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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 20-F/A
(Amendment No. 1)

(Mark One)

☐ **REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934**

OR

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2022

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from _____ to _____.

OR

☐ **SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
Date of event requiring this shell company report _____

Commission file number: 001-39446

CureVac N.V.

(Exact name of Registrant as specified in its charter)

The Netherlands

(Jurisdiction of incorporation or organization)

Friedrich-Miescher-Strasse 15, 72076
Tübingen,
Germany
+49 7071 9883 0

(Address of principal executive offices)

Alexander Zehnder
Chief Executive Officer
Friedrich-Miescher-Strasse 15, 72076
Tübingen,
Germany
info@curevac.com

(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:

Title of each class	Trading Symbol	Name of each exchange on which registered
Common shares, par value €0.12 per share	"CVAC"	The NASDAQ Global Market

Securities registered or to be registered pursuant to Section 12(g) of the Act:

None

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

None

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.

The number of outstanding shares as of December 31, 2022 was:

Title of Class	Number of Shares Outstanding
Common shares, par value €0.12 per share	194,954,225

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes ☒ 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 ☐ No ☒

Note – Checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 from their obligations under those Sections.

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.

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).

Yes ☒ No ☐

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

Large Accelerated Filer ☒ Accelerated Filer ☐ Non-accelerated Filer ☐ 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. ☒

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant’s executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

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

☐ 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 ☐ No ☒

Explanatory Note

This Amendment No. 1 on Form 20-F/A (the "Amended Annual Report") to the Annual Report on Form 20-F for the year ended December 31, 2022 (the "Original Annual Report") for CureVac N.V. (the "Company"), as originally filed with the Securities and Exchange Commission on April 25, 2023 (the "Original Filing Date"), is being filed to include revised certifications pursuant to Section 302 of the Sarbanes Oxley Act of 2002 to correct an omission from the previously filed certificates.

The Company is also including the Annual Consolidated Financial Statements of the Company as of December 31, 2022 and 2021 and for the years ended December 31, 2022, 2021 and 2020 dated April 25, 2023 (the "Audited Financial Statements") and Item 15 of the Form 20-F. There are no changes to Item 15 or the Audited Financial Statements of the Company from the Original Annual Report.

This Amended Annual Report speaks as of the Original Filing Date. This Amended Annual Report does not reflect any events that may have occurred subsequent to the Original Filing Date and does not modify or update any disclosure made in the Original Annual Report.

ITEM 15. CONTROLS AND PROCEDURES

A. Disclosure Controls and Procedures

As required by Rule 13a-15 under the Exchange Act, our management, including our Chief Executive Officer (CEO) and our Chief Financial Officer (CFO), has performed an evaluation of the effectiveness of our disclosure controls and procedures. Disclosure controls and procedures refer to controls and other procedures designed to ensure that information required to be disclosed in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. Disclosure controls and procedures include, without limitations, controls and procedures designed to ensure that information required to be disclosed by us in our reports that we file or submit under the Exchange Act is accumulated and communicated to management, including our principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding our required disclosures.

Based on the foregoing, our chief executive officer and our chief financial officer, together with our other members of management, have concluded that, as of December 31, 2022, due to the material weakness in internal control over financial reporting described below, our disclosure controls and procedures were not effective.

B. Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over our financial reporting and has assessed the effectiveness of our internal control over financial reporting as of December 31, 2022. In making this assessment, our management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in "Internal Control – Integrated Framework" (2013 framework).

Our management has excluded Frame Pharmaceuticals B.V. ("Frame", now CureVac Netherlands B.V.) from its assessment of internal control over financial reporting as of December 31, 2022 because Frame was acquired by us in a business combination on July 1, 2022. The total assets, excluding goodwill and intangible assets, total revenue and total operating loss of Frame excluded from our management's assessment represented approximately 0.4%, 0% and 0.5%, respectively, of our related consolidated financial statement amounts as of and for the year ended December 31, 2022.

Our management has concluded, based on its assessment, that our internal control over financial reporting was not effective as of December 31, 2022 due to a material weakness resulting from an IT system's functionalities having not been configured to support segregation of duties in the recording of manual journal entries as well as in the authorization of purchase orders.

Notwithstanding the material weakness identified as of December 31, 2022, we have concluded that the financial statements and other financial information included in this Annual Report on Form 20-F, fairly present in all material respects our financial condition, results of operations and cash flows as of, and for, the periods presented. The material weakness did not result in any identified material misstatements. Our auditors have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's consolidated financial statements and their report dated April 25, 2023 expressed an unqualified opinion thereon.

Remediation Plan

As previously disclosed, in connection with the preparation of our financial statements for the year ended December 31, 2021, we concluded that we had material weaknesses related to (a) ineffective information technology general controls (ITGCs) in the area of user access over certain information technology (IT) systems and the reports generated from these systems used in the execution of controls that support the Company's financial reporting processes and (b) business controls which were not adequately designed and operating effectively as a result of gaps in the identification of risks, precision of review controls and documentation to evidence control performance. During 2022, we have remediated these IT and business process material weaknesses identified the previous year.

Management strives to implement measures designed to ensure that control deficiencies resulting in material weaknesses are avoided. Despite these efforts, such material weaknesses may occur. Management's planned remediative measures for the material weakness identified in 2022 include implementation of IT system-enforced segregation of duties in the recording of manual journal entries and in the authorization of purchase orders.

Management believes the foregoing plans will effectively remediate the deficiencies constituting the material weakness. However, there is no assurance as to when such remediation will be successful. As the remediation plans are implemented, management may take additional measures or modify the plan described above. See "Item 3. Key Information — D. Risk Factors — We have identified a material weakness in our internal control related to ineffective configuration of segregation of duties in an IT system which, if not remediated appropriately or timely, could result in loss of investor confidence and adversely impact our stock price. If we are unable to remediate the material weakness, or if other control deficiencies are identified, we may not be able to report our financial results accurately, prevent fraud or file our periodic reports as a public company in a timely manner."

C. Attestation Report of the Registered Public Accounting Firm

The effectiveness of our internal control over financial reporting as of December 31, 2022 has been audited by Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft ("Ernst&Young"), an independent registered public accounting firm. Their report is included on page F-3. Ernst & Young is a member of the Chamber of Public Accountants (*Wirtschaftsprüferkammer*), Berlin, Germany.

D. Changes in Internal Control over Financial Reporting

Other than the changes described above and an upgrade of the enterprise resource planning software underlying our financial reporting, there were no changes to our internal control over financial reporting (as defined in Rule 13a-15(f) and 15d-15(f) under the Securities and Exchange Act of 1934), which occurred during the period covered by this Form 20-F that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

SIGNATURE

The registrant hereby certifies that it meets all of the requirements for filing this Amendment No. 1 on Form 20-F/A and that it has duly caused and authorized the undersigned to sign this Amended Annual Report on its behalf.

CureVac N.V.

By: /s/ Alexander Zehnder
Name: Alexander Zehnder
Title: *Chief Executive Officer*

Date: October 12, 2023

ITEM 19. Exhibits

Exhibit no.	Description
1.1	Form of Articles of Association of CureVac N.V. (translated into English) (incorporated by reference to Exhibit 3.1 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).
2.1	Investment and Shareholders' Agreement among several shareholders and CureVac AG (incorporated by reference to Exhibit 3.5 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).
2.2	Shareholders' Agreement among Kreditanstalt für Wiederaufbau, dievini Hopp BioTechholding GmbH & Co KG and Mr. Dietmar Hopp, dated June 16, 2020 (incorporated by reference to Exhibit 3.6 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).
2.3	Relationship Agreement among Kreditanstalt fur Wiederaufbau, dievini Hopp BioTechholding GmbH & Co KG and Mr. Dietmar Hopp, dated July 17, 2020 (incorporated by reference to Exhibit 3.7 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).
2.4	Registration Rights Agreement (incorporated by reference to Exhibit 4.5 to the Company's Form F-3 (File No. 333-259613) filed on September 17, 2021).
2.5	Description of the rights of each class of securities registered under Section 12 of the Securities Exchange Act of 1934 as of December 31, 2021.
4.1	Collaboration and License Agreement by and between CureVac AG and Genmab B.V., dated December 19, 2019 (incorporated by reference to Exhibit 10.1 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.2	Development and License Agreement by and between CureVac AG and CRISPR Therapeutics AG, dated November 9, 2017 (incorporated by reference to Exhibit 10.2 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.3	Exclusive Collaboration and License Agreement by and between CureVac GmbH and Boehringer Ingelheim International GmbH, dated August 21, 2014 (incorporated by reference to Exhibit 10.3 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.4	Amendment No. 1 to Exclusive Collaboration and License Agreement by and between CureVac GmbH and Boehringer Ingelheim International GmbH, dated June 30, 2015 (incorporated by reference to Exhibit 10.4 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.5	Amendment No. 2 to Exclusive Collaboration and License Agreement by and between CureVac AG and Boehringer Ingelheim International GmbH, dated August 1, 2016 (incorporated by reference to Exhibit 10.5 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.6	Amendment No. 3 to Exclusive Collaboration and License Agreement by and between CureVac AG and Boehringer Ingelheim International GmbH, dated August 8, 2019 (incorporated by reference to Exhibit 10.6 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†

Exhibit no.	Description
4.7	Global Access Commitments Agreement, by and between Bill & Melinda Gates Foundation and CureVac GmbH, dated February 13, 2015 (incorporated by reference to Exhibit 10.7 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.8	Definitive Agreement and Project Collaboration Plan for Assessment of RNA Vaccine Technology for Non-live Rotavirus Vaccines in Pre-clinical Models by and between Bill & Melinda Gates Foundation and CureVac GmbH, dated May 15, 2014 (incorporated by reference to Exhibit 10.8 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.9	Framework Partnering Agreement between Coalition for Epidemic Preparedness Innovations and CureVac AG, dated February 15, 2019 (incorporated by reference to Exhibit 10.9 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.10	Workpackage Statement (Development of CureVac Outbreak Response To Novel Coronavirus (2019-nCoV)) between Coalition for Epidemic Preparedness Innovations and CureVac AG, dated January 27, 2020 (incorporated by reference to Exhibit 10.10 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.11	Development and Option Agreement, between CureVac AG and Acuitas Therapeutics Inc., dated April 29, 2016 (incorporated by reference to Exhibit 10.11 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.12	Side Agreement and Amendment Number One to the Development and Option Agreement, between CureVac AG and Acuitas Therapeutics Inc., dated December 1, 2016 (incorporated by reference to Exhibit 10.12 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.13	Development and Intellectual Property Agreement, between CureVac AG and Tesla Grohmann Automation GmbH, dated November 24, 2015 (incorporated by reference to Exhibit 10.13 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.14	Development and Option Agreement, between CureVac AG and Arcturus Therapeutics Inc., dated January 1, 2018 (incorporated by reference to Exhibit 10.14 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.15	Restated Amendment to Development and Option Agreement, between CureVac AG and Arcturus Therapeutics Inc., dated September 28, 2018 (incorporated by reference to Exhibit 10.15 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.16	Third Amendment to Development and Option Agreement, between CureVac AG and Arcturus Therapeutics Inc., dated July 24, 2019 (incorporated by reference to Exhibit 10.16 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.17	Convertible loan, between Mr. Dietmar Hopp and CureVac AG, dated October 24, 2019 (incorporated by reference to Exhibit 10.17 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).
4.18	Sponsored Research Agreement, between CureVac AG and The Schepens Eye Research Institute, Inc., dated March 15, 2019 (incorporated by reference to Exhibit 10.19 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.19	First Amendment to Sponsored Research Agreement, between CureVac AG and The Schepens Eye Research Institute, Inc, dated May 19, 2019 (incorporated by reference to Exhibit 10.20 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†

Exhibit no.	Description
4.20	Rental contract for commercial premises, between CureVac Real Estate GmbH and Technologieparks Tübingen-Reutlingen GmbH, dated January 31, 2018 (incorporated by reference to Exhibit 10.21 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).
4.21	Rental Contract between CureVac Real Estate GmbH and Fränkel Immobilien-Service GmbH, dated June 6, 2018 (incorporated by reference to Exhibit 10.22 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).
4.22	Supplement to the rental contract, between CureVac Real Estate GmbH and Fränkel Immobilien-Service GmbH, dated July 23, 2018 (incorporated by reference to Exhibit 10.23 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).
4.23	Second Supplement to the rental contract, between CureVac Real Estate GmbH and Fränkel Immobilien-Service GmbH, dated August 20, 2018 (incorporated by reference to Exhibit 10.24 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).
4.24	Third Supplement to the rental contract, between CureVac Real Estate GmbH and HSB Vermietungs-und Verpachtungs-GmbH & Co. KG, dated November 5, 2018 (incorporated by reference to Exhibit 10.25 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).
4.25	Fourth Supplement to the rental contract, between CureVac Real Estate GmbH and HSB Vermietungs-und Verpachtungs-GmbH & Co. KG, dated October 22, 2019 (incorporated by reference to Exhibit 10.26 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).
4.26	Form of indemnification agreement between CureVac N.V. and members of the Supervisory Board or Management Board (incorporated by reference to Exhibit 10.27 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).
4.27	CureVac N.V. Long-Term Incentive Plan (incorporated by reference to Exhibit 10.28 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).
4.28	CureVac Virtual Share Plan (incorporated by reference to Exhibit 10.29 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).
4.29	Termination agreement between CureVac AG, CureVac Real Estate GmbH and Eli Lilly and Company, dated June 26, 2020 (incorporated by reference to Exhibit 10.30 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.30	Amendment to the convertible loan agreement, between Mr. Dietmar Hopp and CureVac AG, dated June 25, 2020 (incorporated by reference to Exhibit 10.31 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).
4.31	First Amendment to Collaboration and License Agreement by and between CureVac AG and Genmab B.V., dated July 2, 2020 (incorporated by reference to Exhibit 10.32 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.32	Collaboration and License Agreement by and between CureVac AG and Glaxosmithkline Biological SA, dated July 15, 2020 (incorporated by reference to Exhibit 10.33 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.33	Amendment Two to the Development and Option Agreement, between CureVac AG and Acuitas Therapeutics Inc., dated July 10, 2020 (incorporated by reference to Exhibit 10.34 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†

Exhibit no.	Description
4.34	Finance Fee Letter between the European Investment Bank and CureVac Real Estate GmbH, dated June 27, 2020 (incorporated by reference to Exhibit 10.35 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.35	Finance Agreement between the European Investment Bank and CureVac Real Estate GmbH, dated June 27, 2020 (incorporated by reference to Exhibit 10.36 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.36	Guarantee Agreement between the European Investment Bank and CureVac AG, dated June 27, 2020 (incorporated by reference to Exhibit 10.37 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.37	Letter Agreement regarding the alignment between the Global Access Commitments Agreement, between CureVac AG and the Bill & Melinda Gates Foundation and the Collaboration and License Agreement between CureVac AG and Glaxosmithkline Biologicals SA, dated July 15, 2020 (incorporated by reference to Exhibit 10.38 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.38	First Amendment and Joinder to Global Access Commitments Agreement, between CureVac AG, CureVac B.V. and the Bill & Melinda Gates Foundation, dated July 15, 2020 (incorporated by reference to Exhibit 10.39 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.39	Second Amendment to Global Access Commitments Agreement, between the Bill & Melinda Gates Foundation and CureVac AG, dated July 15, 2020 (incorporated by reference to Exhibit 10.40 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.40	Form of Long Term Incentive Plan of CureVac N.V. (incorporated by reference to Exhibit 10.41 to the Company's Form F-1 (File No. 333-240076) filed on August 10, 2020).†
4.41	1st Amendment to the Development and License Agreement, effective as of November 9, 2017, between CureVac AG and CRISPR Therapeutics, AG (incorporated by reference to Exhibit 10.42 to the Company's Form F-1 (File No. 333-252391) filed on January 25, 2021).†
4.42	Amendment 4 to Definitive Agreement 1 between the Bill & Melinda Gates Foundation and CureVac AG, effective November 3, 2020 (incorporated by reference to Exhibit 10.43 to the Company's Form F-1 (File No. 333-252391) filed on January 25, 2021).†
4.43	Addendum to Investment and Shareholders' Agreement among several shareholders and CureVac N.V., dated June 16, 2020 (incorporated by reference to Exhibit 10.44 to the Company's Form F-1 (File No. 333-252391) filed on January 25, 2021).†
4.44	Advance Purchase Agreement by and between CureVac AG and the European Commission, dated November 30, 2020 (incorporated by reference to Exhibit 4.45 to the Company's Annual Report on Form 20-F (File No. 001-39446) filed on April 27, 2021).†
4.45	Second Amendment to Collaboration and License Agreement between Genmab B.V. and CureVac AG, dated December 19, 2019 (incorporated by reference to Exhibit 10.46 to the Company's Form F-1 (File No. 333-252391) filed on January 25, 2021).†
4.46	Amendment Three to Development and Option Agreement between Acuitas Therapeutics Inc. and CureVac AG, dated December 24, 2020 (incorporated by reference to Exhibit 10.47 to the Company's Form F-1 (File No. 333-252391) filed on January 25, 2021).†

Exhibit no.	Description
4.47	Amendment Number One to the Framework Partnering Agreement between Coalition for Epidemic Preparedness Innovations and CureVac AG, dated December 11, 2020 (incorporated by reference to Exhibit 10.48 to the Company's Form F-1 (File No. 333-252391) filed on January 25, 2021).†
4.48	Amendment to the Collaboration and License Agreement by and between CureVac AG and Glaxosmithkline Biological SA, dated April 2, 2021 (incorporated by reference to Exhibit 4.49 to the Company's Annual Report on Form 20-F (File No. 001-39446) filed on April 27, 2021).†
4.49	COVID Collaboration and License Agreement by and between CureVac AG and Glaxosmithkline Biological SA, dated April 2, 2021 (incorporated by reference to Exhibit 4.50 to the Company's Annual Report on Form 20-F (File No. 001-39446) filed on April 27, 2021).†
4.50	Second Amendment to the Collaboration and License Agreement by and between CureVac AG and Glaxosmithkline Biological SA, dated September 29, 2021 (incorporated by reference to Exhibit 99.3 to the Company's Form 6-K (File No. 001-39446) filed on December 17, 2021).†
4.51	Amendment to the COVID Collaboration and License Agreement by and between CureVac AG and Glaxosmithkline Biological SA, dated September 29, 2021 (incorporated by reference to Exhibit 99.4 to the Company's Form 6-K (File No. 001-39446) filed on December 17, 2021).†
4.52	Second Amendment to the Shareholders' Agreement among Kreditanstalt für Wiederaufbau, dievini Hopp BioTechholding GmbH & Co KG and Mr. Dietmar Hopp, dated January 13, 2022 (incorporated by reference to Exhibit 99.1 to the Company's Form 6-K (File No. 001-39446) filed on January 13, 2022).
4.53	Consultancy Agreement between CureVac AG and Clarentis SRL, dated July 9, 2020 (incorporated by reference to Exhibit 4.54 to the Company's Annual Report on Form 20-F (File No. 001-39446) filed on April 28, 2022).
4.54	First Amendment to the Consultancy Agreement between CureVac AG and Clarentis SRL, dated September 3, 2020 (incorporated by reference to Exhibit 4.55 to the Company's Annual Report on Form 20-F (File No. 001-39446) filed on April 28, 2022).
4.55	Third Amendment to Collaboration and License Agreement between Genmab B.V. and CureVac AG, dated December 19, 2019, effective June 30, 2021 (incorporated by reference to Exhibit 4.56 to the Company's Annual Report on Form 20-F (File No. 001-39446) filed on April 28, 2022).†
4.56	Consortium Agreement between CureVac AG, CureVac Real Estate GMBH and Glaxosmithkline Biologicals SA, dated February 20, 2022 (incorporated by reference to Exhibit 4.57 to the Company's Annual Report on Form 20-F (File No. 001-39446) filed on April 28, 2022).†
4.57	Fourth Amendment to the Collaboration and License Agreement by and between CureVac AG and Glaxosmithkline Biological SA, dated March 4, 2022 (incorporated by reference to Exhibit 4.58 to the Company's Annual Report on Form 20-F (File No. 001-39446) filed on April 28, 2022).†
4.58	Third Amendment to the COVID Collaboration and License Agreement by and between CureVac AG and Glaxosmithkline Biological SA, dated March 4, 2022 (incorporated by reference to Exhibit 4.59 to the Company's Annual Report on Form 20-F (File No. 001-39446) filed on April 28, 2022).†
4.59	Second Amendment to Sponsored Research Agreement, between CureVac AG and The Schepens Eye Research Institute, Inc, dated July 29, 2021 (incorporated by reference to Exhibit 4.60 to the Company's Annual Report on Form 20-F (File No. 001-39446) filed on April 28, 2022).†

Exhibit no.	Description
4.60	Third Amendment to Sponsored Research Agreement, between CureVac AG and The Schepens Eye Research Institute, Inc, dated September 1, 2021 (incorporated by reference to Exhibit 4.61 to the Company's Annual Report on Form 20-F (File No. 001-39446) filed on April 28, 2022).†
4.61	Research and Option Agreement, by and between CureVac AG and myNEO NV, dated May 12, 2022 (incorporated by reference to Exhibit 4.61 to the Company's Annual Report on Form 20-F (File No. 001-39446) filed on April 25, 2023).
4.62	Fourth Amendment to the COVID Collaboration and License Agreement by and between CureVac AG and Glaxosmithkline Biological SA, dated August 25, 2022 Research and Option Agreement, by and between CureVac AG and myNEO NV, dated May 12, 2022 (incorporated by reference to Exhibit 4.62 to the Company's Annual Report on Form 20-F (File No. 001-39446) filed on April 25, 2023).
4.63	Fourth Amendment to Sponsored Research Agreement, between CureVac AG and The Schepens Eye Research Institute, Inc, dated August 31, 2022 Research and Option Agreement, by and between CureVac AG and myNEO NV, dated May 12, 2022 (incorporated by reference to Exhibit 4.63 to the Company's Annual Report on Form 20-F (File No. 001-39446) filed on April 25, 2023).
4.64	Fifth Amendment to Sponsored Research Agreement, between CureVac AG and The Schepens Eye Research Institute, Inc, dated January 1, 2023 Research and Option Agreement, by and between CureVac AG and myNEO NV, dated May 12, 2022 (incorporated by reference to Exhibit 4.64 to the Company's Annual Report on Form 20-F (File No. 001-39446) filed on April 25, 2023).
8.1	List of subsidiaries Research and Option Agreement, by and between CureVac AG and myNEO NV, dated May 12, 2022 (incorporated by reference to Exhibit 8.1 to the Company's Annual Report on Form 20-F (File No. 001-39446) filed on April 25, 2023).
12.1**	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
12.2**	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
13.1**	Certification Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
13.2**	Certification 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 Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft.
15.2	Letter of Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft regarding Item 16F, dated April 25, 2023 (incorporated by reference to Exhibit 15.2 to the Company's Annual Report on Form 20-F (File No. 001-39446) filed on April 25, 2023).
101.INS**	Inline XBRL Instance 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
101.PRE**	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104**	Inline Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)

† Certain information has been excluded from the exhibit because it both (i) is not material and (ii) would likely cause competitive harm to the Registrant if publicly disclosed.

* Filed with this Annual Report on Form 20-F.

** In accordance with Rule 402 of Regulation S-T, the information in these exhibits shall not be deemed to be "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section, and shall not be incorporated by reference into any registration statement or other document filed under the Securities Act or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

CureVac N.V.

Consolidated Financial Statements

As of December 31, 2022 and 2021
and for the years ended December 31, 2022, 2021 and 2020

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Audit Committee of CureVac N.V.

