection with such previous employment. Although we try to ensure that our employees do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or these employees have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such employee's former employer. We are not aware of any threatened or pending claims related to these matters, but in the future litigation may be necessary to defend against such claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable personnel or intellectual property rights. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management. As we expand our operations into the United States and elsewhere, we may face similar claims with regard to our future employees in these countries.

Certain of our employees and patents are subject to German law.

The majority of our employees work in Germany and are subject to German employment law. Ideas, developments, discoveries and inventions made by such employees and consultants are subject to the provisions of the German Act on Employees' Inventions (*Gesetz über Arbeitnehmererfindungen*), which regulates the ownership of, and compensation for, inventions made by employees. We face the risk that disputes can occur between us and our employees or ex-employees pertaining to alleged non-adherence to the provisions of this act that may be costly to defend and take up our management's time and efforts whether we prevail or fail in such dispute. In addition, under the German Act on Employees' Inventions, certain employees retained rights to patents they invented or co-invented prior to 2009. Although most of these employees have subsequently assigned their interest in these patents to us, there is a risk that the compensation we provided to them may be deemed to be insufficient and we may be required under German law to increase the compensation due to such employees for the use of the patents. In those cases where employees have not assigned their interests to us, we may need to pay compensation for the use of those patents. If we are required to pay

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additional compensation or face other disputes under the German Act on Employees' Inventions, our results of operations could be adversely affected.

If we fail to comply with our obligations under our intellectual property-related agreements or if we receive an adverse court decision in a lawsuit regarding these agreements, we could lose rights that are important to our business or be subject to restrictions on the conduct of our business.

We have license and co-ownership agreements with respect to certain intellectual property that is important to our business with both Z Corp and The ExOne Company, or ExOne, respectively, that impose restrictions on our use of certain intellectual property. We are party to other intellectual property-related agreements that also are important to our business. Disputes may arise between the counterparties to these agreements and us that could result in termination of these agreements, costly litigation or arbitration that diverts management's attention and company resources, regulatory review or restrictions on the conduct of our business. If we fail to comply with our obligations under our intellectual property-related agreements or receive an adverse court decision in a lawsuit regarding these agreements, the counterparties may have the right to terminate these agreements or sue us for damages or equitable remedies, including injunctive relief. Termination of these agreements, the reduction or elimination of our rights under these agreements, or the imposition of restrictions under these agreements may result in having to negotiate new or reinstated licenses with less favorable terms, or to cease commercialization of licensed technology and products. This could materially adversely affect our business. In March 2018, ExOne GmbH, a subsidiary of ExOne, notified us of their intent not to pay their annual license fees under an existing intellectual property-related agreement and asserted their rights to claim damages pursuant to an alleged material breach of the agreement. While we dispute these claims, the matter could result in one or more of the risks discussed herein.

Certain technologies and patents have been developed with partners and we may face restrictions on this jointly-developed intellectual property.

We have entered into cooperation agreements with a number of industrial and commercial partners, as well as university partners. We have, in some cases individually and in other cases along with our partners, filed for patent protection for a number of technologies developed under these agreements and may in the future file for further intellectual property protection and/or seek to commercialize such technologies. Under some of these agreements, certain intellectual property developed by us and the relevant partner may be subject to joint ownership by us and the partner and our commercial use of such intellectual property may be restricted, or may require written consent from, or a separate agreement with, the partner. In other cases, we may not have any rights to use intellectual property solely developed and owned by the partner. If we cannot obtain commercial use rights for such jointly-owned intellectual property or partner-owned intellectual property, our future product development and commercialization plans may be adversely affected.

ITEM 4. INFORMATION ON THE COMPANY

A. HISTORY AND DEVELOPMENT OF THE COMPANY

voxeljet AG is a stock corporation organized under the laws of Germany. The legal predecessor of our Company was founded as Generis GmbH on May 5, 1999. On January 7, 2004, Generis GmbH changed its name to Voxeljet Technology GmbH.

On July 2, 2013, the shareholders of Voxeljet Technology GmbH incorporated VXLT 2013 AG, which was registered in the commercial register of the local court (*Amtsgericht*) of Augsburg, Germany on July 11, 2013 under number HRB 27999.

Voxeljet Technology GmbH was subsequently merged by way of merger through assumption into VXLT 2013 AG on July 29, 2013 effective as of September 12, 2013 upon registration of the merger in the commercial register of the surviving entity, VXLT 2013 AG. The merger had retroactive effect as of January 1, 2013. As part of the merger, VXLT 2013 AG changed its name to voxeljet AG effective upon the registration of the merger in the commercial register. By way of merger through assumption, upon effectiveness, voxeljet AG, as the surviving entity, took over all assets and liabilities of Voxeljet Technology GmbH by universal assumption and accession under German mandatory law, and Voxeljet Technology GmbH ceased to exist.

On October 23, 2013, we sold 5,600,000 ADSs in our initial public offering at a price of \$13.00 per ADS, thereby raising \$72.8 million (before underwriting discounts and costs). The ADSs we sold in the initial public offering represented new shares issued in a capital increase resolved by our shareholders for purposes of the initial public offering on October 11, 2013.

On April 16, 2014, we completed a follow-on offering of 3,000,000 ADSs at a public offering price of \$15.00 per ADS. Net proceeds from the follow-on offering to the Company were approximately \$41.4 million. On April 24, 2014, the underwriters in the follow-on offering purchased 450,000 ADSs from certain of the Company's shareholders (the "Selling Shareholders") pursuant to the overallotment option they were granted in the follow-on offering. The Company did not receive any proceeds from the sale of ADSs by the Selling Shareholders.

On October 18, 2018, we issued 972,000 ordinary shares, equivalent to 4,860,000 ADSs, at an offering price of \$2.57 per ADS (the "Public Offering Price"). The Company received net proceeds of approximately \$10.6 million. Members of our Management Board, who are also significant shareholders, purchased an aggregate number of 233,462 ADSs in this offering at the Public Offering Price. On November 8, 2018, we closed the over-allotment option in which we issued additional 144,000 ordinary shares, equivalent to 720,000 ADSs. The Company received net proceeds of approximately \$1.6 million.

On January 25, 2021, we issued 621,170 ordinary shares, equivalent to an equal number of ADSs, at an offering price of \$16.16 per ADS in a registered direct offering priced at-the-market under the NASDAQ Listing Rules. The Company received gross proceeds of approximately \$10 million (€ 8.3 million) before deducting fees and expenses.

On February 17, 2021, we issued 443,414 ordinary shares, equivalent to an equal number of ADSs, at an offering price of \$ 26.95 per ADS in a registered direct offering priced at-the-market under the NASDAQ Listing Rules. The Company received gross proceeds of approximately \$12 million (€ 9.9 million) before deducting fees and expenses.

On July 23, 2021, we issued 1,126,127 ordinary shares equivalent to an equal number of ADSs, at an offering price of € 7.52 per ADS in a registered direct offering priced at-the-market under the NASDAQ Listing Rules. The Company received gross proceeds of approximately \$10 million (€ 8.5 million) before deducting fees and expenses.

Our website is www.voxeljet.de. Information contained on or available through our website is not incorporated by reference in or made part of this annual report and any references to our website are intended to be inactive textual references only. Our principal executive offices are located at Paul-Lenz-Straße 1a, 86316 Friedberg, Germany, and our telephone number is +49 821 7483 100. Our agent for service of process in the United States is Corporation Service Company, located at 1090 Vermont Avenue N.W., Washington, D.C. 20005, telephone number (800) 927-9800.

Capital Expenditures

Capital expenditures are funds used by the Company to acquire or upgrade physical or intangible assets such as property, plants, buildings, equipment or software. Our capital expenditures amounted to € 0.8 million, €0.1 million and €1.1 million, for the years ended December 31, 2021, 2020, and 2019, respectively. In 2021 our capital expenditures mainly consisted of equipment required for our research and development activities.

In 2020 the capital expenditures mainly comprised upgrades related to our ERP-System. In 2019 the capital expenditures mainly comprised the final payment for the new office building and production facility located in Friedberg, Germany, which were completed in October 2017, as well as upgrades of our ERP-System.

B. BUSINESS OVERVIEW

Our Company

We are a leading provider of high-speed, large-format 3D printers and on-demand parts services to industrial and commercial customers. Our 3D printers employ a powder binding, additive manufacturing technology to produce parts using various material sets, which consist of particulate materials and proprietary chemical binding agents. We offer our customers the highest volumetric output rate in the industry due to the combination of our large build boxes

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and print speeds. We provide our 3D printers and on-demand parts services to industrial and commercial customers serving the automotive, aerospace, art and architecture, engineering and consumer product end markets.

We currently offer seven different 3D printer platforms, with build boxes that range from 300 × 200 × 150 millimeters to 4,000 × 2,000 × 1,000 millimeters and various print speeds, which produce volumetric output rates ranging from 0.6 liters per hour to 168.0 liters per hour. All of our platforms support our commercialized material sets, sand and plastics, along with their respective proprietary chemical binding agents. We develop our material sets according to the needs of our industrial and commercial customers, and we are currently in varying stages of developing new material sets, including shell molding and chromite sands, PMMA-based plastics, ceramics, silicon carbide, tungsten carbide and cement.

Our business is divided into two principal segments: Systems and Services.

In our Systems segment, we focus on the sale, production and development of 3D printers. In addition, we sell refurbished 3D printers which were produced for and used in our Services segment and provide printers to customers under operating lease agreements. We also provide consumables, including particulate materials and proprietary chemical binding agents, maintenance contracts and spare parts to our customers.

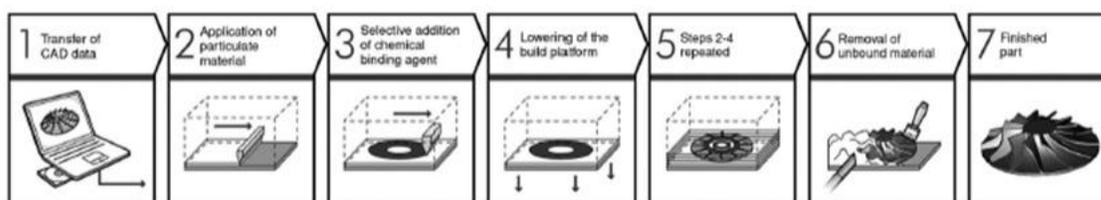
In our Services segment, we print on-demand parts for our customers. We operate service centers in Germany, the United States and China. At our service centers, we create parts, molds, cores and models based on designs produced using 3D computer-aided design, or CAD, software. Furthermore, there are customers who order casted parts directly from us. In those cases, we provide molds or models to external suppliers who then cast the parts for our customers. We believe our service center in Germany is one of the largest additive manufacturing service centers in Europe.

We sold our first 3D printer in 2002 and commenced our on-demand parts services business in 2003. As of December 31, 2021, we had an installed base of 212 printers worldwide, and we operated service centers in Germany, the United States and China. Our service centers in Germany and the United States each have approximately 43,000 square feet of production space. Our service center in China has approximately 26,000 square feet and approximately 15,000 square feet of production space, respectively.

Our Additive Manufacturing Technology

Our printers build or print parts from digital designs produced using 3D CAD software by successively depositing thin layers of particulate materials. A printhead passes over each layer and deposits our proprietary chemical binding agent in the selected areas where the finished product will be created.

The following is a graphical depiction illustrating our manufacturing process:



Our 3D Printers

We currently produce seven 3D printer platforms. Our 3D printers consist of a build box that includes a machine platform and a controller. Our 3D printers differ based on build box size and print speeds, but all utilize our technology and can support each of our existing material sets and each of our material sets that are currently in development. As of December 31, 2021, we had an installed base of 212 printers worldwide, which includes (i) printers in our service centers and (ii) printers which are no longer commercially available, but which we believe our customers continue to use.

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The following table is a comparison of our 3D printer platforms:

Platform	VX200	VX200 HSS	VX1000	VX1000 HSS
Build Box (millimeters)	300 X 200 X 150	290 X 140 X 180	1,000 X 600 X 500	1000 X 540 X 400
External Dimensions (millimeters)	2,100 X 1,500 X 1,400	1,700 X 900 X 1,500	3,400 X 3,300 X 2,600	2,900 X 2,500 X 2,010
Print Resolution (dots per inch)	254	360	200, 600	360
Layer Thickness (micrometers)	300	80 - 100	150 - 300	100
Volumetric Output Rate (liters per hour)	1.8	0.57 - 0.72	4.89 – 37.37	7.4
Date of Introduction	2012	2017	2011	2021

Platform	VX1300 X	VX2000	VX4000
Build Box (millimeters)	1,280 X 680 X 500	2,000 X 1,000 X 1,000	4,000 X 2,000 X 1,000
External Dimensions (millimeters)	2,600 X 4,250 X 5,250	5,700 X 3,700 X 2,500	20,000 X 7,800 X 4,300
Print Resolution (dots per inch)	200	200-300	200
Layer Thickness (micrometers)	100 - 500	300	300
Volumetric Output Rate (liters per hour)	168	29-92	138
Date of Introduction	2019	2013	2011

Materials

Our commercialized material sets are comprised of sand and plastic particulate materials and their respective proprietary chemical binding agents. We believe these material sets are well suited for our commercial and industrial customers because these materials either (i) are commonly used in their existing manufacturing processes or (ii) match or exceed desired performance characteristics of existing materials being utilized in their manufacturing processes. Our sand material set offerings include four types of sands: (i) silica, (ii) kerphalite, (iii) zirconium oxide and (iv) chromite, with furan, inorganic, shell molding and phenol resins as proprietary chemical binding agents. Our plastics material set offering is based on Poly(methyl methacrylate), or PMMA, and Polypor B and C as the proprietary chemical binding agents as well as Polyamide.

We are currently in varying stages of development of new material sets which include the following particulate materials:

- different types of sands;
- different types of ceramics;
- silicon carbide and other hard metals;
- cement;
- thermoplastic polyurethane;
- polyamide;
- polypropylene

On-demand Parts Services

At our service centers, we create parts, molds, cores and models for a variety of industrial and commercial customers based on designs produced using 3D CAD software. We receive orders directly from customers and indirectly through our sales agents.

Our service centers in Germany and the United States each have approximately 43,000 square feet of production space. Our Chinese service center is located in a facility with more than 78,000 square feet of production space, storage and office space.

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We help our customers move from the design stage to the production stage by assisting them in evaluating the optimal design and material sets for their production needs. After printing parts, we employ a thorough cleaning, finishing, quality control review and packaging and shipping process to ensure the customer receives high-quality and immediately-usable parts. Based on our capacity utilization, the lead time required for us to print a part for a customer ranges from three to 21 days and is typically five business days. Due to the size of the printers' build boxes utilized in our German service center, specifically the VX4000 printer, we are able to print more parts simultaneously on one printer, resulting in cost-effective and quick turnaround times for our customers' print jobs and increased revenue and profitability for us.

Our technicians also train customers on operating, maintaining and troubleshooting our 3D printers through hands-on experience at our German service center. Additionally, our technicians provide field support to our customers as needed. After the warranty period, we offer maintenance contracts to our customers. Those contracts include scheduled service visits where we maintain and clean the 3D printers as well as on demand visits and troubleshooting, in case of sudden problems.

Our Customers

We are in the market for industrial part production utilizing additive manufacturing and are one of the few providers of additive manufacturing solutions to industrial and commercial customers, including the foundry, automotive, heavy equipment, power fluid handling, aerospace and consumer product industries. Our mission is to re-define additive mass production. We believe we have a reputation for providing high-quality systems and services in the marketplace with strong relationships with a number of leading multinational customers. Out of our broad customer portfolio we deal with customers including Daimler AG, BMW AG, Ford Motor Company, Volkswagen AG, Porsche SE, Evonik Industries AG as well as with other key users of additive manufacturing, and technical universities such as the ETH Zürich, and the Vaal University of Technology. Purchasers of our printers also include original equipment manufacturers, government agencies and independent service bureaus that provide rapid prototyping and manufacturing services to their customers. Many of our customers have been customers for over a decade. We also collaborate on research and development projects with a number of our automotive and technical university customers, including Daimler AG, BMW AG, Ford Motor Company, Volkswagen AG and the Technical University of Munich. As our customers integrate additive manufacturing into their production processes, they typically continue to utilize our on-demand parts service center for a variety of reasons, including for incremental capacity and for parts printed from different material sets.

We conduct a significant portion of our business with a limited number of customers. Our top five customers represented 25%, 28% and 21% of total revenues for the years ended December 31, 2021, 2020, and 2019, respectively. These customers primarily purchased 3D printers, while one of the top five customers primarily ordered printed parts. In the year ended December 31, 2021, there were no customers who accounted for more than 10% of our revenues. Sales of on-demand parts and consumables tend to be from repeat customers that may utilize the capability of our on-demand parts service centers for one month or longer. Sales of 3D printers are low volume and generate significant revenues, but the same customers do not necessarily buy printers in each period. Timing of customer purchases is dependent on the customer's capital budgeting cycle, which may vary from period to period. The nature of the revenues from 3D printers does not leave us dependent upon a single or a limited number of customers. Rather, the timing of the sales can have a material effect on our period-to-period financial results.

Sales and Marketing

We sell our 3D printers and related consumables both through our direct sales force and with the assistance of our network of more than 20 third-party sales agents globally. Our sales organization, including our dedicated sales, service and application engineers, is responsible for worldwide sales of our 3D printers and on-demand parts services, as well as for the management and coordination of our growing sales agent network. Our direct sales force focuses primarily on customers in Europe, North America and Asia Pacific, while our sales agents are responsible for facilitating sales in other areas of the world where we do not operate directly. We have entered into partnership agreements with each of our sales agents, which grant the sales agent the right to market our products in a specified territory on either an exclusive or non-exclusive basis, depending on the sales agent; however, all sales contracts for our products are entered into between us and our customers. Certain of these sales agents also provide maintenance services to customers in their specified territories. Our application engineers provide professional services through pre-sales support and assist existing customers so that they can take advantage of our latest consumables and techniques to improve part quality and machine

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productivity. This group also leverages our customer contacts to help identify new application opportunities that utilize our proprietary processes. As of December 31, 2021, our worldwide sales staff for systems and parts consisted of 37 employees. We also expect that our subsidiaries in Europe, North America and Asia Pacific will improve market access through local market development and allow the targeting of specific customers.

Educating our customers and raising awareness in our target markets about the many uses and benefits of our 3D printing technology is an important part of our sales process. We believe that customers who experience the efficiency gains, decreased lead times, increased design flexibility and reduced costs of 3D printing as compared to subtractive manufacturing are more likely to purchase our 3D printers and/or utilize our on-demand parts services. We encourage potential purchasers of our 3D printers to first utilize our on-demand parts services so that they can experience firsthand the benefits of our 3D printing technology. We currently market our brand and our services at industry conferences, trade shows, and across various forms of digital and traditional media and plan to increasingly expand our marketing efforts in North America in conjunction with our geographic expansion to that region.

Services and Warranty

Our fully-trained service technicians perform installations of our 3D printers. For the first year following the purchase of one of our 3D printers, we provide complimentary service and support under the statutory warranty. We also offer service contracts under which our customers can purchase maintenance and services beyond the one-year term of the warranty. These service contracts contain varying degrees of support services and are priced accordingly. Finally, we sell spare parts which we maintain in stock to assist in providing service expeditiously to our customers. Historically, we have not experienced a high level of warranty claims.

Manufacturing and Suppliers

Manufacturing

We assemble our 3D printers at our facility in Friedberg, Germany as well as some platforms in our facility in Suzhou, China, close to Shanghai, using components sourced from distributors of standard electrical or mechanical parts, as well as from manufacturers which design custom parts tailored to the proprietary designs of our machines. We periodically review the quality and performance of our distributors and manufacturers. Upon completion of the assembly of our 3D printers, we perform tests to ensure that the printer is functioning properly before the system is shipped and again after the system is installed at the customer's site.

To provide customers with assurance regarding the quality and consistency of our systems, we obtained ISO 9001:2015 certification for our facility in Germany in 2017, in 2019 for our facility in Canton, USA and in 2020 for our facility in China. ISO 9001:2015 provides a structure for a quality management system that strives for customer satisfaction, consistent quality and efficiency. In addition, there are internal benefits such as improved customer satisfaction, interdepartmental communications, work processes and customer-and-supplier partnerships. The ISO 9000 family of standards relates to quality management systems and is designed to help organizations ensure that they meet the needs of customers and other stakeholders.

Inventory and Suppliers

We maintain an inventory of certain parts to facilitate the timely assembly of products required by our production plan. While most components used in our 3D printers are available from multiple suppliers, certain of these components are only available from limited sources. We consider our limited-source suppliers, including the suppliers of our printheads, to be reliable; however, the loss of one of these suppliers could result in a delay in our operations. This type of delay could require us to find and re-qualify components supplied by one or more new vendors. Although we consider our relationships with our suppliers to be good, we continue to develop risk management plans for these critical suppliers. Regarding inventory we defined targets for raw materials as well as for work in progress. The strategy includes meeting customer expectation and demand for spare parts, wear parts as well as 3D printers with an attractive lead time.

Research and Development

We have an ongoing research and development program to develop new 3D printers and material sets and to improve and expand the capabilities of our existing 3D printers and related material sets. As of December 31, 2021, we had various active research and development projects in different stages of completion. All research and development costs are charged to expense as incurred, as the criteria set forth in IAS 38 for capitalizing such costs have not yet been met. Our development efforts are augmented by development arrangements with research institutions, customers and suppliers of material and hardware, among others.

In addition to our internally-developed technology platforms and the related software, we have licensed the rights to intellectual property developed by third parties through licensing agreements that may obligate us to pay a license fee or royalty, typically based upon a dollar amount per unit or a percentage of the revenues generated by such products.

Our research and development expenses were € 6.1 million, € 6.5 million, and € 7.2 million for the years ended December 31, 2021, 2020, and 2019, respectively.

A significant portion of our research and development expenditures has been focused upon developing proprietary systems, processes and materials, including:

- the qualification of new print materials, including phenolic resins and inorganic binders, PMMA-based and other plastics, ceramics, silicon carbide and cement;
- the development of new or enhanced proprietary chemical binding agents;
- the development of new or enhanced binding mechanisms;
- the mechanics of spreading powders in a build box;
- the transfer of digital data through a series of software links to drive a printhead; and
- synchronizing all of the above to print ever-increasing volumes of material per unit time.

We also regularly apply for research and development grants and subsidies under European and German grant rules for small and medium enterprises. The majority of these grants and subsidies are non-refundable. We have received grants and subsidies from different authorities, including the German Federal Ministry of Economics and Technology (*Bundesministerium für Wirtschaft und Technologie*), the Bavarian Research Foundation (*Bayerische Forschungstiftung*) and the German Federal Foundation Environment (*Deutsche Bundesstiftung Umwelt*).

We expect to continue to invest significantly in research and development in the future.

Intellectual Property

We consider our proprietary technology to be important to the development, manufacture, and sale of our products and seek to protect such technology through a combination of patents, trademarks, and trade secrets. We also have in place confidentiality agreements and other contractual arrangements with our employees, consultants, customers and others.

Patents. As of December 31, 2021, we owned or co-owned 69 issued U.S. patents and 30 pending U.S. patent applications. In addition, we own or co-own patent rights in Europe, Asia, Brazil and Canada. In total, as of December 31, 2021 our patent portfolio consisted of over 418 patents and patent applications. Our currently issued patents will expire at different times in the future, with the earliest expiring in 2022 and the latest expiring in 2036. Our currently pending applications will generally remain in effect for 20 years from the date of the initial applications.

These patent assets are complemented by our marketing, business development and applications know-how and our ongoing research and development efforts. Nevertheless, there can be no assurance that our patents, licenses or other

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intellectual property rights will afford us a meaningful competitive advantage in the fast-paced and innovative field in which we operate.

Trade Secrets. As is true in our industry generally, the development of our products, processes and materials has involved a considerable amount of experience, manufacturing and processing know-how and research and development techniques. We protect our proprietary processes and technologies with a blend of patent protection and trade secret protection. As part of our overall intellectual property strategy, we protect our non-patented proprietary knowledge as trade secrets through confidentiality controls and through the use of nondisclosure and confidentiality agreements.

Licenses. We are a party to various licenses and other arrangements that allow us to practice and improve our technology under a range of patents, patent applications and other intellectual property, including license agreements with ExOne, 3D Systems (Z Corp), Bego Medical GmbH, or Bego, and Evonik IP GmbH each described in more detail below.

In 2003, we entered into an agreement with Extrude Hone GmbH (now doing business as ExOne) related to patents and technologies using certain binders, methods and equipment for 3-D printing processes, including sand-based 3-D printing. Under the terms of this agreement, ExOne purchased an ownership share in certain patents and related technologies from us. Further, we granted ExOne certain rights to exploit these technologies and ExOne entered into an ongoing obligation to pay royalties to us. The parties also agreed to share revenues generated from any licenses granted by ExOne. The agreement states that we are permitted to use machines and provide services relating to these technologies, but not to make or sell machines utilizing these technologies without ExOne's consent, although ExOne has an obligation to consent if the machines do not compete with products engineered, manufactured or sold by ExOne or its affiliates. If we intend to sell any of the intellectual property that is the subject of this agreement, ExOne has the option to acquire it at fair market value. Similarly, ExOne has a right of first refusal regarding the purchase of any developments and improvements we make to such intellectual property and a set of six patents (including one U.S. patent) related to wax technologies, as well as the right to negotiate to receive a license to such developments and improvements. We later signed an amendment with ExOne specifically allowing us to use the subject patents for our 3D printers working with plastics in exchange for the payment of a license fee. The obligation of both parties to pay royalties under this agreement extends until the expiration of the last issued patent included in the list of transferred patent assets.

While the agreement states that our rights are limited regarding use of certain binders and sand-based casting methods in 3D printers with ExOne, we believe these limitations will not materially impact the growth of our business, as we are able to continue certain activities in compliance with the agreement and we have developed processes which do not rely upon the subject patent portfolio, associated agreements and related technologies. If needed, we will take steps to protect our ability to continue such activities including by challenging the validity or enforceability of certain provisions of the agreement. In March 2018, ExOne GmbH, a subsidiary of ExOne, notified us of their intent not to pay their annual license fees under this agreement and asserted their rights to claim damages pursuant to an alleged material breach of the agreement. We are vigorously disputing these claims, however, the outcome of this matter is uncertain.

In 2004, we entered into a non-exclusive license and sublicense agreement with Z Corp (acquired by 3D Systems in 2012), which allows us to make, use and sell 3D printing equipment for the fabrication of plastic parts utilizing organic powder binders under certain Z Corp and Massachusetts Institute of Technology patents. In return for these rights, we agreed to pay an initial license fee and ongoing tiered royalties. We later amended this agreement, expanding our permitted use of the licensed binder-jetting technology to include inorganic powder, ceramics, and concrete printing in a process that does not require post processing other than oven baking parts or liquid infiltration, but restricting us to monochromatic color configurations. The agreement extends until the expiration of the licensed patents; however, the parties may terminate the agreement under certain conditions.

In 2012, we entered into a cross licensing agreement with Bego pursuant to which each party granted to the other certain exclusive rights regarding each parties' patents and applications directed to continuous additive manufacturing. We granted to Bego an exclusive license to market patent covered products in the field of laser sintering and other related technologies, while Bego granted to us an exclusive license to market patent covered products in the field of binder-jetting technology (other than for dental applications). We also agreed to pay to Bego a royalty and to pay a participation fee to Bego in the event that we grant any sublicenses to the technology (which, to date, we have not done). This agreement automatically terminates upon the expiration of the last patent subject to the agreement.

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In March 2015, we entered into a non-exclusive technology license agreement with Evonik IP GmbH, in which voxeljet acquired a license for a 3D printing process using polymeric materials that we believe offers distinct speed and cost benefits. This powder bed fusion process allows for production of parts with thermoplastic properties. In return for these rights, we agreed to pay an upfront payment and ongoing royalties for each royalty period, subject to the payment of a fixed minimum annual royalty if higher. The agreement shall remain in force until the expiration of the last to expire patent of the licensed patents; however, either party may terminate the agreement under certain conditions.

In addition to the foregoing licenses, we have also licensed additional patents that we believe can be used to expand our material set offerings. In several cases, we are also a licensor in areas which are not related to our core technology and which may create added value for us in the future.

Trademarks. We have secured word and figurative trademarks for voxeljet in Europe and have international (IR) applications covering the United States, Russia, Mexico and a number of countries in Asia.

Competition

Our principal competitors consist of other developers of 3D printing systems and providers of 3D printing services. These companies use a variety of additive manufacturing technologies, including:

- fused deposition modeling;
- binder jetting;
- inkjet;
- selective laser sintering; and
- stereolithography.

Some of the companies that have developed and use one or more additive manufacturing technologies to compete with us include: ExOne, 3D Systems Corporation, Stratasys, Ltd., EOS GmbH and HP Inc.

These technologies, which compete for market share in the additive manufacturing industry, possess various competitive advantages and disadvantages relative to one another within key categories, including resolution, accuracy, surface quality, variety and properties of the materials they use and produce, capacity, speed, color, transparency and the ability to print multiple materials. Due to these multiple categories, we believe end-users usually make technology purchasing decisions based on the characteristics that they value most for a particular application. The competitive environment that has developed is therefore intense and dynamic, as market players often position their technologies to capture multiple vertical markets.

Despite the challenging competitive landscape, we believe that we have several competitive advantages, including the size of our build platforms, our printing speeds, the volumetric output rate of our 3D printers and the variety of qualified material sets that we offer to commercial and industrial customers.

We also compete with established subtractive manufacturers in the industrial products market. However, we believe that we are well positioned to expand our share of the industrial products market as additive manufacturing gains recognition and increases its cost effectiveness. As our technologies improve and our unit cost of production decreases, we expect to be able to better compete with subtractive manufacturing on a wide range of products, thereby expanding our addressable market.

Seasonality

Historically, our results of operations have been subject to seasonal factors. Purchases of our 3D printers often follow a seasonal pattern owing to the capital budgeting cycles of our customers. Generally, 3D printer sales are higher in our second and fourth fiscal quarters than in our first and third fiscal quarters. Sales in our Services segment generally

are not affected by seasonality. See “Item 3. Key Information—D. Risk Factors—Risks Related to Our Business and Industry—Our revenues and operating results may fluctuate.”

Regulatory/Environmental Matters

We are subject to environmental, health and safety regulations in Germany, as well as in the countries where our products and materials are used or sold.

Germany

Legal Requirements for Manufacturing Sites

Emissions Control Law. We do require a permit granted under the Federal Emissions Control Act (*Bundes-Immissionsschutzgesetz*, or BImSchG), as we use resins (*Harze*) to create models for customers. Therefore, the permit was granted for the buildings “Halle 1” and “Halle 2” to us in December 2013 by the District Administration (Landratsamt) of Aichach-Friedberg. The permit was granted under the condition (*Auflage*), that the amount of resins processed by us does not exceed 25 kilograms per hour. In 2020, the District Administration (Landratsamt) revised and concretised the permit. For the building “Halle 3”, the permit was granted in July 2016 by the District Administration (Landratsamt) of Aichach-Friedberg. The permit was granted under the condition (*Auflage*), that the amount of resins processed by us does not exceed 10 kilograms per hour. Facilities that are subject to BImSchG are required to comply with the current state of the art (*Stand der Technik*) in emissions reduction and safety technology. We are therefore supervised by the Landesamt für Umweltschutz (LfU) and as well by the District Administration (*Landratsamt*) of Aichach-Friedberg and have regularly give full reports about the emissions in our facilities.

Production, Possession and Handling of Waste and Dangerous Goods. Our business activities result in the generation, possession and handling of waste, including hazardous waste. Under the German Act on Recycling (*Kreislaufwirtschaftsgesetz*, or KrWG), the generation, possession and handling of waste is subject to several obligations, depending, among other things, on the waste concerned. As the producer (*Erzeuger*) and possessor (*Besitzer*) of waste, we are generally responsible for the proper handling of this waste.

Section 50 of the KrWG requires producers, possessors, collectors and transporters of waste and disposal firms to verify to the competent authority proper disposal of hazardous waste (*gefährliche Abfälle*). Whether a certain substance qualifies as hazardous waste is determined according to the German Ordinance on the European Waste List (*Verordnung über das Europäische Abfallverzeichnis*).

We further comply with the International Maritime Dangerous Goods Code, which is accepted as an international guideline for the safe transportation or shipment of dangerous goods or hazardous materials by water.

We also comply with the Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of December 18, 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

We have trained and educated an employee to serve as our risk prevention officer (*Gefahrgutbeauftragter*). The risk prevention officer ensures that we comply with specific regulations and provisions when dangerous goods are shipped. In addition, we have one “Authorized Person” (*Beauftragte Person*), who is equally responsible for the risk prevention, and who is advised by the risk prevention officer. All of these persons (risk prevention officer and the authorized persons) do regularly take part in external trainings.

Legal Requirements Related to Products

Product Safety. Our products are used in a wide range of industries. As some of our products may be used directly by customers, we are subject to the German Product Safety Act (*Produktsicherheitsgesetz*, or ProdSG). The ProdSG is mainly based on Directive 2001/95/EC of the European Parliament and the Council of December 3, 2001 on general product safety (GPSD). Through the ProdSG and its predecessors, the GPSD was transformed into German law. With the ProdSG of July 27, 2021 that followed the version of November 8, 2011 and the ninth regulation to the ProdSG as amended (*Neunte Verordnung zum Produktsicherheitsgesetz (Maschinenverordnung)*), the German legislature also transformed, among other European Directives, the Directive 2006/42/EC of the European Parliament and of the Council of May 17, 2006 on machinery into German law. The ProdSG applies whenever products are made available on the

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market, exhibited or used for the first time in the context of a commercial activity, but only in the absence of other legal provisions that provide for corresponding or more far-reaching provisions.

Under the ProdSG, a product may be made available on the market only if it complies with specific regulations for such product, or, in the absence of such specific regulations, if its intended or foreseeable use does not put the health and safety of persons at risk. In essence, under the ProdSG manufacturers may only place "safe" products on the market.

In addition to compliance with this safety requirement, if products are made available to consumers, manufacturers must provide consumers with the necessary information to enable them to assess the risks inherent in such product where such risks are not immediately obvious without adequate warnings. In the event of potential product issues, manufacturers might be under an obligation to take precautions against such risks (for example, withdraw products from the market, inform consumers, recall products which have already been supplied to consumers, etc.). If manufacturers or distributors of consumer products discover that a product is potentially dangerous or unsafe, they must generally notify the competent authorities and, if necessary, cooperate with them. Unsafe products may also be listed in an EU-wide publicly-accessible database such as RAPEX or ICSMS.

Occupational Health and Safety Requirements. As the working environment may pose threats to employees, occupational health and safety laws must be complied with. German law on occupational safety is heavily influenced by the requirements of EU law. The central rules on occupational safety in Germany are contained in the Act on Occupational Safety (*Arbeitsschutzgesetz*, or ArbSchG) which requires employers to provide for their employees' safety. This general obligation is put into effect through several ordinances (*Rechtsverordnungen*) which are defined in technical guidelines. One central element is the Workplaces Ordinance (*Arbeitsstättenverordnung*) which contains various regulations on workplace conditions relating to, for example, ventilation, temperature and illumination.

In addition, we are under surveillance of the employers' liability insurance association (Berufsgenossenschaft). All companies in Germany are obliged to be a member of the Berufsgenossenschaft which monitors the companies' compliance with Occupational Health and Safety Requirements and which in general covers liability for accidents at work and occupational diseases.

Potential Liability for Products and Environmental Losses

Our business activities are such that product liability and liability for environmental damage are possible. Under general rules of the German Civil Code (*Bürgerliches Gesetzbuch*, or BGB), fault-based compensation (*Schadensersatz*) is to be paid for breach of contract or unlawful infringements of legally protected rights. This obligation does not only apply to our own acts but may potentially extend to behavior of individuals that work or undertake tasks for us under Sections 278, and 831 of BGB.

In addition, we may be strictly liable (*i.e.*, liable regardless of our fault), as a Producer under the Product Liability Act (*Produkthaftungsgesetz*, or ProdHaftG), for damages caused by a defective product. "Producer" generally means any participant in the production process, the importer of the defective product, any person putting a name, trademark or other distinguishing feature on the product, and any person supplying a product whose actual producer cannot be identified. A product is "defective" when it does not provide the safety which a person is entitled to expect when taking all circumstances into account, including among other things, the presentation of the product, the use to which it could reasonably be expected that the product would be put and the time when the product was put into circulation.

Additionally, in case of damage to persons or property caused by our facility, we may be strictly liable under the Act on Liability for Environmental Damage (*Umwelthaftungsgesetz*). In case of environmental damages to species, natural habitats, water or soil we may be liable under the Environmental Damage Act (*Umweltschadensgesetz*). The Environmental Damage Act only applies if German Federal or State Legislation does not specify the prevention and restoration of environmental damage or does not comply with this Act in its requirements.

Worldwide

Our operations and the activities of our employees, contractors and agents around the world are subject to the laws and regulations of numerous countries, including the United States. These laws and regulations include data privacy requirements, labor relations laws, tax laws, anti-competition regulations, prohibitions on payments to governmental

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officials, federal and state environmental regulations, import and trade restrictions and export requirements. Violations of these laws and regulations could result in fines, criminal sanctions against our officers, our employees, or us and may result in prohibitions on the conduct of our business. Any such violations could also result in prohibitions on our ability to offer our products and services in one or more countries and could materially damage our reputation, our ability to attract and retain employees, our business and our operating results.

Our operations (particularly in those countries with developing economies) are also subject to risks of violations of laws prohibiting improper payments and bribery, including the European Union Anti-Corruption Act, UK Bribery Act, U.S. Foreign Corrupt Practices Act and similar regulations in other jurisdictions. Although we have implemented policies and procedures designed to ensure compliance with these laws, our employees, contractors, and agents may take actions in violation of such policies. Any such violations, even if prohibited by our policies, could subject us to civil or criminal penalties or otherwise have an adverse effect on our business and reputation.

Legal Proceedings

From time to time, we may be subject to various claims or legal, arbitration or administrative proceedings that arise in the ordinary course of our business. We are currently not a party to any legal, arbitration or administrative proceedings which, in the opinion of our management, may have or have had in the recent past, significant effects on our business, financial condition or results of operations, including governmental proceedings pending or known to be contemplated.

Insurance

We maintain comprehensive business liability insurance coverage (*Betriebshaftpflichtversicherung* “*Compact-Firmenversicherung*”) for our business operations. In addition, we have obtained directors and officers liability insurance, which covers expenses, capped at a certain amount, that our Management and Supervisory Board members and our executive managers may incur in connection with their conduct as members of our Management and Supervisory Boards or executive managers. We also maintain insurance policies on our 3D printers, a group insurance policy for our employees covering occupational accidents, car insurance policies and a legal expenses insurance policy. We consider the insurance coverage we have to be adequate in light of the risks we face.

Geographic Information

Our revenues by geographic region for the year ended December 31, 2021 were EMEA 49%, Asia Pacific 29% and Americas 22%, as compared to EMEA 53%, Asia Pacific 21% and Americas 26% for the same period in 2020. For the year ended December 31, 2019, our revenues by geographic region were EMEA 46%, Asia Pacific 26% and Americas 29%. See “Item 5. Operating and Financial Review and Prospects—A. Operating Results.”

C. ORGANIZATIONAL STRUCTURE

Our corporate structure includes voxeljet AG (formerly Voxeljet Technology GmbH) and the two wholly-owned subsidiaries voxeljet America Inc. (*voxeljet America*), and voxeljet India Pvt. Ltd (*voxeljet India*). Additionally it includes voxeljet China Co. Ltd. (*voxeljet China*) where we held a shareholding of 70.00% interest. In December 2020, we initiated the wind-up of voxeljet UK Ltd. (*voxeljet UK*), which was finalized on February 17, 2022 when, upon submission of final account by liquidators to the Companies House, the affairs of voxeljet UK were fully wound up.

On February 5, 2014, our subsidiary, voxeljet America Inc. was incorporated in Delaware. voxeljet America Inc. is headquartered near Detroit, Michigan and conducts our North American operations. We began printing on-demand parts at the facility in the first quarter of 2015.