Opinion on the Financial Statements

We have audited the accompanying consolidated statements of financial position of CureVac N.V. (the Company) as of December 31, 2022 and 2021, the related consolidated statements of operations and other comprehensive income (loss), changes in shareholders' equity and cash flows for each of the three years in the period ended December 31, 2022, and 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 at December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated April 25, 2023 expressed an adverse opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the 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 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 financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the 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 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 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 financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter 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.

Provisions for contract termination costs

Description of the matter	As described in Note 2 to the consolidated financial statements, the Company recognizes provisions for contract termination costs where it is probable that a liability exists as of the reporting date and a reliable estimate can be made. As described in Note 12 of the consolidated financial statements, as of December 31, 2022, the Company recognized €61.3 million of provisions for the estimated costs of terminated contract manufacturing organizations (CMOs) contracts. Auditing the provisions for terminated CMO contracts was complex and required significant judgment in determining a reliable estimate of the settlement cost for each agreement. Such provisions are judgmental and subjective due to potential variability in the amount required to be paid to ultimately release the Company from its remaining obligations under the CMO contracts, including as a result of arbitration proceedings.
How we addressed the matter in our audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of internal controls relating to management's valuation of the CMO contract termination provisions. Our substantive audit procedures included, among others, assessing the various components underlying management's estimate of the amount required to release the Company from its remaining obligations under these contracts. We inspected the CMO contracts and compared the nature and substance of the contract termination clauses to management's estimate. We also obtained internal and external legal counsel confirmation letters, performed inquiries of internal legal counsel regarding the status of arbitration proceedings and inspected correspondence between the Company and the CMOs. Further, we assessed the adequacy of the Company's disclosure in Note 12 to the consolidated financial statements.

/s/ Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft

We have served as the Company's auditor since 2015.

Stuttgart, Germany
April 25, 2023

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Audit Committee of CureVac N.V.

Opinion on Internal Control Over Financial Reporting

We have audited CureVac N.V.'s internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, because of the effect of the material weakness described below on the achievement of the objectives of the control criteria, CureVac N.V. (the Company) has not maintained effective internal control over financial reporting as of December 31, 2022, based on the COSO criteria.

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. The following material weakness has been identified and included in management's assessment. Management has identified a material weakness in controls resulting from an IT system's functionalities having not been configured to support segregation of duties in the recording of manual journal entries as well as in the authorization of purchase orders.

As indicated in the accompanying Management's Annual Report on Internal Control Over Financial Reporting, management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of Frame Pharmaceuticals B.V. ("Frame", now CureVac Netherlands B.V.), which is included in the 2022 consolidated financial statements of the Company and constituted 0.4% of total assets as of December 31, 2022 and 0% and 0.5% of total revenues and total operating loss, respectively, for the year then ended. Our audit of internal control over financial reporting of the Company also did not include an evaluation of the internal control over financial reporting of Frame.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated statements of financial position of the Company as of December 31, 2022 and 2021, the related consolidated statements of operations and other comprehensive income (loss), changes in shareholders' equity and cash flows for each of the three years in the period ended December 31, 2022, and the related notes. This material weakness was considered in determining the nature, timing and extent of audit tests applied in our audit of the 2022 consolidated financial statements, and this report does not affect our report dated April 25, 2023, which expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A 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 generally accepted accounting principles. 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.

/s/ Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft

Stuttgart, Germany
April 25, 2023

CureVac N.V.

Consolidated Statements of Operations and Other Comprehensive Income (Loss)

(in thousands of EUR, except per share amounts)	Note	Year ended December 31, 2020	2021	2022
Revenue	3.1	48,871	102,990	67,420
Cost of sales	3.2	(14,173)	(238,195)	(183,993)
Selling and distribution expenses	3.3	(733)	(1,743)	(2,817)
Research and development expenses	3.1, 3.4	(113,808)	(815,907)	(62,550)
General and administrative expenses	3.5	(53,554)	(100,402)	(104,178)
Income from release of governmental contract liabilities	3.6	—	574,502	—
Other operating income	3.7	24,150	67,702	37,932
Other operating expenses		(568)	(1,210)	(1,271)
Operating loss		**(109,815)**	**(412,263)**	**(249,457)**
Finance income		2,070	10,103	4,009
Finance expenses		(22,103)	(10,338)	(3,707)
Loss before income tax		**(129,848)**	**(412,498)**	**(249,155)**
Income tax benefit/ (expense)	13	726	782	126
Net loss for the period		**(129,122)**	**(411,716)**	**(249,029)**
Other comprehensive income:				
Items that may be subsequently reclassified to profit or loss				
Foreign currency adjustments		35	(91)	(105)
Total comprehensive loss for the period		**(129,087)**	**(411,807)**	**(249,134)**
Net loss per share (basic and diluted)		**(0.98)**	**(2.21)**	**(1.32)**

The accompanying notes are an integral part of these consolidated financial statements.

CureVac N.V.

Consolidated Statements of Financial Position

(in thousands of EUR)	Note	December 31, 2021	December 31, 2022
Assets			
Non-current assets			
Intangible assets and goodwill	4.1	13,238	31,778
Property, plant and equipment	4.1	168,264	197,941
Right-of-use assets	4.2	32,129	43,761
Other assets	4.3	1,731	1,666
Deferred tax assets	14	2,861	1,297
Total non-current assets		**218,223**	**276,443**
Current assets			
Assets held for sale	5	—	10,467
Inventories	6	56,159	23,989
Trade receivables		18,504	6,295
Contract assets		—	2,707
Other financial assets	7	4,648	4,487
Prepaid expenses and other assets	8	49,244	40,287
Cash and cash equivalents		811,464	495,797
Total current assets		**940,019**	**584,029**
Total assets		**1,158,242**	**860,472**
Equity and liabilities			
Equity	9		
Issued capital		22,454	23,400
Capital reserve		1,728,658	1,817,287
Treasury Shares		(5,817)	(1,481)
Accumulated deficit		(1,056,785)	(1,305,814)
Other comprehensive income		(34)	(139)
Total equity		**688,476**	**533,253**
Non-current liabilities			
Lease liabilities	4.2	25,423	37,106
Contract liabilities	3.1	86,345	72,549
Provisions	12	—	61,320
Other liabilities	12	264	19
Total non-current liabilities		**112,032**	**170,994**
Current liabilities			
Lease liabilities	4.2	3,469	4,980
Trade and other payables	11	127,703	73,463
Provisions	12	122,042	1,922
Other liabilities	12	48,031	40,491
Income taxes payable	14	739	610
Contract liabilities	3.1	55,750	34,759
Total current liabilities		**357,734**	**156,225**
Total liabilities		**469,766**	**327,219**
Total equity and liabilities		**1,158,242**	**860,472**

The accompanying notes are an integral part of these consolidated financial statements.

CureVac N.V.

Consolidated Statements of Changes in Shareholders' Equity

(in thousands of EUR)	Issued capital	Capital reserve	Treasury Shares	Accumulated deficit	Currency translation reserve	Total equity
Balance as of January 1, 2020	**11,603**	**461,520**	**—**	**(515,947)**	**22**	**(42,802)**
Net loss	—	—	—	(129,122)	—	(129,122)
Other comprehensive income (loss)	—	—	—	—	35	35
Total comprehensive income (loss)	**—**	**—**	**—**	**(129,122)**	**35**	**(129,087)**
Equity component of convertible loans (net of tax)	—	87	—	—	—	87
Share-based payment expense (net of tax)	—	15,432	—	—	—	15,432
Exercise of options	383	(383)	—	—	—	—
Issuance of share capital (net of transaction costs)	9,669	858,048	—	—	—	867,717
Balance as of December 31, 2020	**21,655**	**1,334,704**	**—**	**(645,069)**	**57**	**711,347**

(in thousands of EUR)	Issued capital	Capital reserves	Treasury Shares	Accumulated deficit	Currency translation reserve	Total equity
Balance as of January 1, 2021	**21,655**	**1,334,704**	**—**	**(645,069)**	**57**	**711,347**
Net loss	—	—	—	(411,716)	—	(411,716)
Other comprehensive income (loss)	—	—	—	—	(91)	(91)
Total comprehensive income (loss)	**—**	**—**	**—**	**(411,716)**	**(91)**	**(411,807)**
Share-based payment expense (net of tax)	—	15,789	—	—	—	15,789
Exercise of options	109	3,077	—	—	—	3,186
Issuance of share capital (net of transaction costs)	690	403,372	—	—	—	404,062
Repurchase of common shares	—	(28,284)	(5,817)	—	—	(34,101)
Balance as of December 31, 2021	**22,454**	**1,728,658**	**(5,817)**	**(1,056,785)**	**(34)**	**688,476**

(in thousands of EUR)	Issued capital	Capital reserves	Treasury Shares	Accumulated deficit	Currency translation reserve	Total equity
Balance as of January 1, 2022	**22,454**	**1,728,658**	**(5,817)**	**(1,056,785)**	**(34)**	**688,476**
Net loss	—	—	—	(249,029)	—	(249,029)
Other comprehensive income (loss)	—	—	—	—	(105)	(105)
Total comprehensive income (loss)	**—**	**—**	**—**	**(249,029)**	**(105)**	**(249,134)**
Share-based payment expense (Net of Taxes)	—	7,539	—	—	—	7,539
Issuance of share capital (net of transaction costs)	829	65,552	—	—	—	66,381
Share issuances and contingent consideration from business combination	103	18,978	—	—	—	19,081
Exercise of options / Settlement of share-based payment awards	14	(3,440)	4,336	—	—	910
Balance as of December 31, 2022	**23,400**	**1,817,287**	**(1,481)**	**(1,305,814)**	**(139)**	**533,253**

The accompanying notes are an integral part of these consolidated financial statements.

CureVac N.V.

Consolidated Statements of Cash Flows

(in thousands of EUR)	Note	Year ended December 31, 2020	2021	2022
Loss before income tax		**(129,848)**	**(412,498)**	**(249,155)**
Adjustments to reconcile loss before tax to net cash flows				
Finance income		(2,070)	(10,103)	(4,009)
Finance expense		22,103	10,338	3,707
Depreciation and amortization	4.1	10,671	15,674	23,741
Impairment of property, plant and equipment	4.1	—	22,810	6,594
Loss on disposal of fixed assets	4.1	5,921	587	11,981
Impairment of assets held for sale	5	—	—	19,064
Impairment of inventory and prepayments	6	—	185,832	80,021
Share-based payment expense		14,240	14,956	9,185
Income from release of governmental contract liabilities	3.6	—	(574,502)	—
Releases in provision for onerous contracts	12	—	—	(58,799)
Working capital changes				
Decrease / (increase) in trade receivables and contract assets		15,332	(16,682)	9,502
Decrease / (increase) in inventory	6	(8,334)	(227,460)	(47,851)
Decrease / (increase) in prepaid expenses and other assets		(47,578)	(3,118)	8,968
Receipts from grants from government agencies and similar bodies		31,599	93,531	—
(Decrease) / increase in trade and other payables and contract liabilities		620,305	179,316	(96,186)
(Decrease) / increase in other current financial and other liabilities		(55)	(20)	—
Decrease / (increase) in deferred taxes		(1,096)	(1,583)	4
Income taxes paid		(93)	(502)	(128)
Interest received		—	81	1,790
Interest paid		(8,694)	(9,785)	(4,606)
Net cash flow provided by (used in) operating activities		**522,403**	**(733,128)**	**(286,177)**
Investing activities				
Purchase of property, plant and equipment		(36,329)	(124,222)	(88,023)
Purchase of intangible assets		(11,023)	(3,679)	(5,199)
Proceeds from asset-related grants		3,239	—	—
Purchases of financial assets		(1,161)	—	—
Acquisition of subsidiary, net of cash acquired	21	—	—	(277)
Net cash flow provided by (used in) investing activities		**(45,274)**	**(127,901)**	**(93,499)**
Financing activities				
Payments on lease obligations		(2,995)	(3,183)	(4,221)
Proceeds from the issuance of shares (net of transaction costs)		867,717	404,062	—
Payment on / proceeds from treasury shares/exercise of options		—	(30,915)	910
Proceeds from at-the-market offering program (net of transaction costs)		—	—	66,484
Proceeds from (repayment of) the EIB loan		25,000	(25,000)	—
Proceeds from the convertible loan		24,860	—	—
Repayments of convertible loan		(94,749)	—	—
Net cash flow provided by financing activities		**819,833**	**344,964**	**63,173**
Net increase (decrease) in cash and cash equivalents		1,296,962	(516,065)	(316,503)
Effect of currency translation gains on cash and cash equivalents		(5,053)	4,936	836
Cash and cash equivalents, beginning of period		30,684	1,322,593	811,464
Cash and cash equivalents, end of period		**1,322,593**	**811,464**	**495,797**

The accompanying notes are an integral part of these consolidated financial statements.

1. Corporate Information

CureVac N.V. (“CureVac” or “CV” or the “Company”) is the parent company of CureVac Group (“Group”) and, along with its subsidiaries, is a global biopharmaceutical company developing a new class of transformative medicines based on the messenger ribonucleic acid (mRNA) that has the potential to improve the lives of people.

We were incorporated pursuant to the laws of the Netherlands as CureVac B.V. on April 7, 2020 to become a holding company for CureVac AG prior to our initial public offering. Pursuant to the terms of a corporate reorganization (the “Corporate Reorganization”), all of the outstanding shares in CureVac AG were contributed and transferred to CureVac B.V. in a capital increase in exchange for common shares of CureVac B.V. and, as a result, CureVac AG became a wholly-owned subsidiary of CureVac B.V. and then current shareholders of CureVac AG became the shareholders of CureVac B.V. Immediately following such exchange, and prior to the listing of our common shares on Nasdaq, we converted into a public company (naamloze vennootschap) under Dutch law pursuant to a Dutch notarial deed of amendment and conversion, following which our legal name became CureVac N.V. As part of our Corporate Reorganization, outstanding shares of all series in CureVac AG were exchanged for common shares in CureVac N.V. On May 4, 2022, CureVac AG, as absorbing and parent entity, entered into a plan of merger with CureVac Beteiligungsverwaltungs AG, as transferring entity, which became effective on September 26, 2022. Upon effectiveness of the merger plan, CureVac Beteiligungsverwaltungs AG ceased to exist and CureVac AG adopted the legal form of SE (societas Europaea) preserving its identity and operating under the name CureVac SE.

We are registered in the commercial register at the Netherlands Chamber of Commerce under company number 77798031 (RSIN 861149336). Our principal executive offices are located at Friedrich-Miescher-Strasse 15, 72076 Tübingen, Germany.

During fiscal 2022, dievini Hopp BioTech holding GmbH & Co. KG (dievini), which is an investment company dedicated to the support of companies in health and life sciences, was the largest shareholder of CureVac. Together with its related parties, dievini held shares and voting rights in CureVac between appr. 43 – 46 % (prior year: 46 – 49 %) during that period. dievini is thus considered to be the de facto parent of the Group. Dietmar Hopp, Daniel Hopp and Oliver Hopp are the ultimate controlling persons (of the main shareholders) of dievini, and, therefore, control the voting and investment decisions of dievini.

2. Significant accounting policies, judgments, estimates, and assumptions

These consolidated financial statements are prepared on a historical cost basis under the going concern assumption. The significant accounting policies adopted in the preparation of these consolidated financial statements are described below. These accounting policies have been consistently applied to all years presented unless otherwise stated.

The preparation of financial statements requires the use of certain accounting estimates. It also requires management to exercise its judgment in applying the Group’s accounting policies. The areas that require a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the financial statements, are disclosed below.

Basis of preparation

The consolidated financial statements of the Group have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) and were authorized by the Management Board for presentation to the Supervisory Board on April 21, 2023. The Group’s consolidated financial statements are presented in Euros (“EUR”), which is also the parent company’s functional currency. Unless otherwise stated, the numbers are rounded to thousands of Euros, except per share amounts. Liabilities for contract termination and onerous contracts are separately presented as ‘Provisions’ in the 2022 statement of financial position to make clear their provisional nature. The prior year contract termination provisions of EUR 81,587k and provisions for onerous contracts of EUR 40,555k have been reclassified from ‘Other liabilities’ to ‘Provisions’ to conform with the current year presentation.

Basis of consolidation

The consolidated financial statements include the Company's wholly-owned subsidiaries CureVac SE (prior years: CureVac AG, Tuebingen, Germany), CureVac Inc. (Boston, Massachusetts, USA), CureVac Manufacturing GmbH (prior years: CureVac Real Estate GmbH, Tuebingen, Germany), with CureVac Corporate Services GmbH (Tuebingen, Germany), CureVac RNA Printer GmbH (Tuebingen, Germany) and CureVac Swiss AG (Basel, Switzerland) being incorporated in 2021and CureVac Belgium SA being incorporated in 2022. Effective July 1, 2022, we acquired Frame Pharmaceuticals B.V., Amsterdam, Netherlands ('Frame Pharmaceuticals'), which was renamed to CureVac Netherlands B.V.; refer to Note 21 for additional information about this business combination.

Control is achieved when the Company is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee.

All intra-group assets and liabilities, equity, income, expenses, and cash flows relating to transactions between members of the Group are eliminated upon consolidation.

The fiscal year of all Group entities corresponds to the calendar year ending December 31.

Summary of significant accounting policies

Business combinations and goodwill

Business combinations are accounted for using the acquisition method. The cost of an acquisition is measured as the aggregate of the consideration transferred, which is measured at acquisition date fair value acquisition-related costs are expensed as incurred and included in general and administrative expenses in the statement of operations.

The Group determines that it has acquired a business when the acquired set of activities and assets include an input and a substantive process that together significantly contribute to the ability to create outputs. The acquired process is considered substantive if it is critical to the ability to continue producing outputs, and the inputs acquired include an organized workforce with the necessary skills, knowledge, or experience to perform that process or it significantly contributes to the ability to continue producing outputs and is considered unique or scarce or cannot be replaced without significant cost, effort, or delay in the ability to continue producing outputs.

Any contingent consideration to be transferred by the acquirer is recognized at fair value at the acquisition date. Contingent consideration classified as equity is not remeasured and its subsequent settlement is accounted for within equity. Contingent consideration classified as an asset or liability that is a financial instrument and within the scope of IFRS 9 Financial Instruments, is measured at fair value with the changes in fair value recognized in the statement of operations in accordance with IFRS 9. Other contingent consideration that is not within the scope of IFRS 9 is measured at fair value at each reporting date with changes in fair value recognized in the statement of operations.

Goodwill is initially measured at cost (being the excess of the aggregate of the consideration transferred over the fair value of net identifiable assets acquired and liabilities assumed). If the fair value of the net assets acquired is in excess of the aggregate consideration transferred, the Group re-assesses whether it has correctly identified all of the assets acquired and all of the liabilities assumed and reviews the procedures used to measure the amounts to be recognized at the acquisition date. If the reassessment still results in an excess of the fair value of net assets acquired over the aggregate consideration transferred, then the gain is recognized in the statement of operations.

After initial recognition, goodwill is measured at cost less any accumulated impairment losses.

Current and non-current classification

The Group presents assets and liabilities in the statement of financial position based on current/non-current classification.

Current assets include assets that are sold, consumed, or realized as part of the normal operating cycle (the operating cycle is assumed to be 12 months), or cash and cash equivalent unless restricted from being exchanged or used to settle a liability for at least twelve months after the reporting period. All other assets are classified as non-current.

Current liabilities, such as trade payables, lease liabilities, or employee benefits with a term of up to 12 months, and payables for operating costs or social security charges, are part of the working capital used in the Group's normal operating cycle. Such operating items are classified as current liabilities even if they are due to be settled more than 12 months after the reporting period. All other liabilities are classified as non-current.

Foreign currency translation

For each entity, the Group determines the functional currency and items included in the financial statements of each entity are measured using that functional currency. Foreign currency transactions are initially translated at the spot rate applicable between the functional currency and the foreign currency on the date of the transaction. Monetary assets and liabilities in foreign currencies are translated to the functional currency using the prevailing rate at the reporting date. Foreign currency exchange differences are recorded in the statement of operations. Upon consolidation, the assets and liabilities of foreign operations are translated into Euro at the rate of exchange prevailing at the reporting date and their statements of operations are translated at the average exchange rate of the fiscal period. The exchange differences arising on translation for consolidation are recognized in other comprehensive income (loss).

Revenue recognition

Revenue from the sale of products and services is recognized when the Group transfers control to the customer. Control generally transfers when the customer gains the ability to direct the use of and obtain substantially all of the remaining benefits from the good or service. If the contract contains more than one performance obligation, the consideration which the Group expects to receive is allocated to each of the performance obligations, using the relative stand-along selling price method. Revenue is recognized at the amount of consideration that the Group is expected to receive in exchange for these goods or services. The Group has concluded that it acts as a principal in sales transactions as it has control over the goods or services before transferring control to the customer.

The Group primarily generates revenue from its licensing and development agreements with its customers, which include collaboration partners for the development of mRNA medicines against a variety of targets in diseases and conditions. These arrangements contain multiple contractual promises, including (i) licenses, or options to obtain licenses, to the Group's mRNA technology, (ii) delivery of products, and (iii) research and development services. Such arrangements provide for various types of payments to the Group, including upfront fees, funding of research and development services, payment for delivered products, development, regulatory and commercial milestone payments, license fees, and royalties on product sales, all of which may be satisfied at different points in time. Outlicensing agreements may be entered into with or without any further significant contractual obligations.

Goods or services promised in collaborative arrangements are accounted for as separate performance obligations if such promises are distinct (i.e., if the customer can benefit from the good or service on its own or together with other resources readily available to it and if the promise is separately identifiable from other promises in the contract).

In determining whether contractual promises are separately identifiable, the Group considers whether:

- It provides a significant service of integrating the goods or services with other goods or services that represent the combined output or outputs for which the other party has contracted.
- One or more of the goods or services significantly modifies or customizes one or more of the other goods or services promised in the agreement.
- The goods or services the Group promised to transfer or to provide are highly interdependent or highly interrelated.

Based on these criteria, management evaluates whether the intellectual property (IP) licenses granted, and to which further research and development activities may apply under the terms of a collaboration agreement, are distinct from the unperformed obligations to the collaboration partner, considering the relevant facts and circumstances of each arrangement. Factors considered in this determination include the nature of the IP license, the stage of development of the IP license granted, the research capabilities of the partner, and the availability of mRNA technology research expertise in the general marketplace.

When an IP license is not considered to be distinct from research services, the Group generally recognizes revenue, including any upfront payment, attributable to the license on a straight-line basis, which reflects the performance of services by the Group towards satisfaction of the obligation, over the contractual or estimated performance period, which is typically from the effective date of the related collaboration agreement through the estimated date of market entry of a product developed under the agreement. The determination of the estimated date of market entry requires a significant amount of judgment given the uncertainty inherent in developing innovative pharmaceutical products and is based upon development plans with the customer, which are subject to change, clinical trials, and approval of regulatory authorities. Changes in the estimated date of market entry could have a material impact on the amount and timing of revenue the Group records in future periods.

When an IP license is considered to be distinct, the Group determines whether it provides the customer with either (1) a right to access the IP throughout the license period (for which revenue is recognized over the license period) or (2) a right to use the IP as it exists at the point in time that the license is granted (for which revenue is recognized at a point in time where the customer can first use and benefit from the license).

If the transaction price in an agreement includes a variable amount, the Group estimates the amount of consideration to which the Group will be entitled in exchange for transferring the goods to the customer. At contract inception, the variable consideration is estimated based on the most likely amount of consideration expected from the transaction and constrained until it is highly probable that a significant revenue reversal in the amount of cumulative revenue recognized will not occur when the associated uncertainty with respect to the variable consideration is subsequently resolved. The estimated deferred contract liability is updated at each reporting date to reflect the current facts and circumstances.

Collaboration agreements may also provide a customer with the option to acquire additional goods or services. The accounting treatment for such options depends on the nature of these options. Options are considered to be substantive if, at the inception of an agreement, the Group is at risk as to whether the customer will choose to exercise the options to secure additional licenses. Factors that are considered in evaluating whether options are substantive include the overall objective of the arrangement, the benefit the customer might obtain from the agreement without exercising the options, the cost to exercise the options relative to the total upfront consideration, and the additional financial commitments or economic penalties imposed on the customer as a result of exercising the options.

Product sales related to collaboration agreements include RNA products and are recognized over time as goods are produced because such goods have no alternative use and the Group has an enforceable right to payment. Otherwise, revenue for product sales is recognized at a point in time. In 2022, 2021, and 2020, no revenue from product sales was recognized on a point-in-time basis. Revenue from certain research and development services, delivered as a distinct performance obligation under the collaboration agreements, are recognized over time as the services provided have no alternative use and the Group has an enforceable right to payment.

A receivable is recognized when the consideration is unconditional and only the passage of time is required before payment is due. The transaction price is quoted in the relevant contractually agreed pricing in force at the date of the customer placing the respective order for such goods or services. Amounts received prior to satisfying the above revenue recognition criteria are recorded as contract liability in the statements of financial position.

The Group may present the following contract balances:

- Contract assets — Represents the Group’s right to consideration in exchange for goods or services that the Group has transferred to the customer when that right is conditioned on something other than the passage of time

- Trade receivables — Represents the Group’s right to an amount of consideration that is unconditional (i.e., only the passage of time is required before payment of the consideration is due)

- Contract liabilities — Represents the Group's obligations to transfer goods or services to a customer for which the Group has received consideration (or consideration is due) from the customer

The Group recognizes revenue from contracts with customers relating to its core business. All other operating proceeds are presented as other operating income in the statements of operations.

Grants from government agencies and similar bodies

The Group receives grants from government agencies and similar bodies for the active participation in specific research and development projects. Each grant agreement is assessed to determine whether there are elements of the supply of products that are recognized separately from the grant. For the supply of products, the standalone selling price is determined by reference to observed prices with other customers. The grants are recognized when there is reasonable assurance that the grant will be received and all grant conditions will be met. If grant funds are received prior to qualifying expenses being incurred or assets purchased, they are recorded as a liability in other liabilities. If the funds reimburse expenses, the liability is amortized into other operating income on a systematic basis over the period in which the corresponding expenses are incurred. If the funds reimburse purchased assets, the liability is reduced with a corresponding amount deducted from the asset's carrying amount upon recording of the qualified asset. According to the terms of the grants, grantors generally have the right to audit qualifying expenses submitted by the Group.

Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

i) Financial assets

Initial recognition and measurement

Financial assets are initially measured at fair value. After the initial measurement, the financial assets are subsequently classified as either amortized cost, fair value through other comprehensive income, or fair value through profit or loss.

The classification of financial assets at initial recognition depends on the financial asset's contractual cash flow characteristics and the Group's business model for managing them. The Group initially measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs. Trade receivables that do not contain a significant financing component are measured at the transaction price determined under IFRS 15.

For a financial asset to be classified and measured at amortized cost or fair value through other comprehensive income, it needs to give rise to cash flows that are "solely payments of principal and interest (SPPI)" on the principal amount outstanding. This assessment is referred to as the SPPI test and is performed at an instrument level.

Subsequent measurement

For purposes of subsequent measurement, financial assets are classified into four categories:

- financial assets at amortized cost (debt instruments);
- financial assets at fair value through other comprehensive income with recycling of cumulative gains and losses (debt instruments);
- financial assets designated at fair value through other comprehensive income with no recycling of cumulative gains and losses upon derecognition (equity instruments); or
- financial assets at fair value through profit or loss.

In fiscal 2020, 2021, and 2022, the Group only had the following financial assets to be measured at amortized cost:

- Cash and cash equivalents
- Other financial assets
- Trade receivables and contract assets

Financial assets at amortized cost are subsequently measured using the effective interest (EIR) method and are subject to impairment. Gains and losses are recognized in the statement of operations when the asset is derecognized, modified, or impaired.

Derecognition

A financial asset (or, where applicable, a part of a financial asset or part of a group of similar financial assets) is primarily derecognized when the Group no longer has the contractual rights to the asset or the right to receive cash flows from the asset have expired.

Impairment of financial assets

An allowance for expected credit losses (ECLs) is recognized for all debt instruments not held at fair value through profit or loss. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all of the cash flows that the Group expects to receive, discounted at an approximation of the original effective interest rate. The expected cash flows will include cash flows from the sale of collateral held or other credit enhancements that are integral to the contractual terms.

For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECLs are provided for credit losses that result from default events that are possible within the next 12- months (a 12- month ECL). For those credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is required for credit losses expected over the remaining life of the exposure, irrespective of the timing of the default (a lifetime ECL).

For cash and cash equivalents, trade receivables, and contract assets, the Group applies a simplified approach in calculating ECLs. Therefore, the Group does not track changes in credit risk but instead recognizes a loss allowance based on lifetime ECLs at each reporting date.

The Group considers a financial asset in default when contractual payments are 180 days past due. However, in certain cases, the Group may also consider a financial asset to be in default when internal or external information indicates that the Group is unlikely to receive the outstanding contractual amounts in full before taking into account any credit enhancements held by the Group. A financial asset is written off when there is no reasonable expectation of recovering the contractual cash flows.

ii) Financial liabilities

Initial recognition and measurement

Financial liabilities are classified, at initial recognition, as financial liabilities at fair value through profit or loss, loans and borrowings or as payables.

All financial liabilities are recognized initially at fair value and, in the case of loans and borrowings and payables, net of directly attributable transaction costs.

The Group’s financial liabilities include lease liabilities, trade payables, the EIB-loan, which was repaid in 2021 (see note 13), and the convertible loans (see note 13), which were repaid immediately before the IPO in fiscal 2020.

Subsequent measurement

After initial recognition, interest-bearing loans and borrowings, trade payables, and other financial liabilities are subsequently measured at amortized cost using the EIR method. Gains and losses are recognized in the statement of operations when the liabilities are derecognized as well as through the EIR amortization process.

Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortization is included as finance costs in the statement of operations.

This category generally applies to interest-bearing loans and borrowings, including convertible loans.

Derecognition

A financial liability is derecognized when the obligation under the liability is discharged or canceled or expires.

Accounting for EIB loan

In 2020, the Group received from the European Investment Bank, or EIB, a line of credit which was available in three tranches, each of which can be drawn separately.

The Group accounted for the first tranche of EUR 25 million drawn in 2020 as a financial liability at amortized cost, using the effective interest method based on expected cashflows including any amount of variable remuneration. In doing so, the Group assessed what is the most probable scenario for the exercise of its rights as the borrower. In addition, the Group determined an effective interest rate that is consistent with the accounting for other financing arrangements. In December 2021, the loan was terminated early and as of December 31, 2021, the EIB loan was fully repaid. For further information on the EIB loan, see Note 13.

Accounting for convertible loans

IFRS requires that a convertible loan be bifurcated into a debt component and a conversion right if the latter is an equity instrument.

The Group assessed that the conversion right of the convertible loan is not an equity instrument, but a liability with an insignificant value.

The debt component of the convertible loan was measured using the market interest rate obtainable on similar debt instruments. The debt component was measured as a liability at amortized cost until it is converted into equity or becomes due for repayment. The carrying amount of the debt component was based on an expected repayment in 2021, which was the earliest possible date at which repayment could be required by the lender unless specified events occurred.

The component of the loan proceeds allocated to equity represents the residual value between the consideration received for each single tranche and the fair value of the corresponding financial liabilities at initial recognition.

For further information on the convertible loan, see Note 13.

Acquired intangible assets

Acquired intangible assets are initially measured at cost. The cost of intangible assets acquired in a business combination is the fair value at the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and any accumulated impairment losses.

The useful lives of intangible assets are assessed to be either finite or indefinite. Intangible assets with finite useful lives are amortized over their useful life, generally using the straight-line method. The amortization period and the amortization method for an intangible asset with a finite useful life are reviewed at least annually at each fiscal year-end. Changes in the expected useful life or the expected pattern of consumption of future economic benefits are accounted for prospectively. Amortization of an intangible asset is reported in the consolidated statement of operations in accordance with the function of the intangible asset.

Gains or losses arising from the derecognition of an intangible asset are measured as the difference between the net disposal proceeds and the carrying amount of the asset and are recognized in the consolidated statement of operations in the period in which the asset is derecognized.

Acquired intangible assets are mainly comprised of software and licenses. Regarding the acquired intangible assets (i.e., technology and goodwill) in the business combination with Frame Pharmaceuticals, refer to Note 21.

The Group has entered into non-exclusive license agreements for patent rights and/or know-how with reputable universities, cancer research institutes, and other research partners. The cost of these licenses includes fixed as well as contingent consideration mainly linked to specified events in the collaborations for which the licenses are used. The licenses are measured initially at cost which comprises the fixed purchase price components. The Group records a liability for contingent consideration and capitalizes such amounts as part of the cost of the acquired intangible asset when the future event, upon which the contingent consideration depends, occurs or a present obligation exists.

The estimated useful lives for each intangible asset class are as follows:

Software	3 to 5 years
Licenses	8 to 20 years
Frame Technology	8 years

With the exception of goodwill, the Group does not have any intangible assets with indefinite useful lives.

Research and development costs

Research costs are expensed as incurred. Development expenditures on an individual project are recognized as an intangible asset when the Group can demonstrate:

- The technical feasibility of completing the intangible asset so that the asset will be available for use or sale
- Its intention to complete and its ability and intention to use or sell the asset
- How the asset will generate future economic benefits
- The availability of resources to complete the asset
- The ability to measure reliably the expenditure during development

Since our own development projects are mostly subject to regulatory approval and other uncertainties, the conditions for the capitalization of expenditures incurred prior to approval are generally not met.

Property, plant and equipment

Property, plant and equipment are stated at cost less accumulated depreciation and accumulated impairments. These costs also comprise the costs for replacement parts, which are recognized at the time they are incurred, providing they meet the recognition criteria. All other repair and maintenance costs are expensed as incurred. Depreciation is recognized on a straight-line basis over the estimated useful lives as follows:

Leasehold improvements	1 to 10 years
Technical equipment and machines:	3 to 14 years
Other equipment, furniture and fixtures:	3 to 14 years

Property, plant and equipment are derecognized upon disposal or when no further economic benefits are expected from their continued use or sale. The gain or loss on derecognition is determined as the difference between the net disposal proceeds and the carrying amount and recognized in profit or loss in the period in which the item is derecognized.

The residual values of the assets, useful lives, and depreciation methods are reviewed at the end of each year and any changes are accounted for prospectively.

The estimated useful lives and depreciation methods remained unchanged from 2020 through 2022. The residual values of the assets are generally considered to be zero.

Impairment of non-financial non-current assets

At each reporting date, the Group assesses whether there is an indication that a non-financial asset may be impaired. If there is any indication of impairment or if an annual impairment test is required, the Group estimates the recoverable amount of the asset. The recoverable amount of an asset is the higher of the asset's or CGU´s fair value less costs of disposal and its value-in-use. It is determined for an individual asset unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets, in which case it is determined at the level of the cash-generating unit (CGU). If the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is impaired and written down to its recoverable amount. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre -tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. In determining fair value less costs of disposal, recent market transactions are taken into account. If no such transactions can be identified, an appropriate valuation model is used. These calculations are corroborated by valuation multiples, quoted share prices for publicly traded companies or other available fair value indicators.

As the Group operates as one cash-generating unit, for the purpose of impairment testing in 2022, goodwill was allocated at Group level.

Impairment losses of continuing operations are recognized in the statement of operations in expense categories consistent with the function of the impaired asset.

For assets excluding goodwill, an assessment is made at each reporting date to determine whether there is an indication that previously recognized impairment losses no longer exist or have decreased. If such indication exists, the Group estimates the asset's or CGU's recoverable amount. When there has been a change in the estimates used to determine the asset's recoverable amount since the last impairment loss was recognized, any impairment loss previously recognized is reversed. The reversal may not exceed the carrying amount that would have been determined after amortization or depreciation had no impairment loss been recognized for the asset in prior periods. The amount of the reversal is recognized in the statement of operations for the period.

There were no impairments or reversals of impairments in 2020. However, in fiscal year 2021, impairments of EUR 22,810k were recognized. These pertained largely to machinery and technical equipment recorded as assets under construction and resulted from the partial impairment of production lines which were obsolete due to the withdrawal of the EMA regulatory approval application for CVnCoV, see Note 4.1.

Beginning in year 2022, goodwill is tested for impairment annually as at December 31 and when circumstances indicate that the carrying value may be impaired.

For 2022, impairment was evaluated for goodwill by assessing the recoverable amount on Group level. When the recoverable amount is less than its carrying amount, an impairment loss is recognized. Impairment losses relating to goodwill cannot be reversed in future periods.

There was no impairment of goodwill in 2022. However, there were impairments of technical equipment amounting to EUR 5,884k; refer to Note 4.1 for additional information.

Further disclosures relating to impairment of non-financial assets are also provided in the following notes:

- Disclosures for significant assumptions
- Goodwill and other intangible assets
- Property, plant and equipment
- Right-of-Use Assets

Non-current other assets — costs to obtain a contract

Amortization of assets recognized from the costs to obtain a contract with a customer within the scope of IFRS 15 is recognized on a straight-line basis over their associated estimated useful lives.

Assets held for sale

The Group classifies non-current assets as held for sale if their carrying amount will be recovered principally through a sale transaction rather than through continiuing use. Non-current assets classified as held for sale are measured at the lower of their carrying amount and fair value less costs to sell. Costs to sell are the incremental costs directly attributable to the disposal of an asset, excluding finance costs and income tax expenses. The criteria for held for sale classification is regarded as met only when the sale is highly probable, and the asset is available for immediate sale in its present condition. Actions required to complete the sale indicate that it is unlikely that significant changes to the sale will be made or that the decision to sell will be withdrawn. Management is committed to the plan to sell the asset and the sale is expected to be completed within one year from the date of classification. Property, plant and equipment are not depreciated or amortized once classified as held for sale.

Borrowing costs

Borrowing costs directly attributable to the acquisition, construction, or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalized as part of the cost of the asset. All other borrowing costs are expensed in the period in which they occur. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds.

The Group capitalizes borrowing costs when it meets all the following conditions: (a) it incurs expenditures for the asset; (b) it incurs borrowing costs, and (c) it undertakes activities that are necessary to prepare the asset for its intended use or sale.

The Group capitalized EUR 2,291k borrowing costs during fiscal 2022 (2021: 2,932k, 2020: 1,989k). The capitalization rate used to determine the amount of the borrowing costs eligible for capitalization during fiscal 2022 was a weighted average of 5,78% (2021: 7.17%, 2020: 8.90%).

Right-of-use assets

The Group recognizes right-of-use assets at the commencement date of the lease (i.e., the date the underlying asset is available for use). Right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any remeasurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities recognized, initial direct costs incurred, and lease payments made at or before the commencement date less any lease incentives received as well as any estimated costs to be incurred by the lessee for dismantling and removing the underlying asset. Unless the Group is reasonably certain to obtain ownership of the leased asset at the end of the lease term, the recognized right-of-use assets are depreciated on a straight-line basis over the shorter of its estimated useful life, indicated below, and the lease term. Right-of-use assets are subject to impairment. Refer to the section above “Impairment of non-financial assets”.

Land and Buildings	1 to 15 years
Vehicles	3 to 4 years
Other equipment	2 to 5 years

Lease liabilities

At the commencement date of the lease, the Group recognizes lease liabilities measured at the present value of lease payments to be made over the lease term. The lease payments include fixed payments (including in- substance fixed payments) less any lease incentives receivable, variable lease payments that depend on an index or a rate, and amounts expected to be paid under residual value guarantees. The lease payments also include the exercise price of a purchase option reasonably certain to be exercised by the Group and payments of penalties for terminating a lease, if the lease term reflects the Group exercising the option to terminate.

Variable lease payments that do not depend on an index or a rate are recognized as expenses in the period in which the event or condition that triggers the payment occurs. In calculating the present value of lease payments, the Group uses the incremental borrowing rate at the lease commencement date if the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in the in-substance fixed lease payments, or a change in the assessment to purchase the underlying asset. When the lease liability is remeasured, a corresponding adjustment is made to the carrying amount for the right-of-use asset or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

Short-term leases and leases of low-value assets

The Group applies the short-term lease recognition exemption to its short-term leases of machinery and equipment (i.e., leases that have a lease term of 12 months or less from the commencement date and do not contain a purchase option). It also applies the lease of low-value assets recognition exemption to leases of office equipment that are considered of low value. Lease payments on short-term leases and leases of low-value assets are recognized as expenses on a straight-line basis over the lease term.

Separation of lease and non-lease components

As a practical expedient, the Group elected not to separate the fixed (but not variable) portion of non-lease components in respect of leases of building and instead accounts for them as a single lease component.

Inventories

Inventories are valued at the lower of cost and net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less estimated costs of completion and the estimated costs necessary to make the sale. Inventories are comprised of raw materials, work in progress, and finished goods.

Costs incurred in bringing each product to its present location and condition are accounted for, as follows:

- Raw materials: purchase cost on a first-in/first-out basis

- Finished goods and work in progress: cost of direct materials and labor and a proportion of manufacturing overhead based on normal operating capacity, but excluding borrowing costs

The costs of inventories may not be recoverable if those inventories are damaged, if they become wholly or partially obsolete, or if the selling prices have declined. The practice of writing inventories down below cost to net realizable value is consistent with the view that assets should not be carried in excess of amounts expected to be realized from the sale or use.

Pre-launch products

Prior to initial regulatory approval, costs relating to the production of products are expensed as research and development expenses in the period incurred unless recoverable through means other than sale. If pre-launch products are sold, the respective product gross margin may be higher compared to the expected recurring margin as the underlying costs will not be included in cost of sales. For the year ended December 31, 2022, 2021, and, 2020, no revenues have been recorded related to pre-launch products. However, the Company recognizes in cost of sales costs from set-up and quality assurance activities for the Company's production processes, including those relating to pharmaceutical products which are under development in the Company's collaboration agreements and for which revenues have not yet been generated.

Cash and cash equivalents

Cash and cash equivalents include cash on hand, bank balances on-demand, and short-term deposits with an original maturity of three months or less.

Onerous contracts

An onerous contract is a contract under which the unavoidable costs (i.e., the costs that the Group cannot avoid because it has the contract) of meeting the obligations under the contract exceed the economic benefits expected to be received under it. The unavoidable costs under a contract reflect the least net cost of exiting from the contract, which is the lower of the cost of fulfilling it and any compensation or penalties arising from failure to fulfil it. The cost of fulfilling a contract comprises the costs that relate directly to the contract (i.e., both incremental costs and an allocation of costs directly related to contract activities).

If the Group has a contract that is onerous, the present obligation under the contract is recognized and measured as a provision. However, before a separate provision for an onerous contract is established, the Group recognizes any impairment loss that has occurred on assets dedicated to that contract.

Share-based payment awards

The Group operates several share-based payment programs.

An equity-settled share-based payment award is accounted for by recognizing the related expense over the vesting period of the award, with a corresponding increase recorded in equity. The expense is based on the fair value determined at the grant date of the award and the number of awards expected to vest. The fair value remains unchanged after grant date. Once the award has vested, there is no reversal of expense related to the award.

When a share-based payment award provides for different ways of settlement (i.e. cash versus shares) depending on the occurrence of contingent events, the award is accounted for based on the manner of settlement that is most probable. A change in the expected manner of settlement is accounted for as a modification.

Expenses for employer taxes arising upon the exercise of equity-settled share-based payments are recognized in profit or loss.

The related share-based payment expense is recorded in the functional cost category to which the award recipient's costs are classified.

Taxes

Current income tax

Current income tax assets and liabilities are measured at the amount expected to be recovered from or paid to the taxation authorities based on the tax rates and tax laws that are enacted or substantively enacted at the end of the reporting period in the countries where the Group operates and generates taxable income.

Current income tax relating to items recognized directly in equity is recognized in equity and not in the statement of operations. Management periodically evaluates positions taken in the tax returns with respect to situations in which applicable tax regulations are subject to interpretation and establishes provisions where appropriate.

Deferred tax

Deferred tax is recognized using the liability method on all temporary differences as of the end of the reporting period between the carrying amounts of assets and liabilities and their tax bases.

Deferred tax liabilities are recognized for all taxable temporary differences, except:

- When the deferred tax liability arises from the initial recognition of goodwill or an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss.

- In respect of taxable temporary differences associated with investments in subsidiaries when the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future.

Deferred tax assets are recognized for deductible temporary differences, the carry forward of unused tax credits and any unused tax losses, and to the extent that it is probable that future taxable income will allow the deferred tax asset to be realized.

The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilized. Unrecognized deferred tax assets are re-assessed at each reporting date and are recognized to the extent that it has become probable that future taxable profits will allow the deferred tax asset to be recovered.

Deferred tax assets and deferred tax liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability is settled based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period.

If transactions and other events are recognized directly in equity, any related taxes on income are also recognized directly in equity.

Tax benefits acquired as part of a business combination, but not satisfying the criteria for separate recognition at that date, are recognized subsequently if new information about facts and circumstances change. The adjustment is either treated as a reduction in goodwill (as long as it does not exceed goodwill) if it was incurred during the measurement period or recognized in profit or loss.

Deferred tax assets and deferred tax liabilities are offset if there is a legally enforceable right to offset current tax assets and current tax liabilities and these relate to income taxes levied by the same tax jurisdiction.

Segments

An operating segment is defined as a component of an entity for which discrete financial information is available and whose operating results are regularly reviewed by our Management Board as the Chief Operating Decision Maker (CODM). The Group operates as a single segment dedicated to the discovery and development of biotechnological applications and the CODM makes decisions about allocating resources and assessing performance based on the Group as a whole. Accordingly, the Group has determined it operates in one operating and reportable segment.

Significant accounting judgments, estimates and assumptions

The preparation of financial statements in conformity with IFRS requires management to make judgments, estimates, and assumptions that affect the reported amounts in the financial statements. Management continually evaluates its judgments and estimates in relation to assets, liabilities, contingent liabilities, revenues, and expenses. Management bases its judgments and estimates on historical experience and other various factors, which it believes to be reasonable under the circumstances, the result of which forms the basis of the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions and conditions and may materially affect the financial results or the financial position reported in future periods.

Significant judgments

In the process of applying the accounting policies, management has made the following judgments, which have the most significant effect on the amounts recognized in the consolidated financial statements.

Accounting for share-based payments

The Group has multiple share-based payment programs. Significant judgments include the determination of the grant date fair value of the awards.

The awards granted in 2022 as well as in prior years are accounted for as equity-settled share-based payments and described under Note 10.

Revenue recognition and collaboration agreements

The Group applied the following judgments in determining the amount and timing of revenue from collaboration agreements:

- Identification and determination of the nature of performance obligations in collaboration and license agreements.

The Group generates revenues from collaboration and license agreements under which the Group grants licenses to use, research, develop, manufacture, and commercialize candidates and products. As these agreements comprise several promises, it must be assessed whether these promises are capable of being distinct within the context of the contract. If these promises are not distinct, they are combined until the bundle of promised goods and services is distinct. For some agreements, this results in the Group accounting for all goods and services promised in a collaboration and license agreement as a single performance obligation with a single measure of progress.