On October 1, 2014, we completed the acquisition of all outstanding shares of Propshop (Model Makers) Limited (“Propshop”) which became voxeljet UK Ltd, headquartered in Milton Keynes. Following a review of the cost-benefit considerations of voxeljet UK, management decided to wind up the subsidiary, which was initiated in December 2020. The employees of our voxeljet UK sales team have been moved to voxeljet AG and will continue to focus on selling 3D printed parts and 3D printers in the United Kingdom and Northern Europe. The wind-up was finalized on February 17, 2022.

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On November 30, 2015, we established our subsidiary voxeljet India Pvt. Ltd to pursue opportunities in the industrial 3D printing market in India. voxeljet India is headquartered and registered in the city of Pune, a large automotive and manufacturing center near Mumbai. Since the fourth quarter of 2019 the office is located in the city of Mumbai.

voxeljet China was established on April 11, 2016 and is located in the city of Suzhou, near Shanghai. Within the contribution of a lease contract on March 1, 2019 which includes 36 months free of rent, which has been negotiated by our joint venture partner Suzhou Meimai.

Fast Manufacturing Technology Co., Ltd, (“Meimai”), Meimai has increased their shareholding from 4.175% to 30.0% as it has been agreed within the joint venture contract. Therefore our shareholding in voxeljet China Co. Ltd. decreased to 70.00% on March 1, 2019. On September 1, 2021, Meimai transferred half of its equity interest in voxeljet China, or 15% of voxeljet China’s equity, to its shareholder MK Holding GmbH and the remaining half of its equity interest, or 15% of voxeljet China’s equity to its shareholder Mr. Jin Tianshi, the managing director of voxeljet China.

D. PROPERTY, PLANTS AND EQUIPMENT

At December 31, 2021, we owned/leased the following four properties worldwide:

Location	Primary Usage:	Area (Sq. Feet)
EMEA		
Friedberg, Germany	Headquarters, production space, office space	135,380
Asia Pacific		
Mumbai, India	Office space	20
Suzhou, China	Production space, office space	78,000
Americas		
Canton, Michigan, USA	Production space, office space	50,000

We believe that our existing facilities are adequate for our current and foreseeable requirements. The facilities in Friedberg, Germany are owned by voxeljet, while the facilities in India, China and the U.S. are leased. In March 2020 we registered a first rank land charge amounting to € 10.0 million on our land and facility located in Friedberg (Germany) Paul-Lenz-Straße, 1a as collateral in favor of the EIB, in connection with the signing of a waiver with the EIB.

ITEM 4A. UNRESOLVED STAFF COMMENTS

None.

ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

You should read the following discussion and analysis of our financial condition and results of operations in conjunction with our audited financial statements and the related notes thereto included elsewhere in this annual report. In addition to historical financial information, the following discussion contains forward-looking statements that reflect our plans, estimates and opinions. Our actual results could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to these differences or cause our actual results or the timing of selected events to differ materially from those anticipated in these forward-looking statements include those set forth under “Item 3. Key Information—D. Risk Factors,” “Special Note Regarding Forward Looking Statements” and elsewhere in this annual report.

The following summarizes the more significant factors impacting our operating results for the fiscal year ended December 31, 2021 and the fiscal year ended December 31, 2020 as well as our liquidity in fiscal years 2021 and 2020. We have omitted discussion of 2019 results where it would be redundant to the discussion previously included in our annual report on Form 20-F filed with the SEC on March 30, 2021.

A. OPERATING RESULTS

Overview

We are a leading provider of high-speed, large-format 3D printers and on-demand parts services to industrial and commercial customers. Our 3D printers employ a powder binding, additive manufacturing technology to produce parts using various material sets, which consist of particulate materials and proprietary chemical binding agents. We offer our customers the highest volumetric output rate in the industry due to the combination of our large build boxes and print speeds. We provide our 3D printers and on-demand parts services to industrial and commercial customers serving the automotive, aerospace, art and architecture, engineering and consumer product end markets.

We currently offer seven different 3D printer platforms, with build boxes that range from 300 × 200 × 150 millimeters to 4,000 X 2,000 X 1,000 millimeters and various print speeds, which produce volumetric output rates ranging from 0.6 liters per hour to 168.0 liters per hour. All of our platforms support our commercialized material sets, sand and plastics, along with their respective proprietary chemical binding agents. We develop our material sets according to the needs of our industrial and commercial customers, and we are currently in varying stages of developing new material sets, including shell molding and chromite sands, PMMA-based plastics, ceramics, silicon carbide, tungsten carbide, wood powder and cement.

We believe that our innovations in 3D printers will continue to increase customer adoption of our additive manufacturing technology in industrial and commercial applications.

Our business is divided into two segments: Systems and Services.

In our Systems segment, we focus on the development, production and sale of 3D printers. In addition, we sell refurbished 3D printers which were produced for and used in our Services segment. Before these 3D printers are sold, they are fully refurbished and a new printhead is installed. We also provide consumables, including particulate materials and proprietary chemical binding agents, maintenance contracts, extended warranty contracts and spare parts to our customers.

In our Services segment, we print on-demand custom parts for our customers. At our service centers, we create parts, molds, cores and models based on designs produced using 3D computer-aided design, or CAD, software.

We sold our first 3D printer in 2002 and commenced our on-demand parts services business in 2003. As of December 31, 2021, we had an installed base of 212 printers worldwide, and we operated service centers in Germany, the United States and China.

Our revenues were € 24.8 million, € 21.6 million, and € 24.6 million for the years ended December 31, 2021, 2020, and 2019, respectively.

Our net loss declined by € 4.9 million to a net loss of € 10.6 million in 2021 compared to a net loss of € 15.5 million in 2020. In 2020 our net loss increased by € 1.5 million to a net loss of € 15.5 million compared to a net loss of € 14.0 million in 2019.

Seasonality

Historically, our results of operations have been subject to seasonal factors. Purchases of our 3D printers often follow a seasonal pattern owing to the capital budgeting cycles of our customers. Generally, 3D printer sales are higher in our second and fourth fiscal quarters than in our first and third fiscal quarters. Sales in our Services segment generally are not affected by seasonality. See “Item 3. Key Information—D. Risk Factors—Risks Related to Our Business and Industry—Our revenues and operating results may fluctuate.”

Currency

Within fiscal year 2021, we had operations in Germany, the United States, China and India. As a result, our revenue and earnings have exposure to a number of currencies, primarily the Euro, the U.S. dollar and the Chinese

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renminbi. As our presentation currency is the Euro, and the functional currencies of the businesses located outside of Europe are their local currencies, the results of the businesses located outside of Europe must be translated each period to Euros. The financial statements of foreign subsidiaries are translated using the concept of the functional currency in accordance with IAS 21. The assets and liabilities of foreign subsidiaries are translated at the spot rate at the end of the period, while their income statement items are translated at average exchange rates for the respective periods. All resulting exchange differences are recognized in other comprehensive income. Gains and losses on foreign currency transactions primarily due to intercompany loans given to our subsidiaries are shown within other operating income and other operating expenses, respectively, in the consolidated statement of comprehensive loss. This calculation may differ from similarly titled measures used by other companies and, accordingly, the changes excluding the effect of foreign currency translation are not meant to substitute for changes in recorded amounts presented in conformity with IFRS nor should such amounts be considered in isolation.

We do not manage our foreign currency exposure in a manner that would eliminate the effects of changes in foreign exchange rates. Therefore, changes in exchange rates between these foreign currencies and the Euro will affect our revenues, cost of goods sold, and operating margins, and could result in exchange losses in any given reporting period.

Growth Strategy

Our business strategy focuses on (i) growing our Services segment in order to print more parts for our existing customers and gain new customers in Europe, Asia Pacific and Americas and (ii) using our knowledge and market position to increase sales of our 3D printers in the Systems segment. Our growth strategy is also dependent in part on continuing our investment in research and development activities, which should enable us to meet the needs of our target customers through the development of new material sets and 3D printers with faster print speeds. Expanding our business to realize our growth strategy may require additional investments of capital from time to time, and our existing sources of cash and any funds generated from operations may not provide us with sufficient capital. For various reasons additional financing may not be available when required or may not be available on terms favorable to us. If we fail to obtain adequate cash sources on a timely basis or if funds cannot be obtained at reasonable costs, we may not be able to achieve our planned rate of growth, which will adversely affect our results of operations.

We intend to develop our customer base internationally, so that our revenues are not dependent on sales to any one region. We also seek to grow both our Systems and Services segments so that we are not overly reliant on either segment. We believe that this strategy will help to offset some of the variability in the Systems segment, which can be more susceptible to macroeconomic trends.

Outlook

We believe that interest in additive manufacturing is increasing as a result of increased commercialization of 3D printers and recent media attention worldwide. We occupy a defined space in the additive manufacturing market because of the size of our machines and their ability to print industrial products from qualified industrial materials. While our 3D printers may differ from those of many other additive manufacturing companies, we expect an increase in additive manufacturing to generally have a positive effect on the public's awareness of our industry.

Furthermore, we believe that additive manufacturing provides several advantages over traditional design and manufacturing processes, including:

- elimination of design constraints;
- reduced cost of complexity;
- mass customization;
- reduced time to market; and
- cost effective short run production.

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There are a number of available additive manufacturing technologies, including powder binding, inkjet, fused deposition modeling, stereolithography and selective laser sintering. These technologies differ on the basis of accuracy, surface quality, variety and properties of consumables, capacity, speed, color variety, transparency and the ability to print multiple materials, among other factors. Our 3D printers employ a powder binding technology to produce parts using various material sets. Powder binding is a process in which layers of powder are bonded by a liquid agent that is deposited through a printhead. We believe this process has the fastest build speeds and the lowest materials cost relative to other additive manufacturing technologies.

Assuming that there is no prolonged or recurring incidence of the COVID-19 crisis, we believe that our investments in additional capacity in continental Europe and service centers in the United States and China should position us to generate growth in our Services segment in the future.

We also expect to spend significant time and resources remediating material weaknesses in our internal controls over financial reporting as well as cooperating with any review by our regulators.

Key Measures of Our Business

We use several financial and operating metrics to measure our business. We use these metrics to assess the progress of our business, make decisions on where to allocate capital, time and technology investments, and assess the longer-term performance of our marketplace. The key metrics are as follows:

Revenues

Our revenues are generated primarily by sales of our new or used and refurbished 3D printers, consumables and custom 3D printed parts produced at our service centers. We operate in two segments: Systems and Services. The Systems segment derives its revenues from the sale of new or used and refurbished 3D printers and products and services related to our 3D printers, including consumables, which include particulate materials and proprietary chemical binding agents, maintenance contracts and spare parts. Systems revenue also includes revenues associated with the leasing of 3D printers to customers; however, revenues related to the leasing of 3D printers is not material. Within the Systems segment, we also report revenues from tailoring and development services. The Services segment derives its revenues from the on-demand printing of parts at our service centers.

Our revenues are influenced by:

- global macroeconomic conditions;
- the adoption rate of our 3D printers and material sets;
- our ability to develop new products and technologies that address the increasingly sophisticated and varied needs of prospective end-users, particularly with respect to the physical properties of print materials and other consumables;
- the capital expenditure budgets of our potential customers;
- the amount of design and manufacturing activity; and
- the adoption of additive manufacturing technology in various industries.

Sales of our 3D printers, particularly our higher-priced systems, typically involve long sales cycles, are subject to seasonality and can be difficult to forecast. Because each of our printers can represent a significant amount of revenues, a delay in a purchasing decision, our production schedule or the shipment of a printer can have a material impact on our periodic reporting of revenues.

From time to time, refurbished 3D printers which have been operating at the Company's service centers are routinely sold to customers. Before these 3D printers are sold, they are generally fully refurbished, a process which includes the installation of a new printhead. On average, these refurbished printers have been operating within the

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service center for 1.5 to 2.5 years prior to their sale. The proceeds from the sale of such refurbished 3D printers are recognized as Systems revenues.

Gross Profit

Our gross profit and gross profit margin for our Systems and Services segments are mainly influenced by materials and labor costs. In particular, the gross profit margin in our Systems segment on sales of our 3D printers also depend on the type and status of the sold products. Sales of refurbished printers manufactured by us typically generates lower gross profits compared to sales of new 3D printers.

EBITDA

Our EBITDA (earnings before interest, taxes, depreciation and amortization) is mainly influenced by the gross profit from our Systems segment and Services segment as well as from the operating expenses from the functions research and development, administration and sales and marketing. In addition, other operating expense and other operating income including gains and losses from foreign exchange transactions have an impact on EBITDA. The gross profit from our Systems segment is mainly driven by materials and labor costs. The gross margin drivers for our Services segment relate to revenues, materials, labor and energy costs as well as facility costs. Costs for the non-productive functions are influenced primarily by labor. Research and development expenses are partially driven by materials. One of the main drivers of expenses for the administrative function is legal fees as well as accounting and auditing fees while sales and marketing expenses are also influenced by commissions paid to sales agents.

Non-IFRS Measure

We regularly use both IFRS and non-IFRS results and expectations internally to assess our overall performance of the business, making operating decisions, and forecasting and planning for future periods. We believe that Adjusted EBITDA is a useful financial measure to the Company's investors as it helps investors better understand and evaluate the projections our management board provides. Our calculation of Adjusted EBITDA may not be comparable to similarly titled financial measures reported by other peer companies. Adjusted EBITDA should not be considered as a substitute to financial measures prepared in accordance with IFRS.

We use Adjusted EBITDA as a supplemental financial measure of its financial performance. Adjusted EBITDA is defined as net income (loss), as calculated under IFRS accounting principles, interest (income) expense, provision (benefit) for income taxes, depreciation and amortization, and excluding other (income) expense resulting from foreign exchange gains or losses on the intercompany loans granted to the subsidiaries. We believe Adjusted EBITDA to be an important financial measure because it excludes the effects of fluctuating foreign exchange gains or losses on the intercompany loans granted to its subsidiaries. We are unable to reasonably estimate the potential full-year financial impact of foreign currency translation because of volatility in foreign exchange rates. Therefore, we are unable to provide a reconciliation to our forward-looking guidance for non-GAAP Adjusted EBITDA without unreasonable effort as certain information necessary to calculate such measure on an IFRS basis is unavailable, dependent on future events outside of our control and cannot be predicted without unreasonable efforts by the Company. Adjusted EBITDA for the twelve months ended December 31, 2021 was negative.

Critical Accounting Policies and Significant Estimates

Please refer to Part III, Item 18. Financial Statements, Note 5 "Critical accounting judgment and key sources of estimation and uncertainty" to the consolidated financial statements.

Statements of Comprehensive Loss Data

Year Ended December 31, 2021 compared to Year Ended December 31, 2020

The following table sets forth certain statements of comprehensive loss data both on an actual basis and as a percentage of revenues for the periods indicated:

	Year Ended December 31,				Period-over-period change (€ in thousands)
	2021		2020		
	Amount (€ in thousands)	Percentage of revenues	Amount (€ in thousands)	Percentage of revenues	
Revenues	€ 24,826	100%	€ 21,567	100%	€ 3,259
Cost of sales	16,876	68.0	14,812	68.7	2,064
Gross profit	7,950	32.0	6,755	31.3	1,195
Selling expenses	6,420	25.9	5,816	27.0	604
Administrative expenses	6,577	26.5	6,407	29.7	170
Research and development expenses	6,149	24.8	6,500	30.1	(351)
Other operating expenses	618	2.5	2,799	13.0	(2,181)
Other operating (income)	(2,970)	12.0	(1,603)	7.4	(1,367)
Operating loss	(8,844)	35.6	(13,164)	61.0	4,320
Finance expense	2,601	10.5	2,589	12.0	12
Finance (income)	(924)	3.7	(184)	0.9	(740)
Financial result	1,677	6.8	2,405	11.2	(728)
Net loss before income taxes	(10,521)	42.4	(15,569)	72.2	5,048
Income tax expense (income)	65	0.3	(88)	(0.4)	153
Net Loss	€ (10,586)	42.6%	€ (15,481)	71.8%	€ 4,895

Summary

Our revenues increased by € 3.3 million, or 15%, to € 24.8 million in 2021 from € 21.6 million in 2020. This was due to an increase in revenues from both segments Systems and Services amounting to € 3.2 million and € 0.1 million, respectively.

Our gross profit increased by € 1.2 million from € 6.8 million in 2020 to € 8.0 million in 2021. This was due to an increase in gross profit for both segments Systems and Services amounting to € 0.8 million and € 0.4 million, respectively. The improvement regarding our Systems segment was mainly related to the increased revenues from this segment. The increase regarding our Services segment was mainly related to significantly higher gross profit contribution from our subsidiary voxeljet America, as a result of an improved utilization of the American service center, as well as gross profit from the German service center improved. This was slightly offset by weaker gross profit contribution from our Chinese subsidiary. Our consolidated gross profit margin slightly improved to 32% in 2021 compared to 31% in 2020.

Our operating loss decreased by € 4.3 million to a loss of € 8.8 million in 2021 from a loss of € 13.2 million in 2020. This was mainly due to a positive net impact of the year over year changes in other operating expenses and other operating income amounting to € 3.5 million. In addition, gross profit for 2021 increased by € 1.2 million compared to last year. Research and development expenses decreased by € 0.4 million. This was partially offset by higher operating expenses from our functions sales and marketing as well as administration. Year over year, selling expenses and administrative expenses increased by € 0.6 million and € 0.2 million, respectively.

Revenues by Segment

The table below sets forth the change in revenues by segment from 2020 to 2021:

	Year Ended December 31,		period-over-period change
	2021	2020	
	(€ in thousands)		
Systems	€ 15,728	€ 12,556	€ 3,172
Services	9,098	9,011	87
Total Revenues	€ 24,826	€ 21,567	€ 3,259

Revenues from the Systems segment for 2021 were € 15.7 million, representing a 24.6% increase over revenues of € 12.6 million in 2020. The Company sold ten new and four used and refurbished 3D printers during the year ended December 31, 2021 compared to eight new and five used and refurbished 3D printers in the prior year period. Revenue from the sale of 3D printers significantly increased in 2021 compared to last year, due to the higher number of transactions but mainly due to a more favorable product mix, as we sold more larger scale platforms in 2021 as opposed to smaller platforms in the comparative period in 2020. Systems revenues also include all Systems-related revenues from consumables, spare parts and maintenance. Those Systems-related revenues also increased, which reflects the recovery from the economic slow-down mainly due to the ongoing COVID-19 situation. Currently, we are able to perform installations of 3D printers and to offer service visits in most regions of the world. There remain some constraints and obstacles, but our operations in the face of the COVID-19 situation are normalizing progressively.

Revenues from the Services segment for 2021 were € 9.1 million, which represents an increase of € 0.1 million or 1.1% in revenues compared to € 9.0 million in 2020. This was mainly due to higher revenue contributions from our German operation and a slight growth in revenues from our Chinese service center. This was partially offset by lower revenue contributions from our subsidiary voxeljet America, which continues to reflect the slow-down of the economy related to the COVID-19 situation accompanied by a drop in market demand from our clients in North America. Even though there was an increase in revenues starting in the third quarter of 2021, it did not fully compensate for the negative impact of the COVID-19 situation in the first half of 2021.

Revenues by Geographic Region

The table below sets forth the change in revenues by geographic region from 2020 to 2021:

	Year Ended December 31, 2021		Year Ended December 31, 2020	
	Revenues	Percentage	Revenues	Percentage
	(€ in thousands)		(€ in thousands)	
EMEA	12,228	49.3%	11,466	53.2%
Asia Pacific	7,107	28.6	4,521	21.0
Americas	5,491	22.1	5,580	25.9
Total	24,826	100.0%	21,567	100.0%

We generated more than 49% of our revenues in the EMEA region for the year ended December 31, 2021 with a slight decreasing relative proportion of our revenues as compared to the year ended December 31, 2020. The decrease is related to higher absolute portion of total revenues, as the absolute portion of revenues in the EMEA region also increased. Relative and absolute portion of revenues in the Asia Pacific region increased mainly due to higher printer sales. Revenue in the region Americas year over year was almost flat.

Gross Profit and Gross Profit Margin

Total gross profit for 2021 increased, which was related to both, the Systems and the Services segment. Total gross profit margin slightly improved due to the significant increase related to the Services segment, while gross profit margin from the Systems segment slightly decreased. Overall, our gross profit margin increased from 31% in 2020 to 32% in 2021.

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The table below sets forth gross profit and gross profit margin for our Systems and Services segments for the presented periods:

	Year Ended December 31, 2021		Year Ended December 31, 2020		Period-over-period change (€ in thousands)
	Amount (€ in thousands)	Gross margin as percentage of relevant segment revenues	Amount (€ in thousands)	Gross margin as percentage of relevant segment revenues	
Systems	€ 5,251	33.4%	€ 4,441	35.4%	€ 810
Services	2,699	29.7	2,314	25.7	385
Total	€ 7,950	32.0%	€ 6,755	31.3%	€ 1,195

Gross profit for our Systems segment increased to € 5.3 million in 2021 from € 4.4 million in 2020, while the gross profit margin decreased by 2.0% to 33.4% in 2021 from 35.4% in 2020. The increase in gross profit was due to higher gross profit from the sale of 3D printers, while gross profit from System-related goods and services, including consumables, spare parts and maintenance decreased. This was mainly due to the year over year change in the reserve for slow-moving inventory amounting to € 0.8 million negative. This is also the reason for the decrease in gross profit margin from Systems-related revenues. Gross profit margin from the sale of 3D printers year over year was almost flat.

Gross profit for our Services segment in 2021 amounted to € 2.7 million, and therefore increased by € 0.4 million compared to 2020. Gross profit margin significantly increased from 25.7% in 2020 to 29.7% in 2021. This increase was mainly related to significantly higher gross profit as well as gross profit margin contribution from our subsidiary voxeljet America, as a result of an improved utilization of the American service center due to the recovery since the third quarter of 2021. Also regarding the German service center, both gross profit and gross profit margin slightly improved. These positive trends were partially offset by weaker gross profit and gross profit margin contribution from our Chinese subsidiary.

Operating Expenses

As shown in the table below, total operating expenses significantly decreased to € 16.8 million in 2021 compared to € 19.9 million in 2020 and decreased to 67.6% of revenues in 2021 compared to 92.4% in 2020. The main driver for this decrease are the year over year changes in other operating income and expenses. Selling expenses increased from € 5.8 million in 2020 to € 6.4 million in 2021. This year over year increase of € 0.6 million is mainly due to higher distribution expenses primarily corresponding to the increase in revenues. Shipping and packaging expenses as a main driver of the selling expenses could vary from quarter to quarter depending on quantity and types of products, as well as the destinations where those goods are being delivered. Administrative expenses slightly increased. We recorded an increase of € 0.2 million from € 6.4 million in 2020 to € 6.6 million in 2021. The increase was mainly related to higher legal advisor fees related to our stock market listing as well as our communications with financial institutions in connection with funding activities. Operative expenses within the function R&D decreased by € 0.4 million from € 6.5 million in 2020 to € 6.1 million in 2021. This was mainly due to lower personnel expenses amounting to € 3.6 million in 2021 compared to € 3.9 million in 2020 as well as lower material expenses amounting to € 0.4 million in 2021 compared to € 0.6 million in 2020, partially offset by higher usage of external services.

	Year Ended December 31,				Period-over-period change (€ in thousands)
	2021		2020		
	Amount (€ in thousands)	Percentage of revenues	Amount (€ in thousands)	Percentage of revenues	
Operating expenses					
Selling expenses	€ 6,420	25.9%	€ 5,816	27.0%	€ 604
Administrative expenses	6,577	26.5	6,407	29.7	170
Research and development expenses	6,149	24.8	6,500	30.1	(351)
Other operating expenses	618	2.5	2,799	13.0	(2,181)
Other operating (income)	(2,970)	(12.0)	(1,603)	(7.4)	(1,367)
Total	€ 16,794	67.6%	€ 19,919	92.4%	€ (3,125)

Other operating income and expenses

Other operating expenses for the year ended December 31, 2021 were € 0.6 million compared to € 2.8 million in the prior year period. This is mainly due to lower losses from foreign currency translations. Foreign currency losses amounted to € 0.5 million for the year ended December 31, 2021, compared to € 2.5 million in the same period in 2020.

Other operating income was € 3.0 million for the year ended December 31, 2021 compared to € 1.6 million in the prior year period. The increase was mainly due to higher gains from foreign currency transactions amounting to € 1.8 million in 2021 compared to € 0.8 million in 2020. In addition, in 2021, we received government grants awarded for research and development project funding amounting to € 0.6 million. In 2020, our subsidiary voxeljet America received a government grant from the United States Small Business Administration (“SBA”) under the COVID-19 funding program amounting to € 0.3 million. The full amount was recognized in profit and loss, in the second quarter of 2020, as the related costs for which the grant is intended to compensate occurred in this period. The assessment of SBA whether we are in compliance with the conditions, was finalized in September 2021.

The changes in foreign currency gains and losses were primarily driven by the valuation of the intercompany loans granted by the parent company to our U.S. subsidiary.

Operating Loss

Operating loss and operating loss as a percentage of total revenues in 2021 and 2020 were as follows:

	Year Ended December 31,				Period-over-period change (€ in thousands)
	2021		2020		
	Amount (€ in thousands)	Percentage of revenues	Amount (€ in thousands)	Percentage of revenues	
Operating loss	€ (8,844)	(35.6)%	€ (13,164)	(61.0)%	€ 4,320

We had an operating loss of € 8.8 million in 2021, a decrease of € 4.3 million compared to an operating loss of € 13.2 million in 2020. This was mainly due to a positive net impact of the year over year changes in other operating expenses and other operating income amounting to € 3.5 million. In addition, gross profit for 2021 increased by € 1.2 million compared to last year. Research and development expenses declined by € 0.4 million. This was partially offset by higher operating expenses from our functions sales and marketing as well as administration. Year over year, selling expenses and administrative expenses increased by € 0.6 million and € 0.2 million, respectively.

Financial Result

	Year Ended December 31,	
	2021	2020
	(€ in thousands)	
Finance expense	2,601	2,589
Finance income	(924)	(184)
Financial result	1,677	2,405

We had a financial result of € 1.7 million negative in 2021, a decrease of € 0.7 million compared to a financial result of € 2.4 million negative in 2020. This was mainly due to the impact from the revaluation of derivative financial instruments amounted to positive € 0.8 million, compared to negative € 0.7 million in 2020, which leads to a year over year change of € 1.5 million positive. This was partially offset by higher interest expense for long-term debt which amounted to € 2.2 million in 2021, compared to € 1.6 million in 2020.

Reconciliation of Net Loss to EBITDA

	2021	2020
	(€ in thousands)	
Net loss	€ (10,586)	€ (15,481)
Income taxes	65	(88)
Financial result	1,677	2,405
Depreciation and Amortization	3,100	3,442
EBITDA	€ (5,744)	€ (9,722)

B. LIQUIDITY AND CAPITAL RESOURCES

As of December 31, 2021, we had cash and cash equivalents of € 7.0 million and held investments in three bond funds of € 10.7 million, one term deposit of € 2.7 million and restricted cash of € 2.3 million.

In 2016, we concluded new loan agreements with Kreissparkasse Augsburg, Germany, to finance the construction of new office and production facilities in Friedberg: (i) in February 2016, the Company entered into a € 2.0 million loan agreement due May 31, 2038. Interest is payable at a fixed rate of 2.47%; (ii) in February 2016, the Company entered into a € 1.0 million loan agreement due April 30, 2038. Interest is payable at a fixed rate of 2.72%; (iii) in February 2016, the Company entered into a € 1.0 million loan agreement due April 30, 2040. Interest is payable at a variable rate of 1.75%; (iv) In December 2016, the Company entered into a € 0.5 million loan agreement due July 30, 2038. Interest is payable at a fixed rate of 2.42%; and (v) in December 2016, the Company entered into a € 0.5 million loan agreement due September 30, 2037. Interest is payable at a fixed rate of 2.73%. Among other terms, the loan agreements contain (i) certain covenants, including that we deposit € 2.0 million with Kreissparkasse Augsburg until we have reached certain ratios (financial covenants) with respect to our ability to service the debt by the end of fiscal year 2019, and (ii) change of control provisions concerning the ownership of the Company by our executive officers, Dr. Ingo Ederer and Rudolf Franz. By the end of the fiscal year 2019, we failed to meet these financial covenants. Therefore, we were obliged to pledge € 2.0 million for the benefit of the lender. In addition, the land owned by us upon which the facilities have been built as well as three 3D printers serve as collateral under the loan agreements.

On November 9, 2017, the European Investment Bank (“EIB”) and the Company entered into a Finance Contract and Synthetic Warrant Agreement to support the Company’s undertaking of research and development projects for growth from 2017 to 2020. The contract provides a credit of € 25 million in up to three tranches at the amounts of € 10 million € 8 million and € 7 million, respectively. The Contract also includes a financial covenant that requires the Company to meet certain minimum financial ratios from 2019 to 2025. Under a First Demand Guarantee Agreement the Finance Contract is guaranteed by the voxeljet USA subsidiary. On December 22, 2017, we received the first tranche of € 10 million.

As of December 31, 2019, we were in breach of the Total Net Financial Debt to EBITDA financial covenant under the Finance Contract, which requires that we maintain certain minimum ratios. In March 2020, we received a waiver for the covenant breaches in 2019 and a grace period ending March 31, 2021, during which (i) voxeljet can rectify such breaches and (ii) the EIB shall not demand immediate repayment. In June 2020, we announced that the EIB and voxeljet AG further expanded our partnership. The EIB disbursed € 5.0 million of the second tranche (tranche B1) of the loan in June 2020 with a bullet repayment after five years. In addition, we amended the financial covenants in the Finance Contract to replace the Total Net Financial Debt to EBITDA ratio with the Minimum Cash Covenant. As of June 30, 2020, pursuant to the semi-annual financial testing prescribed by the Finance Contract, as amended, we were in compliance with the Minimum Cash Covenant. However, in March 2021, we discovered that our calculation of cash and cash equivalents for determining compliance with the Minimum Cash Covenant was incorrect and, accordingly, we were not in compliance with the Minimum Cash Covenant as of December 31, 2020. In March 2021, we received a waiver from the EIB for the noncompliance with the Minimum Cash Covenant, pursuant to which (i) the EIB agreed that it will not demand immediate repayment of the outstanding amounts owed and (ii) the EIB and the Company amended the financial covenants in the Finance Contract to clarify the calculation of cash and cash equivalents for determining compliance with the Minimum Cash Covenant. We have been in compliance with the Minimum Cash Covenant, and all other requirements under the Finance Contract, since March 2021.

During 2021, in January, February and July, we successfully completed three registered direct offerings and sales of a total of 2,190,711 ADSs, which provided voxeljet with total gross proceeds of approximately USD 32 million (€ 26.6 million) before deducting fees and expenses. Those capital increases improved our liquidity as well as equity

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ratio significantly. In spite of this success, management is taking further steps to raise further funds which may include debt or equity financing, not without mentioning, that there can be no assurance that we will be able to raise further funds on terms favorable to us, if at all. In spite of this success, we have significant financial obligations, related to the repayment of tranche A including the performance participation interest from the loan received from the EIB, which will become due in December 2022. Additionally, we have to ensure, compliance at all times with all covenants, in the Finance Contract, including a Minimum Cash/Cash Equivalents requirement (the “Minimum Cash Covenant”). We are taking several steps to mitigate the situation. Currently we are in discussion with the EIB in order to agree upon a drawn down of tranche B2 and tranche C of the loan amounting to € 10.0 million and therefore reschedule the debt. Moreover, we are taking further steps to raise further funds which may include debt or equity financing, not without mentioning that there can be no assurance that we will be able to raise further funds on terms favorable to us, if at all.

The ongoing conflict between Russia and Ukraine raises further risks and uncertainties. The heightened use of trade restrictions and sanctions, including tariffs or prohibitions on technology transfers to achieve diplomatic ends could impact our ability to conduct its business as planned. A spill-over of the conflict to neighboring countries, the European Union or NATO members, could result into further adverse impacts on our business, like a drop in market demand, price increases for raw materials and energy or delays in the global supply chain.

These events and conditions described above raise material uncertainties that may cast significant doubt upon our ability to continue as a going concern. Despite the ongoing losses, reduced cash flow and cash facilities as well as the significant financial obligations becoming due, we assume that we will continue as a going concern. However, while we assume of continuing as a going concern, the going concern is dependent upon we being successful in:

- successful negotiations with the EIB over the draw down of tranche B2 and tranche C under the Finance Contract
- achievement of budgeted sales
- successful fund raising in form of equity or debt

If these dependencies are not successfully achieved, we would consider the sale of voxeljet AG’s properties to raise sufficient funds for continuing the business as a going concern.

Those assumptions are included in the our current liquidity forecasts and we believe that we have the ability to meet our financial obligations for at least the next 12 months from the authorization for issuance of these consolidated financial statements as of and for the year ended December 31, 2021 by the Management Board on March 31, 2022 and therefore continues as a going concern.

As of December 31, 2021 we had available lines of credit with two German banks totaling € 0.2 million. Interest rates across the credit lines varied from 5.15% to 7.85% as of December 31, 2021.

Cash Flow

Our primary sources of cash in 2021 were the 2021 Offerings and revenues. Our primary uses of cash have traditionally been to finance our operations and to support the anticipated growth of our business.

The table below sets forth cash flows from operating, investing and financing activities for 2020 and 2021:

	<u>2021</u>	<u>2020</u>
	(€ in thousands)	
Cash provided by (used in) operating activities	€ (6,537)	€ (6,598)
Cash provided by (used in) investing activities	(11,442)	3,921
Cash provided by (used in) financing activities	19,519	3,467
Increase in cash and cash equivalents	<u>€ 1,540</u>	<u>€ 790</u>

Our cash and cash equivalents increased from € 5.3 million at December 31, 2020 to € 7.0 million at December 31, 2021.

Operating Activities

Net cash used in operating activities was € 6.5 million for the year ended December 31, 2021 compared to cash used in operating activities of € 6.6 million for the year ended December 31, 2020.

Investing Activities

In 2021, our investing activities generally consist primarily of capital expenditures to support our growth and payments to acquire certain short-term financial assets. Also in 2021, we adopted austerity measures in response to the global economic impact of COVID-19, and therefore only approved capital expenditures, which were essential. This mainly included equipment required for our research and development activities. In addition, we acquired short-term financial assets in 2021 amounting to € 10.5 million, to invest a portion of the proceeds from the 2021 Offerings.

In 2020, we sold short-term financial assets amounting to € 4.0 million net to fund our operation and spent the majority of our capital expenditure for further upgrades of our ERP-System.

Financing Activities

In 2021, financing cash flows consisted primarily of proceeds from the 2021 Offerings amounting to € 26.6 million. This was partially offset by cash outflows from share issuance costs amounting to € 3.2 million, change in restricted cash amounting to € 2.3 million the repayment of long-term debt amounting to € 1.0 million, lease liabilities € 0.3 million and interest payments of € 0.3 million.

In 2020, financing cash flows consisted primarily of € 5.0 million received from the disbursement of tranche B1 of the second tranche related to the loan granted by the EIB. This was partially offset by cash outflows from the repayment of long-term debt amounting to € 0.9 million, lease liabilities of € 0.4 million and interest payments of € 0.3 million.

C. RESEARCH AND DEVELOPMENT, PATENTS AND LICENSES

Research and development is a key part of our strategy to develop new material sets and enhancements to our 3D printers. Our research and development expenses totaled € 6.1 million, € 6.5 million, and € 7.2 million for the years ended December 31, 2021, 2020, and 2019, respectively. For further information on our policies and practices regarding research and development, see “Item 4. Information on the Company—B. Business Overview—Research and Development.”

D. TREND INFORMATION

Other than as disclosed elsewhere in this annual report, we are not aware of any trends, uncertainties, demands, commitments or events for the year ended December 31, 2021 that are reasonably likely to have a material adverse effect on our revenues, profitability, liquidity or capital resources, or that would cause the disclosed financial information to be not necessarily indicative of future operating results or financial conditions. The target for the next years is to become cash neutral while identifying further funding sources.

E. OFF BALANCE SHEET ARRANGEMENTS

We are not a party to any off balance sheet arrangements.

F. TABULAR DISCLOSURE OF CONTRACTUAL OBLIGATIONS

Contractual Obligations

The information required by this item may be found under Note 19 “Financial risk management” to the consolidated financial statements.

G. SAFE HARBOR

See “Special Note Regarding Forward Looking Statements” on page 1 of this annual report.

ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

A. DIRECTORS AND SENIOR MANAGEMENT

Supervisory Board

The following table sets forth the names and functions of the current members of our Supervisory Board, their ages, their terms (which expire on the date of the relevant year’s annual general shareholders’ meeting) and their principal occupations outside of our Company as of March 1, 2022:

Name	Age	Term Expires	Principal occupation
Peter G. Nietzer (Chairman)	61	2023	Managing director of an asset management firm
Volker Neuber (Vice Chairman)	54	2023	Vice president of an industrial firm (external consultant since July 1, 2021)
Kerstin von Diemar (Member)	45	2023	Managing director of a trading company and a medical technology company

Dr. Stefan Söhn informed the Company on April 7, 2021 that he will resign from his office as member of the Supervisory Board of the Company for professional reasons with effect from the end of the general shareholders’ meeting on May 26, 2021.

The business address of the members of our Supervisory Board is the same as our business address: voxeljet AG, Paul-Lenz-Straße 1a, 86316 Friedberg, Germany. Our Supervisory Board has determined that all members of our Supervisory Board are independent under German law and the NASDAQ Listing Rules.

The following is a brief summary of the business experience of the members of our Supervisory Board:

Peter Nietzer, born in 1960 in Heilbronn, Germany, has been the chairman of our Supervisory Board since July 2, 2013. Mr. Nietzer has served as owner and managing director of KITES Industriebeteiligungen GmbH, a private investment holding company, and of M59 Advisory Services, since January 2013 and as Partner and Chief Financial Officer of GermanCapital GmbH, a private equity company he co-founded and that specializes in mid-market buy-outs, from July 2005 to July 2013. Mr. Nietzer also served as a Non-Executive Director of Cognis Credit Opportunities Fund Ltd., Cognis Credit Opportunities Master Fund Ltd. and Cognis Credit Opportunities Manager (Cayman) Ltd. from September 2013 to December 31, 2016. Since April 2000, Mr. Nietzer has been an executive board member and Managing Partner of Felicitas GmbH (which was previously known as GI Ventures AG), a fund management company he helped found. Further, since November 2020, Mr. Nietzer has been Managing Director of Robotics Ventures GmbH, Munich, a private investment holding company with focus on robotics, AI and automation, which he co-founded. Since January 2022, Mr. Nietzer has served as member and chairman of the advisory board of Dye Mansion GmbH and since March 2022 as member of the supervisory board of Robotise AG. Mr. Nietzer holds an M.B.A. from Friedrich-Alexander University Erlangen-Nürnberg, Germany. We believe that Mr. Nietzer’s over 20 years of experience in private equity and venture capital and his previous roles as a Supervisory Board member provide him with valuable insight into our business, particularly in the areas of financing and acquisition opportunities, while his focus on technology companies gives him insight into our operations and industry.

Volker Neuber, born in 1967 in Bad Kissingen, Germany, joined the supervisory board of voxeljet AG in July 2020. Mr. Neuber started his career in 1991 as a trainee with General Electric, where he held various positions from sales, marketing and Six Sigma Master Black Belt to the General Management of its German plastics division. From 2004 to 2010, he acted as Vice President for Husky Injection Molding Systems Ltd, where he was responsible for strategic corporate development of the markets in Europe, Africa and the Middle East. In 2010, Mr. Neuber took over the majority shares in Ettlinger Kunststoffmaschinen GmbH, a manufacturer of high-performance filters for plastics recycling. He sold Ettlinger to the U.S. company Dover (NYSE: DOV) in 2018. Mr. Neuber served between October 2020 and July 2021 as Vice President Business Development at MAAG Pump Systems AG, a company within Dover, and has served as external consultant since July 2021 in this function. Mr. Neuber has also served as the Managing Director and owner of Neuber Verwaltungs-GmbH since September 2010. Particularly thanks to his wealth of

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experience in the plastics industry and his many years of dedication to corporate management, Volker Neuber is a valuable addition to the Supervisory Board of voxeljet AG. Mr. Neuber completed his studies in business administration and business informatics at the state technical college in Würzburg, Germany.