For these combined performance obligations, it must be assessed which of these promises is the predominant promise to determine the nature of the performance obligation. The Group determined that the grant of the license is the predominant promise within the (combined) performance obligation to grant a license to the customers. It was assessed that the Group grants its customers a right to access or a right to use the Group’s IP due to the collaboration and license agreements.

As a result, the promise to grant a license is accounted for as a performance obligation satisfied over time as the Group's customer simultaneously receives and consumes the benefits from the Group's performance.

- Estimation of variable consideration and assessment of the constraint when determining the amount of revenue of which to defer recognition

The Group's collaboration and license agreements comprise variable considerations which are contingent on the occurrence or non-occurrence of a future event (i.e., reaching a certain milestone). When determining the deferral of revenue in a collaboration and license agreement, the Group is required to estimate the amount of consideration to which it will be entitled in exchange for transferring the promised goods or services to the customer.

As there are usually only two possible outcomes (i.e., a milestone is reached or not), the Group has assessed that the method of the most likely amount is the best method to predict the amount of consideration to which the Group will be entitled.

The most likely amount of these milestone payments (i.e., the full milestone payment) is only included in the transaction price if the occurrence of reaching a future milestone is highly probable. The Group has assessed that the likelihood of achieving the respective milestone decreases depending on how far the expected date of achieving the milestone lies in the future.

The Group has concluded that future milestone payments are fully constrained at each of the fiscal years. Future milestone payments would become unconstrained at the satisfaction of the milestone event, specifically a development event, regulatory approval, or achievement of a sales milestone.

Clinical trial accruals and related research and development costs

The value of goods and services received from contract research organizations (CROs) and contract manufacturing organizations (CMOs) in the reporting period is estimated based on the level of services performed and progress made in the respective period, unless the respective arrangements require recognition of, and thus have been accounted for with, an onerous contract provision or contract termination provision. Amounts are recorded as accrued expenses in cases where the Company has not received an invoice from the service provider. Advance payments for goods or services that will be used or rendered for future research and development activities are recognized as (current) prepaid expenses and other assets or in (non-current) other assets if the benefit is expected to be received more than a year from the statement of financial position date. These amounts are recognized as an expense as the related goods are delivered or the services performed. Management's estimates are based on the best information available at the time. However, additional information may become available in the future and management may adjust the estimate in such future periods. In this event, the Company may be required to record adjustments to research and development expenses in future periods when the actual level of activity becomes more certain. The Company considers resulting increases or decreases in cost as changes in estimates and reflects such changes in research and development expenses in the period identified.

Accounting for assets held for sale

Non-current assets are classified as asset held for sale if their carrying amount will be recovered through a sale transaction rather than through continued use; the carrying value of such assets is measured at the lower of their previous carrying value and their fair value less costs to sell. In evaluating whether the criterion, for classification as assets held for sale, of a sale being highly probable, the Group considered that a plan to sell the assets was committed to and an active program to locate a buyer was initiated with an equipment reseller. The Group applied judgment in determining the assets' fair value less costs to sell and considered various indicative prices of expected auction proceeds quoted by the equipment reseller. Additionally, judgment was applied in determining whether the plan to sell the assets could be completed within one year from the date of classification and whether actions required to complete the plan indicate that it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn.

Accounting for onerous contract provisions

The Group has entered into binding legal agreements for the supply of services by CROs to the Group for CVnCoV clinical trials. Such services are generally associated with the ongoing monitoring and care for enrolled participants in the clinical trials. Due to the discontinuation of the CVnCoV program, the remaining services, which the Group is obligated to procure, do not have a value for the Group anymore. Judgment is required in estimating the cost of the remaining services, particularly in estimating the number of participants completing the clinical trials, when measuring provisions for such contracts with clinical research organizations.

Accounting for contract termination provisions

Contract termination provisions are established under certain conditions in the case of legal risks. Settlement and legal proceedings often raise complex issues and are subject to many uncertainties and complexities including, but not limited to, the facts and circumstances of each particular case. The outcome of any current or future proceedings cannot normally be predicted. The Group considers the need for accounting measures in respect of pending or future settlements for terminated contracts on the basis of the information available to its legal department and in close consultation with legal counsel acting for the Group. Where it is more likely than not that such settlement will result in an outflow of resources that is already reasonably estimable, a provision for settling terminated contracts is recorded in the amount of the present value of the expected cash outflows.

Estimating the incremental borrowing rate

In most cases, the Group cannot readily determine the interest rate implicit in the lease. Therefore, it uses its incremental borrowing rate (IBR) to measure lease liabilities. The IBR is the rate of interest that the Group would have to pay to borrow over a similar term, and with a similar security, the funds necessary to obtain an asset of a similar value to the right-of-use asset in a similar economic environment. The IBR, therefore, reflects what the Group "would have to pay," which requires estimation when no observable rates are available (such as for subsidiaries that do not enter into financing transactions) or when they need to be adjusted to reflect the terms and conditions of the lease. The Group estimates the IBR using observable inputs (such as market interest rates, country risk premiums, and credit spreads) when available and is required to make certain entity-specific adjustments.

Changes in accounting policies and disclosures

Summary of significant accounting policies

This section describes significant accounting policies adopted in the preparation of these consolidated financial statements. These policies have been consistently applied to all the years presented unless otherwise stated.

The below-listed amendments and interpretations apply for the first time in 2022, but do not have any impact on the consolidated financial statements of the Group:

- Reference to the Conceptual Framework – Amendments to IFRS 3
- Property, Plant and Equipment: Proceeds before Intended Use – Amendments to IAS 16
- Onerous Contracts – Costs of Fulfilling a Contract – Amendments to IAS 37
- IFRS 9 Financial Instruments – Fees in the '10 per cent' test for derecognition of financial liabilities

The Group has not early adopted any standards, interpretations, or amendments that have been issued but are not yet effective.

Standards issued but not yet effective

The following amendments will be adopted effective January 1, 2023, or at a later effective date:

- IFRS 17 Insurance Contracts

- Amendments to IAS 1: Classification of Liabilities as Current or Non-current and Non-current Liabilities with Covenants
- Amendments to IAS 8: Definition of Accounting Estimates
- Amendments to IAS 1 and IFRS Practice Statement 2: Disclosure of material Accounting policies
- Amendments to IAS 12: Deferred Tax related to Assets and Liabilities arising from a Single Transaction

Impact of COVID-19 and the Russia-Ukraine Conflict

As the Group is currently devoting significant resources to the development of COVID vaccines, such development may impair the ability to timely progress other product candidates in clinical trials or into clinical trials from their current preclinical stage. In addition, enrollment in other programs have been delayed as a result of the COVID-19 pandemic and our focus on developing a COVID vaccine; however, thus far, this has had a minimal negative impact on our progress on and associated revenue recognition from our non-COVID-19 collaborations. The partial disruption, even if temporary, may, ultimately, negatively impact the Company's operations and overall business by delaying the progress of its clinical trials and preclinical studies. The Group's operations, including research and manufacturing, could also be disrupted due to the potential of the impact of staff absences as a result of self-isolation procedures or extended illness. However, the Group has taken a series of actions aimed at safeguarding its employees and business associates, including implementing a work-from-home policy for employees except for those related to its laboratory and production operations. The Group was running COVID antigen tests on a weekly basis for employees on the premises.

The ongoing military conflict between Russia and Ukraine has not and is not expected to have a material direct or indirect effect on the Group's operations or financial condition; however, the Group is currently operating in a period of economic uncertainty and capital markets disruption, which has been significantly impacted by geopolitical instability due to the ongoing military conflict between Russia and Ukraine. As a result of this instability and responding actions taken by the United States, Russia, EU, and other foreign governments, this may limit or prevent filing, prosecuting, and maintaining of patent applications in Russia. Government actions may also prevent maintenance of issued patents in Russia. These actions could result in abandonment or lapse of our patents or patent applications in Russia, resulting in partial or complete loss of patent rights in Russia. In addition, a decree was adopted by the Russian government in March 2022, allowing Russian companies and individuals to exploit, without consent or compensation, inventions owned by patentees that have citizenship or nationality in, are registered in, or have predominately primary place of business or profit-making activities in countries that Russia has deemed unfriendly. Consequently, we would not be able to prevent third parties from using our inventions in Russia or from selling or importing products made using our inventions in and into Russia. Accordingly, our competitive position may be impaired, and our business, financial condition, results of operations and prospects may be materially adversely affected..

3. Notes to the consolidated financial statements

3.1 Revenue from contract with customers

The Group recognized the following revenues in 2020, 2021 and 2022:

	December 31		
	2020	2021	2022
	EUR k	EUR k	EUR k
Belgium			
GSK	8,809	74,298	62,263
Germany			
Boehringer Ingelheim	1,885	26,003	—
Netherlands			
Genmab	2,628	1,770	1,787
Switzerland			
CRISPR	695	919	3,370
United States			
Eli Lilly	34,854	—	—
Total	**48,871**	**102,990**	**67,420**

Of these revenues, all of which were recognized over time as part of collaboration agreements, in 2022, EUR 44,787k (2021: EUR 79,827k, 2020: EUR 46,597k) related to delivery of research and development services combined with an IP license (recognized from the upfront payments as further illustrated in the table below), EUR 3,062k (2020: EUR 457k, 2019: EUR 556k) related to delivery of products and EUR 19,571k (2021: EUR 22,706k, 2019: EUR 1,718k) were recognized from those research and development services considered distinct within the agreements.

GlaxoSmithKline

In July 2020, the Group entered a collaboration with GlaxoSmithKline (GSK) for the research, development, manufacture and commercialization of mRNA-based vaccines and monoclonal antibodies targeting infectious disease pathogens. In addition to an equity investment of EUR 150,000k as part of the 2020 Private Investment, GSK made a non-refundable upfront cash payment of EUR 120,000k which was deferred upon receipt and recognized as a contract liability. Additionally, the Group is eligible to receive a one-time reimbursable payment of EUR 30,000k for manufacturing capacity reservation, upon certification of CureVac's commercial scale manufacturing facility currently under construction in Germany as well as to receive development and regulatory milestone payments of up to EUR 320,000k, commercial milestone payments of up to EUR 380,000k and tiered royalties on product sales. GSK will fund R&D activities incurred by CureVac related to the development projects covered by the collaboration. CureVac will be responsible for the preclinical- and clinical-development through the Phase 1 trials of these projects, after which GSK will be responsible for further development and commercialization. CureVac will be responsible for the manufacturing of the product candidates, including for commercialization, and will retain commercialization rights for selected countries for all product candidates. Revenue is being recognized in accordance with the Company's accounting policy for collaboration arrangements with the exception that the upfront payment, attributable to the IP license, is being recognized straight-line from the effective date of the collaboration agreement through the estimated completion date of Phase 1 clinical trials, at which time GSK will be responsible for further development and commercialization. In the year ended December 31, 2022, EUR 41,379k (2021: EUR 47,148k) in revenue was recognized under the collaboration agreement with GSK, entered into in July 2020, for the research, development, manufacturing and commercialization of mRNA-based vaccines and monoclonal antibodies targeting infectious disease pathogens.

Additionally, in April 2021, the Group entered into a new collaboration agreement with GSK, which we refer to as the GSK COVID Agreement, pursuant to which we are collaborating with GSK to research, develop and manufacture next-generation mRNA vaccines targeting the original SARS-CoV-2 strain as well as emerging variants, including multivalent and monovalent approaches ("GSK COVID Products"), such as the CureVac's second-generation COVID-19 vaccine candidate, CV2CoV. These vaccine candidates may either be used to protect unvaccinated individuals or to serve as boosters in the event that SARS-CoV-2 immunity gained from an initial vaccination reduces over time. The GSK COVID Agreement was amended and restated in September 2021. Pursuant to the amendment in September 2021, CureVac and GSK are required to complete certain development activities with respect to the GSK COVID Products set forth in updated development plans. CureVac and GSK agree to decide whether the GSK COVID Products required for clinical studies will be manufactured by CureVac, GSK or jointly.

Under the GSK COVID Agreement, GSK has paid CureVac an upfront payment of EUR 75,000k in 2021. Under the terms of the 2020 GSK Agreement, CureVac granted GSK a worldwide exclusive, sublicensable (subject to certain conditions) license under certain of our intellectual property relating to vaccines and antibodies encoded by our proprietary mRNA targeting certain selected pathogens, or GSK Program Products, and a non-exclusive license under certain LNP technology to develop, manufacture and commercialize a certain number of such GSK Program Products for use in connection with the infectious diseases targeted under the 2020 GSK Agreement. CureVac also granted GSK an exclusive option, after a certain date, to obtain exclusive licenses to develop, manufacture and commercialize CVnCoV and boosters for such vaccine. CureVac and GSK agreed to equally share all development costs for GSK COVID Products, subject to certain exceptions. CureVac and GSK will share all net profits generated from sales of GSK COVID Products, other than certain products defined in the agreement as "Combination Products", under profit sharing arrangements that in certain cases vary depending upon the GSK COVID Product in question, the time of sale, the number of doses sold and the party to whom the sale is made. CureVac is eligible to receive tiered royalty payments ranging from a low-teen percentage to a mid-teens percentage on net sales of Combination Products, subject to certain customary reductions. Under the GSK COVID Agreement, CureVac has the right to commercialize GSK COVID Products in Austria, Germany and Switzerland and if CureVac exercises such right, CureVac's sales of GSK COVID Products, other than Combination Products will be subject to the profit share and CureVac will be required to pay GSK a high-teen percentage royalty on net sales of all Combination Products in such countries. In the year ended December 31, 2022, EUR 20,884k (2021: EUR 27,150k) in revenue was recognized under the GSK COVID Agreement.

Boehringer Ingelheim

In August 2014, the Group entered into an Exclusive Collaboration and License Agreement, which it refers to as the Boehringer Agreement, with Boehringer Ingelheim, whereby it granted Boehringer Ingelheim exclusive global rights for development and commercialization of its investigational therapeutic mRNA vaccine BI 1361849 (formerly CV9202) formulated with a legacy protamine technology. The Group received, in 2014, an upfront payment of EUR 30,000K, as well as, an option fee payment of EUR 5,000K and in 2018 an additional EUR 7,000K in development milestone payments, all of which are non-refundable and non-creditable in the event of expiry or termination of the agreement. In June 2021, Boehringer Ingelheim provided notice of its intention to terminate the Boehringer Agreement, with such termination to become effective on November 17, 2021. Upon termination of the Boehringer Agreement, the rights and licenses granted by the Group to Boehringer Ingelheim reverted back to the Group, provided that Boehringer Ingelheim has the right to sell off existing inventory of BI 1361849 for a certain period. In addition, Boehringer Ingelheim assigned to us all regulatory approvals or applications and grant us a non-exclusive, cost-free, perpetual and worldwide license to intellectual property held by Boehringer Ingelheim that has been used in the development, manufacture or commercialization of BI 1361849 or any other product developed under the Boehringer Agreement. As a result of the termination in 2021, the remaining contract liability, related to the upfront payment, EUR 14,003k was recognized over a shorter period through the termination date. In addition, the option fee payment of EUR 5,000k and the additional EUR 7,000k development milestone were recognized in 2021. Therefore, for the year ended December 31, 2022, no revenue was recognized related to this agreement (2021: EUR 26,003k, 2020: 1,885k).

CRISPR Therapeutics Development and License Agreement

In November 2017, we entered into a Development and License Agreement with CRISPR Therapeutics, which, as amended by an amendment entered into in June 2020, we refer to as the CRISPR Therapeutics Agreement, pursuant to which we will develop novel Cas9 mRNA constructs for use in gene editing therapeutics. CRISPR Therapeutics has paid us an upfront one-time technology access fee of USD 3 million, which is being recognized through the date of market entry of a product developed under the agreement. In the year ended December 31, 2022, EUR 3,370k (2021: EUR 919k, 2020: EUR 695k) in revenue was recognized under this agreement.

Genmab Collaboration and License Agreement

In December 2019, the Group entered into a Collaboration and License Agreement with Genmab, which we refer to as the Genmab Agreement, to research and develop up to four potential differentiated mRNA-based antibody products, to be selected by Genmab, based on the combination of our proprietary RNAntibody technology with Genmab's proprietary antibody technology for the treatment of human diseases. In partial consideration for entering into the Genmab Agreement, in 2019 Genmab made a USD 20 million equity investment and paid us an upfront fee of USD 10 million, which is being recognized through the date of market entry of a product developed under the agreement. In the year ended December 31, 2022, EUR 1,787k (2021: EUR 1,770k, 2020: 2,628k) in revenue was recognized under this agreement.

Eli Lilly

In June 2020, the Group and Eli Lilly terminated their collaboration and the following agreements: License and Collaboration Agreement dated November 29, 2017, Early Clinical Supply Agreement dated July 5, 2018 and related Quality Agreement dated June 29, 2018. As a result, on the termination date, EUR 33,100k in contract liabilities from an upfront payment was recognized as no further associated performance obligations remained.

The Group has received upfront payments which were initially deferred and are subsequently recognized as revenue as the Group renders services over the performance period or upon termination of the agreement, when no services are provided anymore. Below is a summary of such payments and the related revenues recognized:

Customer	Upfront payments	Upfront payments included in contract liabilities at		Revenue recognized from upfront payments		
		December 31, 2021	December 31, 2022	2020	2021	2022
	(in k)	EUR k	EUR k		EUR k	
GSK	EUR 195,000	135,494	102,804	7,778	51,728	42,690
Boehringer Ingelheim	EUR 30,000	—	—	1,867	14,003	—
Genmab	USD 10,000 (EUR 8,937) *	5,362	3,575	1,787	1,787	1,787
CRISPR	USD 3,000 (EUR 2,524)*	1,239	929	310	310	310
Eli Lilly	USD 50,000 (EUR 42,200)*	—	—	34,855	—	—
Total		**142,095**	**107,308**	**46,597**	**67,828**	**44,787**

*Translated at the currency exchange rate prevailing on the transaction date

Contract balances:

	December 31, 2021 EUR k	December 31, 2022 EUR k
Trade receivables	18,504	6,295
Contract assets	—	2,707
Contract liabilities	142,095	107,308

Contract liabilities include advances received from the Group's major license and collaboration agreements.

Contract liabilities allocated to the remaining performance obligations (unsatisfied or partially unsatisfied) as at year-end are as follows:

	Year ended December 31,	
	2021	2022
	EUR k	EUR k
Within one year	55,750	34,759
More than one year	86,345	72,549
Total	**142,095**	**107,308**

Trade receivables are non-interest bearing and are generally settled within 30 to 45 days.

As of December 31, 2022, the Group had two collaboration partners (2021: three) that owed 100% (2021: 100)% of all the receivables and contract assets outstanding. There was one collaboration partner (2021: one) with balances greater than 10% of the total amounts of receivable and contract assets.

The nature of expenses recognized in the functional categories of the statement of operations are as follows:

3.2 Cost of sales

The cost of sales consists of the following:

	2020 EUR k	2021 EUR k	2022 EUR k
Personnel	(2,896)	(22,159)	(27,185)
Materials	(1,598)	(46,250)	(88,891)
Third-party services	(2,652)	(139,975)	(32,331)
Maintenance and lease	(1,016)	(2,874)	(2,425)
Amortization and depreciation	(5,913)	(3,992)	(6,295)
Impairment of equipment	—	(22,810)	(24,948)
Other	(98)	(135)	(1,918)
Total	**(14,173)**	**(238,195)**	**(183,993)**

During the year ended December 31, 2022, cost of sales mainly decreased compared to the same period of 2021 due to Third-Party Services having been higher last year for set-up activities for the CVnCoV production process. This decrease was partially offset by increased write-offs and scrap of raw materials amounting to EUR 80,021k in 2022, which were procured for manufacturing of products to sell to GSK that are no longer expected to be sold to them or were determined to be excess materials on hand. Additionally, the Company recognized an impairment of assets held for sale amounting to EUR 19,064k in 2022 (refer to Note 5 for further information).

3.3 Selling and distribution expenses

Selling and distribution expenses consist of the following:

	2020 EUR k	2021 EUR k	2022 EUR k
Personnel	(631)	(1,369)	(2,029)
Maintenance and lease	(1)	(1)	(35)
Amortization and depreciation	(98)	(86)	(336)
Other	(3)	(287)	(417)
Total	**(733)**	**(1,743)**	**(2,817)**

Personnel expenses mainly include salary and salary-related expenses of EUR 1,791k (2021: EUR 1,076k, 2020: EUR 370k) and expenses from share-based payments of EUR 238k (2021: EUR 293k, 2020: 261k). Refer to Note 10 for further information.

3.4 Research and development (R&D) expenses

R&D expenses consist of the following:

	2020 EUR k	2021 EUR k	2022 EUR k
Materials	(29,834)	(232,292)	(32,982)
Personnel	(21,313)	(33,733)	(33,944)
Amortization and depreciation	(2,578)	(4,259)	(8,650)
Patents and fees to register a legal right	(3,073)	(3,199)	(3,813)
Third-party services	(55,571)	(539,786)	20,499
Maintenance and lease	(717)	(347)	(1,069)
Other	(723)	(2,291)	(2,591)
Total	**(113,808)**	**(815,907)**	**(62,550)**

During the year ended December 31, 2022, research and development expenses decreased significantly in comparison to the same period of 2021, as the prior period was largely impacted by the Group´s CVnCoV program. In the prior year, these expenses consist primarily of cost incurred to CROs involved in the CVnCoV development as well as materials used in the administration of clinical trials. As a result of more participants leaving the clinical trials prior to completion, than originally estimated and of renegotiations of contracts with CROs during the year ended December 31, 2022, the estimated outstanding costs for the CVnCoV studies decreased, which resulted in the reversal of provision for onerous contracts in the amount of EUR 38,533k. Additionally in 2022, GSK took over the Group's committed capacity at Novartis (see Note 3.7 for additional information) which resulted in a reduction in the estimated contract termination provisions in the amount of EUR 25,059k. The net effect of these two events resulted in an overall gain within the Third-party services category.

Since inception through December 31, 2022, the Group had no development expenditures which met the requirements for capitalization. In 2021, according to the terms and conditions of the grant from BMBF, the Group earned income (recognized in other operating income) for certain eligible expenses incurred for the COVID-19 vaccine development; refer to Note 3.6 for more information on amounts recognized from this grant in the year ended December 31, 2021.

Personnel expenses mainly include salary and salary-related expenses of EUR 33,068k (2021: EUR 32,779k 2020: EUR 16,543k) and expenses from share-based payments of EUR 876k (2021: EUR 954k, 2020: 4,770k); refer to Note 10 for further information.

3.5 General and administrative expenses

General and administrative expenses include the following:

	2020 EUR k	2021 EUR k	2022 EUR k
Personnel	(29,884)	(37,393)	(36,765)
Maintenance and lease	(2,505)	(4,306)	(5,853)
Third-party services	(6,914)	(28,875)	(27,669)
Legal and other professional services	(3,531)	(9,230)	(10,394)
Amortization and depreciation	(6,020)	(8,895)	(11,360)
Other	(4,700)	(11,703)	(12,137)
Total	**(53,554)**	**(100,402)**	**(104,178)**

Personnel expenses mainly include salary and salary-related expenses of EUR 28,704k (2021: EUR 24,274k, 2020: EUR 20,442k) and expenses from share-based payments of EUR 8,061k (2021: EUR 13,119k, 2020: EUR 9,442k). During the fiscal year ended December 31, 2022, amortization and depreciation expenses increased, compared to the same period of 2021, mainly due to increased depreciation expense of right-of-use assets EUR 1,152k (refer to Note 4.2 for further information). Expenses in the 'Other' category mainly result from insurance costs related to D&O insurance EUR 5,533k (2021: EUR 5,457k, 2020: EUR 1,288k).

3.6. Income from release of governmental contract liabilities

Due to the withdrawal of the EMA regulatory approval application for CVnCoV, in October 2021, CureVac recorded in 2021 “Income from release of governmental contract liabilities” amounting to EUR 574,502k, which is explained further below. There was no such event in 2022.

Advance Purchase Agreement with European Commission

On November 30, 2020, CureVac entered into an Advance Purchase Agreement (APA) with the European Commission (EC), acting on behalf and in the name of all Member States of the European Union. The APA provided for the advance purchase by the Member States of 225 million doses of our SARS-CoV-2 vaccine. In order to support our accelerated efforts to develop a safe and effective vaccine, the APA provided support to our operations in the form of up-front payments. The first up-front payment of EUR 450 million was paid by the EC on behalf of the Member States and was included in contract liabilities as of December 31, 2020.

The second up-front payment would have had been due after the submission of the interim data package to the EMA in view of obtaining EC marketing authorization for CVnCoV. The up-front payments were designed to support the development and prepare the commercial supply of the vaccine.

In October 2021, we notified the EC of the withdrawal of our regulatory approval application for CVnCoV, which notification automatically terminated the APA. According to the APA, in such case of termination, CureVac would return the unspent amount of the up-front payment. In the context of the APA, “spent” means either costs occurred, or commitments made in relation to the purpose as set out in the APA. CureVac demonstrated that the up-front payment was used in accordance with the contract and no repayment was required.

As described above, CureVac recognized the consideration related to its delivery obligations, existing at the outset of the arrangement, as contract liabilities. Upon the automatic termination of the APA, the ability for CureVac to satisfy the contractual performance obligations of the arrangement ceased and the EC ceased to have the ability to exercise its rights for performance by the CureVac. As such, the substance of the arrangement changed from a revenue contract to that of a government grant. Due to the material magnitude of the amount, its non-recurring nature and to better enable comparability to past performance and predictability of future performance, CureVac recognized the €450 million into income in an additional line item “Income from release of governmental contract liabilities” in the 2021 statement of operations. The “spent” amounts incurred by CureVac, and which demonstrate use of the up-front payment, have been included in “Research and development expenses” (refer to Note 3.4).

Additionally, CureVac was required transfer, upon EC’s request any raw material and primary components paid for with the up-front payment and not used as of the termination date. Should the EC request any raw material and primary components or should CureVac successfully sell some of these, an applicable portion of raw material, primary components or proceeds would be remitted to the EC. This agreement expired at the end of 2022 and an amount of EUR 4,114k is accrued as ‘other liabilities’ as of December 31, 2022 for the related amount due to be remitted to the EC.

German Federal Ministry of Education and Research

In 2020, the Company announced with the German Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung), or BMBF, a German government-related entity, established a grant to support the development and production of its COVID-19 vaccine candidates. In July 2020, CureVac applied for this grant as part of a special program to accelerate the research and development of urgently needed vaccines against SARS-CoV-2. The grant amounted up to EUR 252 million and the payments were contingent to reaching predefined milestones. Based on the terms and conditions of the arrangement, the Company assessed the arrangement as having two components: a grant component and a supply component which were separated. The amount attributed to the supply of future deliveries was determined based on the relative stand-alone selling price of the vaccine observed in similar arrangements and is presented in contract liabilities.

The Company reached all the predefined milestones for 2020. Due to the withdrawal of the EMA regulatory approval application for CVnCoV in October 2021, CureVac was not able to reach all predefined milestones in 2021. From 2020 to December 2021, CureVac received a total of € 196.3 million. In November 2021, CureVac notified BMG of the inability to supply CVnCoV, triggering the automatic termination of the supply agreement.

Consistent with the rationale and treatment described above under the APA with the EC, the substance of the supply component of the BMBF arrangement changed from a revenue contract to that of a government grant and thus, consistent with the presentation of the contract liabilities under the APA, CureVac recognized the EUR 124 million in 2021 from the BMBF agreement as income in the line item “Income from release of governmental contract liabilities” and the corresponding expenses have been included in research and development expenses. The remaining amount of EUR 65 million, not related to the supply component, was reflected as grant income in “other operating income” in 2021. (Refer to Note 3.7).

3.7 Other operating income

Other operating income relates to:

	2020	2021	2022
	EUR k	EUR k	EUR k
Compensation for CMO/Materials transfer	—	—	35,393
Reimbursement claim	—	—	610
Sale of equipment	—	—	785
Grants and other reimbursements from government agencies and similar bodies	23,736	66,394	440
Other	414	1,308	704
Total	**24,150**	**67,702**	**37,932**

In March 2022, CureVac AG and GlaxoSmithKline Biologicals SA amended and restated the 2020 GSK agreement and the GSK COVID Agreement in connection with GSK entering into a direct agreement with Novartis for use of Novartis as a CMO at the same time as CureVac exited its CMO agreement with Novartis. Additionally, under the restated agreement, CureVac is entitled to further compensation by GSK. The compensation mainly consist of consideration for set-up activities undertaken by CureVac (EUR 20,500k) and for reimbursement of prepayments (EUR 12,000k), which were recognized in ‘Compensation for CMO/Materials transfer’ in other operating income during the year ended December 31, 2022.

In 2022, 2021 and 2020 income from grants with government agencies and similar bodies resulted from the following:

German Federal Ministry of Education and Research

As discussed in Note 3.6, in 2020 the Company received a grant from BMBF to support the development of its COVID-19 vaccine candidate for which it was determined the arrangement contained two components: a grant component (in the scope of IAS 20) and a supply component (in the scope of IFRS 15). The Group recognized grant income of EUR 65,218k from this grant. As the grant ended in 2021, no such income was recognized in 2022..

Coalition for Epidemic Preparedness Innovations

The Coalition for Epidemic Preparedness Innovations (CEPI) is an innovative partnership between public, private, philanthropic, and civil organizations, launched at the World Economic Forum in Davos in 2017, to develop vaccines to stop future epidemics. CEPI’s priority diseases include Ebola virus, Lassa virus, Middle East Respiratory Syndrome coronavirus, Nipah virus, Rift Valley Fever and Chikungunya virus. CEPI also invests in platform technologies that can be used for rapid vaccine and immunoprophylactic development against unknown pathogens (i.e., Disease X).

In February 2019, CureVac entered into a partnership agreement worth up to USD 34,000k with CEPI to further develop CureVac’s The RNA Printer™ prototype. Under the three-year partnership agreement, CureVac used its mRNA platform for the preclinical development of a Lassa virus vaccine (a high-priority disease on the World Health Organization R&D list), a yellow fever vaccine and CureVac’s rabies virus vaccine. Funds are received semi-annually in advance, to cover costs for the next six months. These payments are allocated to the agreed and signed statements of work. Management concluded that the arrangement should be accounted for by analogy to IAS 20.

CureVac is required to use reasonable efforts to achieve certain development milestones and is responsible for conducting certain clinical trials. In the event of an infectious disease outbreak, where such outbreak can be addressed by a Lassa virus, SARS-CoV-2 or future vaccine developed under the agreement, CureVac must manufacture such vaccine for use in the area affected by the outbreak on economic terms that satisfy CEPI's equitable access guidelines or otherwise allow CEPI or a third party to supply such vaccine in the affected area.

CureVac is required to grant certain approved manufacturers all necessary rights to use certain of CureVac's pre-existing IP and IP developed under the CEPI Agreement to further develop CureVac's automation solution and manufacture products for the treatment of certain diseases in geographic areas where there is an outbreak on economic terms that satisfy CEPI's equitable access guidelines. CureVac must provide all necessary commercially reasonable support to such approved manufacturers to facilitate such efforts.

CureVac solely owns all IP developed under the CEPI Agreement but is required to obtain CEPI's consent prior to exploiting any IP developed under the CEPI Agreement if such exploitation is in conflict with or goes against CEPI´s mission or policies.

In the event that CEPI terminates the agreement, CureVac will grant CEPI a license under CureVac's background IP and IP developed under the agreement to, among other things, develop and use CureVac's RNA Printer for use in treating certain infectious diseases and to manufacture products developed under the agreement.

In January 2020, CureVac and CEPI entered a collaboration to develop a vaccine against the new coronavirus SARS-CoV-2. The aim of the cooperation is to safely advance vaccine candidates into clinical testing as quickly as possible. The agreement builds upon the existing partnership between CureVac and CEPI to develop a rapid-response vaccine platform and included additional initial funding of up to USD 8,300k. In May 2020, CEPI increased its grant award to the Group for SARS-CoV-2 vaccine development to up to USD 15,300k.

During the year ended December 31, 2022, CureVac recognized the reimbursement of approved expenses of EUR 42k (2021: EUR 688k; 2020: EUR 15,953k) as "other operating income" and EUR 0k (2021: EUR 0k; 2020: EUR 3,239k) were deducted from the carrying amount of qualifying assets recorded in property, plant and equipment.

As of December 31, 2022, EUR 309k in grant funds received have been deferred and are presented within other liabilities (2021: EUR 1,289k). Following the completion of the partnership agreement of February 2019 between CureVac and CEPI in May 2022, CEPI requested a partial reimbursement of the unspent funds up to USD 1,000k. Those were reclassified from other liabilities to trade and other payables as of December 31, 2022.

Bill & Melinda Gates Foundation (BMGF)

BMGF finances, in the form of grants, various programs that CureVac operates for the development of vaccines, hence promoting and accelerating the development of CureVac's technology platform. Through its equity investment, BMGF supports mainly the development of CureVac's technology platform including the construction of a production plant in accordance with the GMP (Good Manufacturing Practice) standard on an industrial scale.

In 2015, CureVac entered into a Global Access Commitments Agreement with the Bill & Melinda Gates Foundation pursuant to which the Company is required to take certain actions to support the Bill & Melinda Gates Foundation's mission.

In November 2016, in connection with the Global Access Agreement, CureVac received a grant of USD 653k (EUR 614k) in funding for the development of a vaccine for picornaviruses. In November 2017, also in connection with the Global Access Agreement, the company received two additional grants: an amount of USD 1,000k (EUR 852k) was received for the development of a universal influenza vaccine and an amount of USD 800k (EUR 673k) was received for a malaria vaccine. In August 2019, the Company received a second payment for the universal influenza program amounting to USD 540k (EUR 486k). In November 2020, the Company received a third payment for the universal influenza program amounting to USD 322k (EUR 280k). In November and December 2020, the Company received further payment for the malaria program amounting to USD 1,449k (EUR 1,208k).

During the year ended December 31, 2022 CureVac recognized EUR 167k (2021: EUR 488k, 2020: EUR 1,183k) from the amortization of the grants on a straight-line basis and for services as other operating income.

As of December 31, 2022, EUR 1,712k in grant funds received have been deferred and presented within other liabilities (2021: EUR 1,879k).

4. Fixed Assets

4.1 Development of intangible assets and property, plant and equipment

The development of intangible assets and property, plant and equipment for the years ended December 31, 2022 and 2021 were as follows:

Intangible assets

(in thousands of EUR)	Software	Licenses	Technology	Goodwil	Advance payments	Total
Acquisition costs						
As of January 1, 2021	10,172	9,887	—	—	688	20,747
Additions	2,454	234	—	—	991	3,679
Disposals	—	—	—	—	(576)	(576)
Reclassifications	—	138	—	—	(138)	—
As of December 31, 2021	**12,626**	**10,259**	**—**	**—**	**965**	**23,850**
Cumulative amortization and impairment charges						
As of January 1, 2021	4,499	2,102	—	—	—	6,601
Amortization	1,466	2,545	—	—	—	4,011
As of December 31, 2021	**5,965**	**4,647**	**—**	**—**	**—**	**10,612**
Acquisition costs						
As of January 1, 2022	12,626	10,259	—	—	965	23,850
Additions	1,433	4,208	6,350	12,463	—	24,454
Disposals	(2,331)	(1,537)	—	—	(298)	(4,166)
Reclassifications	656	—	—	—	(656)	—
Currency translation	1	—	—	—	—	1
As of December 31, 2022	**12,385**	**12,930**	**6,350**	**12,463**	**11**	**44,139**
Cumulative amortization and impairment charges						
As of January 1, 2022	5,965	4,647	—	—	—	10,612
Amortization	1,730	2,865	484	—	—	5,079
Disposals	(2,217)	(1,114)	—	—	—	(3,331)
Currency translation	1	—	—	—	—	1
As of December 31, 2022	**5,479**	**6,398**	**484**	**—**	**—**	**12,361**
Carrying amount						
As of January 1, 2021	5,673	7,785	—	—	688	14,146
As of December 31, 2021	6,661	5,612	—	—	965	13,238
As of December 31, 2022	**6,906**	**6,532**	**5,866**	**12,463**	**11**	**31,778**

Property, plant and equipment

(in thousands of EUR)	Buildings	Technical equipment and machines	Other equipment, furniture and fixtures	Assets under construction	Total
Acquisition costs					
As of January 1, 2021	19,950	22,384	9,243	39,121	90,698
Additions	3,353	28,047	2,228	98,071	131,699
Disposals	(4)	(10)	(15)	(7,123)	(7,152)
Reclassifications	3,973	1,553	—	(5,526)	—
Currency translation	—	—	38	—	38
As of December 31, 2021	**27,272**	**51,974**	**11,494**	**124,543**	**215,283**
Cumulative depreciation and impairment charges					
As of January 1, 2021	3,415	8,308	5,250	7,120	24,093
Depreciation	1,934	3,420	1,883	—	7,237
Impairment	—	—	—	22,810	22,810
Disposals	(1)	(2)	(15)	(7,120)	(7,138)
Currency translation	—	—	17	—	17
As of December 31, 2021	**5,348**	**11,726**	**7,135**	**22,810**	**47,019**
Acquisition costs					
As of January 1, 2022	27,272	51,974	11,494	124,543	215,283
Additions	377	9,710	2,760	76,773	89,620
Assets held for sale	—	(6,719)	—	(50,851)	(57,570)
Disposals	(1,182)	(12,584)	(1,732)	(4,356)	(19,854)
Reclassifications	—	7,652	—	(7,652)	—
Currency translation	—	—	30	—	30
As of December 31, 2022	**26,467**	**50,033**	**12,552**	**138,457**	**227,509**
Cumulative depreciation and impairment charges					
As of January 1, 2022	5,348	11,726	7,135	22,810	47,019
Depreciation	4,445	6,999	1,950	—	13,394
Impairment	—	3,830	—	2,054	5,884
Disposals	(1,083)	(9,938)	(1,688)	(24,038)	(36,747)
Currency translation	—	—	18	—	18
As of December 31, 2022	**8,710**	**12,617**	**7,415**	**826**	**29,568**
Carrying amount					
As of January 1, 2021	16,535	14,076	3,995	31,998	66,604
As of December 31, 2021	21,924	40,248	4,359	101,733	168,264
As of December 31, 2022	**17,757**	**37,416**	**5,137**	**137,631**	**197,941**

In fiscal 2022, impairments of EUR 5,884k were recognized (2021: EUR 22,810k). These were recognized in cost of sales as they pertained largely to machinery and technical equipment recorded under technical equipment and machines and assets under construction and resulted from the partial impairment of production lines which are obsolete due to the withdrawal of the EMA regulatory approval application for CVnCoV. Refer to Note 5 for additional information on assets reclassified as ‘assets held for sale’.

4.2 Right-of-use assets and lease liabilities

Set out below, are the carrying amounts of the Group's right-of-use assets and the movements during the period:

	Right-of-use assets			
	Land and Buildings	Vehicles	Other equipment	Total
	EURk	EURk	EURk	EURk
As of January 1, 2022	31,547	142	440	32,129
Additions	14,834	231	2,179	17,244
Disposals	—	—	—	—
Depreciation expense	(4,639)	(98)	(316)	(5,053)
Impairment	(710)	—	—	(710)
Foreign currency translation	151	—	—	151
As of December 31, 2022	**41,183**	**275**	**2,303**	**43,761**

The main leasing contracts that have commenced relate to several buildings in Tübingen, a building in Frankfurt am Main and a building in Boston/USA. The right of use asset for the building in Frankfurt was 100% impaired. The additions mainly relate to a lease agreement for a building in Tübingen (EUR 10,287k) with a start date of March 1, 2022, four lease agreements for office space in Amsterdam (EUR 1,453k) and a lease agreement for a building in Wiesbaden (EUR 825k) with a start date of December 1, 2022. Furthermore, the acquisition costs increased by EUR 1,832k in 2022 due to lease increases for three rented buildings in Germany.

Below are the carrying amounts of lease liabilities and the movements during the period:

	EUR k
As of January 1, 2022	**28,892**
Additions	17,241
Disposals	—
Accretion of interest	2,218
Payments	(6,439)
Foreign currency translation	174
As of December 31, 2022	**42,086**
Current	4,980
Non-current	37,106

A maturity analysis of lease liabilities is disclosed in Note 16.

The following are the amounts recognized in the statement of operations:

	EUR k
Depreciation expense of right-of-use assets	(5,053)
Impairment expense	(710)
Interest expense on lease liabilities	(2,218)
Expense relating to short-term leases (included in cost of sales)	(76)
Expense relating to leases of low-value assets (included in administrative expenses)	(66)
Total amount recognized in profit or loss	**(8,123)**

Set out below, are the carrying amounts of the Group's right-of-use assets and the movements of prior period:

	Right-of-use assets			
	Land and Buildings	Vehicles	Other equipment	Total
	EURk	EURk	EURk	EURk
As of January 1, 2021	33,296	113	575	33,984
Additions	2,666	97	—	2,763
Disposals	(943)	—	—	(943)
Depreciation expense	(3,698)	(68)	(135)	(3,901)
Foreign currency translation	226	—	—	226
As of December 31, 2021	**31,547**	**142**	**440**	**32,129**

Below are the carrying amounts of lease liabilities and the movements during the period 2021:

	EUR k
As of January 1, 2021	30,087
Additions	2,763
Disposals	(943)
Accretion of interest	1,729
Payments	(4,913)
Foreign currency translation	169
As of December 31, 2021	**28,892**
Current	3,469
Non-current	25,423

A maturity analysis of lease liabilities is disclosed in Note 16.

The following are the amounts recognized in the statement of operations in 2020:

	EUR k
Depreciation expense of right-of-use assets	(3,901)
Interest expense on lease liabilities	(1,729)
Expense relating to short-term leases (included in cost of sales)	(119)
Expense relating to leases of low-value assets (included in administrative expenses)	(39)
Total amount recognized in profit or loss	**(5,788)**

Commitments for leases not yet commenced as of December 31, 2022, relate to two lease agreements of buildings in Tuebingen, Germany that have been signed in 2021 and one lease agreement of a building in Wiesbaden, Germany that was signed in 2022. One building has a fixed lease term of 10 years having two 5 years extension options. The starting date of this lease will be May 1, 2023 and the fixed gross lease-payments are EUR 1,292k and the optional payments EUR 1,292k. The second lease agreement is starting on January 1, 2024 over fixed lease term of 15 years, having two five years extension options. The fixed gross lease-payments are EUR 28,975k and the optional payments EUR 26,556k. The third lease agreement is starting on August 1, 2023 until December 31, 2027, having one five years extension option. The fixed gross lease-payments are EUR 502k and the optional payments EUR 569k.

4.3 Non-current other assets

Non-current other assets of EUR 1,666k (2021: EUR 1,731k) consist of costs to obtain a contract of EUR 302k (2021: EUR 515k) and deposit payments for leases of EUR 1,364k (2021: EUR 1,215k).

The amortization of capitalized costs to obtain a contract in 2022 was EUR 213k (2021: EUR 694k, 2020: EUR 215k).

5. Assets held for sale

In 2022, Management decided to dispose of certain equipment which had been procured for CMO activities (CMO Equipment) but that was no longer planned to be used by the Company. An external service-provider was appointed on June 14, 2022 to organize the sale of the CMO Equipment. As of December 31, 2022, the CMO-Equipment identified for sale had a gross book value of EUR 29,531k and was written down by EUR 19,064k (with the corresponding expense recognized in cost of sales) to EUR 10,467k, the fair value less anticipated costs to sell. Criteria for the determination of the fair value were defined based on certain sales scenarios considering different sales campaigns. All sales activities are scheduled for 2023.

6. Inventories

The inventories include only raw materials amounting to EUR 23,989k (December 31, 2021: EUR 56,159k), which are recoverable under the Company's agreements with its collaboration partners. During the year ended December 31, 2022, the decrease in inventory of EUR 32,170k is primarily due to further write-offs and scrap of EUR 80,021k (refer to Note 3.2 for additional information regarding these write-offs), including the transfer of inventory EUR 9,800k (net value) to GSK in connection with an agreement into which it entered with Novartis (see Note 3.6 for additional information).

7. Other financial assets

Other financial assets as of December 31, 2022 amounted to EUR 4,487k (2021: EUR 4,647k) mainly include deposits held by third parties in amount of EUR 1,936k (2021: EUR 1,936k) and other receivables in the amount of EUR 2,551k (2021: EUR 2,711k).

8. Prepaid expenses and other current assets

Prepaid expenses and other current assets of EUR 40,287k (2021: EUR 49,244k) include prepayments for future service agreements and material in the amount of EUR 4,507k (2021: EUR 5,724k) and receivables for the GSK compensation/material transfer of EUR 5,595k (2021: EUR 0k). For more details, refer to Note 3.7. As of December 31, 2022 we had tax receivables of EUR 24,840k in other current assets (2021: EUR 35,234k). This consists mainly of outstanding VAT refund claims of EUR 24,555k and other tax receivables of EUR 285k.

9. Equity

Overview

According to the Company's articles of association, the Company's authorized shares are divided into 386,250,000 common shares and 386,250,000 preferred shares, each having a nominal value of EUR 0.12. As of December 31, 2022, no preferred shares had been issued and all issued common shares issued and outstanding were fully paid. However, in certain events, BMGF has the right to require the Company to redeem or facilitate the purchase by a third-party of all common shares it holds and Genmab had the right to subscribe once for common shares at a certain price under an anti-dilution and down round-protection clause which expired in February 2022.

All payments received from shareholders in excess of the nominal value of the shares issued and net of transaction costs are recognized in capital reserves. Capital reserves also consists of recognition of share-based payments and the equity components of convertible loans. The Company may only make distributions, whether a distribution of profits or of freely distributable reserves, to shareholders to the extent shareholders' equity exceeds the sum of the paid-in and called-up share capital plus any reserves required by Dutch law or by the Company's articles of association.

Due to the effect of the corporate reorganization described in Note 1, the number of shares issued and outstanding has been retrospectively adjusted to reflect the impact of the resulting 1:133.0778 share split and developed as follows in fiscal 2022:

Common shares issued and outstanding at December 31, 2019	**96,693,265**
Genmab Investment	2,175,157
2020 Private Investment	55,688,535
Initial Public Offering and Private Placement	22,708,332
Share option exercises	3,195,276
Common shares issued and outstanding at December 31, 2020	**180,460,565**
Follow-on public offering, incl. Greenshoe	5,750,000
Share option exercises	910,163
Common shares issued and outstanding at December 31, 2021	**187,120,728**
Shares issued as part of the at-the-market offering program	6,908,493
Shares issued to former shareholders of Frame Pharmaceuticals	858,496
Shares issued for LTIP option exercises and RSU deliveries	109,374 *
Common shares issued and outstanding at December 31, 2022	**194,997,091**

*56,113 shares were issued on December 30, 2022 to fulfill the RSU deliveries beginning of January 2023

Refer to Note 22 for additional information on share transactions occurring after December 31, 2022. The share transactions which occurred in 2020, 2021 and 2022 are as described below.