Kerstin von Diemar, born in 1977 in Kelheim, Germany, joined the supervisory board of voxeljet AG in May 2021. From 2007-2016 she worked with FORUM Media Group GmbH, an award-winning international media company with around € 120 million revenue (2019), driving international business growth as Head of Group M&A and as CEO. She managed 15 global subsidiaries and served as non-executive board member at nextmedia pty ltd. (Australia) and Kenilworth Media Inc. (Canada). During her time with FORUM she led the successful expansion of the business into North America, Australia and Asia. She currently serves as vice-chairwoman on the advisory board of Forum Media Group, advising the group on all strategic decision-making processes. Before joining Forum, Ms. von Diemar worked in marketing and international business development for offertocom (1996-2000) and as co-founder, managing director and shareholder for Kuffer Marketing GmbH (2001-2006). She is currently engaged as shareholder and managing director with cureVision, a Munich-based digital healthcare company, and Never Rest Sportswear, a manufacturer of sustainable sportswear. Ms. von Diemar holds a Diploma in sociology (Universität Regensburg 2003), completed her MBA degree in St. Gallen and at Nanyang Technological University in Singapore (MBA-HSG, 2008) and is a CFA® Charterholder (CFA Institute, 2019). Ms. von Diemar is an outstanding entrepreneur and business executive with more than 20 years of strategic and commercial experience in fast growing companies.

Board Diversity Matrix

Board Diversity Matrix (As of December 31, 2021)

Country of Principal Executive Offices “Home Country”:	Germany			
Foreign Private Issuer	Yes			
Disclosure Prohibited Under Home Country Law	No			
Total Number of Directors	3			
Part I: Gender Identity	Female	Male	Non-Binary	Did Not Disclose Gender
Directors	1	2	-	-
Part II: Demographic Background				
Underrepresented Individual in Home Country Jurisdiction	-			
LGBTQ+	1			
Did Not Disclose Demographic Background	-			

Management Board

The following table sets forth the names and functions of the current members of our Management Board, their ages and their terms as of March 1, 2022:

Name	Age	Term Ends	Position
Dr. Ingo Ederer	54	June 30, 2024	Chief Executive Officer
Rudolf Franz	54	June 30, 2024	Chief Financial Officer, Chief Operating Officer

The business address of the members of our Management Board is the same as our business address: voxeljet AG, Paul-Lenz-Straße 1a, 86316 Friedberg, Germany.

The following is a brief summary of the business experience of the members of our Management Board:

Dr. Ingo Ederer, born in 1967 in Weilheim, Germany, is one of our founders and is the key inventor of our technology. He has served as our Chief Executive Officer since 2013. Dr. Ederer co-founded our Company as Generis GmbH in 1999 and served as our Managing Director from our incorporation in 1999 to 2013, building up the Company from the start-up phase to become a leading provider of 3D printers for industrial and commercial customers. After graduating with a degree in mechanical engineering from the Technical University of Munich in 1993, Dr. Ederer started his career as researcher at the department of precision engineering at the Technical University of Munich where he received his Ph.D. in 2000 with a thesis on piezo-based micro-jetting devices. He contributes more than 20 years of experience in the 3D printing equipment market and is a holder of more than 50 patents in the field of 3D printing. His Alma Mater – the Technical University of Munich - awarded him in 2013 with the honorary title “Entrepreneur of Excellence”.

Rudolf Franz, born in 1967 in Friedberg, Germany, has been one of our shareholders through his family fund Franz Industriebeteiligungen AG since the fourth quarter of 2003. Rudolf Franz joined the team of founders in early 2002. Since then Rudolf has helped to grow voxeljet AG from a small engineering business with 10 employees to a global business more than 250 employees in 2022. In his role as COO he is focusing on marketing and sales, finance and controlling, risk management, compliance, legal, HR, business development and investor relations. Since the Company's IPO on the New York Stock Exchange (the "NYSE") in 2013 and through its move to NASDAQ in 2020, he has been serving as the CFO of our company. In 1995, he began his career as an investment manager at Technologieholding VC GmbH in Munich, a leading European venture capital firm at the time, where he became a partner two years later, heading the firm's Munich investment team. In early 2000, together with the other partners of Technologieholding, he sold his shares to 3i Group plc. (www.3i.com), based in London, where he was then responsible for technology investments in the German-speaking market until early 2002. Mr. Franz has been a member of the advisory board of FORUM Media Group GmbH since January 2015. Since June 2020 he has been a member of the investment committee of Wachstumsfonds Bayern GmbH & Co. KG 1 and 2. Rudolf Franz studied industrial engineering for eight semesters at the University of Applied Sciences in Munich, where he earned a master's degree, and economics for five semesters at the University of Augsburg.

B. COMPENSATION

Compensation of Management Board Members

We have entered into service agreements with the current members of our Management Board. These agreements generally provide for an annual fixed compensation (base salary), an annual performance award (annual bonus) with a target of up to 30% of the yearly base salary, as well as a long-term performance award for a three-business-year period (long-term bonus) with a target of up to 100% of the yearly base salary. The performance targets of the annual and long-term bonuses are a mixture of certain financial and non-financial targets, such as revenue and profitability goals, as well as EBITDA goals. In addition to the fixed and variable remuneration components, under the terms of their service agreements, the members of our Management Board are entitled to additional benefits (including company car arrangements, mobile phone, accident and director and officer liability insurance) and reimbursement of necessary and reasonable expenses.

We believe that the service agreements between us and the members of our Management Board provide for payments and benefits (including upon termination of employment) that are in line with customary market practice for similar companies which are operating in our industry.

In 2022, the two members of our Management Board are collectively entitled to receive total compensation of up to € 1.0 million, which includes base salary, bonus payments, employee stock options and other compensation as a result of other benefits as described above. In 2021, the two members of our Management Board collectively received total compensation of € 1.0 million, which included base salary, bonus payments, stock options and other compensation.

Compensation of Supervisory Board Members in Fiscal Year 2021

In our general shareholders' meeting on May 31, 2016 the following remuneration system was resolved:

- Ordinary members of the Supervisory Board receive a fixed remuneration in the amount of € 40,000 per annum. The chairman and vice chairman of the Supervisory Board shall receive a higher fixed remuneration in the amount of € 80,000 per annum and € 60,000 per annum, respectively.
- We do not pay fees for attendance at Supervisory Board meetings.
- The members of the Supervisory Board are entitled to reimbursement of their reasonable, documented expenses (including, but not limited to, travel, board and lodging and telecommunication expenses).

This remuneration system will remain in force until it has been amended or terminated by our general shareholders' meeting.

C. BOARD PRACTICES

Overview

We are a German stock corporation (*Aktiengesellschaft*, or *AG*) with our registered seat in Germany. We are subject to German legislation on stock corporations, most importantly the German Stock Corporation Act (*Aktiengesetz*, or *AktG*). In accordance with the German Stock Corporation Act (*Aktiengesetz*), our corporate bodies are the Management Board (*Vorstand*), the Supervisory Board (*Aufsichtsrat*) and the general shareholders' meeting (*Hauptversammlung*). Our Management Board and our Supervisory Board are entirely separate and, as a rule, no individual may simultaneously be a member of both boards.

Our Management Board is responsible for the day-to-day management of our business in accordance with applicable laws, our articles of association (*Satzung*) and the Management Board's internal rules of procedure (*Geschäftsordnung*). Our Management Board represents us in our dealings with third parties.

The principal function of our Supervisory Board is to supervise our Management Board. The Supervisory Board is also responsible for appointing and removing the members of our Management Board and representing us in connection with transactions between a current or former member of the Management Board and us.

Under German law, members of both boards owe a duty of loyalty and care to us. In carrying out their duties, they are required to exercise the standard of care of a prudent and diligent businessperson. If they fail to observe the appropriate standard of care, they may become liable to us.

In carrying out their duties, the members of both boards may take into account a broad range of considerations when making decisions, including our interests and the interests of our shareholders, employees, creditors and, to a limited extent, the general public, while respecting the rights of our shareholders to be treated on equal terms. Additionally, the Management Board is responsible for implementing an internal monitoring system for risk management purposes.

Our Supervisory Board has comprehensive monitoring responsibilities. To ensure that our Supervisory Board can carry out these functions properly, our Management Board must, among other things, regularly report to our Supervisory Board regarding our current business operations and future business planning (including financial, investment and personnel planning). In addition, our Supervisory Board is entitled to request special reports from the Management Board at any time.

Under German law, our shareholders have no direct recourse against the members of our Management Board or our Supervisory Board if they have breached their duty of loyalty and care to us. Apart from insolvency or other special circumstances, only the Company has the ability to claim damages against the members of our two boards. We may waive these claims to damages or settle these claims only if at least three years have passed since any violation of a duty occurred and only if our shareholders approve the waiver or settlement at a shareholders' meeting with a simple majority of the votes cast; provided that shareholders who in the aggregate hold one-tenth or more of our share capital do not oppose the waiver or settlement and have their opposition formally recorded in the meeting's minutes by a German civil law notary.

The following description, as far as it relates to our articles of association, is based on the articles of association, as last amended, effective with the registration in the commercial register on July 20, 2021.

Supervisory Board

Our Supervisory Board currently consists of three members, which is the minimum number of members allowed under German law. As we grow, our Supervisory Board may be required to include employee representatives subject to the provisions of the German One-Third Employee Representation Act (*Drittelbeteiligungsgesetz*) or the German Codetermination Act (*Mitbestimmungsgesetz*).

Currently, all of the members of our Supervisory Board are elected by the general shareholders' meeting in accordance with the provisions of the German Stock Corporation Act (*Aktiengesetz*). German law does not require the majority of our Supervisory Board members to be independent. The rules of procedure for our Supervisory Board

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provide that the Supervisory Board should be composed of a majority of independent members, as determined by the Supervisory Board. Under the Supervisory Board's rules of procedure, a board member is deemed to be independent if such member has no business or personal relationships with us or the Management Board that could constitute a conflict of interest.

Under German law, the members of a supervisory board may be elected for a term of up to approximately five years, depending on the dates of the general shareholders' meeting at which the members of the supervisory board are elected, which is the standard term of office. Re-election, including repeated re-election, is permissible. The shareholders' meeting may specify a term of office for individual members or all of the members of our Supervisory Board which is shorter than the standard term of office and, subject to statutory limits, may set different start and end dates for the terms of members of our Supervisory Board.

The shareholders' meeting may, at the same time as it elects the members of the Supervisory Board, elect one or more substitute members. The substitute members replace members who cease to be members of our Supervisory Board and take their place for the remainder of their respective terms of office. We have not elected any substitute members.

Members of our Supervisory Board may be dismissed at any time during their term of office by a resolution of the shareholders' meeting adopted by a simple majority of the votes cast. In addition, any member of our Supervisory Board may resign at any time by giving one month written notice of his or her resignation to the chairperson of our Supervisory Board (in case the chairperson resigns, such notice is to be given to the vice chairperson). Our Supervisory Board may agree upon a shorter notice period. None of the members of the Supervisory Board are eligible to receive any benefits upon termination of their service on the Supervisory Board.

Our Supervisory Board elects a chairperson and a vice chairperson from its members. The vice chairperson exercises the chairperson's rights and obligations whenever the chairperson is unable to do so. On May 29, 2019, Peter Nietzer, Dr. Stefan Söhn and Eberhard Weiblen were elected as members of our Supervisory Board by the general shareholders' meeting for a term that ends with the shareholders' meeting which resolves on the discharge of the Supervisory Board for fiscal year 2023. The members of our Supervisory Board have elected Peter Nietzer as chairperson and Dr. Stefan Söhn as vice chairperson, each for the term of their respective membership on our Supervisory Board. Eberhard Weiblen resigned from his office as member of the Supervisory Board of the Company for professional reasons with effect from the end of the general shareholders' meeting on June 30, 2020. Following the recommendation of the Compensation and Nomination Committee, the shareholders at general shareholders' meeting on June 30, 2020 elected Volker Neuber as member of the Supervisory Board from the end of the general shareholders' meeting in 2020 for a term that ends with the shareholders' meeting which resolves on the discharge of the Supervisory Board for fiscal year 2023. Dr. Stefan Söhn resigned from his office as vice chairperson and member of the Supervisory Board of the Company for professional reasons with effect from the end of the general shareholders' meeting on May 26, 2021. Also on May 26, 2021, the members of our Supervisory Board have elected Volker Neuber as vice chairperson, for the term of his membership on our Supervisory Board. Following the recommendation of the Compensation and Nomination Committee, the shareholders at general shareholders' meeting on May 26, 2021 elected Kerstin von Diemar as member of the Supervisory Board from the end of such general shareholders' meeting for a term that ends with the shareholders' meeting which resolves on the discharge of the Supervisory Board for fiscal year 2023.

The Supervisory Board meets at least twice during the first half and twice during the second half of each calendar year. Our articles of association and the Supervisory Board's rules of procedure provide that a quorum of the Supervisory Board members is present if at least half of its members, but in any case no less than three members, participate in the vote. Members of our Supervisory Board are deemed present if they participate via telephone or video conference, subject to no member of the Supervisory Board raising any objection to this type of participation. Any absent member may also participate in the voting by submitting his or her written vote through another member.

Resolutions of our Supervisory Board are passed by the vote of a simple majority unless otherwise required by law, our articles of association or the rules of procedure of our Supervisory Board. In the event of a tie, the chairperson casts the tie-breaking vote.

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Our Supervisory Board is not permitted to make management decisions, but, in accordance with German law and in addition to its statutory responsibilities, it has determined that the following matters, among others, require its prior consent:

- any material changes to our business strategy;
- the purchase or sale of real estate or legal entities or the purchase, sale, creation, extension, reduction or termination of business activities, including tangible or intangible assets, if the relevant price or value, in each case, exceeds € 50,000;
- the purchase, sale or creation of joint ventures;
- the termination of, or amendment to, consulting, advisory or other service agreements, if our costs or obligations associated with such agreement exceed € 50,000 per year or € 250,000 in the aggregate;
- the termination of, or amendment to, operating leases, land leases or rental agreements in relation to real estate, buildings or similar objects, if our obligations associated with such agreement exceed € 50,000 per year or € 250,000 in the aggregate;
- expenditures or capital investments exceeding € 50,000 in each case;
- any hiring, dismissal or modification of an employment agreement of any executive manager, provided that their aggregate cash remuneration (including cash bonuses) exceeds € 75,000;
- any material change or amendment to our code of conduct; and
- the approval of our budget.

Our Supervisory Board may designate further types of actions requiring its approval.

Section 2(2) sentence 2 of the rules of procedure of our Supervisory Board provides that a Supervisory Board member may not continue to serve on our Supervisory Board past his or her 75th birthday.

Supervisory Board Practices

Decisions are generally made by our Supervisory Board as a whole; however, decisions on certain matters may be delegated to committees of our Supervisory Board to the extent permitted by law. The chairperson, or if he or she is prevented from doing so, the vice chairperson, chairs the meetings of the Supervisory Board and determines the order in which the agenda items are discussed, the method and order of the voting, any adjournment of the discussion and passing of resolutions on individual agenda items after a due assessment of the circumstances.

Pursuant to Section 107(3) AktG, the supervisory board may form committees from among its members and charge them with the performance of specific tasks. The committees' tasks, authorizations and processes are determined by the supervisory board. Where permissible by law, important powers of the supervisory board may also be transferred to committees.

Under Article 7 no.1 of its internal rules of procedure, the supervisory board has set up and appointed a Compensation and Nomination Committee and an Audit Committee.

Compensation and Nomination Committee

Pursuant to Article 9 of the rules of procedure of our Supervisory Board, the Compensation and Nomination Committee prepares hiring and personnel decisions for approval by the Supervisory Board and performs the following functions:

- preparation of the resolutions of the Supervisory Board regarding the conclusion, alteration and termination of service contracts of members of the Management Board within the framework of the compensation system adopted by the Supervisory Board;
- preparation of the resolutions of the Supervisory Board to file an application to the court to reduce the compensation paid to the Management Board members under Section 87 (2) AktG;
- preparation of the resolutions of the Supervisory Board regarding the framework of the compensation scheme of the Management Board, including its essential contractual elements, and providing the Supervisory Board with information necessary for it to review this compensation scheme on a regular basis;
- representation of the Company vis-à-vis former members of the Management Board under Section 112 AktG;
- granting consent for secondary occupations and for other activities of Management Board members under Section 88 AktG;
- approval of agreements with Supervisory Board members under Section 114 AktG; and
- proposing suitable candidates as Supervisory Board members to the general shareholders' meeting in case of elections of Supervisory Board members.

The Compensation and Nomination Committee monitors the Management Board's adherence to the rules of procedure of the Management Board. The rules of procedure of the Management Board contain, among other things, obligations for the Management Board to provide certain information to the Compensation and Nomination Committee.

All current members of the Supervisory Board are members of the Compensation and Nomination Committee. Our Supervisory Board has determined that each member of the Compensation and Nomination Committee satisfies the independence requirements of the NASDAQ Listing Rules.

Audit Committee

According to Article 10 of the rules of procedure of our Supervisory Board, our Audit Committee assists the Supervisory Board in overseeing the accuracy and integrity of our accounting and financial reporting processes and audits of our financial statements, the effectiveness of the internal control system and our compliance with legal and regulatory requirements, the independent auditors' qualifications and independence and the performance of the independent auditors.

The Audit Committee's duties and responsibilities to carry out its purposes include, among others:

- the review of our accounting processes;
- the review of the effectiveness of our internal systems of control, risk management and compliance;
- the review and the handling of matters and processes related to auditor independence;
- the commissioning of the auditors to conduct the audit, agreeing on additional services to be provided by the auditors under the auditor's assignment, the establishment of the scope and the main review points of the audit and agreeing upon a fee with the auditors;
- the preparation of the Supervisory Board's resolution on our financial statements; and

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- the establishment of procedures for (i) the receipt, retention and treatment of complaints we receive regarding accounting, internal accounting controls or auditing matters and (ii) the confidential, anonymous submission by our employees of concerns regarding questionable accounting or auditing matters.

Under German law, each member of the Supervisory Board is obliged to carry out his or her duties and responsibilities personally, and such duties and responsibilities cannot be generally and permanently delegated to third parties. However, the Supervisory Board and its committees, including the Audit Committee, have the right to appoint third party experts for the review and analysis of specific circumstances in accordance with its control and supervision duties under German law. For example, the Supervisory Board could retain an audit firm and/or legal counsel if it wants to investigate potentially illegal activities occurring in a foreign subsidiary. We will bear the costs for any such independent experts that are retained by the Supervisory Board or any of its committees, including the Audit Committee.

The Audit Committee consists of three members. The chairman of the Audit Committee shall not be a former member of our management board whose appointment ended less than two years prior to his or her appointment as chairman of the Audit Committee.

Furthermore, the chairman of the Audit Committee shall have special knowledge and experience in the application of accounting principles and internal control procedures and shall therefore qualify as an “audit committee financial expert” as defined under the Exchange Act.

Management Board

Overview

Under German law and the Company’s articles of association, the Management Board must consist of one or more persons and the Supervisory Board determines the exact number of members of the Management Board. The Supervisory Board also appoints the chairman and the deputy chairman of the Management Board, if any. Currently, the Management Board consists of two members, with Dr. Ingo Ederer appointed as Chief Executive Officer and Rudolf Franz appointed as Chief Financial Officer and Chief Operating Officer.

Members of our Management Board conduct the daily business of our Company in accordance with applicable laws, our articles of association and the rules of procedure for the Management Board. The Management Board is in general responsible for the management of our Company and for handling our daily business relations with third parties, the internal organization of our business and communications with our shareholders. In addition, the Management Board has the responsibility for:

- the preparation of our annual financial statements;
- the making of a proposal to our shareholders’ meeting on how our profits (if any) should be allocated (such proposal to be submitted simultaneously to the Supervisory Board); and
- regular reporting to the Supervisory Board on our current operating and financial performance, our budgeting and planning processes and our performance under them and on future business planning (including strategic, financial, investment and personnel planning).
- the implementation and oversight of internal controls, risk management and compliance program

The Supervisory Board appoints the members of the Management Board for a maximum term of five years. Reappointment or extension of the term for up to five years is permissible. For date of expiration of the current term of office for our Management Board members, and the period during which they have served in office, see “Item 6. Directors, Senior Management and Employees—B. Directors and senior management.” The Supervisory Board may revoke the appointment of a Management Board member prior to the expiration of his or her term for good cause only, such as for gross breach of fiduciary duties or if the shareholders’ meeting passes a vote of no-confidence with respect to such member, unless the Supervisory Board deems the no-confidence vote to be clearly unreasonable. The supervisory board is also responsible for entering into, amending and terminating service agreements with the Management Board members and, in general, for representing us in disputes with the Management Board, both in and out of court. The Supervisory Board may

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assign these duties to a committee of the Supervisory Board, except in certain cases where the approval of the entire Supervisory Board is required, such as the approval of the compensation of members of our Management Board and the reduction of the compensation of members of our Management Board upon a deterioration of our situation, which includes, among other things, a bankruptcy or the layoff of a significant number of employees.

According to our articles of association, as long as there are two or more Management Board members, either (i) two Management Board members or (ii) one Management Board member acting jointly with an authorized representative (*Prokurist*) have the authority to act on our behalf. The Supervisory Board may grant any Management Board member the right to represent us alone and may release any member of the Management Board from the restrictions on multiple representations under Section 181, 2nd Alternative of the German Civil Code (*Bürgerliches Gesetzbuch*).

Under the Management Board member service agreements and by a special resolution of the Supervisory Board, all members of the Management Board have been granted authority to represent us alone and were released from the restrictions imposed by Section 181, 2nd Alternative of the German Civil Code.

The Management Board has the authority to determine our business areas and operating segments and resolve upon the internal allocation of responsibility for certain business areas and operating segments among the various members of the Management Board by setting up a business responsibility plan (*Geschäftsverteilungsplan*). Since we currently have only two members of the Management Board, we do not have a business responsibility plan in place at this time.

Section 3(7) sentence 3 of the rules of procedure of our Supervisory Board provides that a Management Board member shall not continue to serve on our management board past his or her 65th birthday.

Service Agreements

Dr. Ingo Ederer and Rudolf Franz

By resolution of its Supervisory Board dated November 12, 2020, the current members of the voxeljet AG Management Board, Dr. Ingo Ederer and Rudolf Franz, were reappointed as members of the Management Board for a new three year term from July 1, 2021 until June 30, 2024. Dr. Ingo Ederer and Rudolf Franz have each accepted such new appointment.

Following the reappointment of Dr. Ingo Ederer and Rudolf Franz as members of the management board, each of Dr. Ingo Ederer and Rudolf Franz entered into a new three year service agreement effective as of July 1, 2021. The former service agreements have expired at the end of their term of office on June 30, 2021.

The main terms of the service agreements are summarized below. The terms of the service agreements of Dr. Ingo Ederer and Rudolf Franz are identical with only a few deviating provisions regarding the company car and social security payments.

Each service agreement can be terminated prior to June 30, 2024 only, (i) by the member of the management board exercising a special termination right (*Sonderkündigungsrecht*) in case of a change of control of voxeljet (as defined in the service agreement), if and to the extent such change of control leads to a more than immaterial change of the position of the member of the management board, if (ii) the member of the management board is terminated by the Company for cause or if (iii) the member of the management board terminates the service agreement for cause.

If a member of the management board terminates the service agreement exercising the special termination right (*Sonderkündigungsrecht*) in case of a change of control, the member of the management board is entitled to a compensation payment. Such compensation payment consists of the sum of 50% of the total remuneration payable to the member of the management board over the outstanding full term of the service agreement (fixed plus variable remuneration assuming the 100% achievement of all bonus targets) and a lump sum payment amounting to two annual fixed salaries. The compensation payment is capped at the amount of € 1,425,000.

Under German law, a contract can be terminated for cause only in exceptional circumstances (i.e., if the continuation of the contractual relationship is unacceptable for the terminating party). Termination for cause generally requires that a party repeatedly and severely breaches its contractual duties. To the extent the employment terminates during a fiscal year, the member of the management board is entitled to a pro rata portion of the bonus that reflects the

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percentage of the year that the member of the management board worked for the Company except for cases in which the Company terminates the service agreement for cause.

Furthermore, each service agreement contains a covenant pursuant to which each member of the management board has agreed not to compete with the Company for a period of two years after the termination of the service agreement. Under German law, a non-compete covenant is only valid if the employee is compensated during the term of the non-compete obligation. As compensation for the non-compete covenant, each member of the management board will receive 100% of his fixed salary (but in no event less than 50% of the total compensation received in the preceding year) for the entire two year term of the non-compete covenant. If the service agreement of a member of the management board is terminated for cause, the Company is not obligated to pay the compensation for the non-compete covenant, so long as the Company provides the member of the management board with a written statement disclaiming the Company's obligation to pay this compensation within one month after the termination.

The service agreements provide for an annual fixed compensation (base salary), an annual performance award (annual bonus) with a target of up to 30% of the yearly base salary, as well as a long-term performance award for a three-business-year period (long-term bonus) with a target of up to 100% of the yearly base salary. The performance targets of the annual and long-term bonuses are a mixture of certain financial and non-financial targets, such as revenue, profitability and liquidity targets as well as personal goals. In addition to the fixed and variable remuneration components, each member of the management board is entitled to additional benefits (including company car arrangements, mobile phone, accident and director and officer liability insurance) and reimbursement of necessary and reasonable expenses. In addition, the supervisory board can grant stock options to the members of the management board on the basis of a stock option plan.

German Corporate Governance Code

The German Corporate Governance Code (Deutscher Corporate Governance Kodex) was originally published by the German Ministry of Justice (*Bundesministerium der Justiz*) in 2002. The applicable version for fiscal year 2021 is the German Corporate Governance Code as amended on December 16, 2019 and published in the German Federal Gazette (*Bundesanzeiger*) on March 20, 2020. The Corporate Governance Code contains recommendations (*Empfehlungen*) and suggestions (*Anregungen*) relating to the management and supervision of German companies that are listed on a stock exchange. It follows internationally and nationally recognized standards for good and responsible corporate governance. The purpose of the Corporate Governance Code is to make the German system of corporate governance transparent for investors. The Corporate Governance Code includes corporate governance recommendations and suggestions with respect to shareholders and general shareholders' meetings, the management and supervisory boards, transparency, accounting policies, and auditing.

There is no obligation to comply with the recommendations or suggestions of the Corporate Governance Code. The German Stock Corporation Act (*Aktiengesetz*) requires only that the management board and supervisory board of a German listed company issue an annual declaration that either (i) states that the Company has complied with the recommendations of the Corporate Governance Code or (ii) lists the recommendations that the Company has not complied with and explains its reasons for deviating from the recommendations of the Corporate Governance Code (so called *Entsprechenserklärung*). In addition, a listed company is also required to state in this annual declaration whether it intends to comply with the recommendations or list the recommendations it does not plan to comply with in the future. The current declaration needs to be published permanently on the Company's website. In addition, the Corporate Governance Code recommends that the old declarations remain on the website for five years. If the Company changes its policy on certain recommendations between such annual declarations, it must disclose this fact and explain its reasons for deviating from the recommendations. Non-compliance with suggestions contained in the Corporate Governance Code need not be disclosed.

The Corporate Governance Code applies to us and we are required to issue the annual declarations described above. On December 31, 2013, we issued and published our first annual compliance declaration and on December 15, 2014 we published our second annual compliance declaration. Our third and fourth annual compliance declaration was published on December 16, 2015 and December 14, 2016, respectively. Our fifth and sixth annual compliance declaration was published on December 12, 2017 and December 14, 2018. Our seventh and eighth annual compliance declaration was published on December 10, 2019 and December 18, 2020. Our ninth annual compliance declaration was published on December 22, 2021. You can find our annual compliance declarations on our website at investor.voxeljet.com. Information contained on or available through our website is not incorporated by reference in or made part of this annual report and any references to our website are intended to be inactive textual references only.

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According to their respective rules of procedure, our Management Board and the Supervisory Board are obliged to comply with the Corporate Governance Code except for such provisions which they have explicitly listed in their annual declaration and for which they have stated that they do not comply with.

In particular, we adhere to the following significant recommendations of the Corporate Governance Code: (i) the Supervisory Board shall form a Nomination Committee (*Nominierungsausschuss*), composed exclusively of shareholder representatives, which names suitable candidates to the Supervisory Board for its proposals to the general shareholders' meeting; (ii) the Management Board shall institute an appropriate compliance management system reflecting the enterprise's risk situation, and disclose the main features of this system; and (iii) between Supervisory Board meetings, the chairman of the Supervisory Board shall be in regular contact with the Management Board in order to discuss issues of strategy, business development, the risk situation, risk management and compliance of the enterprise.

However, we expect to deviate from the recommendations and suggestions of the Corporate Governance Code in various respects. All deviations from the Corporate Governance Code recommendations will be published in the official annual declarations, the current declaration was published on December 22, 2021.

D. EMPLOYEES

The majority of our current employees are located in Germany, paid in Euros and subject to German labor law. A few of our employees might be members of a labor union; however, voxeljet AG is not bound by any collective bargaining agreement. On June 23, 2016, our employees voted for the first workers' council of voxeljet AG. According to the German Betriebsverfassungsgesetz (BetrVG), § 9, the workers' council has seven members. In its inaugural meeting on July 7, 2016, the workers' council has officially started its work for the employees of the voxeljet AG.

The table below sets forth the number of employees we had as of December 31 of each of the years represented:

	December 31,		
	2021	2020	2019
Management board (Vorstand)	2	2	2
Managing director	3	3	4
Research and development	47	47	48
Systems	76	70	89
Services	43	42	48
Sales and marketing	37	38	45
Administration	45	49	61
Total	253	251	297

E. SHARE OWNERSHIP

Supervisory Board

As of March 1, 2022, Supervisory Board member Volker Neuber held 77,821 of our ADSs, which represented approximately 1.1% of the Company's outstanding ADSs, based on 7,026,711 ADSs outstanding as of March 1, 2022. As of March 1, 2022, Supervisory Board member Kerstin von Diemar held 2 of our ADSs. As of March 1, 2022, Supervisory Board member Peter Nietzer did not hold any of our ordinary shares or ADSs.

Management Board

Our CEO and founder, Dr. Ingo Ederer, held 578,695 of our ordinary shares, which represented 8.2% of our ordinary shares as of March 1, 2022. As of March 1, 2022, Dr. Ederer also beneficially owned (i) 69,750 ordinary shares underlying equity settled stock options that vested on April 7, 2021, with an exercise price of \$13.90 and an expiration date of April 7, 2027 and (ii) 23,250 ordinary shares underlying equity settled stock options that will vest on April 12, 2022, with an exercise price of \$16.15 and an expiration date of April 12, 2028 ((i) and (ii) collectively, the "CEO Options"). The exercise price of the CEO Options is \$13.90 and the CEO Options have an expiration date of April 7, 2027. The aggregate number of ADSs beneficially owned by Dr. Ingo Ederer represents approximately 9.4% of the

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Company's outstanding ADSs, based on 7,119,711 ADSs outstanding as of March 1, 2022, including the shares underlying the CEO Options.

Our CFO and COO, Rudolf Franz, held 259,415 of our ordinary shares through Franz Industriebeteiligungen AG, which is wholly owned by Mr. Franz and members of his family, which represented 3.7% of our ordinary shares as of March 1, 2022. As of March 1, 2022, Mr. Franz also beneficially owned (i) 69,750 ordinary shares underlying equity settled stock options that vested on April 7, 2021 and (ii) 23,250 ordinary shares underlying equity settled stock options that will vest on April 12, 2022, with an exercise price of \$16.15 and an expiration date of April 12, 2028 ((i) and (ii) collectively, the "CFO Options"). The exercise price of the CFO Options is \$13.90 and the CFO Options have an expiration date of April 7, 2027. The aggregate number of ADSs beneficially owned by Mr. Franz represents approximately 4.9% of the Company's outstanding ADSs, based on 7,119,711 ADSs outstanding as of March 1, 2022, including shares underlying the CFO Options.

On April 7, 2017 and on April 12, 2018, each member of the Management Board was granted with 69,750 and 23,250 shares of equity settled stock options, respectively. No shares of equity settled stock options were granted to the members of the Management Board in 2021.

ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

A. MAJOR SHAREHOLDERS

The following table sets forth information, as of March 1, 2022, regarding the beneficial ownership of our ordinary shares.

5% Shareholders and Members of our Supervisory and Management Boards

	Number	Percent
AWM Investment Company, Inc. ⁽¹⁾	894,649	12.7%
Dr. Ingo Ederer	671,695 ⁽²⁾	9.4% ⁽²⁾
Rudolf Franz ⁽³⁾	352,415 ⁽⁴⁾	4.9% ⁽⁴⁾
Peter Nietzer	--	--
Volker Neuber ⁽⁵⁾	77,821	1.1%
Kerstin von Diemar	2	0.0%
All Members of our Supervisory and Management Boards as a Group (5 persons):	1,101,933 ⁽⁶⁾	15.3% ⁽⁷⁾

In computing the number of shares beneficially owned by a person and the percentage ownership of that person, we have included shares that the person has the right to acquire within 60 days of March 1, 2022, including through the vesting of deferred share awards, exercise of any option, warrant or other right or the conversion of any other security. These shares, however, are not included in the computation of the percentage ownership of any other person. Unless otherwise indicated, the business address of each such person is c/o voxeljet AG, Paul-Lenz Straße 1a, 86316 Friedberg, Germany.

Except as otherwise indicated, percentages of ownership are based on 7,026,711 ordinary shares outstanding as of March 1, 2022. Except as otherwise indicated, the persons named in this table have sole voting and investment power with respect to all ordinary shares shown as beneficially owned by them, subject to community property laws where applicable and to the information contained in the footnotes to this table.

- (1) Based on the Schedule 13G/A filed by AWM Investment Company, Inc. filed on February 11, 2022. The share ownership that was reported in ADSs has been reported on an as converted basis to the underlying ordinary shares using the one-to-one conversion ratio, converting the reported 894,649 ADSs to 894,649 ordinary shares.
- (2) This number includes 93,000 ordinary shares underlying the CEO Options. The percentage of ownership by Dr. Ingo Ederer is based on 7,119,711 shares outstanding as of March 1, 2022, including shares underlying the CEO Options.
- (3) Consists of ordinary shares and ADSs held by Franz Industriebeteiligungen AG and the CFO Options. Franz Industriebeteiligungen AG is owned by Rudolf Franz (40%), his wife Bärbel Franz (40%), his son Simon Franz (10%) and his daughter Lisa Franz (10%). Rudolf Franz and Bärbel Franz are the Managing Directors of Franz

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Industriebeteiligungen AG and have shared power to vote, hold and dispose of the shares held by it. The address for Franz Industriebeteiligungen AG is Am Silbermannpark 1b, 86161 Augsburg, Germany.

- (4) This number includes 93,000 ordinary shares underlying the CFO Options. The percentage of ownership by Rudolf Franz is based on 7,119,711 shares outstanding as of March 1, 2022, including shares underlying the CFO Options.
- (5) Consists entirely of ADSs held by Neuber Verwaltungs-GmbH, which is fully owned by Volker Neuber. Volker Neuber is the Managing Director of Neuber Verwaltungs-GmbH and has the sole power to vote, hold and dispose of shares held by it. The address for Neuber Verwaltungs-GmbH is Zobelstr. 17, 86153 Augsburg, Germany.
- (6) This number includes the aggregate of 186,000 ordinary shares underlying the CEO Options and CFO Options.
- (7) The percentage of ownership by all members of our Supervisory and Management Boards as a group is based on 7,212,711 ordinary shares outstanding as of March 1, 2022, including shares underlying the CEO Options and CFO Options.

As of March 1, 2022, there were eleven holders of record entered in our German share register. Citibank, N.A., the depositary, is a U.S. resident and the holder of record of the ordinary shares that underlie our ADSs. As of March 1, 2022, Citibank, N.A. held 5,929,111 ordinary shares representing 84.4% of the Company's issued share capital held at that date. Other than Citibank, N.A., we do not believe that any of our other holders of record entered in our share register is a U.S. resident. The number of holders of record is based exclusively upon our share register and does not address whether a share or shares may be held by the holder of record on behalf of more than one person or institution who may be deemed to be the beneficial owner of a share or shares in our Company.

None of our shareholders will have different voting rights from other shareholders. We are not aware of any arrangement that may, at a subsequent date, result in a change of control of our Company.

B. RELATED PARTY TRANSACTIONS

Since January 1, 2019, there has not been, nor is there currently proposed, any material transaction or series of similar material transactions to which we were or are a party in which any of the members of our Supervisory Board and Management Board, executive officers, holders of more than 10% of any class of our voting securities, or any member of the immediate family of any of the foregoing persons, had or will have a direct or indirect material interest, other than the compensation and shareholding arrangements we describe where required in "Item 6. Directors, Senior Management and Employees," and the transactions we describe below.

Transactions with Franz Industriebeteiligungen AG comprise the rental of office space in Augsburg, Germany. Rental expenses amounted to kEUR 3, kEUR 3, and kEUR 2 in 2021, 2020 and 2019, respectively. The rental of office space is ongoing and will continue in 2022. In addition, Franz Industriebeteiligungen AG received payments related to the use of certain paintings which are placed in the administrative building in Friedberg. Associated rental expenses amounted to kEUR 2 in 2018. At the beginning of 2019, voxeljet acquired those paintings at a price of kEUR 2 and consequently the rental agreement pertaining to the paintings was terminated.

In addition, voxeljet received logistics services amounting to kEUR 0, kEUR 25 and kEUR 56 in 2021, 2020 and 2019, respectively from 'Andreas Schmid Logistik', where our former Supervisory Board member Dr. Stefan Söhn served as Chief Financial Officer until December 2020. Dr. Stefan Söhn resigned from his office as vice chairperson and member of the Supervisory Board of the Company for professional reasons with effect from the end of the general shareholders' meeting on May 26, 2021.

Moreover, voxeljet received orders amounting to kEUR 146, kEUR 25 and kEUR 164 in 2021, 2020 and 2019, respectively from 'Suzhou Meimai Fast Manufacturing Technology Co., Ltd.', which was our minority shareholder for voxeljet China until September 1, 2021. On this date, Meimai transferred half of its equity interest in voxeljet China, or 15% of voxeljet China's equity, to its shareholder MK Holding GmbH and the remaining half of its equity interest, or 15% of voxeljet China's equity to its shareholder Mr. Jin Tianshi, the managing director of voxeljet China. As a result, as of September 1, 2021, Meimai is no longer a related party.

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Further, voxeljet received orders amounting to kEUR 0, kEUR 0 and kEUR 13 in 2021, 2020 and 2019, respectively from DSCS Digital Supply Chain Solutions GmbH (“DSCS”), which was an associated company of which we own 33.3%. Shareholders of DSCS have initiated the wind-up of DSCS, which will be finalized by DSCS’s removal from the commercial register, expected to take place in the first half of 2022.

In addition, voxeljet employs Michele Neuber as an intern. Michele Neuber is the son of Volker Neuber, who has been a member of our Supervisory Board since July 2020. Michele Neuber received a salary of kEUR 2, kEUR 2 and kEUR 2 in 2021, 2020 and 2019 respectively.

voxeljet employed Simon Franz, who is the son of voxeljet’s Chief Financial Officer Rudolf Franz, as an intern until July 31, 2019. He received a salary of kEUR 9 in 2019.

Moreover, voxeljet sold a used car in the first quarter of 2021 to Susanne Ederer-Pausewang, who is the wife of Dr. Ederer, the Chief Executive Officer of voxeljet, amounting to kEUR 27.

Further, voxeljet has employed Lisa Franz, who is the daughter of Rudolf Franz, the Chief Operating Officer and Chief Financial Officer of voxeljet, as an intern since October 1, 2021. She received a salary of kEUR 2 in 2021.

All related party transactions, voxeljet entered into, were made on an arm’s length basis.

Service Agreements

We have entered into service agreements with the members of our Management Board. See “Item 6. Directors, Senior Management and Employees—C. Board Practices.”

C. INTERESTS OF EXPERTS AND COUNSEL

Not applicable.

ITEM 8. FINANCIAL INFORMATION

A. CONSOLIDATED STATEMENTS AND OTHER FINANCIAL INFORMATION

See “Item 18. Financial Statements.”

Legal Proceedings

From time to time, we may be subject to various claims or legal, arbitration or administrative proceedings that arise in the ordinary course of our business. We are currently not a party to any legal, arbitration or administrative proceedings which, in the opinion of our management, may have or have had in the recent past, significant effects on our business, financial condition or results of operations, including governmental proceedings pending or known to be contemplated.