Genmab Investment

Pursant to an Investment and Shareholders` Agreement (“ISA”), effective December 19, 2019, Genmab, agreed to purchase 2,175,157 Series B shares in the Company in exchange for EUR 20,000k in cash. As of December 31, 2019, the Group had received a total amount of EUR 16,345, corresponding to the par value of EUR 1 per share agreed to be purchased under the ISA. However, as the shares were not yet registered in the commercial register as of December 31, 2019, according to German law, the shares were not considered issued as of this date. The remaining amount of EUR 19,983,655 was paid at the beginning of 2020 and the shares were finally issued on February 18, 2020.

2020 Private Investment

In July 2020, the Group issued to Kreditanstalt für Wiederaufbau (or “KfW”, a German government-related entity), GSK and various other investors a total of 55,688,534 common shares in exchange for an aggregate investment of EUR 559,280k (2020 Private Investment).

Initial Public Offering and Private Placement

In August 2020, the Group completed its IPO whereby it sold 13,333,333 common shares at USD 16.00 per share. In addition, the underwriters exercised their option to purchase an additional 1,999,999 common shares at the public offering price less the underwriting discount. The aggregate proceeds, net of underwriting discounts, received by the Group from these transactions were USD 228,200k (EUR 192,946k). Additional offering costs for legal, accounting, printing and registration fees of USD 5,200k (EUR 4,397k) were recognized as a reduction to capital reserve against the proceeds from the IPO.

Additionally, in August 2020, DH-LT Investments GmbH, a company beneficially owned by Dietmar Hopp, managing director of dievini, the Group’s largest shareholder, purchased EUR 100,000k of the Group’s common shares at a price of USD 16.00 per share.

Follow-on public offering

In February 2021, the Group completed a follow-on public offering whereby it sold 5,000,000 common shares at a price of USD 90.00 per share. In addition, the underwriters exercised their option to purchase an additional 750,000 common shares at this same price less the underwriting discount. The aggregate proceeds, net of underwriting discounts, received by the Group from these transactions were EUR 426,652k. Additional offering costs for legal, accounting, printing and registration fees of EUR 22,590k were recognized as reduction to capital reserve against the proceeds from the offering.

At-the-market offering

On September 17, 2021, CureVac filed a prospectus for an “at-the-market” offering program to raise additional cash of up to USD 600,000k. The program was activated in June 2022. Through December 31, 2022, CureVac has issued 6,908,493 shares and raised gross proceeds of USD 69,139k. Offering costs for legal, accounting, printing and registration fees of EUR 1,058k were recognized as reduction to capital reserve against the proceeds from the offering.

Frame Pharmaceuticals acquisition

On June 8, 2022, CureVac entered into a Share Purchase Agreement (SPA) to acquire all of the issued and outstanding shares of Frame Pharmaceuticals B.V., a research company focused on advanced genomics and bioinformatics, based in Amsterdam, Netherlands. Under the SPA, the total consideration for the the purchase was up to EUR 34 million, conditioned on the meeting of certain development milestone payments. On the date of acquisition, July 1, 2022, CureVac issued 858,496 shares to the former shareholders of Frame Pharmaceuticals. Refer to Note 21 for additional information.

Exercises of share options under the prior VSOP plan

The IPO in August 2020 triggered an exercise event under the set terms of the prior VSOP plan (see Note 10). In March 2021, CureVac received 759,677 shares from the old shareholders and transferred 390,023 shares to the participants of the old VSOP plan. CureVac withheld 369,654 shares equaling the amount to be paid for income tax and social security tax. A second triggering event, “liquidity after IPO” was met one year after IPO. In October 2021, CureVac received 765,223 shares from the old shareholders and transferred 523,897 shares to the participants of the VSOP plan. CureVac withheld 241,326 shares equaling the amount to be paid for income tax and social security tax.

A third triggering event, again “liquidity after IPO, was met on the second anniversary of the IPO. In December 2022, CureVac received 777,260 shares from the old shareholders. All shares were transferred to to the participants of the prior VSOP plan and the portion of shares equaling the amount to be paid for income tax and social security tax were sold to pay for these taxes and social security amounts. CureVac has recorded a receivable for income tax and social security tax for former employees.

Exercises of share options under the new VSOP plan

Participants of the new VSOP plan (see Note 10) were able to continue to exercise their options throughout the year of 2022. In 2022 147,620 shares (2021: 557,171 shares) were issued upon exercise of options and 96,785 options were forfeited (2021: 0).

Exercises of share options under the Legacy program

Three of the original founders used their 5,282 options granted from the legacy program (see Note 10) and exercised their options throughout June until October 2021. The 5,282 options were restructured upon the completion of our Corporate Reorganization. Following this restructuring, the option holder was able to exchange his options for common shares of CureVac N.V. (instead of shares of CureVac AG) on a 1 to 133.0778 basis. Therefore, the exercise resulted in issuance of 702,915 shares.

Shareholders' Agreement Among KfW, dievini, DH-LT Investments GmbH and Dietmar Hopp

In connection with the KfW's investment in 2020, KfW, dievini and Dietmar Hopp entered into a shareholders' agreement on June 16, 2020, or the KfW dievini Shareholders' Agreement, agreeing to certain transfer restrictions and rights of first refusal relating to their interests in CureVac, nomination rights, and a voting agreement relating to certain specified actions. In particular, dievini and Mr. Hopp agree to vote a specified number of their shares as directed by KfW on certain specified actions, subject to certain exceptions. These specified actions include, inter alia: (1) transferring the tax domicile of CureVac N.V. and/or the approval of the transfer of the corporate or administrative seat of CureVac; (2) relocating or ceasing activities in specified areas to a state outside the European Union to the extent (in particular in the area of the development of vaccines) they are material for the protection of the health of the population of the European Union; (3) entering into material mergers and acquisitions; and (4) amendments to the articles of association of CureVac which would affect the foregoing matters. The KfW dievini Shareholders' Agreement has an initial fixed term that expires on December 31, 2023, subject to a right to extend for one year for the benefit of KfW and dievini, and may be terminated after the initial fixed term, or the extended term, if applicable, by either party subject to six months' notice prior the end of the applicable calendar year. In addition, the agreement shall automatically terminate if KfW sells all or a part of its interest in the Company to a third party, subject to certain exceptions. On August 14, 2020, DH-LT Investments GmbH joined the KfW dievini Shareholders' Agreement via a First Supplement Agreement to the KfW dievini Shareholders' Agreement and on January 13, 2022, the parties to the KfW dievini Shareholders' Agreement entered into a Second Supplement to the KfW dievini Shareholders' Agreement which revised certain of the parties' restrictions and rights with respect to transfer of the shares held by them. Moreover, triggered by transfer of certain shares from dievini to so-called "dievini Shareholders", on dievini's side certain additional parties entered into the KfW dievini Shareholders' Agreement.

10. Share-based payments

Amounts in this Note reflect the retrospective effect of the share split resulting from the corporate reorganization described in Note 1.

During the years ended December 31, 2022, 2021, and 2020, the Group operated the following share-based plans for members of management and other key employees of the Group, as well as members of the supervisory board:

- Prior VSOP
- New VSOP — for US employees (from 2019 onwards)
- LTIP Stock Options
- LTIP RSUs (from 2021 onwards)
- Former Chief Executive Officer Grant (fully exercised in 2021)
- Legacy Plan (expired in 2021)

All programs were accounted for as equity-settled.

Measurement of the grant date fair value is based on valuation techniques appropriate in the circumstances, such a Black Scholes option pricing models or a Monte Carlo simulation. Expected volatility, a key input to such models, was based on an evaluation of the historical volatilities of comparable listed biotech-companies over the historical period commensurate with the expected option life. Regarding the expected option life of the stock option programs, this was based on the assumptions that the beneficiary would exercise his option in equal installments from the date of the first time possible (taking into account lock-up and potential trading windows restrictions) until maturity. The risk-free interest was derived from German or US-Government bonds, as appropriate.

The expense recognized for share-based payments during the years ended December 31 is as follows:

	2020 EUR k	2021 EUR k	2022 EUR k
Prior VSOP	(5,188)	(624)	(131)
New VSOP	(1,764)	(572)	95
LTIP Stock Options	(4,736)	(12,472)	(5,562)
LTIP RSUs	—	(705)	(3,108)
RSU Supervisory board	—	(566)	(478)
Total	**(11,688)**	**(14,939)**	**(9,184)**

Prior VSOP

Exercise and/or vesting of the Prior VSOP is dependent on the occurrence of specified exit events, such as IPO or trade sale, and/or additional contingent events, such as financing rounds, product approvals or minimum trading volumes and liquidity levels of the CureVac N.V. shares. Further exit events relating to the program can be settled in cash or shares.

As CureVac considered an IPO-scenario most probable at the end of fiscal 2019 and had the discretion and the stated intent to settle in shares instead of cash in the case of an IPO, CureVac accounted for this program as equity-settled as of December 31, 2019. In August 2020, the IPO materialized and confirmed the Group’s settlement choice. The Prior VSOP has a term of nine years after the day of the Group’s initial listing in the case of an IPO.

The development of the virtual shares in this program granted to management and key employees was as follows:

	2020	2021	2022
Outstanding at the beginning of the period	7,305,838	7,951,265	6,426,365
Granted during the period	658,735	—	—
Forfeiteded during the period	(13,308)	—	(34,859)
Exercised during the period	—	(1,524,900)	(777,260)
Outstanding at the end of the period	7,951,265	6,426,365	5,614,246
Thereof vested	7,582,906	6,365,422	5,509,886
Thereof exercisable	none	none	none

658,735 virtual shares were awarded in May and June 2020 to18 key employees.

As of January 1, 2020, none of the virtual shares of the Prior VSOP were exercisable because an exit event or capital market transaction had not occurred. The IPO on August 14, 2020, triggered the right to exercise 10 % of the vested virtual shares at the end of the lock-up period, which ended on February 10, 2021. By March 10, 2021, the beneficiaries declared the exercise of all their exercisable 759,677 virtual shares and CureVac received 759,677 shares from their former majority shareholders as of 2015, on that day. On March 11, 2021, CureVac transferred 390,023 shares to the exercising beneficiaries and withheld 369,654 (treasury) shares equal to the monetary value (approximately EUR 26 million) of the beneficiaries (wage) tax and social security obligations, which CureVac transferred to the relevant authorities on the exercising employee´s behalf in cash. The share price of CureVac on March 11, 2021, was EUR 69.69.

A second 10 % portion of the (vested) virtual shares became exercisable on the first anniversary after IPO i. e., on August 14, 2021, because certain minimum trading volumes of the CureVac N.V. shares and liquidity levels were reached. The beneficiaries declared the exercise of their exercisable 765,223 virtual shares by October 18, 2021 and CureVac received 765,223 shares from the old shareholders on that day. On October 19, 2021, CureVac transferred 523,897 shares to the exercising beneficiaries and withheld 241,326 (treasury) shares equal to the monetary value (approximately EUR 8 million) of the beneficiaries (wage) tax and social security obligations, which CureVac transferred to the relevant authorities on the exercising employee´s behalf in cash. The share price of CureVac on October 19, 2021, was EUR 34.56.

A third 10 % portion of the (vested) virtual shares became exercisable on the second anniversary after IPO i. e., on August 14, 2022, because certain minimum trading volumes of the CureVac N.V. shares and liquidity levels were again reached. The beneficiaries declared the exercise of their then exercisable 777,260 virtual shares by Dec 12, 2022 and CureVac received 777,260 shares from the old shareholders on that day. On Dec 14, 2022, CureVac transferred 777,260 shares to the exercising beneficiaries. The portion of shares equaling the amount to be paid for (wage) tax and social security obligations were sold to pay for these amounts. For former employee's CureVac shows a receivable position equaling the amount to be paid for (wage) tax and social security obligations. The share price of CureVac on December 14, 2022, was EUR 6.96.

Expense recognized in the statement of operations and other comprehensive income (loss)

The expense recognized for this share-based payment plan during the years ended December 31 is as follows:

	2020 EUR k	2021 EUR k	2022 EUR k
Selling and distribution expenses	(213)	(25)	(8)
Research and development expenses	(1,840)	(369)	(45)
General and administrative expenses	(3,135)	(230)	(78)
Total	**(5,188)**	**(624)**	**(131)**

Measurement of Fair Values

The grant date fair value of the 658,735 virtual shares granted in May and June 2020 was derived from the estimated equity value of CureVac on these dates, which lead to a fair value of one virtual share of EUR 10.04 at that time.

New VSOP

Effective November 25, 2019, the Group granted 745,236 share options to key employees of CureVac Inc. under the New VSOP program. Furthermore, in the first quarter of fiscal 2020, the Group granted another 267,822 share options. All these share options have an exercise price of USD 6.21.

The awards vest over a period of four years, which starts on the date the awardee was hired by the Group, with 25% vesting after 12 months and the rest in monthly installments. The awards have a term of 10 years.

In addition, the Group set up a provision for employer taxes arising according to US regulations for future exercises of EUR 51k as of December 31, 2022 (2021: EUR 147k).

Measurement of Fair Values

An advanced Black-Scholes Model (Enhanced American Stock Option Model) has been used to measure the fair value at the grant date of November 25, 2019.

The inputs used in the measurement of the fair value at grant dates in the first quarter of 2020 and 2019 were as follows:

	Grant Date	
	Q4 2019	Q1 2020
Weighted average fair value	EUR 3.80	EUR 4.05
Weighted average share price	EUR 9.19	EUR 8.91
Exercise price (USD 6.21)	EUR 5.64	EUR 5.60
Expected volatility (%)	50.0 %	55.0 %
Expected life (years)	1.16	1.11
Risk-free interest rate (%)	1.77 %	1.79 %

The remaining life of the option awards as of December 31, 2022 is between 5.5 and 6.9 years (2021: range between 3.7 and 8.5 years).

Reconciliation of outstanding awards

The number of awards in this program granted to key employees developed as follows:

	2020	2021	2022
Outstanding at the beginning of the period	745,236	906,595	349,424
Granted during the period	267,822	—	—
Forfeited during the period	(106,462)		(99,696)
Exercised during the period	—	(557,171)	(147,620)
Outstanding at the end of the period	906,595	349,424	102,108
Thereof vested	420,595	88,464	59,942
Thereof exercisable	none	88,464	59,942

As of December 31, 2019, none of the awards were exercisable because an exit event or capital market transaction had not occurred. With the defined exit event “financing round” before the IPO the awards became exercisable, but none of them were exercised. As the IPO had taken place on August 14, 2020, shortly after the “financing event” before the IPO, the awards became subject to the lock-up period, which is 180 days after the initial listing, i. e. on February 10, 2021. Hence, as of December 31, 2020, none of the awards were exercisable. In 2021 multiple exercises happened throughout the year. In total 557,171 options were exercised with an average share price of 61.28 USD. These exercises led to CureVac having to pay an amount of USD 493k employer taxes and to use USD 981k of the provision recorded in 2020.

In 2022, a number of exercises were carried out throughout the year. In total, 147,620 options were exercised with an average share price of 16.81 USD. These exercises led to CureVac having to pay an amount of USD 45k employer taxes and to use USD 51k of the provision recorded in 2021.

Expense recognized in the statement of operations and other comprehensive income (loss)

The expense recognized for employee services received during the years ended December 31, 2022, 2021, and 2020 is shown in the following table:

	2020 EUR k	2021 EUR k	2022 EUR k
Research and development expenses	(1,421)	(349)	69
Selling and distribution expenses	(296)	(188)	23
General and administrative expenses	(47)	(35)	3
Total	(1,764)	(572)	95

Long-Term Incentive Plan (LTIP) - Options

On November 16, 2020, CureVac granted 266,155 options to the Chief Scientific Officer (CSO). Furthermore, on December 1, 2020, CureVac granted 266,156 options (in 3 tranches) to the company`s Chief Business Officer (CBO) and Chief Commercial Officer (CCO). All grants were made at no cost under the terms of a new long-term incentive plan put in place by Curevac N.V. Options will be settled in shares of Curevac N.V.

Options granted to the CSO have an exercise price of EUR 10.04 per share option and an expiration date of July 14, 2030. The exercise price was based on value of the shares at entry date of the CSO. The award vests over a period of four years, with 25% vesting after 12 months and the rest in 1/36 monthly installments thereafter. Exercise is contingent to a share price increase of 20%, based on the 10 day VWAP at time of exercise.

For the grant to the CSO, a Monte Carlo simulation has been used to measure the fair value at the relevant grant date. The inputs used in the measurement of the fair value at grant date were as follows:

Weighted average fair value per option	EUR 57.40
Weighted average share price (10-days VWAP before grant date)	EUR 50.01
Exercise price (USD 11.90)	EUR 10.04
Expected volatility (%)	62.06 %
Expected life (years)	1.82
Risk-free interest rate (%)	0.07 - 1.48 %

At December 31, 2022, 6,303 options granted to the CSO had been exercised.

Options granted to the CBO / CCO have been granted in 3 tranches vesting over 1 to 3 years, with exercise prices applicable to future tranches being estimated. The exercise price of the first tranche is EUR 43.87 (USD 52.96), The exercise prices for future installments, 2021 and 2022, were estimated to be EUR 81.48 (USD 98.36) and EUR 81.65 (USD 98.57). For the second tranche the actual exercise price in fiscal year 2021 was determined to be EUR 33.07 (USD 39.92) and of the third tranche the actual exercise price in fiscal year 2022 was determined to be EUR 7.35 (USD 7.68). The tranches each have a term of 10 years. Exercise of all three tranches is contingent on a share price increase of 10 %, based on a 10 day VWAP at the time of each exercise.

For the grant to the CBO/CCO, a Monte Carlo simulation has been used to measure the fair value at the relevant grant date. The inputs used in the measurement of the fair value at grant date were as follows:

First tranche:

Weighted average fair value per option	EUR 48.27
Weighted average share price (actual 10-days VWAP before grant date, USD 81.03)	EUR 67.12
Exercise price (USD 52.96)	EUR 43.87
Expected volatility (%)	62.27 %
Expected life (years)	1.78
Risk-free interest rate (%)	0.07 - 1.50 %

Second tranche:

Weighted average fair value per option	EUR 24.36
Weighted average share price (estimated by Monte Carlo simulation to be USD 98.36)	EUR 81.48
Exercise price (estimated by Monte Carlo simulation to be USD 98.36)	EUR 81.48
Expected volatility (%)	62.27 %
Expected life (years)	2.23
Risk-free interest rate (%)	0.07 - 1.50 %

Third tranche:

Weighted average fair value per option	EUR 20.01
Weighted average share price (estimated by Monte Carlo simulation to be USD 98.57)	EUR 81.65
Exercise price (estimated by Monte Carlo simulation to be USD 98.57)	EUR 81.65
Expected volatility (%)	62.27 %
Expected life (years)	2.66
Risk-free interest rate (%)	0.07 - 1.50 %

On March 1, 2021, CureVac granted 2,000 options to a key employee. Options granted to this key employee have an exercise price of EUR 77.73 (USD 88.16) per share option and an expiration date of February 28, 2031. The exercise price was based on the 30 day VWAP of March 1 – March 31, 2021 of the shares. The award vests over a period of four years, with 25% vesting after 12 months and the rest in 1/36 monthly installments thereafter. Exercise is contingent to a share price increase of +10%, based on the 10 day VWAP at time of exercise.

For the grant to the key employee, a Monte Carlo simulation has been used to measure the fair value at the relevant grant date. The inputs used in the measurement of the fair value at grant date were as follows:

Weighted average fair value per option	EUR 0.65
Weighted average share price (30-days VWAP after grant date)	EUR 77.73
Exercise price (USD 88.16)	EUR 77.73
Expected volatility (%)	73.00 %
Expected life (years)	2.15
Risk-free interest rate (%)	0.08 - 0.49 %

On July 1, 2021, CureVac granted 20,000 options to the Chief Operations Officer (COO). Furthermore, on August 1, 2021, CureVac granted 30,000 options to the Chief Development Officer (CDO). Both grants were made at no cost under the terms of the new long-term incentive plan (LTIP) put in place by Curevac N.V. Options will be settled in shares of Curevac N.V.

The CDO has since left the company and, under the terms of his LTIP agreement, his options had expired as of December 31, 2022.

Options granted to the COO have an exercise price of EUR 70.92 (USD 84.03) per share option and an expiration date of July 2, 2026. The exercise price was based on the 20 day VWAP of the shares at entry date of the COO. The award vests over a period of four years, with 25% vesting after 12 months and the rest in 1/36 monthly installments thereafter. Exercise is contingent to a share price increase of +20%, based on the 10 day VWAP at time of exercise.

For the grant to the COO, a Monte Carlo simulation has been used to measure the fair value at the relevant grant date. The inputs used in the measurement of the fair value at grant date were as follows:

Weighted average fair value per option	EUR 17.56
Weighted average share price (20-days VWAP before grant date)	EUR 56.51
Exercise price (USD 84.03)	EUR 70.92
Expected volatility (%)	70.95 %
Expected life (years)	4.5
Risk-free interest rate (%)	0.099 – 0.903 %

Options granted to the CDO have, an exercise Price: EUR 46.16 (USD 54.79) per share option and an Expiration Date: August 2,2026. The exercise price was based on the 20 day VWAP of the shares at entry date of the COO. The award vests over a period of four years, with 25% vesting after 12 months and the rest in 1/36 monthly installments thereafter. Exercise is contingent to a share price increase of +20%, based on the 10 day VWAP at time of exercise.

For the grant to the COO, a Monte Carlo simulation has been used to measure the fair value at the relevant grant date. The inputs used in the measurement of the fair value at grant date were as follows:

Weighted average fair value per option	EUR 17.56
Weighted average share price (20-days VWAP before grant date)	EUR 41.81
Exercise price (USD 84.03)	EUR 46.16
Expected volatility (%)	75.13 %
Expected life (years)	4.6
Risk-free interest rate (%)	0.075 – 0.704 %

On January 1, 2022, CureVac granted 9,500 options to a key employee. Options granted to this key employee have an exercise price of EUR 30.67 (USD 33.87) per share option and an expiration date of December 31, 2031. The exercise price was based on the 30 day VWAP of January 1 – January 31, 2022 of the shares. The award vests over a period of four years, with 25% vesting after 12 months and the rest in 1/36 monthly installments thereafter. Exercise is contingent to a share price increase of +20%, based on the 10 day VWAP at time of exercise.

For the grant to the key employee, a Monte Carlo simulation has been used to measure the fair value at the relevant grant date. The inputs used in the measurement of the fair value at grant date were as follows:

Weighted average fair value per option	EUR 14.31
Weighted average share price (30-days VWAP after grant date)	EUR 30.67
Exercise price (USD 34.87)	EUR 30.67
Expected volatility (%)	72.17 %
Expected life (years)	2.16
Risk-free interest rate (%)	0.40 - 1.15 %

On March 1, 2022, CureVac granted 130,000 supplemental options to the Company’s management board. 30,000 options were granted to the CEO, and 25,000 options were granted to each of the CFO, CSO, COO and CBO/CCO. All grants were made at no cost under the terms of a new long-term incentive plan put in place by CureVac.

The options granted to the management board have an exercise price of USD 19.35 per share option and an expiration date of March 1, 2032. The exercise price was based on the 10day VWAP as of March 1, 2022 + a performance criteria of 15%. The award has a vesting of 25% on each of Dec 31, 2022, Dec 31, 2023, Dec 31, 2024, Dec 31, 2025.