Dividend Policy

Neither we nor our legal predecessor, Voxeljet Technology GmbH, have ever declared or paid any cash dividends on our ordinary shares, and we have no present intention of declaring or paying any dividends in the foreseeable future. Any recommendation by our Management and Supervisory Boards to pay dividends, subject to compliance with applicable law and any contractual provisions that restrict or limit our ability to pay dividends, including under agreements for indebtedness that we may incur, will depend on many factors, including our financial condition, results of operations, legal requirements, capital requirements, business prospects and other factors that our Management and Supervisory Boards deem relevant.

All of our shares represented by ADSs have the same dividend rights as all of our other outstanding shares. Any distribution of dividends proposed by our Management and Supervisory Boards requires the approval of our

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shareholders at a shareholders' meeting. See "Item 10. Additional Information—B. Memorandum and Articles of Association," which incorporates by reference certain sections of our registration statement on Form F-1 (Registration No. 333-191213) that explain in more detail the procedures we must follow and the German law provisions that determine whether we are entitled to declare a dividend.

For information regarding the German withholding tax applicable to dividends and related United States refund procedures, see "Item 10. Additional Information—E. Taxation—German Taxation of ADSs."

B. SIGNIFICANT CHANGES

Except as set forth elsewhere in this annual report, no significant changes have occurred since December 31, 2021.

ITEM 9. THE OFFER AND LISTING

A. OFFER AND LISTING DETAILS

Our ADSs were listed on the NYSE from October 2013 to August 2020, and have been listed on the NASDAQ since August 2020, under the ticker symbol "VJET."

B. PLAN OF DISTRIBUTION

Not applicable.

C. MARKETS

Our ADSs are listed on the NASDAQ under the symbol "VJET."

D. SELLING SHAREHOLDER

Not applicable.

E. DILUTION

Not applicable.

F. EXPENSES OF THE ISSUE

Not applicable.

ITEM 10. ADDITIONAL INFORMATION

A. SHARE CAPITAL

Not applicable.

B. MEMORANDUM AND ARTICLES OF ASSOCIATION

See the descriptions included in our registration statement on [Form F-1](#) (Registration No. 333-191213) under the headings "Description of Share Capital" and "Description of American Depositary Shares," which are incorporated herein by reference.

Registration of the Company with Commercial Register

We are a German stock corporation (*Aktiengesellschaft*, or *AG*) that is organized under the laws of Germany. On July 11, 2013, our Company was registered in the commercial register of Augsburg, Germany under the number HRB 27999.

C. MATERIAL CONTRACTS

We have not entered into any material contracts other than in the ordinary course of business and other than those described in “Item 4. Information on the Company—Business Overview,” “Item 7. Major Shareholders and Related Party Transactions—Related Party Transactions,” or elsewhere in this annual report.

D. EXCHANGE CONTROLS

There are currently no legal restrictions in Germany on international capital movements and foreign-exchange transactions, except in limited embargo circumstances (*Teilembargo*) relating to certain areas, entities or persons as a result of applicable resolutions adopted by the United Nations and the EU. Restrictions currently exist with respect to, among others, Belarus, Congo, Egypt, Guinea, Guinea-Bissau, Iran, Iraq, Lebanon, Libya, North Korea, Somalia, South Sudan, Sudan, Syria, Tunisia, and Zimbabwe. In this regard, far reaching financial restrictions have recently been introduced with regards to Russia and Belarus. The regulatory environment regarding such legal restrictions is rapidly changing, reflective of evolving geopolitical environments.

For statistical purposes, there are, however, limited notification requirements regarding transactions involving cross-border monetary transfers. With some exceptions, every corporation or individual residing in Germany must report to the German Central Bank (*Deutsche Bundesbank*) (i) any payment received from, or made to, a non-resident corporation or individual that exceeds € 12,500 (or the equivalent in a foreign currency) and (ii) any claim against, or liability payable to, a non-resident corporation or individual, if such claims or liabilities exceed € 5 million (or the equivalent in a foreign currency) in the aggregate at the end of any calendar month. Payments include cash payments made by means of direct debit, checks and bills, remittances denominated in Euros and other currencies made through financial institutions, as well as netting and clearing arrangements.

E. TAXATION

German Taxation

The following discussion describes the material German tax consequences for a holder that is a U.S. person of acquiring, owning, and disposing of the ADSs. A holder that is a U.S. person (“U.S. treaty beneficiary”) is a resident of the United States for purposes of the Agreement between the Federal Republic of Germany and United States of America for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with respect to Taxes on Income and on Capital as of June 4, 2008 (*Abkommen zwischen der Bundesrepublik Deutschland und den Vereinigten Staaten von Amerika zur Vermeidung der Doppelbesteuerung und zur Verhinderung der Steuerverkürzung auf dem Gebiet der Steuern vom Einkommen und vom Vermögen und einiger anderer Steuern in der Fassung vom 4. Juni 2008*) (the “Treaty”) who is fully eligible for benefits under the Treaty.

A holder will be a U.S. treaty beneficiary entitled to full Treaty benefits in respect of the ADSs if it is, *inter alia*:

- the beneficial owner of the ADSs (and the dividends paid with respect thereto);
- a citizen or an individual resident of the United States, a corporation or other entity treated as a corporation for U.S. federal income tax purposes created or organized under the laws of the United States or any state thereof or the District of Columbia, an estate the income of which is subject to U.S. federal income tax without regard to its source, or a trust if a court within the United States is able to exercise primary supervision over the administration of the trust and one or more U.S. persons have the authority to control all substantial decisions of the trust, or the trust has elected to be treated as a domestic trust for U.S. federal income tax purposes;
- not also a resident of Germany for German tax purposes; and
- not subject to the limitation on benefits (*i.e.*, anti-treaty shopping) article of the Treaty that applies in limited circumstances.

Special rules apply to pension funds and certain other tax-exempt investors.

This discussion does not address the treatment of ADSs that are (i) held in connection with a permanent establishment or fixed base through which a U.S. treaty beneficiary carries on business or performs personal services in Germany or (ii) part of business assets for which a permanent representative in Germany has been appointed.

With the exception of the subsection “—General Rules for the Taxation of Shareholders Tax Resident in Germany” below, which provides an overview of dividend taxation with regards to the general principles applicable on tax residents in Germany, this discussion applies only to U.S. treaty beneficiaries that acquired ADSs in the initial offering and hold ADSs as capital assets for U.S. federal income tax purposes. It does not purport to be a comprehensive description of all tax considerations that may be relevant to a decision to purchase ADSs by any particular investor, including tax considerations that arise from rules of general application to all taxpayers or to certain classes of taxpayers that are generally assumed to be known by investors. In particular, this discussion does not address tax considerations applicable to a U.S. treaty beneficiary that may be subject to special tax rules, including, without limitation, a dealer in securities or currencies, a trader in securities that elects to use a mark-to-market method of accounting for securities holdings, banks, thrifts, or other financial institutions, U.S. expatriates, an insurance company, a tax-exempt organization, a person that holds ADSs as part of a hedge, straddle, conversion or other integrated transaction for tax purposes, a person that purchases or sells ordinary shares or ADSs as part of a wash sale for tax purposes, a person whose functional currency for tax purposes is not the U.S. dollar, a person subject to the U.S. alternative minimum tax, or a person that owns or is deemed to own 10% or more of the Company’s voting stock. In addition, the discussion does not address tax consequences to an entity treated as a partnership (or other pass-through entity) for U.S. federal income tax purposes that holds ADSs. The U.S. federal income tax treatment of each partner of the partnership generally will depend upon the status of the partner and the activities of the partnership. Prospective purchasers that are partners in a partnership holding ADSs should consult their own tax advisors.

This discussion is based on German tax laws, including, but not limited to interpretation circulars issued by German tax authorities, which are not binding on the courts, and the Treaty. It is based upon tax laws in effect at the time of preparation of this annual report (March 2022). These laws are subject to change, possibly on a retroactive basis. There is no assurance that German tax authorities will not challenge one or more of the tax consequences described in this discussion.

In addition, this discussion is based upon the assumption that each obligation in the deposit agreement and any related agreement will be performed in accordance with its terms. It does not purport to be a comprehensive or exhaustive description of all German or U.S. tax considerations that may be of relevance in the context of acquiring, owning and disposing of ADSs.

Prospective holders of ADSs should consult their own tax advisors regarding the German tax consequences of the purchase, ownership and disposition of ADSs in light of their particular circumstances, including the effect of any state, local, or other foreign or domestic laws or changes in tax law or interpretation.

German Taxation of ADSs

General

As of the date hereof, no published German tax court cases exist as to the German tax treatment of American Depositary Receipts (“ADRs”) or ADSs, but based on the interpretation circular regarding the taxation of ADRs issued by the German Federal Ministry of Finance (BMF-Schreiben) (dated May 24, 2013, reference number IV C 1-S2204/12/10003) (the “ADR Tax Circular”), for German tax purposes, although it is not free from doubt, the ADSs should represent a beneficial ownership interest in the underlying shares and qualify as ADRs for the purpose of the ADR Tax Circular. If the ADSs qualify as ADRs under the ADR Tax Circular, dividends would accordingly be attributable to U.S. treaty beneficiaries of the ADSs for tax purposes, and not to the legal owner of the ordinary shares (*i.e.*, the financial institution on behalf of whom the ordinary shares are stored at a domestic depository for the ADS holders), and U.S. treaty beneficiaries would be treated as holding an interest in the Company’s ordinary shares for German tax purposes. However, investors should note that interpretation circulars published by the German tax administration (including the ADR Tax Circular) are not binding on German courts, including German tax courts, and it is unclear whether a German tax court would follow the ADR Tax Circular in determining the German tax treatment of

ADRs or ADSs. For the purpose of this German tax section it is assumed that the ADSs qualify as ADRs within the meaning of the ADR Tax Circular.

German Taxation of Dividends and Capital Gains

General Rules for the Taxation of Shareholders Tax Resident in Germany

This subsection provides an overview of dividend taxation with regards to the general principles applicable on tax residents in Germany.

The German dividend and capital gains taxation rules applicable to German tax residents require a distinction between shares held as private assets (*Privat-/Kapitalvermögen*) and shares held as business assets (*Betriebsvermögen*).

In case the shares are held as private assets, dividends and capital gains are taxed as investment income and are principally subject to 25% German flat income tax on capital income (*Abgeltungsteuer*) (plus a 5.5% solidarity surcharge (*Solidaritätszuschlag*) thereon, resulting in an aggregate rate of 26.375% (if church tax applies, up to an aggregate rate of 27.99%)), which is levied in the form of withholding tax (*Kapitalertragsteuer*). The shareholder is taxed on its gross personal investment income, less the saver's tax-free allowance of € 801 for an individual or € 1,602 for a married couple filing taxes jointly. The deduction of income related expenses actually incurred is generally not possible. Private investors can apply to have their investment income assessed in accordance with the general rules on determining an individual's tax bracket if this would result in a lower tax burden. In this case, the shareholder will be taxed on gross personal investment income, less the saver's tax-free allowance of € 801 (€ 1,602 for married couples filing jointly), without deduction of income-related expenses actually incurred. If tax is initially withheld, it will be credited against the amount of personal income tax assessed against the shareholder.

Losses resulting from the disposal of shares can only be offset by capital gains from the sale of shares. If, however, a shareholder directly or indirectly held at least 1% of the share capital of the Company at any time during the five years preceding the sale, 60% of any capital gains resulting from the sale are taxable at the shareholder's personal income tax rate (plus 5.5% solidarity surcharge thereon and church tax, if any). Conversely, 60% of any capital losses are recognized for tax purposes.

In case the shares are held as business assets, the taxation depends on the legal form of the shareholder (*i.e.*, whether the shareholder is a corporation, an individual or a partnership). Irrespective of the legal form of the shareholder, dividends are also in this business assets scenario subject to the aggregate withholding tax rate of 26.375%. The withholding tax (*Kapitalertragsteuer*) is credited against the respective shareholder's final (corporate) income tax liability. To the extent the amount withheld exceeds the (corporate) income tax liability, the withholding tax will be refunded, provided that certain requirements are met.

Special rules apply to financial institutions (*Kreditinstitute*), financial services providers (*Finanzdienstleistungsinstitute*), financial enterprises (*Finanzunternehmen*), life insurance and health insurance companies, and pension funds.

With regard to shareholders in the legal form of a *corporation*, dividends and capital gains are effectively 95% tax exempt from corporate income tax (including solidarity surcharge). However, with regards to dividends (not to capital gains) realized after February 28, 2013, the 95% corporate income tax exemption only applies if the corporation holds at least 10% of the shares in the Company at the beginning of the calendar year.

A circular issued by the Regional Tax Office Frankfurt/Main (*Verfügung der OFD*), dated August 16, 2021, reference number S 2750a A-027-St 52, provides for further comments on the scope of application of the 10% threshold.

Dividends are fully subject to trade tax (*Gewerbesteuer*), unless the shareholder holds at least 15% of the shares in the Company at the beginning of the tax assessment period. In the latter case, effectively 95% of the dividends are also exempt from trade tax. Capital gains, however, are, irrespective of the size of the shareholding, 95% exempt from trade tax. Losses from the sale of shares are not tax deductible for corporate income tax and trade tax purposes.

With regards to *individuals* holding shares as business assets, 60% of dividends and capital gains are taxed at the individual's personal income tax rate (plus 5.5% solidarity surcharge thereon and church tax, if any).

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Correspondingly, only 60% of business expenses related to the dividends and capital gains are principally deductible for income tax purposes.

If shares are held as business assets of a commercial permanent establishment located in Germany, dividends are fully subject to trade tax, unless the sole proprietor holds at least 15% of the Company's shares at the beginning of the tax assessment period. In this case dividends are fully tax exempt from trade tax. With regards to capital gains, only 60% of the gains are subject to trade tax. 60% of any losses from the sale of shares are tax deductible for income tax and trade tax purposes. All or part of the trade tax is generally credited as a lump sum against the income taxes of the individual.

General rules for the Taxation of Shareholders Not Tax Resident in Germany

Non German resident holders of ADSs are subject to German taxation with respect to German source income (*beschränkte Steuerpflicht*). According to the ADR Tax Circular dated May 24, 2013, income from the shares should be attributed to the holder of the ADSs for German tax purposes. As a consequence, income from the ADSs should be treated as German source income (*beschränkte Steuerpflicht*).

The full amount of a dividend distributed by the Company to a non German resident shareholder which does not maintain a permanent establishment or other taxable presence in Germany is subject to (final) German withholding tax (*Kapitalertragsteuer*) at an aggregate rate of 26.375% (including solidarity surcharge). The basis for the withholding tax is the approval of the dividend for distribution by the Company's general shareholder meeting. The amount of the relevant taxable income is based on the gross amount in Euros; any currency differences shall be irrelevant.

German withholding tax is withheld and remitted to the German tax authorities by the disbursing agent (*i.e.*, the German bank, financial services institution, securities trading enterprise or securities trading bank (each as defined in the German Banking Act (*Kreditwesengesetz*) and in each case including a German branch of a foreign enterprise, but excluding a foreign branch of a German enterprise) that holds or administers the underlying shares in custody and disburses or credits the dividend income from the underlying shares or disburses or credits the dividend income from the underlying shares on delivery of the dividend coupons or disburses such dividend income to a foreign agent or the central securities depository (*Wertpapiersammelbank*) in terms of the German Depository Act (*Depotgesetz*)) holding the underlying shares in a collective deposit, if such central securities depository disburses the dividend income from the underlying shares to a foreign agent, regardless of whether or not a holder must report the dividend for tax purposes and regardless of whether or not a holder is a resident of Germany.

Pursuant to the Treaty, the German withholding tax generally may not exceed 15% of the gross dividends received by U.S. treaty beneficiaries. In case of any U.S. treaty beneficiary qualifying as a not tax transparent corporation and directly holding at least 10% or more of the Company's voting shares, the German withholding tax is capped at 5% of the gross dividends. The excess of the total withholding tax, including the solidarity surcharge, over the maximum rate of withholding tax permitted by the Treaty is refunded to U.S. treaty beneficiaries upon application. For example, for a declared dividend of 100, a U.S. treaty beneficiary initially receives 73.625 (100 minus the 26.375% withholding tax). The U.S. treaty beneficiary is entitled to a partial refund from the German tax authorities in the amount of 11.375% of the gross dividend (of 100). As a result, the U.S. treaty beneficiary ultimately receives a total of 85 (85% of the declared dividend) following the refund of the excess withholding. However, investors should note that it is unclear how the German tax administration will apply the refund process to dividends on the ADSs and ADRs. Further, such refund is subject to the German anti-avoidance treaty shopping rule (as described below in section "—Withholding Tax Refund for U.S. Treaty Beneficiaries").

German Taxation of Capital Gains of the U.S. Treaty Beneficiaries of the ADSs

The capital gains from the disposition of ADSs realized by a non German resident shareholder which does not maintain a permanent establishment or other taxable presence in Germany would be treated as German source income and subject to German tax (*beschränkte Steuerpflicht*) if such holder at any time during the five years preceding the disposition, directly or indirectly, held ADSs that represent 1% or more of the Company's shares. If such holder had acquired the ADSs without consideration, the previous owner's holding period and size of the holding would also be taken into account.

However, U.S. treaty beneficiaries are eligible for treaty benefits under the Treaty (as discussed above in the section “—German Taxation”). Pursuant to the Treaty, U.S. treaty beneficiaries are not subject to German tax even under the circumstances described in the preceding paragraph.

German statutory law requires the disbursing agent to levy withholding tax on capital gains from the sale of shares or other securities held in a custodial account in Germany. With regards to the German taxation of capital gains, disbursing agent means a German bank, a financial services institution, a securities trading enterprise or a securities trading bank (each as defined in the German Banking Act (*Kreditwesengesetz*) and, in each case including a German branch of a foreign enterprise, but excluding a foreign branch of a German enterprise) that holds the ADSs in custody or administers the ADSs for the investor or conducts sales or other dispositions and disburses or credits the income from the ADSs to the holder of the ADSs. The German statutory law does not explicitly condition the obligation to withhold taxes on capital gains being subject to taxation in Germany under German statutory law or on an applicable income tax treaty permitting Germany to tax such capital gains.

However, an interpretation circular issued by the German Federal Ministry of Finance (BMF-Schreiben) (dated January 18, 2016, reference number IV C 1-S2252/08/10004:017) provides that taxes need not be withheld when the holder of the custody account is not a resident of Germany for tax purposes and the income is not subject to German taxation. The interpretation circular further states that there is no obligation to withhold such tax even if the non-resident holder owns 1% or more of the shares of a German company. While interpretation circulars issued by the German Federal Ministry of Finance are only binding on the tax authorities but not on the tax courts, in practice, the disbursing agents nevertheless typically rely on guidance contained in such interpretation circulars. Therefore, a disbursing agent would only withhold tax at 26.375% on capital gains derived by a U.S. treaty beneficiary from the sale of ADSs held in a custodial account in Germany in the unlikely event that the disbursing agent did not follow this guidance. In this case, the U.S. treaty beneficiary should be entitled to claim a refund of the withholding tax from the German tax authorities under the Treaty (as described in the section “—Withholding Tax Refund for U.S. Treaty Beneficiaries”).

Withholding Tax Refund for U.S. Treaty Beneficiaries

U.S. treaty beneficiaries are generally eligible for treaty benefits under the Treaty (as discussed above in Section “—German Taxation”). Accordingly, U.S. treaty beneficiaries are entitled to claim a refund of the portion of the otherwise applicable 26.375% German withholding tax on dividends that exceeds the applicable Treaty rate. However, as previously discussed, investors should note that it is unclear how the German tax administration will apply the refund process to dividends on the ADSs and ADRs. Further, such refund is subject to the German anti-avoidance treaty shopping rule according to section 50d para. 3 of the German Income Tax Act (*Einkommensteuergesetz*) in its current version of the law of the *Abzugsteuerentlastungsmodernisierungsgesetz* of June 2, 2021. Generally, this rule requires that the U.S. treaty beneficiary (in case it is a non-German resident company) maintains its own administrative substance and conducts its own business activities. In particular, a foreign company has no right to a full or partial refund to the extent persons holding ownership interests in the company would not be entitled to the refund if they derived the income directly and the source of income has no significant connection with an economic activity of this company, association or estate; the generation of income, its transfer to persons involved or beneficiaries as well as an activity, insofar as it is carried out with a business operation that is not appropriately set up for the business purpose, are not considered economic activities. However, this shall not apply if the foreign company’s principal class of stock is regularly traded in substantial volume on a recognized stock exchange, if the company proves that none of the main purposes of its involvement is to obtain a tax advantage.

Individual claims for refunds may be made on a separate form, which must be filed with the German Federal Central Tax Office (*Bundeszentralamt für Steuern*), An der Küppe 1, 53225 Bonn, Germany. The form is available at the same address, on the German Federal Tax Office’s website (www.bzst.de) or from the Embassy of the Federal Republic of Germany, 2300 M Street, NW, Washington DC 20037. Generally, the refund claim becomes time-barred after four years following the calendar year in which the dividend is received. As part of the individual refund claim, a U.S. treaty beneficiary must submit to the German tax authorities the original withholding certificate (or a certified copy thereof) issued by the disbursing agent and documenting the tax withheld, and an official certification of United States tax residency on IRS Form 6166. IRS Form 6166 may be obtained by filing a properly completed IRS Form 8802 with the Internal Revenue Service, U.S. Residency Certification, Philadelphia, PA 19255-0625. Requests for certification must include the U.S. treaty beneficiary’s name, social security number or employer identification number, the type of U.S. tax return filed, the tax period for which the certification is requested and a user fee of \$85 for individuals and \$185 for non-individuals. An online payment option is also available at www.irs.gov. If the electronic payment option is used,

then the completed IRS Form 8802 and all required attachments should be mailed to Department of the Treasury, Internal Revenue Service, Philadelphia, PA 19255-0625. The Internal Revenue Service will send the certification on IRS Form 6166 to the U.S. treaty beneficiary, who must then submit the certification with the claim for refund of withholding tax.

Under a simplified refund procedure based on electronic data exchange (*Datenträgerverfahren*) a disbursing agent that is registered as a participant in the electronic data exchange procedure with the German Federal Central Tax Office (*Bundeszentralamt für Steuern*) may file an electronic collective refund claim on behalf of all of the U.S. treaty beneficiaries for whom it holds the company's ADSs in custody. However the simplified refund procedure only allows for a refund up to the regular tax rate provided in the Treaty. It is not possible to use the simplified refund procedure to claim a further refund, for example based on special privileges under the Treaty.

Due to the legal structure of the ADSs, only limited guidance of the German tax authorities exists on the practical application of this procedure with respect to the ADSs.

German Inheritance and Gift Tax (*Erbschaft- und Schenkungsteuer*)

It is unclear whether the German inheritance or gift tax applies to the transfer of the ADSs as the ADR Tax Circular does not refer explicitly to the German Inheritance and Gift Tax Act. However, if German inheritance or gift tax is applicable to ADSs, then under German domestic law, the transfer of the ordinary shares in the company and, as a consequence, the gratuitous transfer of the ADSs would be subject to German gift or inheritance tax if:

- (a) the decedent or donor or heir, beneficiary or other transferee (i) maintained his or her residence or a habitual abode in Germany or had its place of management or registered office in Germany at the time of the transfer, or (ii) is a German citizen who has spent no more than five consecutive years outside Germany without maintaining a residence in Germany or (iii) is a German citizen who serves for a German entity established under public law and is remunerated for his or her service from German public funds (including family members who form part of such person's household, if they are German citizens) and is only subject to estate or inheritance tax in his or her country of residence or habitual abode with respect to assets located in such country (special rules apply to certain former German citizens who neither maintain a residence nor have their habitual abode in Germany), or
- (b) at the time of the transfer, the ADSs are held by the decedent or donor as business assets forming part of a permanent establishment in Germany or for which a permanent representative in Germany has been appointed, or
- (c) the ADSs subject to such transfer form part of a portfolio that represents at the time of the transfer 10% or more of the registered share capital of the company and that has been held directly or indirectly by the decedent or donor, either alone or together with related persons.

Under the Agreement between the Federal Republic of Germany and the United States of America for the avoidance of double taxation with respect to taxes on inheritances and gifts (*Abkommen zwischen der Bundesrepublik Deutschland und den Vereinigten Staaten von Amerika zur Vermeidung der Doppelbesteuerung auf dem Gebiet der Nachlass-, Erbschaft- und Schenkungsteuern in der Fassung vom 21. Dezember 2000*) (the "United States-Germany Inheritance and Gifts Tax Treaty"), a transfer of ADSs by gift or upon death is not subject to German inheritance or gift tax if the donor or the transferor is domiciled in the United States, within the meaning of the United States-Germany Inheritance and Gift Tax Treaty, and is neither a citizen of Germany nor a former citizen of Germany and, at the time of the transfer, the ADSs are not held by the decedent or donor as business assets forming part of a permanent establishment in Germany or for which a permanent representative in Germany has been appointed.

Notwithstanding the foregoing, in case the heir, transferee or other beneficiary (i) has, at the time of the transfer, his or her residence or habitual abode in Germany, or (ii) is a German citizen who has spent no more than five consecutive years outside Germany without maintaining a residence in Germany or (iii) is a German citizen who serves for a German entity established under public law and is remunerated for his or her service from German public funds (including family members who form part of such person's household, if they are German citizens) and is only subject to estate or inheritance tax in his or her country of residence or habitual abode with respect to assets located in such country

(or special rules apply to certain former German citizens who neither maintain a residence nor have their habitual abode in Germany), the transferred ADSs are subject to German inheritance or gift tax.

If, in this case, Germany levies inheritance or gift tax on the ADSs with reference to the heir's, transferee's or other beneficiary's residence in Germany or his or her German citizenship, and the United States also levies federal estate tax or federal gift tax with reference to the decedent's or donor's residence (but not with reference to the decedent's or donor's citizenship), the amount of the U.S. federal estate tax or the U.S. federal gift tax, respectively, paid in the United States with respect to the transferred ADSs is credited against the German inheritance or gift tax liability, provided the U.S. federal estate tax or the U.S. federal gift tax, as the case may be, does not exceed the part of the German inheritance or gift tax, as computed before the credit is given, which is attributable to the transferred ADSs. A claim for credit of the U.S. federal estate tax or the U.S. federal gift tax, as the case may be, may be made within one year of the final determination (administrative or judicial) and payment of the U.S. federal estate tax or the U.S. federal gift tax, as the case may be, provided that the determination and payment are made within ten years of the date of death of the decedent or of the date of the making of the gift by the donor. Similarly, U.S. state-level estate or gift taxes are also creditable against the German inheritance or gift tax liability to the extent that U.S. federal estate or gift tax is creditable.

United States Taxation of ADSs and Ordinary Shares

The following discussion describes the material U.S. federal income tax consequences that are relevant with respect to the acquisition, ownership and disposition of the ADSs and ordinary shares by a U.S. holder (as defined below) as in effect on the date of this annual report. The information provided below is based on the Internal Revenue Code of 1986, as amended, or the Code, Internal Revenue Service, or IRS, rulings and pronouncements, and judicial decisions all as now in effect and all of which are subject to change or differing interpretations, possibly with retroactive effect. This summary addresses only U.S. federal income tax considerations of U.S. holders that will hold ADSs or ordinary shares as capital assets. It does not provide a complete analysis of all potential tax considerations. In particular, this summary does not address all of the tax considerations applicable to a particular holder of the ADSs or ordinary shares in light of the holder's circumstances (for example, financial institutions; insurance companies; dealers or traders in securities; currencies or notional principal contracts; persons that will hold ADSs or ordinary shares as part of a hedging or conversion transaction or as a position in a straddle or other integrated transactions for U.S. federal income tax purposes; persons that have a functional currency other than the U.S. dollar; persons that own (or are deemed to own) 10% or more (by voting power) of our share capital; regulated investment companies, real estate investment trusts; tax-exempt entities; persons who hold ADSs or ordinary shares through partnerships or other pass-through entities; tax-deferred or other retirement accounts; certain former citizens or residents of the United States; or persons deemed to sell ADSs or ordinary shares under the constructive sale provisions of the Code). Finally, the summary does not describe the effect of the U.S. federal estate and gift tax laws on U.S. holders or the effects of any applicable foreign, state or local laws.

For purposes of this summary, a "U.S. holder" is a beneficial owner of ADSs or ordinary shares that for U.S. federal income tax purposes, is (1) an individual who is a citizen or resident of the United States, (2) a corporation, or an entity treated as a corporation for U.S. federal income tax purposes, created or organized in or under the laws of the United States or any state of the United States, including the District of Columbia, (3) an estate, the income of which is subject to U.S. federal income taxation regardless of its source, or (4) a trust, if it (i) is subject to the primary supervision of a U.S. court and the control of one or more U.S. persons or (ii) has a valid election in effect under applicable U.S. Treasury Regulations to be treated as a U.S. person. A "non-U.S. holder" is a beneficial owner of the ADSs or ordinary shares, other than a partnership or entity treaty as a partnership, that is not a U.S. holder.

If a partnership (including an entity or arrangement, domestic or foreign, treated as a partnership for U.S. federal income tax purposes) holds ADSs or ordinary shares, the tax treatment of a partner in the partnership will depend upon the status of the partner and the activities of the partnership. A holder of ADSs or ordinary shares that is a partnership, and partners in such partnership, should consult their own tax advisors about the U.S. federal income and estate tax consequences of purchasing, owning and disposing of the ADSs or ordinary shares.

Each prospective holder of ADSs should consult its own tax advisors regarding the U.S. federal, state and local or other tax consequences of acquiring, owning and disposing of the company's ADSs in light of their particular circumstances. U.S. holders should also review the discussion under "German Taxation of ADSs" for the German tax consequences to a U.S. holder of the ownership of the ADSs.

General

In general, and taking into account the earlier assumptions, a U.S. holder of ADSs is treated as the owner of the ordinary shares represented by such ADSs. Accordingly, exchanges of ordinary shares for ADSs, and ADSs for ordinary shares, respectively, generally will not be subject to U.S. federal income tax.

Distributions

Under the United States federal income tax laws, and subject to the discussion below under "Additional United States Federal Income Tax Consequences – PFIC Rules," the gross amount of any distribution that is actually or constructively received by a U.S. holder with respect to its ordinary shares (including shares deposited in respect of ADSs) will be a dividend includible in gross income of a U.S. holder as ordinary income to the extent the amount of such distribution is paid out of our current and accumulated earnings and profits, as determined for U.S. federal income tax purposes. To the extent the amount of such distribution exceeds our current and accumulated earnings and profits as so computed, it will be treated first as a non-taxable return of capital to the extent of such U.S. holder's adjusted tax basis in its ADSs or ordinary shares, and to the extent the amount of such distribution exceeds such adjusted tax basis, will be treated as gain from the sale of the ADSs or ordinary shares. If you are a non-corporate U.S. holder, dividends paid to you that constitute qualified dividend income will be taxable to you at a preferential rate (rather than the higher rates of tax generally applicable to items of ordinary income) provided that you hold our ADSs or ordinary shares for more than 60 days during the 121-day period beginning 60 days before the ex-dividend date and meet other holding period requirements. If we are a passive foreign investment company (as discussed below under "—Additional United States Federal Income Tax Consequences—PFIC Rules"), distributions paid by us with respect to ADSs or ordinary shares will not be eligible for the preferential income tax rate. Prospective investors should consult their own tax advisors regarding the taxation of distributions under these rules.

You must include any German tax withheld from the dividend payment in this gross amount even though you do not in fact receive it. The gross amount of the dividend is taxable to you when you receive the dividend, actually or constructively. Dividends paid on ADSs will not be eligible for the dividends-received deduction generally available to corporate U.S. holders. The gross amount of any dividend paid in foreign currency will be included in the gross income of a U.S. holder in an amount equal to the U.S. dollar value of the foreign currency calculated by reference to the exchange rate in effect on the date the dividend distribution is includable in the U.S. holder's income, regardless of whether the payment is in fact converted into U.S. dollars. If the foreign currency is converted into U.S. dollars on the date of receipt by the depository, in the case of ADSs, or the U.S. holder, in the case of ordinary shares, a U.S. holder generally should not be required to recognize foreign currency gain or loss in respect of the dividend. If the foreign currency received is not converted into U.S. dollars on the date of receipt, a U.S. holder will have a basis in the foreign currency equal to its U.S. dollar value on the date of receipt. Any gain or loss on a subsequent conversion or other disposition of the foreign currency will be treated as ordinary income or loss, and will generally be income or loss from sources within the United States for foreign tax credit limitation purposes. The amount of any distribution of property other than cash will be the fair market value of the property on the date of the distribution, less the sum of any encumbrance assumed by the U.S. holder.

For foreign tax credit purposes, our dividend distributions will generally constitute income from sources outside the United States and be "passive" income. Depending on your particular circumstances, you may be eligible, subject to a number of complex limitations, to claim a foreign tax credit in respect of any foreign withholding taxes imposed on dividends received on our ADSs or ordinary shares. The amount of the qualified dividend income, if any, paid to a U.S. holder that is subject to the reduced dividend income tax rate and that is taken into account for purposes of calculating the U.S. holder's U.S. foreign tax credit limitation must be reduced by the rate differential portion of the dividend. If you do not elect to claim a foreign tax credit for foreign tax withheld, you may instead claim a deduction, for U.S. federal income tax purposes, for the foreign tax withheld, but only for a year in which you elect to do so for all creditable foreign income taxes. The rules governing the foreign tax credit are complex. Prospective investors should consult their own tax advisors regarding the implications of the foreign tax credit provisions for them, in light of their particular situation.

U.S. Taxation of Sale or Other Disposition

Subject to the discussion below under “—Additional United States Federal Income Tax Consequences—PFIC Rules,” a U.S. holder will generally recognize a gain or loss for U.S. federal income tax purposes upon the sale or other disposition of ADSs or ordinary shares in an amount equal to the difference between the U.S. dollar value of the amount realized from such sale or other disposition and the U.S. holder’s tax basis in such ADSs or ordinary shares. Such gain or loss generally will be capital gain or loss. Capital gain of a non-corporate U.S. holder recognized on the sale or other disposition of ADSs or ordinary shares held for more than one year is generally eligible for a reduced rate of taxation. The gain or loss will generally be income or loss from sources within the United States for foreign tax credit limitation purposes. The deductibility of capital losses is subject to limitations.

A U.S. holder that receives foreign currency on the sale or other disposition of ADSs or ordinary shares will realize an amount equal to the U.S. dollar value of the foreign currency on the date of sale (or, in the case of cash basis and electing accrual basis taxpayers, the U.S. dollar value of the foreign currency on the settlement date) provided that the ADSs or ordinary shares, as the case may be, are treated as being “traded on an established securities market.” If a U.S. holder receives foreign currency upon a sale or exchange of ADSs or ordinary shares, gain or loss, if any, recognized on the subsequent sale, conversion or disposition of such foreign currency will be ordinary income or loss, and will generally be income or loss from sources within the United States for foreign tax credit limitation purposes. However, if such foreign currency is converted into U.S. dollars on the date received by the U.S. holder, a cash basis or electing accrual U.S. holder should not recognize any gain or loss on such conversion.

Redemption

A redemption of ADSs or the ordinary shares underlying such ADSs by us will be treated as a sale of the redeemed ADSs or ordinary shares by the U.S. holder or as a distribution to the U.S. holder (which is taxable as described above under “—Distributions”).

Additional United States Federal Income Tax Consequences

PFIC Rules. Special adverse U.S. federal income tax rules apply to U.S. holders owning shares of a passive foreign investment company, or PFIC. In general, if you are a U.S. holder, we will be a PFIC with respect to you if for any taxable year in which you held our ADSs or ordinary shares: (i) at least 75% of our gross income for the taxable year is passive income (the “income test”) or (ii) at least 50% of the value, determined on the basis of a quarterly average, of our assets is attributable to assets that produce or are held for the production of passive income (the “asset test”). The determination of whether we are a PFIC will be made annually. Accordingly, it is possible that we may become a PFIC in the current or any future taxable year due to changes in our asset or income composition. The composition of income and assets will be affected by whether, how, and how quickly, we spend any cash we currently hold.

Passive income for purposes of the income test generally includes dividends, interest, royalties, rents (other than certain rents and royalties derived in the active conduct of a trade or business), annuities and gains from the disposition of assets that produce passive income. Any cash we hold generally will be treated as held for the production of passive income for the purpose of the PFIC test, and any income generated from cash or other liquid assets generally will be treated as passive income for such purpose. If a foreign corporation owns at least 25% by value of the stock of another corporation, the foreign corporation is treated for purposes of the PFIC tests as owning its proportionate share of the assets of the other corporation, and as receiving directly its proportionate share of the other corporation’s income.

We believe that we were not a PFIC for our taxable year ending December 31, 2021. However, since the determination of whether we are a PFIC is based upon such factual matters as our market capitalization and the valuation of our assets and upon certain assumptions and methodologies in which we have based our analysis, there can be no assurance that the IRS will agree with our position. Furthermore, because we have valued our goodwill for purposes of the asset test based on the market value of our equity, a further decline in the value of our equity due to fluctuations in the price of our ADSs and ordinary shares could result in us becoming a PFIC for our taxable year ending on December 31, 2021 or for future taxable years.

If we were to be treated as a PFIC, the U.S. federal income tax consequences to a U.S. holder of the acquisition, ownership, and disposition of our ADSs or ordinary shares will depend on whether such U.S. holder makes an election to treat us as a “qualified electing fund” or “QEF” under Section 1295 of the Code (a QEF Election) or a mark-to-market

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election under Section 1296 of the Code (a Mark-to-Market Election). A U.S. holder who makes a QEF election will be taxed currently on such U.S. holder's pro rata share of our annual ordinary income and capital gains (each separately stated). We do not intend to furnish holders with the information necessary to make a QEF Election. A U.S. holder may make a Mark-to-Market Election if our shares or ADSs are "marketable stock," and would, as a result of such election, include as ordinary income the excess of the fair market value of such U.S. holder's ADSs or ordinary shares at year-end over such U.S. holder's basis in those ADSs or ordinary shares. In addition, any gain recognized upon a sale of ADSs or ordinary shares would be taxed as ordinary income in the year of sale.

A U.S. Holder that does not make either a QEF Election or a Mark-to-Market Election (a Non-Electing U.S. Holder) would be subject to special adverse tax rules with respect to (i) "excess distributions" received on our ADSs or ordinary shares and (ii) any gain recognized upon a sale or other disposition (including a pledge) of our ADSs or ordinary shares. A Non-Electing U.S. Holder would be treated as if it had realized such gain and certain "excess distributions" ratably over its holding period for our ADSs or ordinary shares and would be taxed at the highest tax rate in effect for each such year to which the gain was allocated, together with an interest charge in respect of the tax attributable to each such year. Special rules apply for calculating the amount of the foreign tax credit with respect to "excess distributions" by a PFIC.

With certain exceptions, a Non-Electing U.S. Holder's ADSs or ordinary shares will be treated as stock in a PFIC if we were a PFIC at any time during the U.S. holder's holding period in for its ordinary shares or ADSs, even if we are not currently a PFIC.

Dividends that a U.S. holder receives from us will not be eligible for the special tax rates applicable to qualified dividend income if we are treated as a PFIC either in the taxable year of the distribution or the preceding taxable year, but instead will be taxable at rates applicable to ordinary income.

If we are were to be treated as a PFIC, owners of our ADSs or ordinary shares (including, potentially, indirect owners) would be required to file an information report with respect to such interest together with their tax returns, subject to certain exceptions. U.S. holders are urged to consult their tax advisors regarding the application of these rules to their ownership of the ADSs.

Medicare Tax. Certain U.S. holders who are individuals, estates and trusts will be required to pay an additional 3.8% tax on some or all of their "net investment income," which generally includes its dividend income and net gains from the disposition of our ADSs or ordinary shares. U.S. holders should consult their own tax advisors regarding the applicability of this additional tax on their particular situation.

Information with Respect to Foreign Financial Assets. Owners of "specified foreign financial assets" with an aggregate value in excess of \$50,000 (and in some circumstances, a higher threshold) may be required to file an information report with respect to such assets on their tax returns. "Specified foreign financial assets" may include financial accounts maintained by foreign financial institutions, as well as the following, but only if they are not held in accounts maintained by financial institutions: (i) stocks and securities issued by non-U.S. persons, (ii) financial instruments and contracts held for investment that have non-U.S. issuers or counterparties, and (iii) interests in foreign entities. U.S. holders are urged to consult their tax advisors regarding the application of this legislation to their ownership of the ADSs and ordinary shares.

Backup Withholding and Information Reporting. Backup withholding and information reporting requirements will generally apply to certain payments to U.S. holders of dividends on ADSs or ordinary shares. We, our agent, a broker or any paying agent, may be required to withhold tax from any payment that is subject to backup withholding unless the U.S. holder (1) is an exempt payee, or (2) provides the U.S. holder's correct taxpayer identification number and complies with applicable certification requirements. Payments made to U.S. holders by a broker upon a sale of our ADSs or ordinary shares will generally be subject to backup withholding and information reporting. If the sale is made through a foreign office of a foreign broker, however, the sale will generally not be subject to either backup withholding or information reporting. This exception may not apply if the foreign broker is owned or controlled by U.S. persons, or is engaged in a U.S. trade or business.

Backup withholding is not an additional tax. Any amounts withheld from a payment to a U.S. holder of ADSs or ordinary shares under the backup withholding rules can be credited against any U.S. federal income tax liability of the U.S. holder, provided the required information is timely furnished to the IRS. A U.S. holder generally may obtain a

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refund of any amounts withheld under the backup withholding rules that exceeds the U.S. holder's income tax liability by filing a refund claim with the IRS. Prospective investors should consult their own tax advisors as to their qualification and procedure for exemption from backup withholding.

The above description is not intended to constitute a complete analysis of all tax consequences relating to the purchase, ownership or disposition of the ADSs or ordinary shares. Investors deciding on whether or not to invest in ADSs or ordinary shares should consult their own tax advisors concerning the tax consequences of their particular situations.

F. DIVIDENDS AND PAYING AGENTS

Not applicable.

G. STATEMENT BY EXPERTS

Not applicable.

H. DOCUMENTS ON DISPLAY

We previously filed with the SEC our registration statements on Form F-1 (Registration No. 333-191213 and 333-194843), as amended, including the prospectuses contained therein, to register our ordinary shares. We have also filed with the SEC a related registration statement on F-6 (Registration No. 333-191526) to register the ADSs.

We are subject to the periodic reporting and other informational requirements of the Exchange Act. Under the Exchange Act, we are required to file reports and other information with the SEC. Specifically, we are required to file annually a Form 20-F within four months after the end of each fiscal year, which is December 31. Copies of reports and other information, when so filed, may be inspected without charge and may be obtained at prescribed rates at the public reference facilities maintained by the Securities and Exchange Commission at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. The SEC also maintains a website at www.sec.gov that contains reports, proxy and information statements, and other information regarding registrants that make electronic filings with the SEC using its EDGAR system. As a foreign private issuer, we are exempt from the rules under the Exchange Act prescribing the furnishing and content of quarterly reports and proxy statements, and officers, directors and principal shareholders are exempt from the reporting and short-swing profit recovery provisions contained in Section 16 of the Exchange Act.

I. SUBSIDIARY INFORMATION

Not applicable.

ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to market risk from fluctuations in interest rates and foreign currency exchange rates which may adversely affect our results of operations and financial condition. We seek to minimize these risks through regular operating and financing activities and, when we consider it to be appropriate, through the use of derivative financial instruments. We do not purchase, hold or sell derivative financial instruments for trading or speculative purposes.

Interest Rates

We assess our exposure to market risk for changes in interest rates as low, as our loans have entirely fixed interest rates, with one exception. An immediate 10% change in interest rates would not have a material effect on our financial condition or results of operations. For the first tranche of the loan received from the EIB amounting to € 10.0 million, there exists a cash-settled warrant at the maturity date (5 years after draw down), after the occurrence of a trigger event, or on the expiration date (10 years after draw down). Further, € 5.0 million under the second tranche (tranche B1) have been disbursed from the EIB in June 2020. This portion of the second tranche also includes a cash-settled warrant at the maturity date (5 years after draw down), after the occurrence of a trigger event, or on the expiration date (10 years after draw down of the first tranche).

Equity price risk

In addition, for the first tranche (tranche A) as well as the € 5.0 million portion of the second tranche (tranche B1) of the loan received from the EIB, the cash-settled warrant is dependent on the Company's share price. Changes in the Company's share price will affect the value of an equity forward derivative instrument (increasing share prices as compared to the share price at disbursement date will lead to a negative fair value of the derivative, decreasing share prices will lead to a positive fair value of the derivative). An increase/decrease of the price per share by USD 1.00 leads to a decrease/increase of the derivative asset (tranche A) by approximately kEUR 326. An increase/decrease of the price per share by USD 1.00 leads to an increase/decrease of the derivative liability (tranche B1) by approximately kEUR 519.

Foreign Exchange Rates

We transact business globally and are subject to risks associated with fluctuating foreign exchange rates. The countries outside of the eurozone in which we sell our products and services have not historically been highly inflationary. Approximately 64%, 68% and 69% of our revenues were derived from sales outside of the eurozone region in 2021, 2020 and 2019, respectively. Receivables denominated in a foreign currency are initially recorded at the exchange rate at the transaction date and subsequently remeasured in Euros based on period-end exchange rates. Transaction gains and losses that arise from exchange rate fluctuations are charged to income.

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

American Depositary Shares

Fees and Expenses

Citibank, N.A. serves as the depository for our ADSs. Holders of our ADSs are required to pay the following fees to the depository under the terms of our deposit agreement:

Service	Fees
(1) Issuance of ADSs upon deposit of shares (excluding issuances as a result of distributions of shares described in (4) below)	Up to U.S. \$5.00 per 100 ADSs (or fraction thereof) issued.
(2) Cancellation of ADSs	Up to U.S. \$5.00 per 100 ADSs (or fraction thereof) surrendered.
(3) Distribution of cash dividends or other cash distributions (<i>i.e.</i> , sale of rights or other entitlements)	Up to U.S. \$5.00 per 100 ADSs (or fraction thereof) held.
(4) Distribution of ADSs pursuant to (i) stock dividends or other free stock distributions or (ii) exercise of rights to purchase additional ADSs.	Up to U.S. \$5.00 per 100 ADSs (or fraction thereof) held.
(5) Distribution of securities other than ADSs or rights to purchase additional ADSs (<i>i.e.</i> , spin-off shares)	Up to U.S. \$5.00 per 100 ADSs (or fraction thereof) held.
(6) ADS Services	Up to U.S. \$5.00 per 100 ADSs (or fraction thereof) held on the applicable record date(s) established by the Depository.

Holders of our ADSs are responsible for paying certain charges such as:

- taxes (including applicable interest and penalties) and other governmental charges;
- the registration fees as may from time to time be in effect for the registration of ordinary shares on the share register and applicable to transfers of ordinary shares to or from the name of the custodian, the depository or any nominees upon the making of deposits and withdrawals, respectively;
- certain cable, telex and facsimile transmission and delivery expenses;

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- the expenses and charges incurred by the depository in the conversion of foreign currency;
- the fees and expenses incurred by the depository in connection with compliance with exchange control regulations and other regulatory requirements applicable to ordinary shares, ADSs and ADRs; and
- the fees and expenses incurred by the depository, the custodian, or any nominee in connection with the servicing or delivery of deposited property.

ADS fees and charges payable upon (i) deposit of ordinary shares against issuance of ADSs and (ii) surrender of ADSs for cancellation and withdrawal of ordinary shares are charged to the person to whom the ADSs are delivered (in the case of ADS issuances) and to the person who delivers the ADSs for cancellation (in the case of ADS cancellations). In the case of ADSs issued by the depository into Depository Trust Company (“DTC”), or presented to the depository via DTC, the ADS issuance and cancellation fees and charges are charged to the DTC participant(s) receiving the ADSs or the DTC participant(s) surrendering the ADSs for cancellation, as the case may be, on behalf of the beneficial owner(s) and will be charged by the DTC participant(s) to the account(s) of the applicable beneficial owner(s) in accordance with the procedures and practices of the DTC participant(s) as in effect at the time. ADS fees and charges in respect of distributions and the ADS service fee are charged to the holders as of the applicable ADS record date. In the case of distributions of cash, the amount of the applicable ADS fees and charges is deducted from the funds being distributed. In the case of (i) distributions other than cash and (ii) the ADS service fee, holders as of the ADS record date will be invoiced for the amount of the ADS fees and charges. For ADSs held through DTC, the ADS fees and charges for distributions other than cash and the ADS service fee are charged to the DTC participants in accordance with the procedures and practices prescribed by DTC and the DTC participants in turn charge the amount of such ADS fees and charges to the beneficial owners for whom they hold ADSs.

In the event of refusal to pay the depository fees, the depository may, under the terms of the deposit agreement, refuse the requested service until payment is received or may set off the amount of the depository fees from any distribution to be made to the ADS holder.

Note that the fees and charges you may be required to pay may vary over time and may be changed by us and by the depository. You will receive prior notice of such changes.

The depository may reimburse us for certain expenses incurred by us in respect of the ADR program by making available a portion of the ADS fees charged in respect of the ADR program or otherwise, upon such terms and conditions as we and the depository agree from time to time.

PART II

ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES

None.

ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

There have been no material modifications to the rights of security holders for the year ended on December 31, 2021.

ITEM 15 CONTROLS AND PROCEDURES

(a) Disclosure Controls and Procedures

Our management, including our Chief Executive Officer and Chief Financial Officer, have conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the Exchange Act)) as of December 31, 2021. Our Chief Executive Officer and Chief Financial Officer concluded that, as a result of material weaknesses in internal control over financial reporting as described below, our disclosure controls and procedures were not effective as of December 31, 2021. For purposes of Rule 13a-15(e), the term disclosure controls and procedures means controls and

other procedures of an issuer that are designed to ensure that information required to be disclosed by the issuer in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by an issuer in the reports that it files or submits under the Exchange Act is accumulated and communicated to the issuer's management, including its Chief Executive Officer and Chief Financial Officer, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

(b) Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). The Company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB). A company's internal control over financial reporting includes those policies and procedures that: (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of the Company's annual or interim financial statements will not be prevented or detected on a timely basis.

Management assessed the effectiveness of our internal control over financial reporting as of December 31, 2021 using the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control – Integrated Framework (2013) (the "COSO 2013 Framework"). Based on the assessment and those criteria, management concluded that our internal control over financial reporting was not effective as of December 31, 2021 due to material weaknesses in our internal control over financial reporting described below.

Our Audit Committee did not exercise sufficient oversight responsibilities for management's design, implementation and conduct of internal control over the five components of the COSO 2013 Framework.

We did not provide sufficient education on the COSO 2013 Framework and their financial reporting and related internal control responsibilities to the personnel involved in the financial reporting and internal control activities.

We did not demonstrate sufficient knowledge of IFRS, including understanding of new accounting standards, in order for the preparation of financial statements in accordance with IFRS and consideration of the impact of changes on our internal control over financial reporting throughout the financial year 2021 as the additional personnel with adequate IFRS knowledge was appointed in the second half of the year.

Our process to evaluate the competence and expertise necessary to support the growth and complexity of the business, its financial reporting, and response to address shortcomings was not sufficiently implemented during 2021. As a result, we did not have a sufficient number of adequately trained personnel within the organization and appropriate oversight of outsourced service providers with assigned responsibility and accountability for the design, effective operation, and documentation of internal control over financial reporting. This also resulted in ineffective design and implementation, and operation of controls over non-standard transactions, including significant unusual transactions, which are not timely identified and reviewed in sufficient detail by personnel with appropriate technical expertise to ensure that the accounting treatment in accordance with IFRS is appropriate.

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We did not have an effective risk assessment process to identify and assess the financial reporting risks caused by changes in the operating environment, business operations, personnel or IT systems and to make necessary changes to our financial reporting processes and related internal controls to manage those risks. This also resulted in, that we did not have a proper process in place to sufficiently and timely identify and assess new events and transactions in order to consider necessary adjustments to our system of internal control over financial reporting.

We did not have effective design and implementation, and operation of controls over the monitoring of compliance with financial covenants in the Company's debt agreements to ensure the appropriate accounting treatment, including disclosure requirements, in accordance with IFRS.

We did not have sufficient processes and controls in place to ensure the timely identification and communication of relevant and reliable information sourced internally and externally to financial reporting personnel, management, and our Supervisory Board, to enable appropriate evaluation and disclosure of such information in the Company's financial reporting processes.

We did not have a process to track, communicate, and aggregate the deficiencies identified through both internal and external sources. We did not have policies and practices to evaluate the severity of the identified deficiencies.

We did not have a timely process to remediate our existing control deficiencies.

Ineffective design and implementation, and operation of controls over the completeness, existence and accuracy of the financial statement close and reporting process and financial statement disclosures.

Ineffective design and implementation, and operation of controls over the completeness, existence, accuracy and presentation of the consolidated statements of cash flows.

We did not adequately design and document management review controls to sufficiently address management's expectations, criteria for investigation, follow-up on outliers and the level of precision used in the performance of the review controls.

Ineffective design and implementation, and operation of controls over the initiation, authorization, and recording of manual journal entries.

We did not have a process or controls in place to count all inventory at subsidiary locations.

These control deficiencies resulted in several material and immaterial misstatements to the preliminary consolidated financial statements that were corrected prior to the issuance of the consolidated financial statements. These deficiencies create a reasonable possibility that a material misstatement to the consolidated financial statements will not be prevented or detected on a timely basis, and therefore we concluded that the deficiencies represent material weaknesses in our internal control over financial reporting and our internal control over financial reporting was not effective as of December 31, 2021.

Notwithstanding the identified material weaknesses, management believes that the consolidated financial statements and related notes thereto included in this annual report on Form 20-F present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

Remediation Plan

Management is actively engaged in the planning for, and implementation of, remediation efforts to address the material weaknesses identified, specifically relating to the accounting and presentation of complex, non-routine transactions. Management will undertake the following changes to remediate the material weakness described above:

- Internal controls and COSO Framework trainings

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During 2021, the company conducted trainings on internal controls and COSO Framework for the members of its Supervisory Board and Management Broad and all other employees assigned with financial reporting and internal controls responsibilities through an external consultant. The company plans to continue conducting such trainings in future.

- External Consultants to advise on remediation of material weaknesses

At the end of 2021, we have engaged external consultants – Alvarez and Marsal to advise us on the remediation of our existing material weaknesses.

- In the beginning of 2021, we migrated our consolidation process to the SAP-ERP system and continue to work towards complete automation of the consolidation process in this system.
- We plan to provide education and training for the accounting personnel on the IFRS topics.
- The Company will take steps to ensure adequate design and document management review controls to sufficiently address management’s expectations, criteria for investigation, follow-up on outliers and the level of precision used in the performance of the review controls.
- The Company will design and implement controls over the initiation, authorization, and recording of manual journal entries.

Our management believes that these actions will remediate the material weaknesses in internal control over financial reporting described above. The remediation efforts are expected to be implemented during the financial year 2022.

(c) Attestation Report of the Registered Public Accounting Firm

This annual report does not include a report of the Company’s independent registered public accounting firm due to the Company’s status as a non-accelerated filer in 2021.

(d) Changes in internal control over financial reporting

As described above under “Remediation Plan,” we are undertaking a broad range of remedial actions to address the material weaknesses in our internal control over financial reporting identified during 2020 and 2021. We made the following changes in our internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the fiscal year ended December 31, 2021 that have improved our internal control over financial reporting, specifically:

- The Company has implemented the consolidation module within SAP, which is fully integrated with the existing modules used by the Company at the end of the fiscal year 2020 and migrated the consolidation process to this tool in fiscal year 2021.
- Additional staff with knowledge of International Financial Reporting Standards

During 2021, we hired an additional employee with sufficient knowledge and working experience in the IFRS to support the preparation of financial statements in accordance with IFRS and consideration of the impact of changes in IFRS on our internal control over financial reporting.

ITEM 16. RESERVED

ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT

Our Supervisory Board has determined that the chairman of our Audit Committee, Peter Nietzer, qualifies as an “audit committee financial expert” within the meaning of this Item 16A. Our Supervisory Board has determined that

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Peter Nietzer and each of the other members of the Audit Committee is independent under the requirements of the NASDAQ Listing Rules and Rule 10A-3 of the Exchange Act.

ITEM 16B. CODE OF ETHICS

We have adopted a written code of business conduct and ethics, or code of conduct, which outlines the principles of legal and ethical business conduct under which we do business. The code of conduct applies to all of our Supervisory Board members, Management Board members and employees. The full text of the code of conduct is available on our website at www.voxeljet.de. We expect that any future amendments to the code of conduct, or any waivers of its requirements, will be disclosed on our website. No waivers have been granted to the code of conduct since its adoption. Information contained on or available through our website is not incorporated by reference in or made part of this annual report and any references to our website are intended to be inactive textual references only.

ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The following table sets forth the fees billed to us by our independent registered public accounting firm PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft (“PwC”) during the fiscal years ended December 31, 2021 and 2020:

	December 31,	
	2021	2020
	(€ in thousands)	
Audit fees	€ 1,221	€ 995
Audit-related fees	€ 44	€ 29
Tax fees	--	--
All other fees	--	--
Total	€ 1,265	€ 1,024

Audit fees include the audit of our financial statements, the review of interim financial information and SEC registration statements, and statutory audits. The amount of kEUR 1,221 includes kEUR 120 related to the fiscal year 2020. Audit-related fees in 2021 and 2020 include services rendered related to one Form F-3 filing in each of 2021 and 2020.

Pre-Approval Policies and Procedures

The advance approval of the Audit Committee or members thereof, to whom approval authority has been delegated, is required for all audit and non-audit services provided by our auditors. All services provided by the principal auditing firm in 2021 detailed in the table above were approved by the Audit Committee.

ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES

Not applicable.

ITEM 16E. PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS

None.

ITEM 16F. CHANGE IN REGISTRANT’S CERTIFYING ACCOUNTANT

Not applicable.

ITEM 16G. CORPORATE GOVERNANCE

In general, under NASDAQ Listing Rule 5615(a)(3), foreign private issuers such as us are permitted to follow home country corporate governance practices in lieu of certain NASDAQ corporate governance standards as long as we disclose in the annual report the significant ways in which our corporate governance practices differ from those followed by U.S. companies.

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The significant differences between the corporate governance practices that we follow and those set forth in the NASDAQ Listing Rules are described below:

- NASDAQ Listing Rule 5605(b)(1) requires listed companies to have a majority of independent directors. There is no requirement under German law that the majority of members of a supervisory board be independent, and the rules of procedure of our Supervisory Board provide that the Supervisory Board should be composed of a majority of independent members, though this is not a mandatory requirement. All current members of our Supervisory Board are independent.
- NASDAQ Listing Rule 5605(b)(2) requires listed companies to hold regularly scheduled meetings at which only independent directors are present (“executive sessions”). While German law does not require a company to hold regularly scheduled executive sessions, our Supervisory Board is comprised only of independent members and meets regularly with only independent members present.
- NASDAQ Listing Rule 5605(c)(1) requires listed companies to have a written audit committee charter. German law does not require a separate charter for an audit committee. Instead, the responsibilities and authority of our Audit Committee are set forth in the rules of procedure of our Supervisory Board and in the applicable German laws.
- NASDAQ Listing Rule 5605(c)(2)(A) requires each member of the audit committee of a listed company to be independent and financially literate, and also requires that at least one audit committee member have accounting or related financial management expertise. German law does not require that all members of the audit committee are independent. The rules of procedure of our Supervisory Board only stipulate that the members of our Supervisory Board shall be “sufficiently” independent and that our Supervisory Board’s proposals for the election of new members shall take into account that the majority of our Supervisory Board shall be composed of – in the Supervisory Board’s opinion – independent members. Furthermore, German law requires only that one supervisory board member have knowledge in the areas of accounting or auditing. Accordingly, the rules of procedure of our Supervisory Board stipulate that the chairman of our Audit Committee shall have special knowledge and experience of the application of accounting principles and internal control procedures. The chairman of the Audit Committee, Peter Nietzer, fulfills these requirements. Although we believe that all members of our Audit Committee are financially literate, neither German law, nor the rules of procedure of our Supervisory Board, require all members of our Audit Committee to be financially literate.
- NASDAQ Listing Rule 5605(d)(1) requires listed companies to have a written compensation committee charter. German law does not require a separate charter for a compensation committee. Instead, the responsibilities and authority of our Compensation and Nomination Committee are set forth in the rules of procedure of our Supervisory Board and in the applicable German laws.
- NASDAQ Listing Rule 5605(d)(2) requires listed companies to have a compensation committee consisting of at least two members, each of whom is independent as defined under NASDAQ Rule 5605(a)(2) and in consideration of all factors specifically relevant to determining whether a director has a relationship to the company which is material to that director’s ability to be independent from management in connection with the duties of a compensation committee member. The German Corporate Governance Code recommends that the chairman of the compensation committee shall be independent from the company and the management board. Our Supervisory Board also serves as our Compensation Committee, and all three members of our Supervisory Board are independent and do not have any relationship with the Company’s management that is material to the members’ ability to be independent from management.
- NASDAQ Listing Rule 5605(e)(1) requires independent director involvement in the selection of director nominees, by having a nominations committee comprised solely of independent directors and by having director nominees selected or recommended by a majority of its independent directors meeting in executive session. German law does not stipulate specific requirements for the members of a nominations committee. Our Supervisory Board also serves as our Nomination Committee, and all three members of our Supervisory Board are independent and are actively involved in the selection and/or recommendation of member nominees.

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- NASDAQ Listing Rule 5605(e)(2) requires listed companies to have a written charter or board resolution, as applicable, addressing the nominations process and related matters required under federal securities laws. German law does not require a separate charter or resolution for the nominations process. Instead, the responsibilities and authority of our Compensation and Nomination Committee are set forth in the rules of procedure of our Supervisory Board and in the applicable German laws.
- NASDAQ Listing Rule 5605(f) requires listed companies with five or fewer board members to have, or explain why they do not have, at least one diverse board member. Additionally, NASDAQ Listing Rule 5606 requires listed companies to annually disclose information on each director's voluntary self-identified characteristics in a board diversity matrix. German law has a narrower requirement, with regards to setting target quotas for gender diversity.
- NASDAQ Listing Rule 5620(c) requires listed companies' bylaws to provide for a quorum of at least 33 1/3 percent of the outstanding shares of the company's common voting stock. German law does not require a specific quorum for the general shareholders' meeting and such requirement is not stipulated in our articles of association.
 - NASDAQ Listing Rule 5635 requires listed companies to obtain shareholder approval before undertaking any of the following transactions: (a) acquiring the stock or assets of another company, where such acquisition results in the issuance of 20% or more of their outstanding share capital or voting power; (b) entering into any change of control transaction; (c) establishing or materially amending any equity compensation arrangement; and (d) entering into any transaction other than a public offering involving the sale, issuance or potential issuance by us of shares (or securities convertible into or exercisable for shares) equal to 20% or more of their outstanding share capital or 20% or more of the voting power outstanding before the issuance for less than the greater of book or market value of the stock. In contrast, according to the German Stock Corporation Act, approval by the general shareholders' meeting is generally required for the issuance of any shares as well as any securities granting the respective holder the right to acquire shares (including options and convertibles), subject to certain exceptions.

ITEM 16H. MINE SAFETY DISCLOSURE

Not applicable.

ITEM 16I. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

ITEM 17. FINANCIAL STATEMENTS

We have elected to provide financial statements pursuant to Item 18.

ITEM 18. FINANCIAL STATEMENTS

See the following items starting at page F-1:

- (a) Report of Independent Registered Public Accounting Firm as of December 31, 2021 and for each of the two years ended December 31, 2021
- (b) Report of Independent Registered Public Accounting Firm as of and for the year ended December 31, 2019
- (c) Consolidated Statements of Financial Position as of December 31, 2021 and 2020
- (d) Consolidated Statements of Comprehensive Loss for the years ended December 31, 2021, 2020, and 2019
- (e) Consolidated Statements of Changes in Equity for the years ended December 31, 2021, 2020, and 2019
- (f) Consolidated Statements of Cash Flows for the years ended December 31, 2021, 2020, and 2019
- (g) Notes to the Consolidated Financial Statements

ITEM 19. EXHIBITS

Exhibit Number	Description of Exhibit
1.1	Articles of Association of voxeljet AG, as amended (incorporated by reference to Exhibit 3.1 to the Company's Form 6-K, filed with the Securities and Exchange Commission (the "Commission") on November 27, 2018).
1.2	Rules of Procedure of the Supervisory Board of voxeljet AG (incorporated by reference to Exhibit 3.2 to the Company's Registration Statement on Form F-1 (No. 333-191213), filed with the Commission on October 7, 2013).
1.3	Rules of Procedure of the Management Board of voxeljet AG (incorporated by reference to Exhibit 3.3 to the Company's Registration Statement on Form F-1 (No. 333-191213), filed with the Commission on October 7, 2013).
2.1	Form of specimen of ordinary registered share certificate and English translation (incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form F-1 (No. 333-191213), filed with the Commission on October 11, 2013).
2.2	Form of Deposit Agreement (incorporated by reference to Exhibit 99-a to the Company's Registration Statement on Form F-6 (No. 333-191526), filed with the Commission on October 15, 2013).
2.3	Form of Amendment No. 1 to Deposit Agreement (incorporated by reference to Exhibit 99-(a)(i) to the Company's Registration Statement on Form F-6 (No. 333-191526), filed with the Commission on July 31, 2020).
2.4	Form of American Depositary Receipt (included in Exhibit 2.3).
2.5	Description of Securities registered under Section 12 of the Exchange Act (incorporated by reference to Exhibit 2.5 to the Company's Annual Report on Form 20-F, filed with the Commission on March 30, 2021).
4.1†	Cross License Agreement between voxeljet AG (formerly known as Voxeljet Technology GmbH) and BEGO Medical GmbH, dated August 21, 2012 (English translation) (incorporated by reference to Exhibit 10.3 to the Company's Registration Statement on Form F-1 (No. 333-191213), filed with the Commission on October 7, 2013).
4.2†	Nonexclusive Patent License and Sublicense Agreement between Z Corporation and voxeljet AG (formerly known as Voxeljet Technology GmbH), dated August 16, 2004 (incorporated by reference to Exhibit 10.4 to the Company's Registration Statement on Form F-1 (No. 333-191213), filed with the Commission on October 7, 2013).
4.3	First Amendment to the Nonexclusive Patent License and Sublicense Agreement between Z Corporation and voxeljet AG (formerly known as Voxeljet Technology GmbH), dated March 31, 2011 (incorporated by reference to Exhibit 10.5 to the Company's Registration Statement on Form F-1 (No. 333-191213), filed with the Commission on October 7, 2013).
4.4†	Patent and Know-How Transfer Agreement between voxeljet AG (formerly known as Generis GmbH) and The ExOne Company (formerly known as Extrude Hone GmbH), dated June 27, 2003 (incorporated by reference to Exhibit 10.6 to the Company's Registration Statement on Form F-1 (No. 333-191213), filed with the Commission on October 7, 2013).
4.5†	Amendment to Patent and Know-How Transfer Agreement between voxeljet AG (formerly known as Voxeljet Technology GmbH) and Prometal RCT GmbH, dated July 14, 2009 (incorporated by reference to Exhibit 10.7 to the Company's Registration Statement on Form F-1 (No. 333-191213), filed with the Commission on October 7, 2013).
4.6†	Form of Finance Contract between European Investment Bank and voxeljet AG, dated November 9, 2017 (incorporated by reference to Exhibit 99.2 to the Company's Report on Form 6-K, filed with the Commission on November 9, 2017).
4.7**	Waiver Letter relating to Articles 7.1, 7.5 and 9.1 of the Finance Contract between European Investment Bank and voxeljet AG, dated March 12, 2020 (incorporated by reference to Exhibit 10.1 to the Company's Report on Form 6-K filed with the Commission on March 18, 2020).
4.8**	Form of Amendment Letter no. 1 to Finance Contract between European Investment Bank and voxeljet AG, dated May 29, 2020 (incorporated by reference to Exhibit 99.2 to the Company's Report on Form 6-K, filed with the Commission on June 1, 2020).
4.9**	Form of Waiver of a breach under the Finance Contract and Amendment Letter to the Finance Contract between European Investment Bank and voxeljet AG, dated March 26, 2021 (incorporated by reference to Exhibit 4.9 to the Company's Annual Report on Form 20-F, filed with the Commission on March 30, 2021).

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Exhibit Number	Description of Exhibit
4.10†	Form of First Demand Guarantee Agreement between European Investment Bank and voxeljet America Inc., dated November 9, 2017 (incorporated by reference to Exhibit 99.3 to the Company's Report on Form 6-K, filed with the Commission on November 9, 2017).
4.11†	Form of Synthetic Warrant Agreement between European Investment Bank and voxeljet AG, dated November 9, 2017. (incorporated by reference to Exhibit 99.4 to the Company's Report on Form 6-K, filed with the Commission on November 9, 2017).
4.12**	Form of Amendment and Restatement Agreement to the Synthetic Warrant Agreement between European Investment Bank and voxeljet AG, dated May 29, 2020 (incorporated by reference to Exhibit 99.3 to the Company's Report on Form 6-K, filed with the Commission on June 1, 2020).
4.13	Form of Amendment Letter to the Synthetic Warrant Agreement between European Investment Bank and voxeljet AG, dated September 30, 2020 (incorporated by reference to Exhibit 99.1 to the Company's Report on Form 6-K, filed with the Commission on September 30, 2020).
4.14#	Management Board Member's Contract of Service between voxeljet AG and Dr. Ingo Ederer, dated November 12, 2020 (incorporated by reference to Exhibit 10.1 to the Company's Report on Form 6-K, filed with the Commission on November 12, 2020).
4.15#	Management Board Member's Contract of Service between voxeljet AG and Rudolf Franz, dated November 12, 2020 (incorporated by reference to Exhibit 10.2 to the Company's Report on Form 6-K, filed with the Commission on November 12, 2020).
4.16	Form of Irrevocable Undertaking between certain investors and voxeljet AG, dated January 15, 2021 (incorporated by reference to Exhibit 10.1 to the Company's Report on Form 6-K, filed with the Commission on January 25, 2021).
4.17	Placement Agent Agreement between A.G.P./Alliance Global Partners and voxeljet AG, dated January 15, 2021 (incorporated by reference to Exhibit 10.2 to the Company's Report on Form 6-K, filed with the Commission on January 25, 2021).
4.18*	Form of Irrevocable Undertaking between certain investors and voxeljet AG, dated February 10, 2021 (incorporated by reference to Exhibit 10.1 to the Company's Report on Form 6-K, filed with the Commission on February 17, 2021).
4.19*	Placement Agent Agreement between A.G.P./Alliance Global Partners and voxeljet AG, dated February 10, 2021 (incorporated by reference to Exhibit 10.2 to the Company's Report on Form 6-K, filed with the Commission on February 17, 2021).
4.20*	Form of Irrevocable Undertaking between certain investors and voxeljet AG, dated July 15, 2021 (incorporated by reference to Exhibit 10.1 to the Company's Report on Form 6-K, filed with the Commission on July 23, 2021).
4.21*	Placement Agent Agreement between A.G.P./Alliance Global Partners and voxeljet AG, dated July 15, 2021 (incorporated by reference to Exhibit 10.2 to the Company's Report on Form 6-K, filed with the Commission on July 23, 2021).
8.1*	Subsidiaries of voxeljet AG.
12.1*	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
12.2*	Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
13.1*	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
13.2*	Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
15.1*	Consent of PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft as of and for the two years ended December 31, 2021.
15.2*	Consent of KPMG AG Wirtschaftsprüfungsgesellschaft for the year ended December 31, 2019.
101.INS	Inline XBRL Instance Document - The instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document

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Exhibit Number	Description of Exhibit
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

* Filed herewith.

† Confidential treatment has been granted with respect to certain portions of this exhibit. Omitted portions have been filed separately with the Commission.

** Confidential portions of this exhibit have been redacted in accordance with Item 601(b)(10) of Regulation S-K promulgated by the Commission. Omitted portions will be filed separately with the Commission upon the Commission's request.

Represents management contract or compensatory plan or arrangement.

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SIGNATURE

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

VOXELJET AG

/s/ Rudolf Franz

Name: Rudolf Franz

Title: *Chief Financial Officer*

Date: March 31, 2022

voxeljet AG

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**Report of Independent Registered Public Accounting Firm PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft**

To the Shareholders and Supervisory Board of voxeljet AG

Opinion on the Financial Statements

We have audited the accompanying consolidated statement of financial position of voxeljet AG and its subsidiaries (the “Company”) as of December 31, 2021 and 2020, and the related consolidated statements of comprehensive loss, changes in equity and cash flows for each of the two years in the period ended December 31, 2021, including the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2021 in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

We also have audited the adjustments to revise the 2019 consolidated financial statements to correct errors, as described in Note 2. In our opinion, such adjustments are appropriate and have been properly applied. We were not engaged to audit, review, or apply any procedures to the 2019 consolidated financial statements of the Company other than with respect to the adjustments and, accordingly, we do not express an opinion or any other form of assurance on the 2019 consolidated financial statements taken as a whole.

Substantial Doubt about the Company’s Ability to Continue as a Going Concern

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 2 to the consolidated financial statements, the Company has incurred recurring net losses, has incurred recurring negative cash flows from operating activities, significant financial obligations becoming due, that raise substantial doubt about its ability to continue as a going concern. Management’s plans in regard to these matters are also described in Note 2. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits of these consolidated financial statements in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Recognition and Valuation of Embedded Derivative Financial Instruments

As described in Notes 5 and 12 to the consolidated financial statements, the Company has recognized embedded derivative financial assets amounting to kEUR 2,826 and embedded derivative financial liabilities amounting to kEUR 516 (collectively referred to as the “embedded derivative financial instruments”), which are presented as current assets and non-current liabilities, respectively. The embedded derivative financial instruments, which are embedded in Tranche A and B1 of the loan granted in EUR by the European Investment Bank (the “EIB”), are required to be bifurcated and accounted for separate from the host contract because their value is dependent on the share price of the Company, which is not clearly and closely related to the host contract. The embedded derivative financial instruments are revalued at each balance sheet date, with changes in their fair value recorded within financial result of the consolidated statements of comprehensive loss. The fair value of the embedded derivative financial instruments, which are not traded in an active market, is determined by management using valuation techniques which are dependent on inputs such as share prices, share volume, discount rates and foreign currency exchange rates. Finance income (Tranche A and B1) resulting from the revaluations described above amounted to kEUR 752 for the year ended December 31, 2021. The deferred tax assets and liabilities resulting from the temporary differences from the respective tax base amount to kEUR 791 for Tranche A (deferred tax liability) and kEUR 144 for Tranche B (deferred tax asset).

The principal considerations for our determination that performing procedures relating to the recognition and valuation of embedded derivative financial instruments is a critical audit matter are that there is significant judgment and estimation by management when evaluating the recognition and valuation of the embedded derivative financial instruments. This in turn led to a high degree of auditor judgement, subjectivity, and effort in performing procedures to evaluate management’s conclusion on the recognition and valuation of the embedded derivative financial instruments. Furthermore, the audit effort involved the use of professionals with specialized skill and knowledge to assist in performing these procedures and evaluating the audit evidence obtained. As disclosed by management, a material weakness existed related to this matter.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included, among others,

- i. executing audit procedures regarding the appropriateness of the recognition and valuation of the embedded derivative financial instruments as they were bifurcated from the host contract, the valuation techniques used as well as the reasonableness of management’s assumptions and estimates included in the calculation of fair values of the embedded derivative financial instruments,
- ii. evaluating management’s process for determining the fair values of the embedded derivative financial instruments as well as the recognition of deferred tax assets and liabilities on the embedded derivative financial instruments,
- iii. evaluating the appropriateness of valuation techniques used as well as the reasonableness of management’s assumptions and estimates included in the calculation of fair values of the embedded derivative financial instruments,
- iv. evaluating the quantitative factors (which consider share prices, discount rates and currency exchange rates) used by the Company in the calculation of the fair values of the embedded derivative financial instruments to source data provided by the Company and/or to externally available data,
- v. evaluating the compliance of the underlying assumptions and input factors used in the fair value calculations performed by the Company for the determination of the fair values of the embedded

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- derivative financial instruments with the terms of the loan agreements, including the correct application of the formulas used in the fair value calculations,
- vi. assessing the permanence of methods used for the determination of deferred tax assets and liabilities on the embedded derivative financial instruments and
 - vii. evaluating management's assessment to the disclosure requirements in reference to the embedded derivative financial instruments including their maturity and the Company's compliance with financial covenants referenced in the agreement with the EIB.

Munich, Germany
March 31, 2022

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

/s/ Sebastian Stroner
Wirtschaftsprüfer
(German Public Auditor)

/s/ ppa. Martin Veit
Wirtschaftsprüfer
(German Public Auditor)

We have served as the Company's auditor since 2020.

Report of Independent Registered Public Accounting Firm KPMG AG Wirtschaftsprüfungsgesellschaft

To the Stockholders and Supervisory Board
voxeljet AG:

Opinion on the Consolidated Financial Statements

We have audited, before the effects of the adjustments for the correction of the errors and retrospective adjustments described in Note 2, the accompanying consolidated statements of comprehensive loss, changes in equity, and cash flows for the year ended December 31, 2019, and the related notes (collectively, the consolidated financial statements) of voxeljet AG and subsidiaries (the Company). The 2019 consolidated financial statements before the effects of the adjustments described in Note 2 are not presented herein. In our opinion, except for the errors and retrospective adjustments described in Note 2, the consolidated financial statements present fairly, in all material respects, the results of the Company's operations and its cash flows for the year ended December 31, 2019, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

We were not engaged to audit, review, or apply any procedures to the adjustments for the correction of the errors or retrospective adjustments described in Note 2, and accordingly, we do not express an opinion or any other form of assurance about whether such adjustments are appropriate and have been properly applied. Those adjustments were audited by other auditors.

Going Concern

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 2 to the consolidated financial statements, the Company has suffered recurring losses and negative cash flows from operations and has breached debt covenants as of December 31, 2019 that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 2. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

Our audit included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audit provides a reasonable basis for our opinion.

/s/ KPMG AG Wirtschaftsprüfungsgesellschaft

We served as the Company's auditor from 2007 to 2020.

Munich, Germany
May 7, 2020

voxeljet AG

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

	Notes	December 31,	
		2021	2020
		(€ in thousands)	
Current assets		42,748	28,137
Cash and cash equivalents	3	7,027	5,324
Financial assets	3, 12	18,522	5,351
Trade receivables	3, 7	6,107	4,680
Inventories	8	9,482	11,394
Income tax receivables		23	31
Other assets		1,587	1,357
Non-current assets		24,711	25,090
Financial assets	3, 12	4	5
Intangible assets	10	878	1,143
Property, plant and equipment	10, 21	23,719	23,774
Investments in joint venture		--	27
Other assets		110	141
Total assets		67,459	53,227

	Notes	December 31,	
		2021	2020
		(€ in thousands)	
Current liabilities		21,716	26,215
Trade payables	3	2,594	1,956
Contract liabilities	3	2,132	2,911
Financial liabilities	3, 12, 20	14,882	19,770
Other liabilities and provisions	11	2,108	1,578
Non-current liabilities		13,256	7,371
Deferred tax liabilities		87	52
Contract liabilities	3	231	-
Financial liabilities	3, 12, 20	12,938	7,314
Other liabilities and provisions	11	--	5
Equity		32,487	19,641
Subscribed capital	25	7,027	4,836
Capital reserves	25	110,264	88,748
Accumulated deficit	3	(85,974)	(75,463)
Accumulated other comprehensive income		1,400	1,675
Equity attributable to the owners of the company		32,717	19,796
Non-controlling interests		(230)	(155)
Total equity and liabilities		67,459	53,227

See accompanying notes to these consolidated financial statements.

voxeljet AG

CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

	Notes	Year Ended December 31,		
		2021	2020	2019 ^{(1) (2)}
		(€ in thousands, except share and per share data)		
Revenues	3, 18	24,826	21,567	24,602
Cost of sales	13	(16,876)	(14,812)	(17,426)
Gross profit		7,950	6,755	7,176
Selling expenses		(6,420)	(5,816)	(7,118)
Administrative expenses		(6,577)	(6,407)	(6,952)
Research and development expenses		(6,149)	(6,500)	(7,212)
Other operating expenses	14	(618)	(2,799)	(945)
Other operating income	14	2,970	1,603	2,143
Operating loss		(8,844)	(13,164)	(12,908)
Finance expense	15	(2,601)	(2,589)	(1,349)
Finance income	15	924	184	318
Financial result	15	(1,677)	(2,405)	(1,031)
Loss before income taxes		(10,521)	(15,569)	(13,939)
Income tax (expense) income	16	(65)	88	(39)
Net loss		(10,586)	(15,481)	(13,978)
Other comprehensive income (loss) that may be reclassified subsequently to profit or loss		(304)	933	(577)
Total comprehensive loss		(10,890)	(14,548)	(14,555)
Loss attributable to:				
Owner of the Company		(10,511)	(15,339)	(13,714)
Non-controlling interests		(75)	(142)	(264)
		(10,586)	(15,481)	(13,978)
Total comprehensive loss attributable to:				
Owner of the Company		(10,815)	(14,406)	(14,291)
Non-controlling interests		(75)	(142)	(264)
		(10,890)	(14,548)	(14,555)
Weighted average number of ordinary shares outstanding		6,302,458	4,836,000	4,836,000
Loss per share - basic/diluted (EUR)		(1.68)	(3.20)	(2.89)

See accompanying notes to these consolidated financial statements.