For the grants to the management board, a Monte Carlo simulation has been used to measure the fair value at the grant date. The inputs used in the measurement of the fair value at grant date were as follows:

Weighted average fair value per option	EUR 4.86
Weighted average share price (10 days VWAP before grant date)	EUR 15.07
Exercise price (USD 19.35)	EUR 18.37
Expected volatility (%)	73.87 - 86.09 %
Expected life (years)	2.33
Risk-free interest rate (%)	2.34 - 3.21 %

On April 1, 2022, CureVac granted 700 options to a key employee. Options granted to this key employee have an exercise price of EUR 17.45 (USD 19.28) per share option and an expiration date of March 31, 2032. The exercise price was based on the 10 day VWAP of March 21 – March 31, 2022 of the shares. The award vests over a period of four years, with 25% vesting after 12 months and the rest in 1/36 monthly installments thereafter. Exercise is contingent to a share price increase of +20%, based on the 10 day VWAP at time of exercise.

For the grant to the key employee, a Monte Carlo simulation has been used to measure the fair value at the grant date. The inputs used in the measurement of the fair value at grant date were as follows:

Weighted average fair value per option	EUR 6.81
Weighted average share price (10-days VWAP before grant date)	EUR 17.45
Exercise price (USD 19.28)	EUR 17.45
Expected volatility (%)	50.91 %
Expected life (years)	2.16
Risk-free interest rate (%)	2.67 %

The expense recognized for employee services received under the LTIP – options during the years ended December 31, 2022, is in an amount of EUR 5,564k (2021:EUR 12,472k) is included in general and administration expenses.

Long-Term Incentive Plan (LTIP) - Restricted Stock Units (RSUs)

Restricted Stock Units (RSUs)

In 2021, as part of the LTIP program, the group awarded RSUs (restricted stock units) to senior executives as well as supervisory board members.

On June 24, 2021, the group awarded 10,956 RSUs to supervisory board members and on December 23, 2021, the group awarded 63,095 RSUs to the executive board and various key employees. These RSU awards vest over 3 years with one third vesting taking place each year on December 31. One third of these RSU awards had vested as of December 31, 2021, one further third as of December 31, 2022.

In addition, on July 1, 2021, the group also awarded 4,691 special RSU awards. These special RSU awards vest over 12 months and are fully vested as of December 31, 2021.

In 2022, as part of the LTIP program, the group awarded RSUs (RSU Award 2022) to senior executives as well as supervisory board members.

On June 22, 2022 the group awarded 225,888 RSU awards as part of the “LTIP - RSU Award 2022” to members of the supervisory board, executive board and various key employees. On November 30, 2022, the group awarded a further 7,633 RSU awards to key employees who joined the company during fiscal 2022. These RSU awards vest with one third vesting taking place each year on December 31, 2022, December 31, 2023 and December 31, 2024. One third of these RSU awards had vested as of December 31, 2022.

In addition, on January 1, 2022, the group awarded 36,000 supplemental RSU awards to the CEO. This RSU award vests over 12 months and is fully vested as of December 31, 2022.

On January 31, 2022, the group also awarded 5,000 supplemental RSU awards to the COO and 30,000 supplemental RSU awards to the CBO/CCO. These RSU awards vest in 2 tranches (50% on December 31 2022 and 50% on December 31, 2023). In order for the RSUs to settle and be delivered, the share price must reach 19.16 USD on or after vesting. As of December 31, 2022, 50% of these RSUs had vested but had not been settled or delivered.

On July 1, 2022, the group awarded 89,655 RSU awards to former Frame employees to replace existing share-based payment awards of Frame Pharmaceuticals. These RSU awards vest with one third vesting taking place each year on June 30, 2023, June 30, 2024 and June 30, 2025. The RSU program is accounted for by recognizing the related expense over the vesting period of the award, with corresponding increases recorded in equity. The expense is based on the fair value determined at the grant date of the award and the number of awards expected to vest. The fair value remains unchanged after grant date. Once the award has vested, there is no reversal of expense related to the award.

Expenses for employer taxes arising upon the delivery of RSUs are recognized in profit or loss.

The related RSU expense is recorded in the functional cost category to which the award recipient's costs are classified.

	2020 EUR k	2021 EUR k	2022 EUR k
Research and development expenses	—	(240)	(909)
Selling and distribution expenses	—	(82)	(199)
General and administrative expenses	—	(383)	(2,000)
Total	—	(705)	(3,108)

Grant to Former Chief Executive Officer

In 2019, CureVac granted 3,866,309 options to Dan Menichella, then Chief Executive Officer (CEO) of CureVac from June 20, 2018, to March 10, 2020, with an exercise price of USD 8.28 per share option.

2,819,120 of these options vested in 2019 and the remainder in 2020. Except for 100,000 options, all options were exercised in 2020 against the issuance of 3,195,276 common shares of CureVac NV for no cash consideration. The weighted average share price at the date of exercises was USD 114.0345 (EUR 93.765) in fiscal 2021 and USD 55.22 (EUR 46.72) in 2020. The outstanding 100,000 options were all exercised as of June 30, 2021.

In FY 2020, EUR 2,551k (2019: EUR 12,409k) were recognized as expense in general and administrative expenses. Employer taxes were expensed and paid upon exercise under US regulations amounting to USD 139k in 2021 (2020: EUR: 2,033k expensed and paid or payable). These exercises led to CureVac having to pay an amount of USD 139K employer taxes and the use USD 146K of the provision booked in 2020.

Legacy plan

Under the terms of a legacy plan, at January 1, 2019, three members of (former) management held 702,917 of share options outstanding and exercisable. These share options grant the holder the right to acquire shares of CureVac AG at nominal value and are classified as equity-settled share-based payments.

All options were exercised in 2021.

No expenses have been recognized during the years ended December 31, 2022, 2021 and 2020 under this program.

11. Trade and other payables

Trade payables and other payables are all due within one year and include the following:

	2021 EUR k	2022 EUR k
Trade payables	122,263	68,246
License fees payable	38	—
Miscellaneous liabilities	5,402	5,218
Total	**127,703**	**73,463**

Trade Payables decreased by EUR 54,017k and refers to invoices received before fiscal year-end mainly for raw materials. There is no concentration of risk.

Miscellaneous liabilities consist mainly of payroll-related taxes and social security liabilities of EUR 5,027k (2021: EUR 4,802k).

12. Other liabilities and provisions

Provisions include the following:

	2021 EUR k	2022 EUR k
Contract termination provisions	—	61,320
Provisions (non-current)	**—**	**61,320**
Provision for onerous contracts	40,455	1,922
Contract termination provisions	81,587	—
Provisions (current)	**122,042**	**1,922**
Total Provisions (current & non-current)	**122,042**	**63,242**

Below are movements during the period:

	EUR k
As of January 1, 2022	**122,042**
additions	16,460
used (amounts charged against the provision)	(31,606)
unused amounts reversed	(71,694)
reclassified from accounts payable	28,040
As of December 31, 2022	**63,242**
Current	1,922
Non-current	61,320

Other liabilities include the following:

	2021 EUR k	2022 EUR k
Other (e.g. license liabilities, Deferred Tax Liability)	264	19
Other liabilities (non-current)	**264**	**19**
Personnel accrued liabilities (e.g. bonus, vacation)	7,210	7,778
Grants from government agencies and similar bodies	3,167	2,021
Outstanding invoices	35,242	28,146
Professional fees	1,183	1,344
VAT and other taxes (real estate transfer taxes)	924	924
Other	305	278
Other liabilities (current)	**48,031**	**40,491**
Total other liabilities (current & non-current)	**48,295**	**40,510**

In 2022, EUR 440k (2021:EUR 66,394k) of the grants from government agencies and similar bodies were recognized as other operating income.

The provision for onerous contracts relates to the CRO agreements and are expected to be used within one year from December 31, 2022. All amounts recognized as of December 31, 2022 arose during 2021, no additional provisions were made or utilized in 2022 and EUR 38,533k were reversed during the year (as described in Note 3.4). As described in Note 2, when initially measuring onerous contract provisions relating to CRO agreements, judgment was required in estimating the cost of the remaining services, particularly in estimating the number of participants completing the clinical trials. Due to the passage of time and thus additional visibility into how events actually transpired in 2022, little uncertainty in the amount and timing of remaining cash outflows remains as of December 31, 2022.

Contract termination provisions relate to amounts which the Company expects to pay out to settle its obligations under certain CMO contracts which it has terminated. All amounts recognized as of December 31, 2022 arose during 2021 except for EUR 16,460k in additional provisions made in 2022. EUR 31,605k provisions were utilized, EUR 28,040k were reclassified as a provision from accounts payable and EUR 33,162k were reversed during the year. As described in Note 2, judgment is required in estimating these amounts. The amount of the outflow of resources to settle the obligations to which these provisions relates may vary from the provision amount recognized as of December 31, 2022 due to potential variability in the amount required to be paid to ultimately release the company from its remaining obligations under the CMO contracts, including as a result of arbitration decisions. Contract terminations provisions have an expected maturity between one to five years from December 31, 2022 and are thus classified in Provisions (non-current).

The accrued liability for other taxes consists of real estate transfer taxes in the amount of EUR 924k (2021: EUR 924k).

As described in Note 3.7, CEPI requested a partial reimbursement of unspent funds up to USD 1,000k.

13. Loans

As of December 31, 2019, CureVac had been granted two convertible loan facilities (i.e., First Loan and Second Loan) by Dietmar Hopp. On June 26, 2020, CureVac drew down the second tranche of the Second Loan in the amount of USD 26,800k (EUR 24,860k). On July 24, 2020, the First Loan and Second Loan were terminated and on August 7, 2020, the total principal of EUR 94,749k and total accrued interest of EUR 5,641k were repaid in full. During the year ended December 31, 2020, EUR 11,008k of interest expense, inclusive of EUR 5,194k which resulted from the early termination of the First Loan and Second Loan (December 31, 2019: EUR 11,960k), was recognized.

On June 27, 2020, CureVac signed a financing arrangement with the European Investment Bank, or EIB, under which EIB agreed to provide the Company with a line of credit in an amount of up to EUR 75 million for the partial financing of CureVac´s clinical developments and large-scale production of the infectious disease vaccine candidates including a vaccine against SARS-CoV-2, or the Investment, provided that the amount of financing does not exceed 50% of the cost of the Investment. The EIB financing is available in three tranches of at least EUR 15 million and up to EUR 25 million upon completion of pre-defined milestones. These pre-defined milestones are tied to evidence of successful progress in the development and large-scale production of CureVac´s vaccine candidate against SARS-CoV-2. In addition, the disbursements of the second and third tranches are contingent upon the occurrence of the disbursement of the first and second tranches, respectively. Each tranche is due 7 years from the disbursement date. The EIB loan requires fixed remuneration at an interest at a rate of 0.5% per annum. Additionally, the loan agreement requires CureVac to pay variable remuneration depending on the output produced in the Company's GMP IV manufacturing facilities, which is EUR 200k per batch, up to an aggregate remuneration cap of EUR 75 million, on batches produced during the "Remuneration Period" beginning the earlier of the first financial year when CureVac AG has a positive EBITDA or in 2025 and extending for a period of 12 years thereafter. Payment of the variable remuneration is due on the first March 31st of the Remuneration Period and then each following March 31st, thereafter, in the Remuneration Period. The loan agreement provides CureVac an option to buy-out the variable remuneration by paying an amount equal to the higher of €5 million and 150-190% of the outstanding principal of the loan, depending on the number of years following the initial disbursement under the loan, but in any case, limited to an aggregate remuneration cap of EUR 75 million.

CureVac was subject to several restrictive covenants on its business activities as described in the financing agreement, including limitations on certain merger and acquisition transactions, disposition of certain assets, and mandatory maintenance of assets related to the Investment. In November 2020, a land charge (lien) amounting to EUR 75 million was registered in favor of the EIB to secure the loan. The EIB may demand, without prior notice, the immediate repayment of outstanding principal together with any accrued interest upon certain events including, among others, the Company's failure to continue the development of its Investment following a grace period.

During the year ended December 31, 2021, CureVac decided to early terminate the EIB loan for a total cash consideration of EUR 26,633k, which comprises of EUR 25,000k repayment of the loan and 1,633k interest and fees. As of December 31, 2021 the EIB loan was fully repaid.

14. Income tax

CureVac has tax losses in Germany that are available indefinitely for offsetting against future taxable profits of the companies in which the losses arose. Under German tax law, tax profits in a given year can be offset against tax loss carryforwards up to an amount of EUR 1,000k. 60% of tax profit in excess of this amount can be offset against any remaining tax loss carryforwards. As a result, 40% of the profits in excess of EUR 1,000k are subject to taxation.

The CureVac Group has four foreign entities:

- CureVac Inc. is an U.S.-based company
- CureVac Swiss AG is a Switzerland-based company
- CureVac Belgium SA is a Belgium-based company
- CureVac Netherlands B.V. is a Netherlands-based company

The CureVac Beteiligungsverwaltungs AG was an Austria-based company and in August 2022 merged with the CureVac AG to CureVac SE.

With the exception of those companies, all other CureVac' Group entities are considered Germany entities for tax purposes.

Tax loss carryforwards are examined by the German taxation authorities and may be adjusted. Furthermore, significant changes in the shareholder and company structure can lead to a reduction in the loss carryforwards under the current provisions of German tax law, which can be used to calculate the annual amount for offsetting against the future taxable income.

In fiscal 2022, 2021 and 2020, the Group recorded a consolidated income tax benefit and expense of EUR 126k, EUR 782k and EUR 726k, respectively. The income tax benefit in fiscal 2022 results from current income tax benefit (2021 and 2020 expenses) of EUR 106k (2021: EUR 1033k and 2020: EUR 403k) and deferred tax income on taxable temporary differences of EUR 26k (2021: EUR 1,815k and 2020: EUR 2,843k),. In fiscal 2022, the Group further recorded deferred tax liabilities of EUR 20k (2021: EUR 0k and 2020: EUR 39k). In fiscal 2022 the Group released (2021: recognized) deferred tax assets related taxable temporary differences arising from share-based-payments of EUR 1,590k (2021: EUR 581k) through equity. For outside basis differences of EUR 2.167k (2021: EUR 2,089k and 2020: EUR 972k) which are indefinitely reinvested and associated with investments in subsidiaries, deferred tax liabilities have not been recognized.

The significant components of income tax for the years ending December 31, 2022, 2021 and 2020 were as follows:

Tax reconciliation:

	2020 EUR k	2021 EUR k	2022 EUR k
Loss before tax	(129,848)	(412,498)	(249,155)
Expected tax benefit (based on statutory tax rate of 29.48% in 2022 and 29.48% in 2021 and 29.13% for 2020)	37,818	121,584	73,426
Adjustments in respect of current income tax of previous years	18	—	—
Adjustments in respect of deferred income tax of previous years	160	—	—
Effects from Recognition or Non-Recognition of DTA through Equity	(1,012)	(581)	(1,590)
Effects of (Non-) Recognition of tax loss carryforwards recognized in prior years	(1,716)	—	327
Effects from differences between Group and local tax rates	8	(8)	(2)
Effects resulting from non-recognition of tax loss carryforwards	(30,168)	(114,999)	(69,724)
Effects resulting from non-recognition of DTA	(179)	(7,363)	(626)
Non-recognition of DTA for deductible temporary differences from SBP	(2,946)	—	—
Non-deductible expences for tax purposes	—	—	(119)
- Effects from (additions / deductions) for local trade taxes	(63)	(176)	(330)
- Other non-deductible expenses / including "Zinsschranke"	(1,154)	(101)	—
Other effects	(39)	2,426	(1,236)
Effective tax benefit / (expense)	**726**	**782**	**126**

Deferred taxes

Deferred taxes relate to the following:

	December 31, 2021 EUR k	December 31, 2022 EUR k
Intangible assets	(5)	19,081
Property, plant and equipment	(2,136)	(2,774)
Right of use-assets	(9,420)	(12,740)
Other assets	(153)	(90)
Inventories	—	—
Trade Receivables	151	134
Contract assets	—	15
Other current assets	1,215	1,660
Cash and cash equivalents	(308)	(224)
Assets	(10,656)	5,062
Lease liabilities (non-current portion)	7,445	10,810
Financial liabilities / Convertible Loan	—	—
Other Non-current financial liabilities	—	—
Other non-current liabilities	(130)	(77)
Trade and other payables and provision	(229)	(194)
Lease liabilities (current portion)	1,011	1,414
Other liabilities and provision	22,237	641
Liabilities	30,334	12,594
Deferred Taxes on temporary differences	19,678	17,656
Non-Recognition of Deferred Tax Assets (DTA) on temporary differences	(19,881)	(21,765)
DTA on deductible temporary differences Share-based Payment	2,769	3,995
Deferred Taxes on loss carryforwards	294	1,392
Deferred Taxes Total	2,861	1,278

The Balance Sheet as of December 31, 2022 shows a deferred tax asset of EUR 1,297k and deferred tax liability of EUR 19k. The deferred taxes as of this date were in total EUR 1,278k.

The following unused tax losses for which no deferred tax asset is recognized in the statement of financial position had been carried forward as of the end of the reporting periods:

Tax loss carryforwards	2020 EUR k	2021 EUR k	2022 EUR k
Unused tax losses for corporate income tax	775,956	1,181,225	1,427,735
Unused tax losses for trade tax	773,165	1,176,844	1,419,217
Unused interest carryforward (“Zinsschranke”)	3,627	2,879	—

DTA´s for temporary differences in the amount of EUR 21.8 million are valuated to zero at the year end 2022 because they are not recoverable. Most of those DTA results from differences in accruals between IFRS and German Tax GAAP.

The following deductible temporary differences for which no deferred tax asset is recognized in the statement of financial position had been carried forward as of the end of the reporting periods:

Deductible temporary differences	2020 EUR k	2021 EUR k	2022 EUR k
Not recognized over P&L	109,272	163,607	31,794
Not recognized over equity	415,018	110,749	—

The amounts disclosed above (in respect of the development of deductible temporary differences not recognized) also result mainly from share-based payments as described in Note 10 share-based payments. These programs will become tax-deductible according to German income tax regulations upon exercise. The reported amount “Not recognized over P&L” is the amount that has been cumulatively expensed in CureVac`s consolidated financial statements according to IFRS until December 31, 2022, for these programs (less the amounts for which deferred tax assets have been recognized) with appr. EUR 0,44 million relating to fiscal 2022 (2021: EUR 14.3 million) and the remainder to prior periods. The reported amount “Not recognized over equity” represents the amount that would be credited against equity according to IAS 12.68A-C (less the amounts for which deferred tax assets have been recognized).

An amount of EUR 1,200 k is shown as a DTA for anticipated losses of the SBP which will reduce the current tax in the next year when the options will be exercised.

The reported amount of “Not recognized over equity” may significantly fluctuate depending on the share price of CureVac which itself would lead to another allocation of the deferred tax asset recognized through profit or loss or equity. The same considerations apply to the deferred tax asset recognized for unused tax loss carryforwards. Hence, there might be significant changes in the allocation of deferred tax assets to be recognized through profit or loss or equity in the future which might lead to significant volatilities in the P&L line item income taxes solely due to the changes in the share price of CureVac.

Deferred tax assets on tax loss carryforwards and deductible temporary differences in excess of taxable temporary differences have not been capitalized as management concluded that there is not sufficient probability as per IAS 12 that there will be future taxable profits available in the foreseeable future against which the unused tax losses can be utilized. The accumulated unused tax losses relate entirely to Germany.

15. Earnings per share

Amounts in this Note reflect the retrospective effect of the share split resulting from the corporate reorganization described in Note 1.

Earnings per share is calculated by dividing the consolidated net loss of CureVac by the weighted average number of shares outstanding in the fiscal period.

The weighted average number of shares outstanding in fiscal 2020, 2021 and 2022 was 132,195,792, 186,012,586 and 189,074,911, respectively. This has led to basic loss per share of EUR 0.98, EUR 2.21 and EUR 1.32 for fiscal 2020, 2021 and 2022, respectively.

CureVac has several instruments, including contingently issuable shares, that could potentially dilute basic earnings per share in the future, but are not included in the calculation of diluted earnings per share because they are antidilutive for the period presented.

16. Disclosure of financial instruments and management of financial risks

General information

CureVac is exposed to certain financial risks with respect to its assets and liabilities and the transactions associated with its business model. These risks generally relate to credit risks, liquidity risks and market risks (including currency risk, interest rate risk and price risk).

The aim of risk management is to limit the potential negative impact on expected cash flows and take advantage of any opportunities that arise. As a result, the management of CureVac assesses at least once a year whether risks have changed and whether the measures in place to limit risk are still sufficient.

Credit risk

Credit risk is managed by CureVac's finance department. Credit risk arises from cash and cash equivalents and other financial assets, including deposits with banks and financial institutions, as well as credit exposures to customers, including outstanding receivables and contract assets.

CureVac is exposed to bank default and concentration risk as its cash is concentrated at few financial institutions. The Managememnt distributed the cash to decrease concentration risk at December 31, 2022, deciding to pool 16% of the cash at Germany's largest private bank and 79% at a major German Landesbank; the remaining cash balance is maintained at other banks. The focused cash management structure with few banks allows enhanced bank risk supervision. The market capitalization of all listed banks is regularly reviewed. Credit risk is further limited by investing only in liquid instruments.

CureVac is also exposed to a credit risk for all receivables and contract assets. Counterparty credit limits are reviewed by CureVac's Management Board on an annual basis and may be updated throughout the year. The limits are set to minimize the concentration of risks and therefore mitigate financial loss through a counterparty's potential failure to make payments. The Group manages its credit risk with customers by closely monitoring its receivables. The risk of default is considered to be low because the structure of customers consists of reputable collaborating parties and government grantors. Receivables management and financial accounting incorporates monitoring of payments received and any overdue receivables.

The carrying amount of other financial assets recognized determines the maximum theoretical credit risk. As of the end of fiscal 2022, available funds are deposited at two reputable financial institutions.

In connection with cash and cash equivalents, (other) financial assets, trade receivables and contract assets, CureVac uses the simplified approach under IFRS 9 in determining the loss allowance at an amount equal to the lifetime expected credit losses. As of December 31, 2022, the loss allowance for the "expected credit losses" totaled to EUR 99k (2021: EUR 105k, 2020: EUR 182k), resulting in an effect recognized in profit and loss in the consolidated statement of operations and other comprehensive expense in fiscal 2022 of EUR 6k (2021: EUR 77k, 2020: EUR 106k).

Liquidity risk / Capital management

For the purpose of CureVac's capital management, capital includes share capital and all other equity reserves attributable to the equity holders. The primary objective of CureVac's capital management is to maximize the shareholder value through investment in the development activities of the Group.

Based on its business as an active research group, CureVac has historically relied almost exclusively on equity funding by its shareholders and lenders as a means of financing itself prior to successful development and sales of a marketable product.

The Group's finance department reviews the total amount of cash of the Group on a weekly basis. As part of this review, the committee considers the total cash and cash equivalents, the cash outflow, currency translation differences and refinancing activities. The Group monitors cash using a burn rate. The cash burn rate is defined as the average monthly net cash flow from operating and investing activities during a financial year.

In meeting its financing objectives, the Group negotiates and enters into research cooperation agreements. In general, the aim is to maximize the financial resources available for further research and development projects.

CureVac is not subject to externally imposed capital requirements. However, certain grant funds received may be required to be returned if qualifying costs are not incurred or are not incurred in accordance with the grant terms (see also Note 3.2. and Note 3.7.).

As described in Note 9, the Group has an active at-the-market offering program through which, from time to time, it may be able to raise additional capital through the issuance of common shares.

No changes were made in the objectives, policies or processes for managing cash during the years ended December 31, 2022 and 2021.

In order to safeguard liquidity, the Group invests funds not required immediately for operating purposes in short-term investments at banks with high standing and call-deposit accounts with maturity up to three months. Liquidity risks are therefore expected to be low. The Group does not enter into trading of financial instruments and monitors its risk of a shortage of funds using a liquidity planning tool.