⁽¹⁾ Comparative figures for the year ended December 31, 2019 were revised related to the amendment of classification of short-term investments. For further information, see Note 2 “Preparation of financial statements” to the consolidated financial statements.

⁽²⁾ Comparative figures for the year ended December 31, 2019 were revised related to the recalculation of the performance participation interest related to the Finance Contract (the “Finance Contract”) with the European Investment Bank (the “EIB”). For further information, see Note 2 “Preparation of financial statements” to the consolidated financial statements.

voxeljet AG

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(€ in thousands)

	Attributable to the owners of the company				Total	Non-controlling interests	Total equity
	Subscribed capital	Capital reserves	Accumulated deficit	Accumulated other comprehensive gain (loss)			
Balance at January 1, 2019 ^{(1) (2) (3)}	4,836	86,803	(46,410)	1,320	46,549	35	46,584
Loss for the period ^{(1) (2)}	--	--	(13,714)	--	(13,714)	(264)	(13,978)
Foreign currency translations	--	--	--	(578)	(578)	--	(578)
Equity-settled share-based payment	--	671	--	--	671	--	671
Share-based payment transaction with the non-controlling shareholder of a subsidiary	--	603	--	--	603	216	819
Balance at December 31, 2019 ^{(1) (2)}	4,836	88,077	(60,124)	742	33,531	(13)	33,518
Loss for the period	--	--	(15,339)	--	(15,339)	(142)	(15,481)
Foreign currency translations	--	--	--	933	933	--	933
Equity-settled share-based payment	--	671	--	--	671	--	671
Balance at December 31, 2020	4,836	88,748	(75,463)	1,675	19,796	(155)	19,641
Loss for the period	--	--	(10,511)	--	(10,511)	(75)	(10,586)
Foreign currency translations	--	--	--	(304)	(304)	--	(304)
Issue of ordinary shares in the form of ADS, net of transaction costs and tax	2,191	21,212	--	--	23,403	--	23,403
Equity-settled share-based payment	--	304	--	--	304	--	304
Change in deferred tax asset	--	--	--	29	29	--	29
Balance at December 31, 2021	7,027	110,264	(85,974)	1,400	32,717	(230)	32,487

See accompanying notes to these consolidated financial statements.

(1) Comparative figures for the year ended December 31, 2019 were revised related to the amendment of classification of short-term investments. For further information, see Note 2 “Preparation of financial statements” to the consolidated financial statements.

(2) Comparative figures for the year ended December 31, 2019 were revised related to the recalculation of the performance participation interest related to the Finance Contract with the EIB. For further information, see Note 2 “Preparation of financial statements” to the consolidated financial statements.

(3) The Company has initially applied IFRS 16 as of January 1, 2019, using the modified retrospective approach. Under this approach, comparative information is not restated and the cumulative effect of initially applying IFRS 16 is recognized in retained earnings at the date of initial application. For further information, see Form 20-F filed with the SEC on May 7, 2020, Part III, Item 18. Financial Statements, Note 3 “Summary of significant accounting policies” to the consolidated financial statements.

voxeljet AG
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
	2021	2020	2019 ⁽¹⁾⁽²⁾
	(€ in thousands)		
Cash Flow from operating activities			
Loss for the period	(10,586)	(15,481)	(13,978)
Depreciation and amortization	3,100	3,442	4,211
Foreign currency exchange differences on loans to subsidiaries	(1,200)	1,466	(828)
Changes in financial assets due to fair value valuation	291	11	(174)
Share-based compensation expense	305	671	671
Change in impairment of trade receivables	99	29	15
Non-cash expense on financial liabilities	1,976	1,505	874
Change in fair value of derivative equity forward	(752)	715	106
Change in inventory allowance	851	(1)	(21)
Interest paid	263	258	320
Interest received	(85)	(92)	(93)
Loss on disposal of intangibles and property, plant and equipment	17	42	354
Other	92	63	92
Change in working capital	(908)	774	1,859
Trade and other receivables, inventories and current assets	(1,375)	1,501	(759)
Trade payables	585	(781)	358
Other liabilities, contract liabilities and provisions	(82)	(417)	2,286
Change in restricted cash	(44)	463	--
Income tax payable/receivables	8	8	(26)
Total	(6,537)	(6,598)	(6,592)
Cash Flow from investing activities			
Payments to acquire property, plant and equipment and intangible assets	(1,041)	(139)	(1,100)
Proceeds from disposal of financial assets	--	4,962	8,373
Payments to acquire financial assets	(10,486)	(994)	(2,725)
Interest received	85	92	93
Total	(11,442)	3,921	4,641
Cash Flow from financing activities			
Change in security deposit	16	--	--
Repayment of lease liabilities	(334)	(412)	(397)
Repayment of long-term debt	(1,004)	(863)	(969)
Proceeds from issuance of long-term debt	--	5,000	529
Proceeds from issuance of shares	26,619	--	--
Share issue cost	(3,217)	--	--
Change in restricted cash	(2,298)	--	--
Interest paid	(263)	(258)	(320)
Total	19,519	3,467	(1,157)
Net increase (decrease) in cash and cash equivalents	1,540	790	(3,108)
Cash and cash equivalents at beginning of period	5,324	4,368	7,402
Changes to cash and equivalents due to foreign exchanges rates	163	166	74
Cash and cash equivalents at end of period	7,027	5,324	4,368

See accompanying notes to these consolidated financial statements.

(1) Comparative figures for the year ended December 31, 2019 were revised related to the amendment of classification of short-term investments. For further information, see Note 2 "Preparation of financial statements" to the consolidated financial statements.

(2) Comparative figures for the year ended December 31, 2019 were revised related to the recalculation of the performance participation interest related to the Finance Contract with the EIB. For further information, see Note 2 "Preparation of financial statements" to the consolidated financial statements.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

Basis of preparation

1. The reporting entity

voxeljet AG (in the following referred to as ‘voxeljet’, ‘Group’, or the ‘Company’) is a high-tech company headquartered in Friedberg, Germany which is listed on the NASDAQ Capital Market (“the NASDAQ”). The Company consists of voxeljet AG, voxeljet America Inc. (*voxeljet America*), voxeljet UK Ltd. (*voxeljet UK*), voxeljet India Pvt. Ltd (*voxeljet India*) and voxeljet China Co. Ltd. (*voxeljet China*). voxeljet AG owns 100% of the issued and outstanding shares of voxeljet America, voxeljet UK and voxeljet India, as well as 70.00% of voxeljet China. In December 2020, management initiated the wind-up of voxeljet UK, which was finalized on February 17, 2022. For further information, see Note 9 to the consolidated financial statements. The former minority shareholder of voxeljet China, Suzhou Meimai.

Fast Manufacturing Technology Co., Ltd. (“Meimai”), on September 1, 2021 transferred half of its equity interest in voxeljet China, or 15% of voxeljet China’s equity, to its shareholder MK Holding GmbH and the remaining half of its equity interest, or 15% of voxeljet China’s equity to its shareholder Mr. Jin Tianshi, the managing director of voxeljet China.

The Company’s American Depositary Shares (“ADSs”) were listed on the New York Stock Exchange (the “NYSE”) from October 2013 to August 2020, and have been listed on the NASDAQ since August 2020, under the ticker symbol “VJET.”

As a manufacturer of three-dimensional (“3D”) printing systems, voxeljet specializes in the development, production and distribution of industrial printing machines and the production and sale of customized printed products to industrial customers. The Company operates in two business divisions: Systems and Services.

The voxeljet Systems business division develops, manufactures and sells innovative 3D printers. Today, voxeljet has a product range that reaches from smaller entry models to large-format machines, and therefore offers 3D printer systems for a wide range of application areas.

Through its Services business division, the Company offers customized printed products such as sand molds and plastic models based on CAD data through its “on-demand production” service centers. In addition, the Company offers casting services to its customers. In those cases, the casting process is performed by external suppliers supported by voxeljet’s molds and models. Small-batch and prototype manufacturers utilize the Company’s machines for the automatic, patternless manufacture of their casting molds and 3D models. The Company’s customer base includes automotive manufacturers, aerospace industries, foundries and suppliers as well as companies from the arts and design industries as well as universities and research institutes.

2. Preparation of financial statements

The consolidated financial statements of the Group have been prepared in accordance with International Financial Reporting Standards (IFRS) as set forth by the International Accounting Standards Board (IASB) and interpretations of the IFRS Interpretations Committee (IFRIC).

The consolidated financial statements were authorized for issue by the Management Board on March 31, 2022.

These consolidated financial statements were prepared on the basis of historical cost except for the following items, which are measured on an alternative basis on each reporting date.

Debt securities at fair value through profit or loss	Fair value
Non-derivative financial instruments at fair value through profit or loss	Fair value
Derivative financial instruments at fair value through profit or loss	Fair value

The consolidated financial statements are presented in thousands of Euros (kEUR) except where otherwise stated. Due to rounding, numbers presented throughout these notes may not add up precisely to the totals provided and percentages may not precisely reflect the absolute figures.

Going concern

The financial statements have been prepared on the basis of going concern which contemplates continuity of normal business activities and the realization of assets and settlement of liabilities in the ordinary course of business.

voxeljet has recognized continuous net losses during the years 2021, 2020 and 2019 amounting to kEUR 10,586, kEUR 15,481 and kEUR 13,978, respectively. Additionally, voxeljet had negative cash flows from operating activities in 2021, 2020 and 2019 of kEUR 6,537, kEUR 6,598, kEUR 6,592, respectively, mainly due to continuous net losses.

The impacts from the global outbreak of COVID-19, like lower demand in both, the Systems and the Services segment due to postponements of larger investments and lower business activities from voxeljet's clients, or travel restrictions which prohibited or hindered visits to the Company's customers, almost disappeared during the fiscal year 2021. The worldwide market demand recovered to the same level compared to before the outbreak of the pandemic and the Company is able to offer installations and service visits in most regions of the world. In spite of the recovery as well as the positive trends, the continuing prevalence of the COVID-19 pandemic in certain countries as well as globally continues to pose the risk and likelihood for further lockdowns, travel restrictions and drops in demand. Further actions taken by government institutions, such as lockdowns, could result in a decrease in market demand, which could potentially result in lower cash inflows.

In January 2021, the Company successfully completed its registered direct offering and sale of 621,170 ordinary shares in the form of ADSs at a purchase price of € 13.33 per share (this equals \$16.16 per ordinary share based on the exchange rate as of the close of business in New York on January 14, 2021). This provided voxeljet with gross proceeds of the offering amounting to approximately \$10 million (€ 8.3 million) before deducting fees and expenses. In February 2021, the Company completed another registered direct offering and sale of 443,414 ordinary shares in the form of ADSs at a purchase price of € 22.27 per ordinary share (this equals \$26.95 per ordinary share based on the exchange rate as of the close of business in New York on February 9, 2021). This provided voxeljet with gross proceeds of the offering amounting to approximately \$12 million (€ 9.9 million) before deducting fees and expenses. Furthermore, in July 2021, the Company has successfully completed its registered direct offering and sale of 1,126,127 ordinary shares in the form of ADSs at a purchase price of € 7.52 per share (this equals \$8.88 per ordinary share based on the exchange rate as of the close of business in New York on July 14, 2021). This provided voxeljet with gross proceeds of the offering amounting to approximately \$10 million (€ 8.5 million) before deducting fees and expenses.

Those capital increases improved the Company's liquidity as well as equity ratio significantly. In spite of this success, voxeljet has significant financial obligations, related to the repayment of tranche A including the performance participation interest from the loan received from the EIB. Tranche A will become due in December 2022 amounting to € 14.6 million reduced or increased by fair value changes of the performance participation interest. Additionally, the Company has to ensure, compliance with all covenants, in the Finance Contract, including a Minimum Cash/Cash Equivalents requirement (the "Minimum Cash Covenant"). Management is taking several steps to mitigate the situation. Currently management is in discussion with the EIB in order to agree upon a drawn down of tranche B2 and tranche C of the loan amounting to € 10.0 million and therefore restructure the debt. Moreover, management is taking further steps to raise further funds which may include debt or equity financing, not without mentioning that there can be no assurance that voxeljet will be able to raise further funds on terms favorable to the Company, if at all.

The ongoing conflict between Russia and Ukraine raises further risks and uncertainties. The heightened use of trade restrictions and sanctions, including tariffs or prohibitions on technology transfers to achieve diplomatic ends could impact voxeljet's ability to conduct its business as planned. A spill-over of the conflict to neighboring countries, the European Union or NATO members, could result into further adverse impacts on the Company's business, like a drop in market demand, price increases for raw materials and energy or delays in the global supply chain.

These events and conditions described above raise material uncertainties that may cast significant doubt upon voxeljet's ability to continue as a going concern. Despite the ongoing losses, reduced cash flow and cash facilities as well as the significant financial obligations becoming due, management assumes that voxeljet will continue as a going concern. However, while management assumes of continuing as a going concern, the going concern is dependent upon management and the Company being successful in:

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- successful negotiations with the EIB over the draw down of tranche B2 and tranche C under the Finance Contract
- achievement of budgeted sales
- successful fund raising in form of equity or debt

If these dependencies are not successfully achieved, management would consider the sale of voxeljet AG's properties to raise sufficient funds for continuing the business as a going concern.

Those assumptions are included in the Company's current liquidity forecasts and management believes that the Company has the ability to meet its financial obligations for at least the next 12 months from the authorization for issuance of these consolidated financial statements as of and for the year ended December 31, 2021 by the Management Board on March 31, 2022 and therefore continues as a going concern.

As a U.S. SEC registrant, the Company is required to have its financial statements audited in accordance with Public Company Oversight Board ("PCAOB") standards. References in these IFRS financial statements to matters that may cast significant doubt about the Company's ability to continue as a going concern also raise substantial doubt as contemplated by the PCAOB standards.

Impairment test

Non-financial assets are tested for impairment if there are indicators that the carrying amounts may not be recoverable, or as of year end if no impairment indicators are present. Therefore, the Company performed an impairment test for the non-financial assets for the end of the reporting period. An impairment loss is recognized in the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is defined as the higher of an asset's fair value less cost to sell and its value in use. As individual assets do not generate largely independent cash flows, impairment testing is performed at the cash generating unit level. An individual fixed asset within a CGU cannot be written down below fair value less cost incurred to sell the individual asset. The impairment test, performed by management, did not lead to any write downs.

Revision to prior periods for correction of immaterial errors and retrospective adjustments to presentations and disclosures

All corrections and adjustments stated below were performed within the fiscal year 2020.

a) Amendment of classification of short-term investments

In the first quarter of 2020, the Company amended the classification of short-term investments included in current financial assets. Before the amendment, those short-term investments have been classified in the category at fair value through OCI ("FVOCI").

The new classification shall be the category at fair value through profit and loss ("FVTPL"). Accordingly, prior periods have been revised, which led to movements between profit and loss and other comprehensive income as the changes in fair value are now presented within finance income or expense.

b) Recalculation of performance participation interest related to the Finance Contract with the EIB

In the first quarter of 2020, the Company recalculated the performance participation interest related to the Finance Contract with the EIB, due to a mistake in the calculation logic. Accordingly, prior periods have been revised, which led to adjustments in non current financial assets, deferred tax liabilities as well as equity.

c) Impacts of amendment and recalculation

Due to the amendments and recalculations, which are described above, the opening balance as of January 1, 2019 of non current financial assets as well as deferred tax liabilities have increased by kEUR 151 and kEUR 43, respectively. The opening balance as of January 1, 2019 of accumulated deficit increased by kEUR 10, whereas the

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opening balance of accumulated other comprehensive gain increased by kEUR 118. As a result, the loss for the year ended December 2019 decreased by kEUR 253.

As of December 31, 2019, non current financial assets as well as deferred tax liabilities have increased by kEUR 260 and kEUR 73, respectively. For the period ending December 31, 2019 the balance of accumulated deficit decreased by kEUR 243, whereas the balance of accumulated other comprehensive gain decreased by kEUR 56.

The loss for the three months ended December 2019 was increased by kEUR 93 whereas net changes in fair value of debt investments at FVOCI was increased by kEUR 14. For the year ended December 2019 the loss was reduced by kEUR 253 whereas net changes in fair value of debt investments at FVOCI was reduced by kEUR 174.

The Company has evaluated the effect of these amendments, both qualitatively and quantitatively, and concluded that the change did not have a material impact on, nor require amendment of, any previously filed financial statements. Affected financial statement line items for prior periods are appended with a footnote.

d) Retrospective adjustments to presentations and disclosures of prior period information

Additionally, the Company has applied retrospective adjustments to presentations and disclosures of prior period information within the following footnotes:

- Consolidated statements of cash flow:

The Company has revised the presentation of interest paid and interest received for the year ended December 31, 2019, previously disclosed under supplemental cash flow information, now presented in cash flow from operating activities, cash flow from investing activities and cash flow from financing activities, respectively. Further, the Company has revised the presentation of changes in financial assets due to fair value valuation as well as change in fair value of derivative equity forward for the year ended December 31, 2019 related to the amendment of classification of short-term investments and the recalculation of performance participation interest related to the Finance Contract with the EIB. As a consequence, the line item others has also been revised.

- Note 12. Additional disclosures to financial instruments:

The Company has changed the categorization of the fair value of long-term debt in financial liabilities as of December 31, 2019 from level 2 to level 3.

- Note 19. Financial risk management:

The Company revised the table contractual cash out flow as of December 31, 2019 regarding the three to five years bucket by including the cash outflow of kEUR 2,918 from the performance participation interest related to tranche A of the loan granted by the EIB.

- Note 24. Related party transactions:

The Company has included Michele Neuber for his employment as working student within the related party disclosure. His father Volker Neuber has served as a member of voxeljet's supervisory board since July 2020.

3. Summary of significant accounting policies

The principal accounting policies applied in the preparation of these financial statements are set out below. Except as described below, these policies have been consistently applied to all years presented.

Consolidation

Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases.

Intercompany balances and transactions are eliminated in preparing the consolidated financial statements.

A joint venture is an arrangement in which the Group has joint control, whereby the Group has rights to the net assets of the arrangement, rather than rights to its assets and obligations for its liabilities. Interests in the joint venture are accounted for using the equity method. They are initially recognized at cost, which includes transaction costs. Subsequent to initial recognition, the consolidated financial statements include the Group's share of the profit or loss and other comprehensive income of equity-accounted investees, until the date on which significant influence or joint control ceases.

Revenues from contracts with customers

The Company estimates the transaction price at contract inception, including any variable consideration. The revenue is measured at the transaction price agreed under the contract, net of discount. In most cases, the consideration is due when legal title has been transferred. Where the contracts include multiple performance obligations, the transaction price is allocated to each performance obligation based on a relative stand-alone selling price. List prices are considered as the stand-alone selling price of the product.

Under IFRS 15, the Company recognizes revenue on the maintenance contracts based on the input method, such as the number of service visits or the provision of certain goods, in particular printheads, to measure the progress that depicts the transfer of control of the goods or services to the customer toward complete satisfaction of a performance obligation over time. Therefore, the expected number of service visits and goods to be provided under a contract have been estimated by the Company's service department based on historical experience.

Revenue on the sale of new or refurbished 3D printers is recognized at the point in time after completed installation of 3D printers at the customer site and evidenced through final acceptance by the customer. Customers obtain control of the 3D printers when the customers have accepted the assets. Refurbished 3D printers usually were produced for and used in our Services segment. On average, these refurbished printers have been operating within a voxeljet service center for 1.5 to 2.5 years prior to their sale. Before these 3D printers are sold, they are fully refurbished and a new printhead is installed. The cost of sales include the residual value as well as the costs related to the refurbishment.

The Group provides customers with statutory warranty on all 3D printers for one year. The warranty presents assurance-type warranty and is not treated as a separate performance obligation. After the initial one-year warranty period, the Group offers its customers optional maintenance contracts, which are accounted for as separate performance obligations.

The Company, from time to time, offers to customers, to operate their purchased 3D printer and perform 3D printing on custom-ordered printed products for a temporary period before the customers' facility is configured according to required technical specifications. The Company recognizes revenue for the use of space on Company premises over time under the term of the contracts. The Company recognizes revenue from the sale of customized printed products from the customer's purchased 3D printer, upon transfer of control of ownership to the customers, generally upon shipment.

Revenue on the sale of customized printed products is recognized at the point in time when the control of ownership of the assets is transferred to the customers, generally upon shipment.

Shipping, packaging and handling costs billed to customers for the sales of customized printed products and consumables are not considered as a separate performance obligation. The Company recognized the gross revenue at the point in time as the service is provided, i.e. upon shipment. Costs incurred by the Company associated with shipping, packaging and handling are included in selling expenses in the consolidated statements of comprehensive loss.

Invoices from revenue streams, besides the sale of new or refurbished 3D printers are usually payable within 30 to 60 days. The Company also recognizes that longer payment periods are customary in some countries where it transacts business. To reduce credit risk in connection with machine sales, the Company may, depending upon the circumstances, requires advance payments prior to shipment. On the sale of new or refurbished 3D printers, the Company generally requires advance payments prior to shipment and requires international customers to furnish letters

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of credit. These advance payments are recognized as contract liabilities. Maintenance contracts are generally billed to customers in advance on a monthly, quarterly, or annual basis, and are initially recorded as a contract liability as the Company has an enforceable right to payment after the contract has been signed.

It is the Group's policy that it does not offer products to the end customer with a right of return. Therefore, neither a refund liability nor a right to the returned goods are recognized.

A contract liability is recognized when the Company has received consideration (i.e. advance payment) from customers before satisfying a performance obligation or has an unconditional right to payment under a non-cancellable contract before it transfers the related goods or services to the customer under maintenance and extended warranty contracts. The extended warranty is considered as service-type warranty and therefore accounted as a separate performance obligation.

The contract liabilities primarily relate to (1) the advance consideration received from customers before satisfying a performance obligation, or an unconditional right to payment under a non-cancellable contract before it transfers the related goods or services to the customer under maintenance contracts, for which revenue is recognized over time; and (2) the advance consideration received from customers for the sale of new or refurbished 3D printers, for which revenue is recognized when the customer has accepted the assets. The total amount of unfulfilled performance obligations for 3D printer sales is € 3.9 million. The Company expects to realize the entire amount in 2022. The amount of kEUR 2,742 included in contract liabilities at December 31, 2020 has been recognized as revenue in 2021 (2020: kEUR 772). Management expects that 90% (kEUR 2,131) of the transaction price allocated to unsatisfied performance obligations as of December 31, 2021 will be recognized as revenue during the next reporting period. The remaining 10% (kEUR 230) will be recognised in the 2023 fiscal year.

In the following table, revenue from contracts with customers is disaggregated by primary geographical market, and timing of revenue recognition. The table also includes a reconciliation of the disaggregated revenue with the Group's reportable segments (see Note 18).

	Year ended December 31,					
	SYSTEMS			SERVICES		
	2021	2020	2019	2021	2020	2019
Primary geographical markets						
EMEA	6,646	5,926	4,951	5,582	5,540	6,314
Asia Pacific	6,099	3,612	5,371	1,008	909	931
Americas	2,983	3,018	3,132	2,508	2,562	3,903
	15,728	12,556	13,454	9,098	9,011	11,148
Timing of revenue recognition						
Products transferred at a point in time	14,634	11,366	12,332	9,098	9,011	11,148
Products and services transferred over time	1,094	1,190	1,122	--	--	--
Revenue from contracts with customers	15,728	12,556	13,454	9,098	9,011	11,148

In 2021, voxeljet leased zero 3D printers (2020: one 3D printer and 2019: two 3D printers) to customers under operating leases. Rental income is recognized on a straight-line basis over the term of the lease as revenue and is reported within the Systems segment.

Financial instruments

Financial instruments are contracts that give rise to a financial asset in one entity and a financial liability or equity instrument in another entity. voxeljet recognizes financial assets and financial liabilities in the balance sheet when an entity of the Group becomes a contractual party to the financial instrument.

All customary purchases and sales of financial assets are recognized on the trading date, i.e. the date on which the Company enters into the obligation to purchase the asset.

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Financial assets and financial liabilities are generally reported at gross value. Netting only applies if the offsetting of the amounts is legally enforceable and it is intended to actually offset them. In general, voxeljet does not intend to offset any amounts.

Initial measurement

At initial recognition, voxeljet measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transactions costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed immediately. A trade receivable without a significant financing component is initially measured at the transaction price.

Financial liability is initially measured at its fair value minus, in the case of a financial liability not at fair value through profit or loss, transactions costs that are directly attributable to the issue of the financial liability. Transaction costs of financial liabilities carried at fair value through profit or loss are expensed immediately.

Classification and subsequent measurement of financial assets and financial liabilities

Under IFRS 9, on initial recognition, a financial asset is classified as measured at: amortized cost (AC), fair value through other comprehensive income (FVOCI), or fair value through profit or loss (FVTPL). The classification of financial assets under IFRS 9 is generally based on the business model in which a financial asset is managed and its contractual cash flow characteristics.

A financial asset is measured at amortized cost (AC) if it meets both of the following conditions and is not designated as at FVTPL:

- it is held within a business model whose objective is to hold financial assets to collect contractual cash flows; and
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

A financial debt instrument is measured at fair value through other comprehensive income (FVOCI) if it meets both of the following conditions and is not designated as at FVTPL:

- it is held within a business model whose objectives are both to hold financial assets to collect contractual cash flows and to sell financial assets; and
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

On initial recognition of an equity investment that is not held for trading, the Company may irrevocably elect to record subsequent changes in the investment's fair value in OCI (FVOCI) without recycling. This election is made on an investment-by-investment basis. The company has not utilized the option to record subsequent changes in the equity investment's fair value in OCI (FVOCI) as of December 31, 2021 and 2020.

All financial assets not classified as measured at amortized cost or FVOCI as described above are measured at FVTPL. This includes all derivative financial assets. On initial recognition, the Company may irrevocably designate a financial asset that otherwise meets the requirements to be measured at amortized cost or at FVOCI as at FVTPL if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise. The company has not utilized this option as of December 31, 2021 and 2020.

Under IFRS 9, initially our short-term investments in bond funds were classified as fair value through other comprehensive income (FVOCI). In the first quarter of 2020, we amended our classification of short-term investments included in current financial assets as FVTPL. For further information, see Note 2.

On initial recognition, a financial liability is classified as measured at: amortized cost (AC) or fair value through profit or loss (FVTPL).

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A financial liability is measured at amortized cost (AC) unless it is either held for trading or designated as at FVTPL. Financial liability is subsequently measured at amortised cost using the effective interest method, which allocates interest expense at a constant rate over the term of the instrument. The effective interest rate of a financial liability is calculated at initial recognition and is the rate that exactly discounts the expected cash flows through the expected life of the financial liability.

The Company may irrevocably designate a financial liability as measured at FVTPL which is either managed on a portfolio basis and its performance is evaluated on a fair value basis, or if its designation would eliminate or significantly reduce an accounting mismatch that would otherwise arise or if it is a hybrid instrument that contains one or more embedded derivatives. The company has not utilized this option as of December 31, 2021 and 2020.

Recognition of gains and losses (by category)

The recognition of gains and losses of voxeljet's financial assets is based on their classification:

- At amortized cost: Interest income from these financial assets is reported in the financial income using the effective interest method. Gains and losses on derecognition are recorded in the income statement and, considering related foreign currency gains and losses, reported under other operating income and expenses.
- At fair value through profit or loss: Gains or losses of derivative financial instruments and short term investments, which are subsequently measured at fair value through profit or loss, are included in the income statement as finance income or finance expense in the period in which they arise.

The recognition of gains and losses of voxeljet's financial liabilities depends on their classification:

- Financial liabilities at fair value through profit or loss: This category includes derivative financial instruments that are not designated as hedging instruments in accordance with IFRS 9 hedge accounting rules. Gains and losses are recognized in the income statement as finance income or finance expense in the period in which they arise.
- Financial liabilities measured at amortized cost: This category includes trade payables and interest-bearing loans. After initial recognition, these are measured at amortized cost using the effective interest method. Gains and losses are recognized in profit or loss when the liabilities are derecognized as well as in case of amortization using the effective interest method. Amortization according to the effective interest method is included in interest expenses in the profit and loss account.

Derecognition

voxeljet derecognizes financial assets (or parts of their financial assets where applicable) when the rights to receive cash flows from the financial asset have expired or have been transferred and the Group substantially transferred all opportunities and risks associated with the ownership.

A financial liability is derecognized when the obligation under the liability is settled, cancelled or expired. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, this exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability. In case of minor changes in conditions a change in the present value will be considered in profit or loss.

Impairment of financial assets

voxeljet assesses expected credit losses associated with financial assets measured at amortized cost, lease receivables and contract assets, based on future expectations. A respective risk provision or, in case of an actual loss that already occurred, an impairment loss is recognized as other operating income or expenses.

The Company's financial assets at amortized cost consist of trade receivables, restricted cash, term deposits and cash and cash equivalents.

- General approach:

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Generally, financial assets are considered as having a low default risk at initial recognition resulting in a 12-month expected credit loss provision. In case of a significant increase in credit risk, the lifetime expected credit losses are recognized. Amongst others debtor's payment delays of more than 90 days are considered as an indicator for increase in default risk. Further, when determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating ECLs, voxeljet considers reasonable and supportable information that is relevant and available without undue cost or effort. An objective evidence of impairment is considered to be for example bankruptcy filing of the counterparty.

- Simplified approach:

For trade receivables with no significant financing component voxeljet applies the simplified approach as required by IFRS 9, which requires lifetime expected credit losses to be recognized from initial recognition of the receivables.

The expected credit losses are based on both quantitative and qualitative information and analysis, based on the Group's historical experience and third party credit risk assessment and including forward-looking information.

A default on a financial asset is when the counterparty fails to make contractual payments within 90 days of when they fall due and there are no information available, which are contradictory e.g. the counterparty commits the payment to a later time or the Company and the counterparty agreed upon a payment plan.

Financial assets are written off when there is no reasonable expectation of recovery, such as a debtor failing to engage in a repayment plan with the Company or a counterparty had declared insolvency. Where loans or receivables have been written off, the Company continues to engage in enforcement activity to attempt to recover the receivable due. Where recoveries are made, these are recognised in profit or loss.

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating ECLs, the Company considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis, based on the Group's historical experience and informed credit assessment and including forward-looking information.

voxeljet AG only recognizes expected credit losses for trade receivables based on the simplified approach.

Trade receivables

In order to measure expected credit losses, trade receivables are summarized on the basis of common credit risk characteristics and overdue days.

The Company measures loss allowances for trade receivables at an amount equal to lifetime ECLs. ECLs are a probability-weighted estimate of credit losses. The Company calculates the ECL based on the risk scoring of its customers' according to an external rating agency. Following the risk score of each customer, the trade receivables are clustered into different grades. For each grade, the ECL is determined based on the risk score received from the external rating agency and actual credit loss experience. In addition, the Company uses qualitative assessment of the trade receivables, where default has incurred. For information about the exposure to credit risk and ECLs for trade receivables as of December 31, 2021 and 2020, please refer to Note 19.

Presentation of impairment

Loss allowances for financial assets measured at amortized cost are deducted from the gross carrying amount of the assets and presented within other operating expenses or other operating income.

Other financial assets at AC

Cash and cash equivalents like short term bank deposits, restricted cash and term deposits are subject to the general approach of impairment. However, no significant ECL was identified for these financial assets due to the excellent ratings of those banks to which voxeljet entrusted its funds.

Leases

Definition of a lease

The Company assesses whether a contract is or contains a lease based on the definition of a lease. Under IFRS 16, a contract is, or contains, a lease if the contract conveys a right to control the use of an identified asset for a period of time in exchange for consideration.

At inception or on reassessment of a contract that contains a lease component, the Company allocates the consideration in the contract to each lease and non-lease component on the basis of their relative stand-alone prices.

The Company as a lessee

The Company leases assets, including properties, production equipment and vehicles. As a lessee, the Company previously classified leases as operating or finance leases based on its assessment of whether the lease transferred substantially all of the risks and rewards of ownership. Under IFRS 16, the Company recognizes right-of-use assets and lease liabilities for most leases. These leases are on-balance sheet.

However, the Company has elected not to recognize right-of-use assets and lease liabilities for some leases of low-value assets (where the value of underlying asset, when new is of EUR 5000 or less, e.g. tools) as well as short-term leases (leases with less than 12 months of lease term). The Company recognizes the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

The Company presents right-of-use assets in “property, plant and equipment”, in the same line item as it presents underlying assets of the same nature that it owns. The carrying amounts of right-of-use assets are as below:

	Property, plant and equipment			Total
	Property	Production equipment	Others	
		(€ in thousands)		
Balance at January 1, 2021	2,892	45	254	3,191
Balance at December 31, 2021	2,648	19	239	2,906

The Company presents lease liabilities within “financial liabilities” in the consolidated statements of financial position.

Leases under IFRS 16

The Company recognizes a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at an amount equal to the lease liability, unless cash flows or incentives are present before or at lease commencement which may affect the right-of-use asset.

The right-of-use asset is subsequently at cost less any accumulated depreciation and impairment losses, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the Company’s incremental borrowing rate.

The lease liability is subsequently measured at amortized cost using the effective interest method. It is remeasured when there is a change in the future lease payments arising from a change in an index or rate, a change in the estimate of the amount expected to be payable under a residual value guarantee, or as appropriate, changes in the assessment of whether it will exercise a purchase, extension or termination option.

The Company has applied judgement to determine the lease term for some lease contracts in which it is a lessee that include renewal options. The assessment of whether the Company is reasonably certain to exercise such options impacts the lease term, which significantly affects the amount of lease liabilities and right-of-use assets recognized.

The Company as a lessor

The Company leases out a small number of 3D printers. Those leases have been classified as operating leases.

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Beginning December 2021, the Company has leased out office space to a third party in Friedberg, Germany. This lease has been classified as an operating lease. The lease income from operating leases where the group is a lessor is recognized in other operating income on a straight-line basis over the lease term. Lease payments from the contract do not include any variable lease payments. The credit risk arising in connection with lease receivables is considered to be immaterial. Also residual value risk arising in connection with the underlying leased asset is considered to be immaterial.

The accounting policies applicable to the Company as a lessor are not different from those under IAS 17.

The Company is not required to make any adjustments on transition to IFRS 16 for leases in which it acts as a lessor.

Impacts on financial statements

Impacts for the period

As per our assessment under IFRS 16, as of December 31, 2021, the Company recognized kEUR 2,906 of right-of-use assets (as of December 2020: kEUR 3,191) and kEUR 3,210 of lease liabilities (as of December 31, 2020: kEUR 3,124).

Also in relation to those leases under IFRS 16, the Company has recognized depreciation and interest costs, instead of operating lease expenses. During the twelve months ended December 31, 2021, the Company recognized kEUR 651 (2020: kEUR 682, 2019: kEUR 765) of depreciation expenses and kEUR 149 (2020: kEUR 167, 2019: kEUR 190) of interest expense from these leases.

Within the statement of cash flows, cash payments for the principal portion of lease payments, as well as for the interest portion, have been classified as financing activities. Payments for short-term leases have been classified as operating activities.

Research and development expenses

All research and development costs are charged to expense as incurred as the criteria set forth in IAS 38 for capitalizing such costs have not yet been met.

Government grants

Government grants awarded for project funding are recorded within other operating income in the consolidated statement of comprehensive loss if the related research and development costs have been incurred and provided that the conditions for the funding have been met. Until then, amounts received under government grants are recorded as deferred income in the statements of financial position.

Government grants in connection with government assistance to help businesses to mitigate adverse impacts from the COVID-19 global pandemic are recognized in profit or loss on a systematic basis over the periods in which the entity recognizes as expenses the related costs for which the grants are intended to compensate, provided that the entity complies with the conditions for the funding.

Employee stock option plan

In April 2017, the Supervisory Board adopted and approved Option Plan 2017. The plan authorizes to grant shares of equity-settled stock options to employees and members of the management board. The Company's stock-based compensation expense is estimated at the grant date based on the fair value of the award and is recognized as expense ratably over the requisite service period of the award. The Company calculated the fair value of each option award on the date of grant under the Monte Carlo simulation model. The determination of the grant date fair value of the awards using a simulation model is affected by our stock price as well as assumptions regarding a number of complex and subjective variables. These variables include the expected stock price volatility over the expected life of the awards, risk-free interest rates, and expected dividends. The risk free interest rate is equal to the U.S. Treasury constant maturity rates for

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the period equal to the expected life. The Company does not currently pay cash dividends on common stock and does not anticipate doing so in the foreseeable future. Accordingly, the expected dividend yield is zero.

Foreign currencies

The financial statements are presented in Euros, the functional currency of voxeljet AG.

Monetary transactions denominated in foreign currencies are translated to Euro at the exchange rates prevailing on the transaction date. Gains and losses on foreign currency transactions are shown within other operating income and other operating expenses, respectively, in the consolidated statement of comprehensive loss.

The financial statements of foreign subsidiaries are translated using the concept of the functional currency in accordance with IAS 21. The assets and liabilities of foreign subsidiaries are translated at the spot rate at the end of the period, while their income statement items are translated at average exchange rates for the respective periods. All resulting exchange differences are recognized in other comprehensive income.

The loans provided to voxeljet AG's subsidiaries are not considered as net investments in foreign operations. Therefore, gains or losses from foreign exchange differences thereon are recognized in the statement of comprehensive loss as "other operating income or expenses".

The exchange rates that are most relevant for voxeljet's consolidated financial statements are as follows:

Average exchange rates to Euro

December 31,	Average Rate			
	USD	GBP	INR	CNY
2021	1.1827	0.8596	87.4392	7.6282
2020	1.1422	0.8897	84.6392	7.8747
2019	1.1195	0.8778	78.8361	7.7355

Year end exchange rates to Euro

December 31,	Year End Rate			
	USD	GBP	INR	CNY
2021	1.1326	0.8403	84.2292	7.1947
2020	1.2271	0.8990	89.6605	8.0225

Income Tax

Income tax expense (benefit) consists of current and deferred tax expense and benefit in accordance with IAS 12.

Current income tax expense (benefit) is based on taxable profit (loss) for the year. Taxable profit (loss) differs from profit (loss) as reported in the statements of comprehensive income (loss) because it excludes items of income or expense that are taxable or deductible in other years and further excludes items that are never taxable or deductible. Current income tax expense (benefit) is calculated using tax rates that have been enacted or substantively enacted by the end of the respective reporting period.

Current tax comprises the expected tax payable or receivable on the taxable income or loss for the year and any adjustment to the tax payable or receivable in respect of previous years. The amount of the current tax payable or receivable is the best estimate of the tax amount to be paid or received that reflects uncertainty related to income tax, if any. It is measured using tax rates enacted or substantively enacted at the reporting date.

Deferred income tax expense (benefit) is recognized on temporary differences between the carrying amounts of assets and liabilities in the statement of financial position and the corresponding tax basis used in the computation of taxable profit (loss).

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Deferred tax liabilities are generally recognized for all taxable temporary differences and deferred tax assets, including for carry forward losses to the extent that it is probable that taxable profits will be available against which deductible temporary differences can be utilized. The carrying amount of deferred tax assets is reviewed at the end of each reporting period and reduced to the extent that it is no longer more probable than not that sufficient taxable profits will be available to allow all or a part of the assets to be recovered.

Deferred tax expense (benefit) is calculated at the tax rates that are expected to apply in the periods when the liability is settled or the asset is realized, based on tax rates (and tax regulations) that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Company expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities. Deferred tax expense (benefit) is charged or credited to profit or loss, except when it relates to items charged or credited directly to equity, in which case the deferred taxation is also recorded to equity.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off tax assets against tax liabilities and when they relate to income taxes levied by the same taxation authority and the Company intends to settle its current tax assets and liabilities on a net basis.

Intangible Assets

Intangible assets, including software and licenses, that are acquired by the Company and have a finite useful life are measured at cost less accumulated amortization and any impairment losses. Amortization for intangible assets with finite useful lives is recognized on a straight-line basis over their useful lives.

The amortization of licenses is allocated to the cost of inventory and is included in cost of sales as 3D printers are sold; the amortization of software is mainly included in selling and administrative expenses.

The estimated useful economic lives of acquired intangible assets are presented in the following table:

USEFUL LIFE OF INTANGIBLE ASSETS

Software	3-5 years
Licenses	6-8 years

An intangible asset is derecognized upon disposal or when no future economic benefits are expected to arise from the continued use of the asset. Any gain or loss arising on derecognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the item) is included in profit or loss in the period in which the item is derecognized.

Property, Plant and Equipment

Property, plant and equipment is carried at acquisition or manufacturing cost (for internally manufactured printers used in the Services segment or the research and development function) and depreciated on a straight-line basis over the estimated useful lives of the related assets, taking into account estimated residual values. Except the sale of used printers, realized gains and losses are recognized upon disposal or retirement of the related assets and are reflected within other operating income or other operating expenses in the consolidated statement of comprehensive loss. Subsequent expenditures are capitalized only if it is probable that voxeljet will receive additional economic benefits from the particular asset associated with these expenditures, and the costs can be determined reliably. In those cases the assets are depreciated over their useful lives. Repair and maintenance expenditures are expensed as incurred. Land is not depreciated. Additions to property, plant and equipment relating to self-constructed 3D printers are considered non-cash transactions.

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The estimated useful economic lives of items of property, plant and equipment are as follows:

USEFUL LIFE OF PROPERTY, PLANT AND EQUIPMENT

Leasehold improvements	6-9 years
Buildings	33 years
Plant and machinery	7-8 years
Printers leased to customers under operating lease	7-8 years
Other facilities, machinery and factory equipment	2-20 years
Office equipment	3-12 years

Useful lives, depreciation methods and residual values are reviewed at least annually and, if they change significantly, depreciation charges for current and future periods are adjusted accordingly.

Inventories

Raw materials and merchandise

Raw materials are measured at the lower of acquisition cost, as determined on the weighted average costs method, and net realizable value. Obsolete inventories are written off directly into cost of sales.

Work in progress

Work in progress is measured at the lower of manufacturing cost and net realizable value. Manufacturing costs comprise all costs that are directly attributable to the manufacturing process, such as direct material and labor, and production related overheads (based on normal operating capacity and normal consumption of material, labor and other production costs), including depreciation charges. Net realizable value is defined as the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs of the sale. For purposes of determining net realizable value, selling expenses include all costs expected to be incurred to make the sale, primarily shipping, packaging and handling as well as commissions.

We also use our own printers in our service centers. Unfinished printers are generally available to be sold if a customer requests a product with a specification which can be met by one of the products in progress. Accordingly, we classify printers as inventory until we remove a finished printer from our manufacturing warehouse to use it in a service center. The reclassification as property, plant and equipment, as a non-cash transaction, occurs at cost and depreciation starts at inception of service.

We evaluate the adequacy of our inventory reserves on a periodic basis in order to determine the need for an inventory reserve.

Impairment of non-financial assets

The Company continuously assesses if there is a triggering event whether there is an indication that a non-financial asset may be impaired. Such assets are tested for impairment if there are indicators that the carrying amounts may not be recoverable. An impairment loss is recognized in the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is defined as the higher of an asset's fair value less cost to sell and its value in use. As individual assets do not generate largely independent cash flows, impairment testing is performed at the cash generating unit level. An individual fixed asset within a CGU cannot be written down below fair value less cost incurred to sell the individual asset.

Earnings (loss) per share

Basic earnings per share amounts are calculated by dividing profit (loss) by the weighted average number of ordinary shares outstanding. The weighted average number of shares is calculated by multiplying the outstanding number of shares after considering the issuance of shares in January, February, and July 2021 with its time-weighted

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portion and thereafter summing up their respective portion. Regarding the outstanding and exercisable options refer to Note 6.

	2021	2020	2019
	(in thousands of shares)		
Weighted-average number of ordinary shares at 31 December	6,302	4,836	4,836

4. New standards and interpretations not yet adopted

The IASB issued a number of new IFRS standards or amendments to existing standards which are required to be adopted in annual periods beginning after December 31, 2020.

Standard	Effective date	Descriptions
IFRS 4	01/2021	Extension of the Temporary Exemption from Applying IFRS 9
IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16	01/2021	Interest Rate Benchmark Reform
IFRS 16	04/2021	Covid-19-Related Rent Concessions
IFRS 3	01/2022	Reference to the Conceptual Framework
IAS 16	01/2022	Proceeds before intended use
IAS 37	01/2022	Onerous contracts – Cost of Fulfilling a Contract
IFRS 1, IFRS 9, IFRS 16 and IAS 41	01/2022	Annual Improvements to IFRS Standards 2018–2020 (IFRS 1, IFRS 9, IFRS 16 and IAS 41)
IFRS 17	01/2023	Amendments to IFRS 17 Insurance Contracts
IAS 1	01/2023	Classifications of Liabilities as Current or Non-Current (Amendment to IAS 1)
IAS 1	01/2023	Amendment to IAS 1 - Disclosure of Accounting Policies
IAS 8	01/2023	Amendment to IAS 8 - Definition of Accounting Estimate
IAS 12	01/2023	Amendments to IAS 12 - Deferred Taxes in Connection with Assets and Liabilities Arising from a Single Transaction

The adoption of standards effective 01/2021 and 04/2021 did not have a material impact on the financial statements as of and for the year ended December 31, 2021. The Company has not yet conclusively determined what impact the new standards, amendments or interpretations effective 01/2022 or later will have on its financial statements but does not expect they will have a significant impact.

5. Critical accounting judgment and key sources of estimation and uncertainty

In the process of applying the Company's accounting policies, Management is required to make judgments, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. These estimates and associated assumptions are based on the knowledge available as of the preparation date of the financial statements and historical experiences as well as other factors that are considered to be relevant. The estimates and underlying assumptions are reviewed on an ongoing basis.

Developments outside management's control may cause actual amounts to differ from the original estimates. In that case, the underlying assumptions and, if necessary, the carrying amounts of the pertinent assets and liabilities are adjusted accordingly. Revisions to accounting estimates are recognized in the period in which the estimate is revised, if the revision affects only that period, or in the period of the revision and future periods, if the revision affects both current and future periods.

The assumptions and estimates refer primarily to the assessment of the Company of the ability to continue as a going concern (see further discussion in Note 2), recognition of revenue, and the consideration of the renewal options of the lease contracts in determining the appropriate lease terms.

The key assumptions concerning the future and other key sources of estimation uncertainty at the end of the reporting period, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next fiscal year are discussed below.

Revenue recognition

Revenue is measured based on the consideration specified in a contract with a customer. The Group recognizes revenue when it transfers control over a good or service to a customer.

Revenue on the sale of new or refurbished 3D printers is recognized at the point in time after completed installation of 3D printers at the customer site and evidenced through final acceptance by the customer. Customers obtain control of the 3D printers when the customers have accepted the assets.

The Company recognizes revenue on the maintenance contracts for 3D printers by applying the input method to measure the progress that depicts the transfer of control of the goods or services to the customer toward complete satisfaction of a performance obligation over time. The determination of the expected number of service visits and goods to be provided under a contract require significant judgment and have been estimated by the Company's service department based on historical experience.

Recognition of derivative financial instruments

The embedded derivative financial instruments, which are embedded in Tranche A and B1 of the loan granted in Euros by the EIB, are required to be bifurcated and accounted for separately from the host contract because their value is dependent on the share price of the Company, which is not closely related to the host contract. The embedded derivative financial instruments are revalued at each balance sheet date, with changes in their fair value recorded within financial result of the consolidated statements of comprehensive loss. The fair value of the embedded derivative financial instruments, which are not traded in an active market, is determined by management using valuation techniques which are dependent on inputs such as share prices, share volume, discount rates and foreign currency exchange rates. For the year ended December 31, 2021, finance income related to Tranche A and Tranche B1 resulting from the revaluations described above amounted to kEUR 460 (2020: kEUR 93) and kEUR 292 (2020: finance expense kEUR 808), respectively.

Lease term as a lessee

The Company leases certain properties which contain extension options exercisable by the Company after the end of the non-cancellable contract period. The extension options held are exercisable only by the Company and not by the lessors. The Company assesses at lease commencement date whether it is reasonably certain to exercise the extension options. The Company reassesses whether it is reasonably certain to exercise the options if there is a significant event or significant changes in circumstances within its control.

6. Share based payment arrangements

Share option plan

On April 7, 2017, voxeljet AG established a share option plan that entitles key management personnel and senior employees of voxeljet AG and its subsidiaries to purchase shares of the parent company.

Total options available under the share option plan are 372,000. 279,000 options (75%, tranche 1) were granted on April 7, 2017. 93,000 options (25%, tranche 2) were granted on April 12, 2018.

The vesting conditions include a service condition (the options vest after a period of four years of continued service from the respective grant date) and a market condition (the options may only be exercised if the share price exceeds the exercise price over a period of 90 consecutive days by at least 20% in the period between the grant date and the respective exercise time frame) of which both conditions must be met. The options from tranche 1 and tranche 2 have an expiration date of April 7, 2027 and April 12, 2028, respectively.

The fair value of the employee share option plan has been measured for tranches 1 and 2 using a Monte Carlo simulation. The market condition has been incorporated into the fair value at grant date.

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The inputs used in the measurement of the fair value at grant date are as follows:

Parameter	Tranche 1	Tranche 2
	Share price at grant date	USD 13.80
Exercise price	USD 13.90	USD 16.15
Expected volatility	55.00%	58.40%
Expected dividends	--	--
Risk-free interest rate	2.49%	2.85%
Fair value at grant date	USD 8.00	USD 9.74

	December 31,					
	2021		2020		2019	
	Number of options	Weighted-average exercise price (USD)	Number of options	Weighted-average exercise price (USD)	Number of options	Weighted-average exercise price (USD)
Outstanding at January 1	353,400	14.46	353,400	14.46	353,400	14.46
Granted during the year	--	--	--	--	--	--
Exercised during the year	--	--	--	--	--	--
Forfeited during the year	--	--	--	--	--	--
Outstanding at December 31	353,400	14.46	353,400	14.46	353,400	14.46
Vested and exercisable at December 31	265,050	13.90	--	--	--	--

The respective expected volatility has been based on an evaluation of the historical volatility of the Company's share price as at the grant date. As at December 31, 2021 265,050 options are exercisable and 353,400 options are outstanding. The weighted-average contractual life of outstanding options at December 31, 2021 amounts to 5.5 years (December 31, 2020: 6.5 years).

The expense recognized in the statement of comprehensive loss totaled kEUR 304, kEUR 671 and kEUR 671 for the years ended December 31, 2021, 2020 and 2019, respectively.

Minority shareholding of voxeljet China

Set out below is summarized financial information for the subsidiary that has non-controlling interests that are material to the Group. The amounts disclosed for the subsidiary are based on IFRS and before inter-company eliminations.

	December 31,	
	2021	2020
	(€ in thousands)	
voxeljet China Co. Ltd.		
Summarized balance sheet		
Current assets	3,442	2,603
Current liabilities	5,195	4,351
Current net liabilities	1,753	1,748
Non-current assets	1,459	1,831
Non-current liabilities	735	852
Non-current net assets	724	979
Net liabilities	1,029	769
Accumulated NCI	(230)	(155)

	Year Ended December 31,	
	2021	2020
	(€ in thousands)	
voxeljet China Co. Ltd.		
Summarized statement of comprehensive income		
Revenue	3,843	2,179
Loss for the period	(251)	(473)
Other comprehensive income	--	--
Total comprehensive loss	(251)	(473)
Loss allocated to NCI	(75)	(142)

	Year Ended December 31,	
	2021	2020
	(€ in thousands)	
voxeljet China Co. Ltd.		
Summarized cash flows		
Cash flows from operating activities	373	(1,504)
Cash flows from investing activities	(28)	(39)
Cash flows from financing activities	36	963
Net increase/ (decrease) in cash and cash equivalents	381	(580)

On March 1, 2019, voxeljet China moved into a new facility. Also on March 1, 2019, the minority shareholder of voxeljet China Suzhou Meimai Fast Manufacturing Technology Co., Ltd., has increased its shareholding in the entity from 4.175% to 30% through an in-kind capital contribution of a lease contract on the new facility. The lease term under IFRS 16 of the contract is six years, including a rent-free period during the first three years. The transaction is accounted for as a share-based payment transaction under IFRS 2 and resulted in an increase of non-controlling interest of kEUR 216 and capital reserves of kEUR 604. The Company also recorded a right-of-use asset of kEUR 813 and the corresponding lease liability on the commencement date of the lease. The fair value of the lease contract was measured based on the market observable lease payment of comparable properties in close proximity from the voxeljet China facility.

On September 1, 2021, the minority shareholder, Meimai transferred half of its equity interest in voxeljet China, or 15% of voxeljet China's equity, to its shareholder MK Holding GmbH and the remaining half of its equity interest, or 15% of voxeljet China's equity to its shareholder Mr. Jin Tianshi, the managing director of voxeljet China.

On February 22, 2022, shortly before its expiration, the lease contract of voxeljet China was renewed for further two years, extending from March 1, 2022 to February 29, 2024. The renewal period previously agreed in the original contract was three years. The decrease in lease term is accounted as lease term reassessment in March 2022.

7. Trade receivables

Credit terms provided to customers are determined individually and are dependent on already existing customer relationships and the customer's payment history.

Impairment

This table presents the reconciliation of the loss allowance provision for trade receivables.

	Year Ended December 31,	
	2021	2020
	(€ in thousands)	
Balance at beginning of period	183	187
Additions	96	52
Utilization	(4)	(26)
Reversal	(12)	(30)
Balance at end of period	263	183

Reversal includes changes in expected loss allowance which amounted to a gain of kEUR 0 for the business year 2021 (2020: kEUR 23), and were recorded in other operating income in the Company's consolidated statements of comprehensive loss. Furthermore, reversals includes recovery of trade receivables previously reserved against, which amounted to a gain of kEUR 12 for the business year 2021 (2020: kEUR 7).

8. Inventories

Inventories consisted of the following for the years reported:

INVENTORIES BY CATEGORY

	December 31,	
	2021	2020
	(€ in thousands)	
Raw materials	2,978	3,733
Work in progress	6,504	7,661
Total	9,482	11,394

The reserve for slow-moving inventory regarding work in progress was kEUR 29 and kEUR 0 in 2021 and 2020, respectively. Related raw materials, in 2021 and 2020 of an amount of kEUR 810 and kEUR 104 have been written off, respectively, following the Company's inventory reserve policy.

9. Restructuring

voxeljet AG

At the end of 2019, a provision of kEUR 453 was made to cover the costs associated with a restructuring program announced by Management in November 2019 for the German operation. This program included the reduction of headcount mainly in production in order to adjust the capacity but also in further functions. Estimated restructuring costs mainly include employee termination benefits based on a voluntary program which started on February 17, 2020. This program has been agreed with the workers' council in a company agreement. On April 16, 2020, the voluntary program expired with the result that the desired reduction in headcount has been completely achieved through the voluntary program, and therefore the cost saving targets have been fully implemented. The provision for the restructuring was completely used within 2020.

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Line items in statement of comprehensive loss / Components of restructuring charges	Twelve months ended December 31, 2019 (€ in thousands)
Cost of sales	302
Employee termination costs	302
Selling expenses	77
Employee termination costs	77
Administrative expenses	45
Employee termination costs	45
Research and development expenses	29
Employee termination costs	29
Impact of restructuring	453

voxeljet UK

In 2019, the Company decided to consolidate 3D printing to serve all customers in Europe from the German service center and restructure the voxeljet UK entity. The restructuring included reduction in headcount and disposal of certain assets. Consequently the lease of the Milton Keynes facility was early-terminated and ended at the end of May 2020.

Line items in statement of comprehensive loss / Components of restructuring charges	Twelve months ended December 31, 2019 (€ in thousands)
Cost of sales	312
Loss on disposal of assets	226
Employee termination costs	67
Impairment of Inventories	19
Selling expenses	42
Loss on disposal of assets	20
Employee termination costs	16
Write-off right-of-use asset	6
Administrative expenses	274
Loss on disposal of assets	81
Employee termination costs	35
Lease maintenance costs	100
Settlement of agreements	14
Legal Consulting	25
Write-off right-of-use asset	19
Impact of restructuring	628

After the restructuring launched in 2019, management initiated in December 2020 the liquidation process of voxeljet UK. Following cost-benefit considerations and taking into account the subsidiary's main purpose -particularly attracting customers attention to voxeljet's products- management came to the conclusion, that it is not necessary to maintain a legal entity in the UK. The remaining employees, solely sales representatives, have been transferred to voxeljet AG and will continue to focus on selling 3D printed parts and 3D printers in the United Kingdom and Northern Europe. The wind-up will help to reduce overall costs, especially within the function administration, but not at all adversely affect the activities of the UK colleagues. The liquidation process of voxeljet UK was finalized on February 17, 2022, when upon submission of final account by liquidators to the Companies House, the affairs of voxeljet UK were fully wound up.

10. Intangible assets and property, plant and equipment

Intangible assets

	December 31,	
	2021	2020
	(€ in thousands)	
Software	565	806
Licenses	31	56
Prepayments made on intangible assets	282	281
Total	878	1,143

In 2021, prepayments amounting to kEUR 30 related to capitalized customizing cost in connection with our ERP system have been transferred to software as the project has been completed. The decrease related to software is related to the scheduled amortization partially offset by additions.

Property, plant and equipment

	December 31,	
	2021	2020
	(€ in thousands)	
Land, buildings and leasehold improvements	18,048	18,698
Plant and machinery	4,329	3,982
Other facilities, factory and office equipment	894	1,039
Assets under construction and prepayments made	448	55
Total	23,719	23,774
Thereof pledged assets of Property, Plant and Equipment	12,261	13,069

The pledged assets consist of the new office building and the new production hall, which were completed in 2017, as well as five (in 2020: seven) 3D printers that serve as collateral for certain credit lines and loan agreements. In March 2020, voxeljet pledged land and facilities located in Friedberg, Germany in favor of the EIB.

Amounts added to plant and machinery relating to self-constructed 3D printers are considered non-cash transactions, which totaled to kEUR 1,896 and kEUR 516 in the years ended December 31, 2021 and 2020, respectively.

The following table presents the composition of, and annual movement in, intangible assets and property, plant and equipment for the years 2021 and 2020, respectively:

2021

	(€ in thousands)											
	Acquisition and manufacturing cost					Accumulated depreciation and amortization					Carrying amount	
	01/01/2021	Additions	Disposals	Transfer	FX	12/31/2021	01/01/2021	Current year	Disposals	FX	12/31/2021	12/31/2021
Intangible assets												
Software	2,046	45	(61)	30	4	2,064	1,240	317	(61)	3	1,499	565
Licenses	245	--	--	--	--	245	189	25	--	--	214	31
Prepayments made on intangible assets	281	31	--	(30)	--	282	--	--	--	--	--	282
Total	2,572	76	(61)	--	4	2,591	1,429	342	(61)	3	1,713	878
Property, plant and equipment												
Land, buildings and leasehold improvements	22,463	7	(65)	59	479	22,943	3,765	984	--	146	4,895	18,048
Plant and machinery	9,660	2,327	(3,063)	--	434	9,358	5,678	1,332	(2,222)	241	5,029	4,329
Other facilities, factory and office equipment	3,976	295	(148)	--	65	4,188	2,937	442	(133)	48	3,294	894
Assets under construction and prepayments made	55	448	(1)	(59)	5	448	--	--	--	--	--	448
Total	36,154	3,077	(3,277)	--	983	36,937	12,380	2,758	(2,355)	435	13,218	23,719

The office space leased out to a third party in Friedberg, Germany has been classified as an operating lease and the proportional leased asset based on office space amounting to kEUR 911 included in land, buildings and leasehold improvements.

2020

(€ in thousands)

	Acquisition and manufacturing cost					Accumulated depreciation and amortization					Carrying amount	
	01/01/2020	Additions	Disposals	Transfer	FX	12/31/2020	01/01/2020	Current year	Disposals	FX		12/31/2020
Intangible assets												
Software	1,551	69	(26)	454	(2)	2,046	940	327	(26)	(1)	1,240	806
Licenses	245	--	--	--	--	245	162	27	--	--	189	56
Prepayments made on intangible assets	662	89	(16)	(454)	--	281	--	--	--	--	--	281
Total	2,458	158	(42)	--	(2)	2,572	1,102	354	(26)	(1)	1,429	1,143
Property, plant and equipment												
Land, buildings and leasehold improvements	22,885	13	(65)	--	(370)	22,463	2,840	1,001	(2)	(74)	3,765	18,698
Plant and machinery	14,032	752	(4,595)	--	(529)	9,660	8,253	1,551	(3,921)	(205)	5,678	3,982
Other facilities, factory and office equipment	4,142	189	(314)	--	(41)	3,976	2,683	536	(257)	(25)	2,937	1,039
Assets under construction and prepayments made	60	--	--	--	(5)	55	--	--	--	--	--	55
Total	41,119	954	(4,974)	--	(945)	36,154	13,776	3,088	(4,180)	(304)	12,380	23,774

11. Other liabilities and provisions

	December 31,	
	2021	2020
	(€ in thousands)	
Employee bonus	512	334
Accruals for commissions	298	236
Accrual for warranty	292	228
Liabilities from payroll	255	237
Accruals for vacation and overtime	230	124
Accruals for compensation of supervisory board	180	180
Accruals for licenses	92	68
Accruals for management compensation	83	--
Liabilities from VAT	50	27
Others	116	149
Total	2,108	1,583

As of December 31, 2021, other liabilities and provisions include kEUR 0 (2020: kEUR 5) as non-current related to the line item others.

(€ in thousands)

	January 1, 2021	Usage	Addition	Reversal	December 31, 2021
Employee bonus	334	(334)	512	--	512
Liabilities from payroll	237	(237)	255	--	255
Accruals for commissions	236	(236)	298	--	298
Accrual for warranty	228	(228)	292	--	292
Accruals for compensation of supervisory board	180	(180)	180	--	180
Accruals for vacation and overtime	124	(124)	230	--	230
Accruals for licenses	68	(68)	92	--	92
Accruals for education and training	41	(41)	--	--	--
Accruals for management compensation	--	--	83	--	83
Total	1,448	(1,448)	1,942	--	1,942

The Group expects to settle the majority of the other liabilities and provisions over the next year.

12. Additional disclosures to financial instruments

Fair value is the price that would be received upon the sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Based on the inputs used, the following hierarchy for determining the fair value of financial instruments is defined:

- Level 1: Quoted prices of the respective financial asset or financial liability in active markets
- Level 2: Inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).
- Level 3: Input parameters not based on observable market data

The following table shows the carrying amounts and fair values of financial assets and financial liabilities, including their levels in the fair value hierarchy.

12/31/2021	Carrying amount					Fair Value			
	FVTPL	FVOCI	Assets at amortized cost	Liabilities at amortized cost	Total carrying amount	Level 1	Level 2	Level 3	Total
Total assets	13,525	4	18,131	--	31,660				
Current assets	13,525	--	18,131	--	31,656				
Cash and cash equivalents	--	--	7,027	--	7,027				
Financial assets	13,525	--	4,997	--	18,522	10,699	2,826	--	13,525
Bond funds	10,699	--	--	--	10,699	10,699	--	--	10,699
Term deposit	--	--	2,655	--	2,655	--	--	--	--
Restricted cash	--	--	2,342	--	2,342	--	--	--	--
Derivative financial instruments	2,826	--	--	--	2,826	--	2,826	--	2,826
Trade receivables, net	--	--	6,107	--	6,107				
Non-current assets	--	4	--	--	4				
Financial assets	--	4	--	--	4	4	--	--	4
Equity securities	--	4	--	--	4	4	--	--	4
Total liabilities	516	--	--	26,672	30,414				
Current liabilities	--	--	--	16,879	17,476				
Trade payables	--	--	--	2,594	2,594				
Financial liabilities	--	--	--	14,285	14,882	--	--	15,362	15,362
Long-term debt	--	--	--	14,285	14,285	--	--	15,362	15,362
Lease liability	--	--	--	--	597	--	--	--	n/a
Non-current liabilities	516	--	--	9,793	12,938				
Financial liabilities	516	--	--	9,793	12,938	--	516	13,826	14,342
Derivative financial instruments	516	--	--	--	516	--	516	--	516
Long-term debt	--	--	--	9,793	9,793	--	--	13,826	13,826
Lease liability	--	--	--	--	2,613	--	--	--	n/a
Security deposit	--	--	--	--	16	--	--	--	n/a

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12/31/2020	Carrying amount					Fair Value			
	FVTPL	FVOCI	Assets at amortized cost	Liabilities at amortized cost	Total carrying amount	Level 1	Level 2	Level 3	Total
Total assets	5,351	5	20,008	--	15,360				
Current assets	5,351	--	10,004	--	15,355				
Cash and cash equivalents	--	--	5,324	--	5,324				
Financial assets	5,351	--	--	--	5,351	2,984	2,367	--	5,351
Bond funds	984	--	--	--	984	984	--	--	984
Bond funds (restricted)	2,000	--	--	--	2,000	2,000	--	--	2,000
Derivative financial instruments	2,367	--	--	--	2,367	--	2,367	--	2,367
Trade receivables, net	--	--	4,680	--	4,680				
Non-current assets	--	5	--	--	5				
Financial assets	--	5	--	--	5	--	--	5	5
Equity securities	--	5	--	--	5	--	--	5	5
Total liabilities	808	--	--	25,108	29,040				
Current liabilities	808	--	--	20,606	21,726				
Trade payables	--	--	--	1,956	1,956				
Financial liabilities	808	--	--	18,650	19,770	--	808	24,858	25,666
Derivative financial instruments	808	--	--	--	808	--	808	--	808
Long-term debt	--	--	--	18,650	18,650	--	--	24,858	24,858
Lease liability	--	--	--	--	312	--	--	--	n/a
Non-current liabilities	--	--	--	4,502	7,314				
Financial liabilities	--	--	--	4,502	7,314	--	--	4,203	4,203
Long-term debt	--	--	--	4,502	4,502	--	--	4,203	4,203
Lease liability	--	--	--	--	2,812	--	--	--	n/a

The financial assets with a carrying amount of kEUR 18,526 reported on the Company's statement of financial position at December 31, 2021 were comprised of investments in three bond funds (kEUR 10,699, thereof kEUR 0 restricted), a term deposit (kEUR 2,655), restricted cash (kEUR 2,342) and a derivative financial instrument (kEUR 2,826), all reported as current financial assets and equity securities (kEUR 4), reported as a non-current asset.

The financial assets with a carrying amount of kEUR 5,356, reported on the Company's statement of financial position at December 31, 2020 were comprised of investments in two bond funds (kEUR 2,984, thereof kEUR 2,000 restricted), a derivative financial instrument (kEUR 2,367), all reported as current financial assets and equity securities (kEUR 5), reported as a non-current asset.

The valuation techniques used to determine the fair value of financial instruments include the use of quoted market prices or dealer quotes for similar instruments as well as discounted cash flow analysis.

The fair value of the Company's investments in the bond funds was determined based on the quoted unit prices received by the fund management company. Due to the short-term nature of the current receivables, their carrying amount is considered to be the same as their fair values.

The fair values of the derivative financial instruments that are not traded in an active market are determined using valuation techniques which maximize the use of observable market data and rely as little as possible on entity-specific estimates. The fair values have been determined based on share prices and the relevant discount rates.

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The fair value of long-term debt was determined using discounted cash flow models based on the relevant forward interest rate yield curves, considering the credit risk of voxeljet.

Due to their short maturity and the current low level of interest rates, the carrying amounts of cash and cash equivalents, restricted cash, trade receivables, trade payables, term deposit, credit lines and bank overdrafts approximate their fair values.

The Group's policy is to recognize transfers into and transfers out of fair value hierarchy levels as at the end of each quarter. As of December 31, 2021 and 2020, there were no transfers of financial instruments measured at fair value between level 1 and level 2.

The following table presents the changes in level 3 instruments for the twelve months ended December 31, 2021:

(€ in thousands)	Non-current assets Equity securities
Balance at December 31, 2020	5
Transfer from level 3 into level 1	(5)
Income (expense) recognised in other comprehensive income	—
Balance at December 31, 2021	—

The investment in equity securities has been listed on a stock exchange. As it is now possible to determine the fair value of this investment using quoted prices or observable market data, it has been reclassified from level 3 into level 1 on June 30, 2021.

The following table provides an overview of the gains and losses for financial assets and liabilities measured at AC and FVTPL:

	Year Ended December 31,	
	2021	2020
	(€ in thousands)	
Financial assets measured at amortized cost	347	(31)
Total interest expense	(9)	(3)
Other operating income from change of impairment	62	182
Other operating income from unrealized foreign currency translation	511	50
Other operating expense from change of impairment	(120)	(120)
Other operating expense from unrealized foreign currency translation	(97)	(140)
Financial assets measured at fair value through profit or loss	265	94
Income from revaluation of derivative financial instruments	460	93
Fair value valuation of financial assets	(291)	(10)
Payout of bond funds	96	78
Other operating income from unrealized foreign currency translation	--	32
Other operating expense from unrealized foreign currency translation	--	(99)
Financial liabilities measured at amortized cost	(2,305)	(1,769)
Total interest expense	(2,299)	(1,769)
Other operating income from unrealized foreign currency translation	--	3
Other operating expense from unrealized foreign currency translation	(6)	(3)
Financial liabilities measured at fair value through profit or loss	292	(808)
Income from revaluation of derivative financial instruments	292	--
Expense from revaluation of derivative financial instruments	--	(808)
Total	(1,401)	(2,514)

Total interest income from financial assets measured at FVTPL is a combination of fair value changes in kEUR 460 (2020: kEUR 93) and interest income from bond funds of kEUR 96 (2020: kEUR 78).

Total interest expense from financial assets measured at FVTPL is a combination of fair value changes in kEUR 291 (2020: kEUR 10) and interest expense from bond funds of kEUR 0 (2020: kEUR 0).

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Total interest income from financial liabilities measured at FVTPL is the fair value changes in kEUR 292 (2020: kEUR 0).

Total interest expense from financial liabilities measured at FVTPL is the fair value changes in kEUR 0 (2020: kEUR 808).

The following table provides an overview of all outstanding loans voxeljet entered into:

	Currency	Nominal interest rate	Year of maturity	December 31, 2021		December 31, 2020	
				Face value	Carrying amount	Face value	Carrying amount
(€ in thousands)							
Secured bank loan	EUR	2.29%	2021	700	--	700	110
Secured bank loan	EUR	2.35%	2021	1,000	--	1,000	70
Secured bank loan	EUR	2.47%	2038	2,000	1,616	2,000	1,695
Secured bank loan	EUR	2.72%	2038	1,000	809	1,000	848
Secured bank loan	EUR	2.42%	2038	500	409	500	429
Secured bank loan	EUR	2.73%	2037	500	411	500	472
Secured bank loan	EUR	1.75%	2040	1,000	823	1,000	887
Secured bank loan	EUR	2.48%	2022	675	96	675	238
Secured bank loan	EUR	2.49%	2024	500	233	500	332
Unsecured bank loan	EUR	3.92%	2025	29	19	29	24
Unsecured bank loan	USD	2.90%	2022	40	2	40	10
Secured bank loan	EUR	0.00%	2022	10,000	13,528	10,000	12,549
Secured bank loan	EUR	12.00%	2025	5,000	6,124	5,000	5,478
Total interest-bearing liabilities				22,944	24,070	22,944	23,142

The secured bank loans are secured over land and buildings with land charges amounting to kEUR 15,000 (2020: kEUR 15,000), machinery and equipment, restricted cash and pledged bond funds with a carrying amount of kEUR 569 (2020: kEUR 1,104), kEUR 2,342 (2020: kEUR 0) and kEUR 0 (2020: kEUR 2,000), respectively.

In 2016, voxeljet concluded loan agreements with Kreissparkasse Augsburg, Germany, to finance the construction of new office and production facilities in Friedberg: (i) in February 2016, the Company entered into a € 2.0 million loan agreement due May 31, 2038. Interest is payable at a fixed rate of 2.47%; (ii) in February 2016, the Company entered into a € 1.0 million loan agreement due April 30, 2038. Interest is payable at a fixed rate of 2.72%; (iii) in February 2016, the Company entered into a € 1.0 million loan agreement due April 30, 2040. Interest is payable at a variable rate of 1.75%; (iv) in December 2016, the Company entered into a € 0.5 million loan agreement due July 30, 2038. Interest is payable at a fixed rate of 2.42%; and (v) in December 2016, the Company entered into a € 0.5 million loan agreement due September 30, 2037. Interest is payable at a fixed rate of 2.73%. Among other terms, the loan agreements contain (i) certain covenants, including that voxeljet deposit € 2.0 million with Kreissparkasse Augsburg until it has reached a certain ratio with respect to its ability to service the debt by the end of fiscal year 2019, and (ii) change of control provisions concerning the ownership of the Company by its executive officers, Dr. Ingo Ederer and Rudolf Franz. As of December 31, 2019, voxeljet was in non-compliance with that ratio and therefore pledged € 2.0 million of bond funds for the benefit of the lender. In 2021, the pledged bond funds were exchanged by a pledge of an USD amount equivalent to € 2.0 million. The collateral is pledged until voxeljet reaches certain ratio with respect to its ability to service the debt. In addition, the land owned by voxeljet upon which the facilities will be built as well as three 3D printers will serve as collateral under the loan agreements.

In April 2019, voxeljet entered into a loan agreement with Kreissparkasse Augsburg, Germany, to finance self-manufactured 3D printers which are operated in the German service center amounting to kEUR 500. The maturity date is five years after draw down and the drawn down occurred at the end of April 2019. The fixed interest rate amounts to 2.49%. voxeljet pledged two 3D printers from property plant and equipment as collateral.

On November 9, 2017, the EIB and the Company entered into the Finance Contract and a Synthetic Warrant Agreement (the "Synthetic Warrant Agreement") to support the Company's undertaking of research and development projects for growth from 2017 to 2020 and beyond. The contract provides a credit of up to € 25 million in three tranches of € 10 million, € 8 million, and € 7 million.

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Under the Finance Contract, the Company may borrow under the credit up to € 25 million, subject to a limit of 50% of the total research and development expenditures and manufacturing capital expenditures from 2017 to 2020 and beyond. The interest rates for the three tranches are 0%, 7% and 3%, respectively. The Company may borrow the second and third tranche only if certain revenue and EBITDA levels are met. The Finance Contract also includes a financial covenant that requires the Company to meet certain minimum financial ratios from 2019 to 2025. Under a First Demand Guarantee Agreement the Finance Contract is guaranteed by the voxeljet USA subsidiary.

At the time the first tranche of € 10 million was received on December 22, 2017, the EIB under the Synthetic Warrant Agreement was entitled to receive as consideration cash equal to the market value of 195,790 ordinary shares of the Company (or equivalent number of ADS of the Company) at the maturity date (5 years after draw down), after the occurrence of a trigger event, or on the expiration date (10 years after draw down). Under the anti-dilution protection clause of the agreement the number of ordinary shares under the Synthetic Warrant Agreement was increased to 254,527 as a result of the capital increase effective October 17, 2018 and November 1, 2018. As a result of the capital increases in January and February 2021, also under the anti-dilution protection clause, the number of ordinary shares under the Synthetic Warrant Agreement was increased to 310,558. Due to a further capital increase in July 2021, also under the anti-dilution protection clause, the number of ordinary shares under the Synthetic Warrant Agreement was increased to 369,828.

The Company has breached its Total Net Financial Debt to EBITDA ratio financial covenant and was in non-compliance with the letters of credit limit under the Finance Contract with the EIB as of December 31, 2019, under which the Company has to comply with certain minimum thresholds. As a result of the breach, the Company reclassified the face value of the loan of kEUR 10,000 from a non-current liability to a current liability as of December 31, 2019. After negotiations with the EIB, which started in July 2019, in March 2020, voxeljet received a waiver for the covenant breach in 2019 and also a grace period until March 31, 2021, within which voxeljet could rectify the breach and during which the EIB could not demand immediate repayment. In return, the Company registered a first rank land charge amounting to kEUR 10,000 on its land and facility located in Friedberg, Germany as collateral in favor of the EIB in March 2020. In June 2020, the Company announced that the EIB and voxeljet further expanded their partnership. The EIB disbursed € 5.0 million of the second tranche (tranche B1) of the loan in June 2020 with a bullet repayment after five years. In addition, the EIB and the Company amended the financial covenants in the Finance Contract to replace the Total Net Financial Debt to EBITDA ratio with the Minimum Cash Covenant. As of June 30, 2020, pursuant to the semi-annual financial testing prescribed by the Finance Contract, as amended, the Company was in compliance with the Minimum Cash Covenant. For further information related to covenants, refer to Note 21. "Capital management"

At the time tranche B1 of € 5 million was received in June 2020, the EIB under the Synthetic Warrant Agreement, as last amended on May 29, 2020, was entitled to receive as consideration cash equal to the market value of 404,928 ordinary shares of the Company (or equivalent number of ADS of the Company) at the maturity date (5 years after draw down), after the occurrence of a trigger event, or on the expiration date (10 years after draw down of the first tranche). Related to tranche B1, voxeljet and the EIB also agreed under the Finance Contract, last amended on May 29, 2020, a PIK interest (payment in kind interest) rate of 5% in addition to a 7% fixed interest rate. As a result of the capital increases in January and February 2021, under the anti-dilution protection clause, the number of ordinary shares under the Synthetic Warrant Agreement was increased to 494,068. Due to the further capital increase in July 2021, also under the anti-dilution protection clause, the number of ordinary shares under the Synthetic Warrant Agreement was increased to 588,361.

In March 2021, the Company discovered that its calculation of cash and cash equivalents for determining compliance with the Minimum Cash Covenant was incorrect and, accordingly, the Company was not in compliance with the Minimum Cash Covenant as of December 31, 2020. Also in March 2021, the Company received a waiver from the EIB for the noncompliance with the Minimum Cash Covenant, pursuant to which (i) the EIB agreed that it will not demand immediate repayment of the outstanding amounts owed and (ii) the EIB and the Company amended the financial covenants in the Finance Contract to clarify the calculation of cash and cash equivalents for determining compliance with the Minimum Cash Covenant. Since March 2021, the Company has been in compliance with the Minimum Cash Covenant, and all other requirements under the Finance Contract.

13. Cost of sales

Cost of sales includes personnel expenses, cost of material, purchased services, cost for finished goods and allocated indirect costs related to production.

COST OF SALES

	Year Ended December 31,		
	2021	2020	2019
	(€ in thousands)		
Personnel expenses	(4,563)	(4,594)	(5,583)
Material costs	(7,744)	(6,559)	(6,796)
Depreciation	(1,983)	(2,158)	(2,686)
Other expenses	(1,735)	(1,502)	(2,382)
Allowance for slow-moving inventory	(851)	1	21
Total	(16,876)	(14,812)	(17,426)

In 2021, other expenses primarily consisted of expenses related to insurances (kEUR 306), cost of maintenance (kEUR 283), travel expenses (kEUR 177), rental and building expenses (kEUR 38) and license fees (kEUR 30).

In 2020, other expenses primarily consisted of expenses related to insurances (kEUR 283), cost of maintenance (kEUR 208), travel expenses (kEUR 171), rental and building expenses (kEUR 104) and license fees (kEUR 53).