Historically, CureVac has relied on financing from shareholders, grant income and collaborators in order to ensure sufficient liquidity. Lack of external financial support could pose a risk of going concern. The liquidity management of CureVac ensures the availability of cash and cash equivalents for operational activities and further investments through appropriate budget planning.

Ultimately, the responsibility for liquidity risk management lies with management, who has established an appropriate approach to managing short-, medium- and long-term financing and liquidity requirements. CureVac manages liquidity risks by holding appropriate reserves, as well as by monitoring forecasted and actual cash flows and reconciling the maturity profiles of financial assets and liabilities.

The table below summarizes the maturity profile of the Group`s financial liabilities based on contractual undiscounted payments:

2022	less than 3 months EUR k	3 to 12 months EUR k	1 to 5 years EUR k	> 5 years EUR k	Total EUR k
Contractual commitments	—	(49,923)	(24,377)	—	**(74,300)**
Lease liabilities (Note 4.2)	(1,834)	(5,413)	(25,693)	(21,783)	**(54,723)**
Other liabilities (Note 12)	(21,603)	(19,844)	(62,286)	(20)	**(103,753)**
Trade and other payables (Note 11)	(68,786)	(4,677)	—	—	**(73,463)**
Total	**(92,223)**	**(79,857)**	**(112,356)**	**(21,803)**	**(306,239)**

2021	less than 3 months EUR k	3 to 12 months EUR k	1 to 5years EUR k	> 5 years EUR k	Total EUR k
Contractual commitments	—	(163,557)	—	—	(163,557)
Lease liabilities (Note 4.2)	(850)	(4,183)	(21,649)	(10,331)	(37,013)
Other liabilities (Note 12)	(79,927)	(80,116)	(10,018)	(12)	(170,073)
Trade and other payables (Note 11)	(99,035)	(638)	(28,030)	—	(127,703)
Total	**(179,812)**	**(248,494)**	**(59,697)**	**(10,343)**	**(498,346)**

Foreign currency risk

Foreign currency risk is the risk that the fair value or future cash flows of an exposure will fluctuate because of changes in foreign exchange rates. CureVac's exposure to the risk of changes in foreign exchange rates relates primarily to the Group's operating activities (when revenue or expense is denominated in a foreign currency) and the amounts held as cash and cash equivalents.

CureVac N.V.'s, CureVac SE's, CureVac Manufacturing GmbH's, CureVac Corporate Services GmbH'S, CureVac RNA Printer Gmbh's, CureVac Belgium SA's and CureVac Netherlands BV'S functional currency is the Euro. The functional currency of CureVac Inc. is the USD and of CureVac Swiss AG the CHF. CureVac AG's exposure in foreign currency at the end of 2022 and 2021 is as follows:

	2022 (in thousands)	
Cash and cash equivalents	106,566 EUR	113,664 USD
Trade and other receivables	— EUR	— USD
Total monetary assets in foreign currency	**106,566 EUR**	**113,664 USD**
Trade and other payables	26,232 EUR	27,979 USD
	87 EUR	77 GBP
	13 EUR	13 CHF
Total monetary liabilities in foreign currency	**26,332 EUR**	

	2021 (in thousands)	
Cash and cash equivalents	51,363 EUR	58,174 USD
Trade and other receivables	182 EUR	206 USD
Total monetary assets in foreign currency	**51,545 EUR**	**58,380 USD**
Trade and other payables	52,594 EUR	59,568 USD
	19 EUR	20 CHF
Total monetary liabilities in foreign currency	**52,613 EUR**	

As shown in the tables above, CureVac N.V. is exposed to a currency risk only in relation to the USD. Therefore, a foreign currency sensitivity analysis is only presented in respect to the net exposure in USD at fiscal year ends. CureVac's net exposure in USD is the difference between monetary assets in USD and monetary liabilities in USD and developed as follows:

Net exposure in USD

2021 (1 EUR= 1.1326 USD)	2022 (1 EUR = 1.0666 USD)
EUR -3,964k from USD -4,490k	**EUR 77,649k from USD 82,822k**

At December 31, 2022, if the EUR had weakened 10 per cent against the US dollar with all other variables held constant, pre-tax loss for the year would have been EUR 8,628k (2021: EUR -440k) lower and post-tax loss would have been EUR 6,085k (2021: EUR -310k). Conversely, if the EUR had strengthened 10 per cent against the US dollar with all other variables held constant, pre-tax loss would have been EUR 7,059k (2021: EUR -360k) higher and post-tax loss would have been EUR 4,978k (2021: EUR -254k) higher. The effects on pre- and post-tax loss and (accumulated) other comprehensive income due to fact that CureVac Inc's functional currency is the USD would still have been immaterial as of December 31, 2022.

CureVac did not have derivatives in 2022 and 2021.

Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. CureVac's exposure to the risk of changes in market interest rates relates primarily to the CureVac`s cash and cash equivalents with floating interest rates.

If interest rates as of December 31, 2022 had been 1% higher while all other variables had remained the same, the net loss for the year (before and after tax) would have been EUR 4,959k (2021: EUR 8,116k) lower because the higher interest income would have been generated from floating rates on invested cash and cash equivalents.

Fair value measurement

All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorized with the fair value hierarchy, described as follows, based on the lowest level input that is significant to the fair value measurement as a whole:

- Level 1 — Inputs use quoted prices in active markets for identical assets or liabilities
- Level 2 — Inputs are inputs, other than quoted prices included in Level 1, which are directly or indirectly observable
- Level 3 — Inputs are unobservable and have values estimated by management based on market participant assumptions which are reasonably available

All financial instruments are measured at amortized cost at December 31, 2022 and December 31, 2021. Apart from this, liabilities from licenses agreements (i.e., acquired intangible assets) of EUR 0k (2021: EUR 932k), are classified as financial liabilities at fair value through profit or loss under the Level 2 input factors. Management assessed that the fair values of cash and cash equivalents, short-term investments, trade receivables and other financial assets, trade payables and other current liabilities as well as liabilities from licensing agreement approximate their carrying amounts. Moreover, management assessed that the potential differences between carrying amounts and fair value of liabilities to banks, (finance) lease liabilities and the liabilities for licensing agreements should be immaterial.

17. Notes to the consolidated statements of cash flows

Changes in liabilities arising from financing activities

in thousands of EUR	January 1, 2022	Cash flows	Reclassification	Disposals	New Leases	Accrued interest	Paid Interest	Foreign Exchange Movements	December 31, 2022
Lease Liabilities (Note 4.2)	28,892	(6,439)	—	—	17,241	—	2,218	174	**42,086**
Total liabilities from financing activities	**28,892**	**(6,439)**	**—**	**—**	**17,241**	**—**	**2,218**	**174**	**42,086**

in thousands of EUR	January 1, 2021	Cash flows	Reclassification	Disposals	New Leases	Accrued interest	Paid Interest	Foreign Exchange Movements	December 31, 2021
EIB loan (Note 13)	25,189	(25,000)	—	—	—	1,444	(1,633)	—	—
Lease Liabilities (Note 4. 2)	30,087	(4,913)	—	(943)	2,763	—	1,729	169	28,892
Total liabilities from financing activities	**55,276**	**(29,913)**	**—**	**(943)**	**2,763**	**1,444**	**96**	**169**	**28,892**

The cash flow includes an interest component which is presented separately.

18. Commitments and contingencies

No material contingent liabilities resulting from claims and legal proceedings exist as of December 31, 2022. Refer to Note 12 for provisions recognized for contract terminations. For contractual commitments, refer to Note 16.

19. Remuneration of the Company's key management personnel

Total remuneration of key management personnel

Remuneration of the Company's key management personnel was as follows in 2022:

Remuneration of key management in 2022	Management Board	Supervisory Board
	EUR k	EUR k
Short-term benefits	3,067	669
Share-based payments	6,689	478
Total	9,756	1,147

Remuneration of the Company's key management personnel was as follows in 2021:

Remuneration of key management in 2021	Management Board	Supervisory Board
	EUR k	EUR k
Short-term benefits	3,098	646
Share-based payments	12,673	566
Total	15,771	1,212

The amounts disclosed in the table are the amounts recognized as an expense during the reporting period related to key management personnel.

20. Other related party disclosures

dievini Hopp BioTech holding GmbH & Co. KG

As disclosed in Note 1, during fiscal 2022, dievini Hopp BioTech holding GmbH & Co. KG (dievini), which is an investment company dedicated to the support of companies in health and life sciences, was the largest shareholder of CureVac. Together with its related parties, dievini has held shares and voting rights in CureVac between approximately 43–46 % during that period. dievini is thus the de facto parent of the Group. Dietmar Hopp, Daniel Hopp and Oliver Hopp are the ultimate controlling persons (of the main shareholders) of dievini, and, therefore, control the voting and investment decisions of dievini.

Other related party transactions

Transfer of shares from the Funding Shareholders

As discussed in Note 10, due to certain virtual share exercises under the Prior VSOP during the year 2022: 777,260 (2021:1,524,900) common shares were transferred to the Company by the Funding Shareholders, with no consideration paid in exchange, and all of these shares were subsequently transferred to fulfill obligations from option exercises.

Rittershaus Rechtsanwaelte

Since December 15, 2005, a consultant agreement is in place for an indefinite term with Rittershaus. The agreement can be terminated without notice by CureVac and with notice of three months to the end of the quarter by Rittershaus. In fiscal 2022, consulting fees of EUR 518k (2021: EUR 757k, 2020: EUR 990k) were paid to the Rittershaus. Prof. Dr. Christof Hettich is managing director of Rittershaus and was managing director at dievini until June 2022 as well.

Dietmar Hopp

During 2019, Dietmar Hopp, principal of dievini Hopp BioTech holding GmbH & Co. KG (dievini), the majority shareholder of the Group, granted two convertible loans to the Group which were terminated in July 2020 and fully repaid in August 2020. Additionally, in 2020, DH-LT Investments GmbH, a company beneficially owned by Dietmar Hopp, managing director of dievini, the Groups largest shareholder, purchased EUR 100,000k of the Group’s common shares at the price of USD 16 per share. In 2022 a total of EUR 58k was paid to dievini Hopp BioTech Holding GmbH & Co. KG.

Antony Blanc

In 2020, a consulting agreement between CureVac AG and Clarentis SRL was made. Clarentis SRL is a wholly owned consulting company of Antony Blanc, PhD, the CBO of CureVac. After the transition of Antony Blanc to the Management Board in February 2021, the contract was no longer active, and no new orders were placed. In Q3 2021, a milestone payment, which related to the submission of the EMA dossier for CVnCoV and which amounted to EUR 100k was made to fulfil a contractual obligation from the consulting agreement in place before Antony Blanc joined the Management Board. In addition to his Management Board position at CureVac NV, Antony also took over the role as Management Director at CureVac Belgium SA. He executes this function by using Clarentis SRL. As it relates to these services in 2022, CureVac paid an amount of EUR 69k (2021: EUR 0k, 2020: EUR 0k). The amounts invoiced for this function/services are offset/deducted from his base compensation for his function on the Board of Management of CureVac N.V.

BePharBel Manufacturing S.A.

In December 2020, CureVac Manufacturing GmbH (formerly CureVac Real Estate GmbH) and BePharBel Manufacturing S.A., entered into a commercial supply agreement to develop and manufacture the diluent that was expected to be used to dilute the Group's first concentrated COVID-19 vaccine candidate, CVnCoV, to the amount specified by each dose level. Pursuant to the terms of the agreement, it was intended that BePharBel Manufacturing would manufacture and deliver to CureVac Manufacturing GmbH a low seven figure amount of commercial batches of diluent per year, in 2021 and 2022. Following the withdrawal of the CVnCoV in October 2021 due to COVID-19 virus drift, WHO COVID vaccine efficiency recommendation and market expectations, CureVac Manufacturinmg GmbH terminated the commercial and supply agreement with BePahrBel and entered into negotiations on a structured and rapid wind-down of the ordered production. The Parties agreed on a settlement in May 2022 of all claims resulting from the commercial and supply agreement for an amount of EUR 3,900k, which had beed recognized in provisions, based on estimate, as of December 31, 2021. In total an amount of EUR 4,016k was paid. Baron Jean Stéphenne, our supervisory board member, holds directly and indirectly 15.61% of BePharBel Manufacturing's equity and is a director of BePharBel Manufacturing, and Baron Jean Stéphenne's son, Vincent Stéphenne, holds 1.43% of BePharBel Manufacturing's equity and is a managing director of BePharBel Manufacturing.

Mariola Fotin-Mleczek

In 2022, a consulting agreement between CureVac N.V. and Mariola Fotin-Mleczek was made. In 2022 a total of EUR 20k was paid. Due to the exercise of the Old VAP award in December 2022, CureVac has a receivable position of EUR 131k as per year-end for the income tax and social security liability. CureVac has received the money in February 2023.

Florian von der Mülbe

Due to the exercise of the Old VAP award in December 2022, CureVac has a receivable position of EUR 559k as per year-end for the income tax and social security liability. CureVac has received the money in February 2023.

Dr. Ingmar Hörr

Due to the exercise of the Old VAP award in December 2022, CureVac has a receivable position of EUR 573k as per year-end for the income tax and social security liability. CureVac has received the money in February 2023.

Indemnification Agreements

The Company's articles of association require it to indemnify it's current and former managing directors and supervisory directors in relation to acts or omissions in the performance of their duties to the fullest extent permitted by law, subject to certain exceptions. We entered into indemnification agreements with all our managing directors and supervisory directors.

21. Business Combinations

Business Combination and Goodwill – Frame Acquisition

Effective July 1, 2022 ('closing date'), CureVac N.V. acquired all shares of Frame Pharmaceuticals B.V., Amsterdam, Netherlands ('Frame Pharmaceuticals'). Frame Pharmaceuticals focuses on the development of a proprietary platform enabling the identification of structural changes within the cancer genome and has strong competencies in antigen discovery as well as validation for personalized cancer vaccines. CureVac's management and supervisory board expect that the acquisition will contribute several key elements for the required end-to-end building blocks for CureVac's broader oncology strategy.

Frame Pharmaceuticals contributed no revenues and a loss of EUR 1.3 million to the 2022 consolidated net loss. Assuming an initial consolidation of Frame Pharmaceuticals on January 1, 2022, the Group's revenue would be unchanged, and the loss would have been EUR 3.9 million higher, respectively. In determining these amounts, management has assumed that the fair value adjustments made at the acquisition date would also have applied on January 1, 2022.

In the purchase price agreement (‘SPA’) dated June 8, 2022, total consideration of up to EUR 32.0 million, subject to certain adjustments for vested and non-vested employee options of the acquiree plus an amount of EUR 1.56 million for the assumption of an outstanding obligation resulting from advisory services, was agreed. The consideration consisted of the transfer of shares in CureVac N.V. (‘CureVac Shares’) and minor cash payments. The number of CureVac Shares to be issued as part of the consideration were agreed in the SPA based on EUR 16.44, the 60-trading day volume weighted average price through June 3, 2022 (‘Signing Day Share Price’).

The total consideration is split into three payments, two of which are contingent upon the achievement of defined milestones (contingent consideration). At the closing date, CureVac paid 50% of the total consideration, i. e., EUR 16.0 million plus the consideration for the outstanding obligation of EUR 1.56 million as follows:

- Issuance and transfer of 810,242 shares (EUR 11,040k) to former Frame shareholders. The respective share price of one CureVac Share was EUR 13.63 (‘Closing Share Price’).
- Issuance and transfer of further 48,254 shares (EUR 658k, valued at the Closing Share Price) as consideration for discharging the contractual obligations for the outstanding advisory agreements of EUR 1,560k.
- Payment of EUR 585k in cash, consisting of EUR 335k being the consideration for the settlement of the vested employee options, and an additional EUR 250k.

Payment of the remaining 50% of the total consideration is contingent upon the achievement of two milestones. A further 194,644 shares (representing 10% of EUR 32.0 million divided by the Signing Share Price) are issuable upon the achievement of a successful investigational new drug application filing for a product candiate of the Group that consists of at least one antigen based on frameshift-mutation identified by Frame’s algorithms; (“Milestone 1”) and a further 778,575 shares (representing 40% of EUR 32.0 million divided by the Signing Share Price) are issuable upon successful proof of mechanism in humans of that product candidate (“Milestone 2”). The fair value of these contingent payments was determined by considering the likelihood of the events occurring and totalled, based on the Closing Share Price, EUR 7,198k (Milestone 1: EUR 1,831k and Milestone 2: EUR 5,367k).

Consequently, the total consideration transferred for the business combination was determined to be EUR 19,481k, consisting of:

- Issuance and transfer of 858,496 CureVac shares with a fair value of EUR 11,697k,
- Payment of EUR 585k in cash, and
- Contingent consideration, classified as equity, with a fair value of EUR 7,198k. The contingent consideration will be settled by the issuance of a maximum of further 973,236 CureVac shares.

The contingent consideration of EUR 7,198k was valued by applying an estimated probability of the milestone being achieved to the payments due upon achievement. These probabilities were derived from third-party clinical development success rate studies.

In addition, 89,655 restricted stock unit awards (RSUs) were issued to certain employees to replace existing share-based payment awards of Frame Pharmaceuticals. This element is accounted for as a separately from the business combination as an equity-settled share-based transaction according to IFRS 2 (see Note 10). The total fair value of the grant was determined to be EUR 1,218k and will be expensed in the functional cost category to which the award recipient’s costs are allocated (i.e., general and administrative expenses or research and development expenses) over the individual vesting periods for the 3 tranches, which run through June 30, 2023, June 30, 2024, and June 30, 2025.

Transactions costs in relation to the business combination amounting to EUR 500k were expensed and recognized within general and administrative expenses.

The final fair values in accordance with IFRS 3 of the identifiable net assets as of the date of acquisition were as follows:

in EUR thousands	Fair value recognized on acquisition
Non-current assets	**6,592**
Property, plant and equipment	206
Right-of-use assets	170
Intangible asset (Technology)	6,216
Current assets	**966**
Trade and other receivables	658
Cash and cash equivalents	308
Total assets	**7,558**
Non-current liabilities	**134**
Lease liabilities	114
Deferred tax liabilities (net of deferred tax assets)	20
Current liabilities	**406**
Lease liabilities	55
Accounts Payables	346
Other current liabilities	5
Total liabilities	**540**
Net assets acquired	**7,018**

The acquired receivables have since been collected in full except for EUR 24k related to rental deposits.

The technology intangible asset consists of a bioinformatical platform for cancer antigen discovery and validation for off-the-shelf and personalized cancer vaccines. The fair value of the technology of EUR 6,216k was determined by applying the replacement cost approach due to its early stage. The replacement cost was derived from historical costs incurred to create the technology.

As per July 1, 2022, a net deferred tax liability of EUR 20k has been recognized for the excess of deferred tax liabilities of EUR 1,550k on taxable temporary differences over deferred tax assets of EUR 1,530k arising mainly from tax loss carry forwards (of approximately EUR 5,800k).

Goodwill was recognized as a result of the acquisition as follows:

in EURk	
Consideration transferred	19,481
Net Assets acquired	(7,018)
Goodwill	**12,463**

The goodwill is mainly attributable to the synergies and an assembled workforce as well as the strategic benefits to the Group. The goodwill is not deductible for tax purposes.

Overview of cash flows on acquisition:	EURk
Transaction costs of the acquisition (included in **cash flows provided by(used in) operating activities**)	**(500)**
Payment of consideration in cash and cash equivalents	(585)
Cash acquired with the subsidiary (included in cash flows provided by (used in) investing activities)	308
Included in cash flows from investing activities	**(277)**
Net cash flows on acquisition	**(777)**

22. Subsequent events

Beginning of January 2023, positive preliminary data from ongoing Phase 1 clinical programs in COVID-19 and seasonal flu, assessing modified mRNA technology were published. The tested vaccine candidates are being developed in collaboration with GSK. The preliminary results generated by the broad technology approach, testing modified and unmodified nucleotides showed that vaccine candidates using a modified second-generation mRNA backbone produced promising immunogenicity and reactogenicity profiles in both indications. At the end of January, the Company published additional data with a focus on older adult age groups in both indications. The data further support the decision to advance updated versions of the modified mRNA COVID-19 and flu vaccine constructs to the next stage of clinical testing in 2023.

In February 2023, the Company closed a public offering by which it sold 27,027,028 common shares for aggregate gross proceeds to the company of $250.0 million (EUR 232.6 million) before underwriting discounts, commissions and offering expenses payable by the Company.

In the Extraordinary General Meeting of Shareholders of CureVac NV on March 28, 2023, Dr. Alexander Zehnder was elected as CEO of the Company effective April 1, 2023. This change of CEO was announced on January 6, 2023 and took place after a short transition phase as designated CEO. Dr. Alexander Zehnder followed Dr. Franz-Werner Haas, who with effect of March 31, 2023, resigned from office after more than 10 years as a member of the CureVac management board and a three-year tenure as CEO. In addition, the Shareholders confirmed the appointment of Dr. Myriam Mendila as Chief Development Officer effective February 1, 2023.

Exhibit 12.1

CERTIFICATION BY THE CHIEF EXECUTIVE OFFICER PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Alexander Zehnder, certify that:

1. I have reviewed this annual report on Form 20-F of CureVac N.V., as amended as of the date hereof;

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 company as of, and for, the periods presented in this report;

4. The company's other certifying officer(s) 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 company 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 company, 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 caused 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 company'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 company'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 company's internal control over financial reporting; and

5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or 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 company'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 company's internal control over financial reporting.

Date: October 12, 2023
/s/ Alexander Zehnder
Alexander Zehnder
Chief Executive Officer

Exhibit 12.2

CERTIFICATION BY THE CHIEF FINANCIAL OFFICER PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Pierre Kemula, certify that:

1. I have reviewed this annual report on Form 20-F of CureVac N.V., as amended as of the date hereof;

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 company as of, and for, the periods presented in this report;

4. The company's other certifying officer(s) 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 company 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 company, 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 caused 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 company'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 company'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 company's internal control over financial reporting; and

5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or 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 company'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 company's internal control over financial reporting.

Date: October 12, 2023
/s/ Pierre Kemula
Pierre Kemula
Chief Financial Officer

Exhibit 13.1

CERTIFICATION BY THE CHIEF EXECUTIVE OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

The certification set forth below is being submitted in connection with the Annual Report on Form 20-F of CureVac N.V., as amended as of the date hereof (the "Report") for the purpose of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code.

I, Alexander Zehnder, the Chief Executive Officer of CureVac N.V., certify that, to the best of my knowledge:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and

2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of CureVac N.V.

Date: October 12, 2023

/s/ Alexander Zehnder
Name: Alexander Zehnder
Chief Executive Officer

Exhibit 13.2

CERTIFICATION BY THE CHIEF FINANCIAL OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

The certification set forth below is being submitted in connection with the Annual Report on Form 20-F of CureVac N.V., as amended as of the date hereof (the "Report") for the purpose of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code.

I, Pierre Kemula, the Chief Financial Officer of CureVac N.V., certify that, to the best of my knowledge:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and

2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of CureVac N.V.

Date: October 12, 2023

/s/ Pierre Kemula
Name: Pierre Kemula
Chief Financial Officer

Exhibit 15.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statement (Form F-3 No. 333-259613) of CureVac N.V., and
(2) Registration Statement (Form S-8 No. 333-246197) as amended, pertaining to the CureVac N.V. Long-Term Incentive Plan, CureVac Virtual Share Plan, and Employment Agreement between CureVac AG and a Former Employee;

of our reports dated April 25, 2023, with respect to the consolidated financial statements of CureVac N.V. and the effectiveness of internal control over financial reporting of CureVac N.V. included in this Amendment No. 1 to the Annual Report (Form 20-F) of CureVac N.V. for the year ended December 31, 2022.

/s/ Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft

Stuttgart, Germany
October 12, 2023