In 2019, other expenses primarily consisted of cost of maintenance (kEUR 535), travel expenses (kEUR 312), expenses related to insurances (kEUR 269) rental and building expenses (kEUR 149) and license fees (kEUR 57).

14. Other operating income and expense

The details of other operating income and expenses are presented for the years reported in the tables below:

OTHER OPERATING INCOME

	Year Ended December 31,		
	2021	2020	2019
	(€ in thousands)		
Government grant income	617	321	21
Reimbursement of research and development costs	110	--	--
Reimbursement of transaction costs	63	68	127
Gains from foreign exchange transactions	1,812	849	1,657
Other	368	365	338
Total	2,970	1,603	2,143

Other operating income includes an amount of kEUR 46 (2020: kEUR 75, 2019: kEUR 132) for the movement of impairment on trade receivables.

OTHER OPERATING EXPENSE

	Year Ended December 31,		
	2021	2020	2019
	(€ in thousands)		
Impairment loss on trade receivables	120	120	60
Losses from foreign exchange transactions	460	2,545	880
Impairment loss on inventory	--	100	--
Other	38	34	5
Total	618	2,799	945

15. Financial result

The details of financial result are presented for the years reported in the table below:

	Year Ended December 31,		
	2021	2020	2019 ^{(1) (2)}
	(€ in thousands)		
Interest expense	(2,601)	(2,589)	(1,349)
Interest expense on lease liability	(149)	(167)	(190)
Long-term debt	(2,150)	(1,602)	(993)
Expense from revaluation of derivative financial instruments	--	(808)	(106)
Fair value valuation of financial assets	(291)	(10)	--
Other	(11)	(2)	(60)
Interest income	924	184	318
Payout of bond funds	96	78	126
Income from revaluation of derivative financial instruments	752	93	--
Fair value valuation of financial assets	--	--	174
Other	76	13	18
Financial result	(1,677)	(2,405)	(1,031)

(1) Comparative figures for the year ended December 31, 2019 were revised related to the amendment of classification of short-term investments. For further information, see Note 2 “Preparation of financial statements” to the consolidated financial statements.

(2) Comparative figures for the year ended December 31, 2019 were revised related to the recalculation of the performance participation interest related to the Finance Contract with the EIB. For further information, see Note 2 “Preparation of financial statements” to the consolidated financial statements.

16. Income taxes

Income taxes consist of the following for the years reported:

Income tax (expense) income

	Year Ended December 31,		
	2021	2020	2019 ^{(1) (2)}
	(€ in thousands)		
Current tax (expense) income	--	--	--
Deferred tax (expense) income	(65)	88	(39)
Total	(65)	88	(39)

(1) Comparative figures for the year ended December 31, 2019 were revised related to the amendment of classification of short-term investments. For further information, see Note 2 “Preparation of financial statements” to the consolidated financial statements.

(2) Comparative figures for the year ended December 31, 2019 were revised related to the recalculation of the performance participation interest related to the Finance Contract with the EIB. For further information, see Note 2 “Preparation of financial statements” to the consolidated financial statements.

Deferred tax assets and liabilities

The components of net deferred income taxes at the end of the respective reporting periods were as follows:

SOURCES OF DEFERRED TAX ASSETS AND LIABILITIES

	December 31,			
	2021		2020	
	(€ in thousands)			
	Deferred tax assets	Deferred tax liabilities	Deferred tax assets	Deferred tax liabilities
Trade receivables	--	(7)	--	(8)
Other receivables and current assets	722	(7)	1,092	(92)
Inventories	8	(4)	16	(291)
Property, Plant & Equipment	5	(309)	5	(559)
Trade liabilities	320	--	429	--
Current financial liabilities	90	(1,406)	1,148	--
Current financial assets	--	(838)	65	--
Other current liabilities and provisions	19	(2,109)	239	(2,053)
Contract liabilities	543	(607)	762	(762)
Contract liabilities non current	65	--	--	--
Non-current other assets	--	(79)	--	(28)
Non-current financial liabilities	3,405	--	764	--
Non-current financial assets	--	--	--	(663)
Tax losses carried forward	467	--	138	--
Valuation allowance	(203)	(162)	(248)	(6)
Tax assets (liabilities)	5,441	(5,528)	4,410	(4,462)
Set off of tax	(5,441)	5,441	(4,410)	4,410
Net tax	--	(87)	--	(52)

At December 31, 2021 voxeljet AG had gross loss carry-forwards for corporation tax and trade tax losses of kEUR 65,983 and kEUR 64,632, respectively (2020: kEUR 49,698 / kEUR 48,630). These tax losses can be carried forward without restriction for future offset against taxable profits. Due to the Company's continuing loss situation, deferred tax assets regarding the loss-carryforward are recognized only to the extent that deferred tax liabilities exist, taking into account the minimum taxation in accordance with section 10d EStG. For voxeljet this means that deferred tax assets resulting from the loss carry-forward (kEUR 18,311) can only be recognized in the amount of kEUR 411 (Valuation Allowance kEUR 17,900). A tax rate of 28 % (2020: 28 %) was applied.

In addition, there are foreign tax loss carry-forwards from voxeljet America amounting to kEUR 3,025 (2020: kEUR 2,480), also without restriction for future offset against taxable profits. Deferred tax assets resulting from the loss carry-forward (kEUR 635) cannot be recognized because no deferred tax liabilities are existing in correspondent amounts. A tax rate of 21 % (2020: 27 %) was applied.

Foreign tax loss carry-forwards from voxeljet China and voxeljet India amounting to kEUR 3,592 (2020: kEUR 3,126) and kEUR 241 (2020: kEUR 326), which can be carried forward for five and eight years, respectively for future offset against taxable profits. Deferred tax assets resulting from the loss carry-forward in China (kEUR 539) can be recognized in the amount of kEUR 10 (Valuation Allowance kEUR 529). For China, a tax rate of 15 % (2020: 25%) was applied. Deferred tax assets resulting from the loss carry forward in India cannot be recognised because no deferred tax liabilities are existing in correspondent amounts.

Reconciliation of profit before income taxes to income tax

The reconciliation between profit before income taxes and income tax benefit (expense) for the reporting periods presented was as follows:

RECONCILIATION OF INCOME TAX BENEFIT (EXPENSE)

	Year Ended December 31,		
	2021	2020	2019 ^{(1) (2)}
	(€ in thousands)		
Loss before tax	(10,521)	(15,569)	(13,939)
Tax expense at prevailing statutory rate (28%)	2,946	4,359	3,903
Non-deductible expenses	(875)	(732)	(447)
Non-taxable income	146	80	--
Tax-rate related differences	(45)	(69)	(198)
Unrecognized temporary differences and tax losses	(2,237)	(3,550)	(3,297)
Income tax (expense) income	(65)	88	(39)

(1) Comparative figures for the year ended December 31, 2019 were revised related to the amendment of classification of short-term investments. For further information, see Note 2 “Preparation of financial statements” to the consolidated financial statements.

(2) Comparative figures for the year ended December 31, 2019 were revised related to the recalculation of the performance participation interest related to the Finance Contract with the EIB. For further information, see Note 2 “Preparation of financial statements” to the consolidated financial statements.

17. Personnel expenses

Personnel expenses included in cost of sales, research and development, and selling and administrative expenses are comprised of the following:

PERSONNEL EXPENSES

	Year Ended December 31,		
	2021	2020	2019
	(€ in thousands)		
Wages and salaries	11,490	11,568	13,885
Employee stock option plan	304	671	671
Social security contributions	2,391	2,289	2,710
Total	14,185	14,528	17,266

voxeljet AG offers to its employees a defined contribution plan called “MetallRente”. The contributions paid by the Company amounted to kEUR 59, kEUR 65 and kEUR 66 for the years ended December 31, 2021, 2020 and 2019, respectively and is presented within social security contributions. The employer’s contribution into the mandatory defined contribution plan (publicly administered contribution plan) amounted to kEUR 719, kEUR 754 and kEUR 889 for the years ended December 31, 2021, 2020, and 2019, respectively.

18. Segment reporting

voxeljet operates in two reportable segments—Systems and Services—which reflect the internal organizational and management structure according to the distinct nature of the two businesses. The Systems business derives its revenues from the manufacture and sale of 3D printers, from the sale of consumables, as well as from lease, maintenance and extended warranty agreements with customers, while the Services business provides customized printed products to customers.

The Management Board of voxeljet is the chief operating decision maker. The chief operating decision maker mainly monitors the Company’s revenues and gross profit, as the performance indicators.

The following table summarizes segment reporting for each of the reporting periods ended December 31. As management’s controlling instruments are mainly revenue-based, the reporting information does not include a detailed breakdown of all assets and liabilities by category. The sum of the amounts for the two segments equals the total for the Company for each of the years presented.

SEGMENT REPORTING

	Year Ended December 31,							
	2021				2020			
	(€ in thousands)							
	SYSTEMS	SERVICES	CONSO LIDATION	GROUP	SYSTEMS	SERVICES	CONSO LIDATION	GROUP
Revenues	17,700	9,098	(1,972)	24,826	13,159	9,011	(603)	21,567
third party	15,728	9,098	—	24,826	12,556	9,011	—	21,567
inter-segment	1,972	—	(1,972)	—	603	—	(603)	—
Cost of sales	(10,477)	(6,399)		(16,876)	(8,115)	(6,697)		(14,812)
Gross profit	5,251	2,699		7,950	4,441	2,314		6,755
Gross profit in %	33.4%	29.7%		32.0%	35.4%	25.7%		31.3%
Operating Expenses				(19,146)				(18,723)
Other operating expenses				(618)				(2,799)
Other operating income				2,970				1,603
Operating loss				(8,844)				(13,164)
Finance expense				(2,601)				(2,589)
Finance income				924				184
Financial result				(1,677)				(2,405)
Loss before income taxes				(10,521)				(15,569)
Income tax income (expense)				(65)				88
Net loss				(10,586)				(15,481)

	Year Ended December 31,	
	2019	
	(€ in thousands)	
	SYSTEMS	SERVICES
Revenues	13,454	11,148
Gross profit	4,284	2,892
Gross profit in %	31.8%	25.9%

Systems revenues include revenues from the sales of used 3D printers of kEUR 2,601, kEUR 2,328, and kEUR 2,007 for the years ended December 31, 2021, 2020, and 2019, respectively.

Geographic information

REVENUES BY GEOGRAPHICAL REGION

voxeljet's revenues and non-current assets are presented below by geographic region. For purposes of this presentation, revenues are based on the geographic location of customers and assets are based on their geographic location.

voxeljet's revenues were generated in the following geographical regions for the years reported:

	Year Ended December 31,		
	2021	2020	2019
	(€ in thousands)		
EMEA	12,228	11,466	11,265
Germany	4,269	4,647	4,474
France	1,391	841	1,314
Great Britain	1,413	963	1,224
Others	5,155	5,015	4,253
Asia Pacific	7,107	4,521	6,302
South Korea	623	1,787	1,242
China	3,004	1,101	3,993
Indonesia	--	93	55
Others	3,480	1,540	1,012
Americas	5,491	5,580	7,035
United States	5,389	5,453	6,843
Others	102	127	192
Total	24,826	21,567	24,602

Revenues generated in the region Asia Pacific included kEUR 2,563 and kEUR 31 related to India and Japan respectively, for the business year 2021, presented in others (2020: kEUR 93 and kEUR 1,406, respectively). Revenues

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generated in the region EMEA included kEUR 1,931 and kEUR 21 related to Spain and Russia respectively, for the business year 2021, presented in others (2020: kEUR 644 and kEUR 1,322, respectively).

NON-CURRENT ASSETS BY GEOGRAPHICAL REGION

	December 31,	
	2021	2020
	(€ in thousands)	
EMEA	19,279	19,730
Germany	19,279	19,730
Asia Pacific	1,343	1,609
Americas	4,089	3,751
United States	4,089	3,751
Total	24,711	25,090

19. Financial risk management

The Company's Management Board is responsible for implementing the finance policy and for ongoing financial risk management. Therefore, the Management Board has established a Risk Management Committee, which is responsible for developing and monitoring of the Group's risk management policies, especially regarding financial risks. Generally, the committee provides an overview of financial risks on a quarterly basis to the Management Board as part of the Company's quarterly management reporting procedures.

The Company's principal financial instruments are comprised of cash, short-term bank deposits at commercial institutions, bond funds, lease obligations and long-term debt. The main purpose of the financial investments is to provide a return on investments with minimal risk. The Company has other financial assets and liabilities including trade receivables and trade payables, which arise directly from its operations.

The main purpose of the financial liabilities is to fund the Company's operations and research and development activities. Portions of the long-term debt include two embedded derivative financial instruments, one recorded as a financial asset and one recorded as a financial liability, related to a future interest payment which are linked to the Company's stock price (Performance Participation Interest).

The main risks arising from the Group's financial instruments are liquidity risk, foreign exchange risk, credit risk, interest rate risk and equity price risks. The measures taken by Management to manage each of these risks are summarized below.

Material transactions related to activities in the area of financial instruments like entering into loan agreements or investments in bond funds require the prior approval of the Chief Financial Officer. The Company did not enter into any derivative financial instruments including those entered into for hedging purposes in 2021.

Foreign exchange risk

The Company is exposed to foreign exchange risk to the extent that there is a difference between the currencies in which sales, purchases and borrowings are denominated and the respective functional currencies of subsidiaries of the Group. The functional currencies of the parent company voxeljet AG and its subsidiaries are the Euro, U.S. Dollar, British Pound Sterling, Indian rupee and Chinese yuan renminbi. The majority of the sale, purchase and borrowing transactions are denominated in the functional currency of the parent company or its subsidiaries. The Company's most significant foreign exchange risk relates to intercompany loans made from voxeljet AG to subsidiaries, as described below.

The Company invoiced 61% in 2021, 68% in 2020 and 62% in 2019 of total revenues in Euros. As revenues in foreign currency usually correspond to costs which are incurred in the same currency, we consider the foreign exchange risk as minor.

For the year ended December 31, 2021, voxeljet generated 36.1% of its revenues in the eurozone. Additionally, the majority of the Company's sourcing transactions are also transacted in Euros in that zone.

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voxeljet AG has provided intercompany loans to its subsidiaries to finance their operations. The loans were granted in the local currency of the subsidiaries. Gains and losses from movements in exchange rates are recorded within other operating income or expense in the consolidated statement of comprehensive loss. The amount loaned to voxeljet America totaled to USD 9.0 million (€ 7.9 million) as of December 31, 2021. An increase/decrease in the value of the Euro against the U.S. Dollar of 10% would lead to a loss of € 0.7 million/gain of € 0.9 million. As of December 31, 2020 the amount loaned to voxeljet America totaled to USD 9.0 million (€ 7.4 million). An increase/decrease in the value of the Euro against the U.S. Dollar of 10% would led to a loss of € 0.7 million/gain of € 0.8 million.

The significant exchange rates which have been applied during the years presented are disclosed in Note 3.

Interest rate risk

voxeljet's principal interest-bearing positions are liabilities for bank borrowings and lease liabilities. These liabilities are entirely at a fixed interest rate, with one exception. As such, changes in market interest rates for these instruments have no material effect on future interest expenses.

In connection with tranche A amounting to € 10.0 million and the first portion of the second tranche (tranche B1) amounting to € 5.0 million, both related to the loan received by the EIB, the Company issued in each case a warrant, Performance Participation Interest (PPI), accounted for separately as derivative financial instruments bifurcated from the host contract (loan financial liability), with changes in fair value reported in the consolidated statements of comprehensive loss until the derivative financial instruments are settled or expired. Both portions of the loan are accounted for according to the effective interest method. Changes in the market interest rate will not affect the loan accounting. However, the derivative instruments are affected by changes in the risk-free rate. The sensitivity analysis of changes in the risk-free rate (increase or decrease by 10%) did not yield any significant effects.

Equity price risk

The Company is also exposed to equity price risks which arise from embedded derivative financial instruments (PPI) bifurcated from the loans received by the EIB as mentioned above, which depend upon the Company's share price. Changes in the Company's share price will affect the value of the equity forward derivative instruments (increasing share prices as compared to the share price at disbursement date will lead to decrease in fair value of derivatives, decreasing share prices will lead to an increase in fair value of derivatives). An increase/decrease of the price per share by USD 1.00 leads to a decrease/increase of the derivative asset (tranche A) by approximately kEUR 326. An increase/decrease of the price per share by USD 1.00 leads to a increase/decrease of the derivative liability (tranche B1) by approximately kEUR 519.

Credit risk

Credit risk is the risk of the Company suffering a financial loss as the result of its counterparties being unable to perform their obligations. The Company is exposed to credit risk from its operating activities (mainly trade receivables) and from its financing activities, including deposits and investments with financial institutions. Therefore, the carrying amount of cash and cash equivalents, other current financial assets, and trade receivables represents the maximum credit exposure of € 31.7 million (2020: € 15.4 million).

The Company's exposure to credit risk is influenced by the individual characteristics of each counterparty. However, Management also considers factors that influence the credit risk of its counterparty base, including the default risk of the industry and the country in which the counterparty operates. voxeljet seeks to minimize such risk by entering into transactions with counterparties that are believed to be creditworthy business partners or with financial institutions which meet high credit rating requirements. In addition, the portfolio of receivables and customer advances is monitored on a continuous basis. There were no customer loans outstanding as of December 31, 2021 and 2020. Since 2018, the Company calculates an expected credit loss (ECL) for trade receivables based on the risk scoring of its customers according to an external rating agency. Following the risk score of each customer, the trade receivables are clustered into different grades. For each grade, the ECL is calculated after deducting from trade receivables a loss allowance based on actual credit loss experience.

December 31, 2021

Grades		Equivalent to external credit rating (Standard & Poor's)	Weighted-average loss rate	Gross carrying amount	Impairment loss allowance	Net carrying amount
(€ in thousands)						
Grades 1-4:	Low risk	BBB+ to AAA	0.2%	3,103	5	3,098
Grades 5-7:	Fair risk	B+ to BBB	1.3%	2,787	37	2,750
Grades 8-9:	Substandard	CCC- to B	7.0%	130	9	121
Grade 10:	Doubtful	C to CC	25.0%	184	46	138
Grade 11:	Loss	D	100.0%	21	21	--
				6,225	118	6,107

December 31, 2020

Grades		Equivalent to external credit rating (Standard & Poor's)	Weighted-average loss rate	Gross carrying amount	Impairment loss allowance	Net carrying amount
(€ in thousands)						
Grades 1-4:	Low risk	BBB+ to AAA	0.2%	1,686	2	1,684
Grades 5-7:	Fair risk	B+ to BBB	1.3%	2,209	29	2,180
Grades 8-9:	Substandard	CCC- to B	7.0%	876	61	815
Grade 10:	Doubtful	C to CC	25.0%	2	1	1
Grade 11:	Loss	D	100.0%	15	15	--
				4,788	108	4,680

The Group limits its exposure to credit risk by investing only in bond funds which are fully guaranteed by the financial institutions and therefore represents short term credit rating of A-3 based on Standard & Poor's or P-2 based on Moody's.

The bank deposit, cash and cash equivalents, term deposits and restricted cash are held with financial institutions, which are rated BBB+ to AAA based on Standard & Poor's and Moody's which is equivalent to low risk.

Liquidity risk

Management receives a weekly reporting of the current liquidity of the Group by entity. Furthermore, a monthly cash flow plan meeting has been established, where Management reviews the cash forecasts and the future development of flows of funds on an ongoing basis.

Liquidity risk is the risk that voxeljet might not have sufficient cash to meet its payment obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Company's approach to managing liquidity is to ensure, as far as possible, that it will have sufficient liquidity to meet its liabilities when they are due, under both normal and stressed conditions, without incurring unacceptable losses or risking damage to the reputation of the Company. Liquidity risk is countered by systematic, day-by-day liquidity management whose fundamental requirement is that solvency must be guaranteed at all times. A major responsibility of management is to monitor the cash balances and to set up and update cash planning on a monthly basis to ensure liquidity. At all times cash and cash equivalents are projected on the basis of a regular financial and liquidity planning. The monitoring includes the expected cash inflows on trade and other receivables together with expected cash outflows from trade and other payables and financial liabilities. For further discussion see Note 2.

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The following are the contractual cash flows of financial liabilities and trade payables at the reporting date. The amounts are gross and undiscounted and include contractual interest payments.

	December 31, 2021 (€ in thousands)						
	carrying amount	Contractual cash flow					
		Total	2 months or less	2-12 months	1-3 years	3-5 years	More than 5 years
Long-term debt	24,078	(31,042)	(109)	(15,363)	(1,528)	(10,595)	(3,447)
Lease liability	3,210	(3,704)	(76)	(659)	(1,472)	(678)	(819)
Trade payables	2,594	(2,594)	(2,594)	--	--	--	--
Total	29,882	(37,340)	(2,779)	(16,022)	(3,000)	(11,273)	(4,266)

	December 31, 2020 (€ in thousands)						
	carrying amount	Contractual cash flow					
		Total	2 months or less	2-12 months	1-3 years	3-5 years	More than 5 years
Long-term debt	23,152	(31,280)	(295)	(25,236)	(915)	(625)	(4,209)
Lease liability	3,124	(3,715)	(71)	(341)	(1,627)	(637)	(1,039)
Trade payables	1,956	(1,956)	(1,956)	--	--	--	--
Total	28,232	(36,951)	(2,322)	(25,577)	(2,542)	(1,262)	(5,248)

voxeljet has significant financial obligations, related to the repayment of tranche A including the performance participation interest from the loan received from the EIB, which will become due in December 2022. Additionally, the Company has to ensure at all times compliance with all covenants, especially the minimum cash covenant. For further discussion see Note 2.

20. Reconciliation of movements of liabilities to cash flows arising from financing activities

Only liabilities are presented in the below table which have cash and non-cash movement, other liabilities are not presented.

(€ in thousands)	Liabilities	
	Other loans and borrowings	Lease liabilities
Balance at January 1, 2021	23,152	3,124
Changes from financing cash flows		
Proceeds from loans and borrowings	--	--
Repayment of borrowings	(1,004)	--
Payment of lease liabilities	--	(334)
Total changes from financing cash flows	(1,004)	(334)
Other changes		
Liability-related		
New leases	--	133
Remeasurements	--	(6)
Terminations	--	(9)
Adjustment	(70)	--
Foreign currency effects	--	256
Interest expense	2,150	149
Interest paid	(150)	(103)
Total liability-related other changes	1,930	420
Total equity-related other changes	--	--
Balance at December 31, 2021	24,078	3,210

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<i>(€ in thousands)</i>	Liabilities	
	Other loans and borrowings	Lease liabilities
Balance at January 1, 2020	17,546	3,610
Changes from financing cash flows		
Proceeds from loans and borrowings	5,000	—
Repayment of borrowings	(863)	—
Payment of lease liabilities	—	(412)
Total changes from financing cash flows	4,137	(412)
Other changes		
Liability-related		
New leases	—	(138)
Adjustment	—	22
Interest expense	1,602	167
Interest paid	(133)	(125)
Total liability-related other changes	1,469	(74)
Total equity-related other changes	—	—
Balance at December 31, 2020	23,152	3,124

21. Capital management

Management's aim is to maintain a sufficient capital base so as to maintain investor, creditor and market confidence and to sustain future development of the business.

Equity is monitored by the Company using financial ratios. The equity used as a basis for determining the equity ratio corresponds to the equity disclosed in the Consolidated Statement of Financial Position.

voxeljet's capital structure as of the end of the reporting periods 2021 and 2020 was as follows:

CAPITAL STRUCTURE

	December 31,	
	2021	2020
	(€ in thousands)	
Equity	32,487	19,641
Share of total equity and liabilities	48.2%	36.9%
Current financial liabilities	14,882	19,770
Non-current financial liabilities	12,938	7,314
Total financial liabilities	27,820	27,084
Share of total equity and liabilities	41.2%	50.9%
Total equity and liabilities	67,459	53,227

LOAN COVENANTS

Under the terms of the major borrowing facilities, voxeljet is required to comply with the following financial covenants:

- Maintain a minimum amount of cash and cash equivalents
- Maintain a minimum total net financial debt ratio to total equity
- Pledge of a certain security deposit

As of December 31, 2021, the Company was in compliance with all covenants.

22. Leases

Leases as lessee

The Company leases assets, including properties, production equipment and vehicles. As a lessee, the Company previously classified leases as operating or finance leases based on its assessment of whether the lease transferred substantially all of the risks and rewards of ownership. Under IFRS 16, the Company recognizes right-of-use assets and lease liabilities for most leases. These leases are on-balance sheet.

However, the Company has elected not to recognize right-of-use assets and lease liabilities for some leases of low-value assets (e.g. tools) as well as short-term leases (leases with less than 12 months of lease term). The Company recognizes the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

Right-of-use assets:

	Property, plant and equipment			Total
	Property	Production equipment	Others	
	(€ in thousands)			
Balance at January 1, 2021	2,892	45	254	3,191
Depreciation charge of the year	(493)	(26)	(132)	(651)
Additions to the right-of-use assets	--	--	132	132
Derecognition of the right-of-use assets	--	--	(15)	(15)
Foreign currency effects	249	--	--	249
Balance at December 31, 2021	2,648	19	239	2,906

Amounts recognized in profit or loss:

	2021	2020	2019
	(€ in thousands)		
Leases under IFRS 16			
Interest on lease liabilities	149	167	190
Expenses relating to short-term-leases	--	--	39
Depreciation charge of the year	651	682	765

We had an immaterial amount of low value leases in years 2021 and 2020.

Amounts recognized in statement of cash flows:

	2021	2020	2019
	(€ in thousands)		
Total cash outflow for leases	(334)	(412)	(397)

Some property leases contain extension options exercisable by the Group up to one year before the end of the non-cancellable contract period. Where practicable, voxeljet seeks to include extension options in new leases to provide operational flexibility. The extension options held are exercisable only by the Group and not by the lessors. The Group assesses at lease commencement date whether it is reasonably certain to exercise the extension options. The Group reassesses whether it is reasonably certain to exercise the options, if there is a significant event or significant changes in circumstances within its control.

For all existing extension options, voxeljet assessed that the exercise of those is reasonably certain. Therefore, the impact is already included within the lease liabilities.

Leases as lessor

The Company leases out a small number of 3D printers. Those leases have been classified as operating leases. In 2021, voxeljet leased out zero 3D printers (2020: one 3D printer) to customers under operating leases. Beginning December 2021, the Company has leased out office space to a third party in Friedberg, Germany. This lease has been classified as an operating lease. The office space has been leased out under operating leases with rentals payable monthly. Lease income from operating leases where the group is a lessor is recognized in other operating income on a

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straightline basis over the lease term. Lease payments from the contract do not include any variable lease payments. During the year ended December 31, 2021, lease income amounting to kEUR 9 was recorded in other operating income.

Lease income from operating lease:

	2021	2020	2019
	(€ in thousands)		
Operating lease under IFRS 16			
Less than one year	106	--	38
1-3 years	212	--	--
3-5 years	203	--	--

23. Commitments, contingent assets and liabilities

In connection with the enforcement of voxeljet's intellectual property rights, the acquisition of third-party intellectual property rights, or disputes related to the validity or alleged infringement of the Company's or a third-party's intellectual property rights, including patent rights, voxeljet has been and may in the future be subject or party to claims, negotiations or complex, protracted litigation.

In March 2018, ExOne GmbH, a subsidiary of The ExOne Company, notified voxeljet of its intent not to pay its annual license fees under an existing intellectual property-related agreement and asserted its rights to claim damages pursuant to an alleged material breach of the agreement. At this time, the Company cannot reasonably estimate a contingency, if any, related to this matter. On November 12, 2021, The ExOne Company and its affiliates were acquired by DESKTOP METAL, INC.

voxeljet AG issued letters of support to voxeljet's subsidiaries voxeljet China and voxeljet America to provide financial support to enable the companies to meet its obligation or liabilities as and when they fall due. The guarantee is irrecoverable for at least 12 months from the date of financial statements for the financial year ended December 31, 2021, are signed. Management assessed that it is unlikely that subsidiaries would exercise this letter.

24. Related party transactions

Related party transactions at voxeljet mainly consist of transactions with individuals on the Management Board and Supervisory Board.

Key management is defined as those individuals having authority and responsibility for planning, directing and controlling the activities of the Company within their function and within the interest of the Company.

The following table presents the amount and components of Management Board compensation:

MANAGEMENT COMPENSATION

	Year Ended December 31,		
	2021	2020	2019
	(€ in thousands)		
Fixed compensation	709	761	782
Variable compensation	83	--	--
Compensation from stock option plan	160	353	353
Total	952	1,114	1,135

Management Board remuneration currently consists of a fixed monetary remuneration, other fixed benefits (including Company car allowances and contributions to a defined contribution plan) as well as the participation in a stock options plan, which was executed on April 7, 2017. There were no variable compensations for the years 2020 and 2019.

Ordinary members of the Supervisory Board receive a fixed remuneration in the amount of kEUR 40 per annum. The chairman and vice chairman of the Supervisory Board receive a higher fixed remuneration in the amount of kEUR 80 per annum and kEUR 60 per annum, respectively. If a member of the Supervisory Board does not serve for a

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full year term, the remuneration is paid pro rata temporis. In 2021, the total remuneration for the Supervisory Board amounted to kEUR 180.

Transactions with related parties

A related party relationship could have an effect on the profit and loss and financial position of the Company. Defined as related parties are individuals or other third parties with whom voxeljet has common control relationships.

OTHER RELATED PARTIES

Name	Nature of relationship	Duration of relationship
Franz Industriebeteiligungen AG, Augsburg	Lessor	10/01/2003 - Current
Schlosserei und Metallbau Ederer, Dießen	Supplier	05/01/1999 - Current
Andreas Schmid Logistik AG, Gersthofen	Supplier	05/01/2017 - 12/31/2020
Suzhou Meimai Fast Manufacturing Technology Co., Ltd, Suzhou	Minority shareholder of voxeljet China, Customer	04/11/2016 - 09/01/2021
DSCS Digital Supply Chain Solutions GmbH, Gersthofen	Customer	05/11/2017 - Current
Michele Neuber	Employee	07/01/2019 - Current
Susanne Ederer-Pausewang	Customer	03/17/2021 - Current
Lisa Franz	Employee	10/01/2021 - Current

Transactions with Franz Industriebeteiligungen AG comprise the rental of office space in Augsburg, Germany. Rental expenses amounted to kEUR 3, kEUR 3, and kEUR 2 in 2021, 2020 and 2019, respectively. The rental of office space is ongoing and will continue in 2022. In addition, Franz Industriebeteiligungen AG received payments related to the use of certain paintings which are placed in the administrative building in Friedberg. Associated rental expenses amounted to kEUR 2 in 2018. At the beginning of 2019, voxeljet acquired those paintings at a price of kEUR 2 and consequently the rental agreement pertaining to the paintings was terminated.

In addition, voxeljet received logistics services amounting to kEUR 0, kEUR 25 and kEUR 56 in 2021, 2020 and 2019, respectively from 'Andreas Schmid Logistik', where voxeljet's Supervisory Board member Dr. Stefan Söhn served as the Chief Financial Officer until December 2020. Dr. Stefan Söhn resigned from his office as vice chairperson and member of the supervisory board of the Company for professional reasons with effect from the end of the general shareholders' meeting on May 26, 2021.

Moreover, voxeljet received orders amounting to kEUR 146, kEUR 25 and kEUR 164 in 2021, 2020 and 2019, respectively from 'Suzhou Meimai Fast Manufacturing Technology Co., Ltd., which was our minority shareholder for voxeljet China until September 1, 2021. On this date, Meimai transferred half of its equity interest in voxeljet China, or 15% of voxeljet China's equity, to its shareholder MK Holding GmbH and the remaining half of its equity interest, or 15% of voxeljet China's equity to its shareholder Mr. Jin Tianshi, the managing director of voxeljet China. As a result, as of September 1, 2021, Meimai is no longer a related party.

Further, voxeljet received orders amounting to kEUR 0, kEUR 0 and kEUR 13 in 2021, 2020 and 2019, respectively from DSCS Digital Supply Chain Solutions GmbH ("DSCS"), which was an associated company of which we own 33.3%. Shareholders of DSCS have initiated the wind-up of DSCS, which will be finalized by DSCS's removal from the commercial register, expected to take place in the first quarter of 2022.

In addition, voxeljet employs Michele Neuber as an intern. Michele Neuber is the son of Volker Neuber, who has been a member of voxeljet's Supervisory Board since July 2020. Michele Neuber received a salary of kEUR 2, kEUR 2 and kEUR 2 in 2021, 2020 and 2019 respectively.

voxeljet employed Simon Franz, who is the son of voxeljet's Chief Financial Officer Rudolf Franz, as an intern until July 31, 2019. He received a salary of kEUR 9 in 2019.

Moreover, voxeljet sold a used car in the first quarter of 2021 to Susanne Ederer-Pausewang, who is the wife of Dr. Ingo Ederer, the Chief Executive Officer of voxeljet, amounting to kEUR 27.

In addition, voxeljet has employed Lisa Franz, who is the daughter of Rudolf Franz, the Chief Operating Officer and Chief Financial Officer of voxeljet, as an intern since October 1, 2021. She received a salary of kEUR 2 in 2021.

All related party transactions, voxeljet entered into, were made on an arm's length basis.

25. Equity

At December 31, 2021, 7,026,711 no-par value ordinary shares were issued and outstanding. There is only a single class of ordinary shares with the same rights, preferences and restrictions. Each share entitles the holder to one vote at the shareholders' meeting. Shareholders participate in the profits according to their share in the share capital, based on their number of shares held. The general shareholders' meeting resolves the appropriation of the balance sheet profit established in the annual financial statements and the dividends.

On July 31, 2020, the Company announced that it would change the ratio of its ADSs to ordinary shares from each ADS representing one-fifth (1/5) of one ordinary share (5:1) to each ADS representing one ordinary share (1:1). For ADS holders, the ratio change had the same effect as a 1 for 5 reverse ADS split. The ratio change became effective on August 14, 2020 (the "Effective Date"). On the Effective Date, each ADS holder was required to exchange every five (5) ADSs then held for one (1) new ADS (e.g., if a holder of ADSs previously held 50 ADSs, following the ratio change on the Effective Date, such holder holds 10 ADSs). Citibank, N.A., as depositary bank, has arranged for the exchange of the current ADSs for the new ones. There was no change to voxeljet's underlying ordinary shares.

On August 18, 2020, the Company announced that it would voluntarily transfer the listing of the ADSs from the New York Stock Exchange (the "NYSE") to the NASDAQ, effective August 28, 2020, after market close. voxeljet's ADSs began trading as a NASDAQ-listed security at market open on August 31, 2020, and have continued to be listed under the ticker symbol "VJET." Due to the transfer of the listing to the NASDAQ, the Company is no longer subject to the listing requirements of the NYSE. As of December 31, 2021, voxeljet was in compliance with the NASDAQ Listing Rules.

In January 2021, the Company has successfully completed its registered direct offering and sale of 621,170 ordinary shares in the form of ADS at a purchase price of € 13.33 per share (this equals \$16.16 per ordinary share based on the exchange rate as of the close of business in New York on January 14, 2021). This provided voxeljet with gross proceeds of approximately \$10 million (€ 8.3 million) before deducting fees and expenses, amounting to kEUR 1,073.

In February 2021, voxeljet completed another registered direct offering and sale of 443,414 ordinary shares in the form of ADS at a purchase price of € 22.27 per ordinary share (this equals \$26.95 per ordinary share based on the exchange rate as of the close of business in New York on February 9, 2021). This provided the Company with gross proceeds of approximately \$12 million (€ 9.9 million) before deducting fees and expenses, amounting to kEUR 1,127.

In the general shareholders' meeting on May 26, 2021, Management Board is authorized, subject to the consent of Supervisory Board, to increase the authorized capital in one or more tranches by up to € 2,950,292 by issuing up to 2,950,292 new no-par value ordinary shares against contribution in cash or in kind until May 25, 2026.

In July 2021, the Company has successfully completed another registered direct offering and sale of 1,126,127 ordinary shares in the form of ADS at a purchase price of EUR 7.52 per share (this equals \$8.88 per ordinary share based on the exchange rate as of the close of business in New York on July 14, 2021). This provided the Company with gross proceeds of approximately USD 10.0 million (€ 8.5 million) before deducting fees and expenses, amounting to kEUR 1,017.

After the capital increase in July, 2021, the remaining amount of ordinary shares that can be issued is 1,824,165. The Articles of Association authorize the Management Board, subject to the consent of the Supervisory Board, to increase the Company's registered share capital in one or more tranches by up to € 1,824,165 by issuing up to 1,824,165 new no-par value ordinary shares against contribution in cash or in kind until May 25, 2026.

26. Subsequent events

Finalization of liquidation of voxeljet UK

The liquidation process of voxeljet UK was finalized on February 17, 2022, when upon submission of final account by liquidators to the Companies House, the affairs of voxeljet UK were fully wound up. voxeljet UK will be deconsolidated in February 2022. On deconsolidation, the foreign currency translation reserve amounting to kEUR 1,476 recorded in other comprehensive income is reclassified to profit and loss account.

Extension of lease contract voxeljet China

On February 22, 2022, shortly before its expiration, the lease contract of voxeljet's subsidiary voxeljet China was renewed for two years, extending from March 1, 2022 to February 29, 2024. The renewal period previously agreed in the original contract was three years. The lease liability will be reduced from kEUR 1,027 to kEUR 709 and the right of use asset will be reduced from kEUR 884 to kEUR 566.

Conflict between Russia and Ukraine

On February 24, 2022, Russian invasion of Ukraine started, which heightened use of trade restrictions and sanctions, including tariffs or prohibitions on technology transfers to achieve diplomatic ends. As a consequence, voxeljet wrote off kEUR 97 of receivables from Russian clients in the first quarter of 2022 and stopped all business transactions with clients from Russia, Belarus and Ukraine.

Subsidiaries of voxeljet AG

Business-Entity	First consolidation date	Shares
voxeljet America Inc.	February 5, 2014	100.00%
voxeljet UK Ltd. (liquidated on February 17, 2022)	October 1, 2014	100.00%
voxeljet India Pvt. Ltd.	January 21, 2016	100.00%
voxeljet China Co. Ltd.	April 11, 2016	70.00%

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Dr. Ingo Ederer, certify that:

1. I have reviewed this Annual Report on Form 20-F of voxeljet AG;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or cause such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or other persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ DR. INGO EDERER

Dr. Ingo Ederer

Chief Executive Officer

(Principal Executive Officer)

Dated: March 31, 2022

**CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Rudolf Franz, certify that:

1. I have reviewed this Annual Report on Form 20-F of voxeljet AG;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or cause such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or other persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ RUDOLF FRANZ

Rudolf Franz
Chief Financial Officer
(Principal Financial Officer)

Dated: March 31, 2022

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report on Form 20-F of voxeljet AG (the “Company”) for the year ended December 31, 2021 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), the undersigned, Dr. Ingo Ederer, Chief Executive Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ DR. INGO EDERER

Dr. Ingo Ederer

Chief Executive Officer

(Principal Executive Officer)

Dated: March 31, 2022

**CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report on Form 20-F of voxeljet AG (the “Company”) for the year ended December 31, 2021 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), the undersigned, Rudolf Franz, Chief Financial Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ RUDOLF FRANZ

Rudolf Franz

Chief Financial Officer

(Principal Financial Officer)

Dated: March 31, 2022

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (No. 333-217450) and Form F-3 (No. 333-255911) of voxeljet AG of our report dated March 31, 2022 relating to the financial statements, which appears in this Form 20-F.

Very truly yours,

Munich, Germany
March 31, 2022

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

/s/ Sebastian Stroner

Wirtschaftsprüfer

(German Public Auditor)

/s/ Martin Veit

Wirtschaftsprüfer

(German Public Auditor)

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the registration statements (No. 333-217450) on Form S-8 and (No. 333- 255911) on Form F-3 of voxeljet AG (the Company) of our report dated May 7, 2020, with respect to the consolidated statements of comprehensive loss, changes in equity, and cash flows of the Company for the year ended December 31, 2019, and the related notes, before the effects of the adjustments for the correction of the errors and retrospective adjustments described in Note 2, which report appears in the December 31, 2021 annual report on Form 20-F of the Company.

/s/ KPMG AG Wirtschaftsprüfungsgesellschaft

Munich, Germany
March 31, 2022
