Giesecke+Devrient

1920**21**2223

Annual Report

Creating Confidence

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Making the digital future secure

In 2022, we find ourselves in a world where crises shape our everyday lives: a global pandemic; the Russia-Ukraine war and associated suffering of the population; and economic uncertainty triggered by raw material shortages, the global chip crisis, and inflation.

We believe that in difficult times in particular, we can continue to play an important role by supporting people, companies, organizations, and countries through our security technologies. Fast-paced innovation and strong growth remain a feature of our four core markets of payment, connectivity, identities, and digital infrastructures. In order to actively help drive technology trends as a trusted partner to our customers, G+D once again made important strategic decisions in 2021 and invested in the future.

The resulting customer loyalty and satisfaction is reflected in the robust financial figures for fiscal 2021. Our Group CEO Ralf Wintergerst goes into further detail in his interview. This annual report also provides an overview of the most important issues and innovations in our markets. For more information, please see the digital annual report at www.gi-de.com.

The world of payment is on the verge of a minor revolution as an increasing number of central banks prepare to introduce a central bank digital currency (CBDC) in the near future. G+D is already in talks with many central banks with the aim of driving forward the launch of a digital currency: our own award-winning Filia solution. CBDC will complement existing payment methods, such as banknotes, cards, and smartphone apps, rather than replacing them. As a leading provider of solutions across the entire banknote cycle and e-payment, G+D is continually developing new innovations in this field to ensure that financial transactions are secure, convenient, and sustainable.

In the connectivity market, the largest machine ever built is being constructed – the Internet of Things (IoT). G+D offers its customers secure authentication and connectivity in the IoT, which is vital as the backbone of our digital economy. Particularly high security requirements apply in companies and organizations where cyber attacks would not just be damaging but pose an existential threat. We assist such customers via our Digital Infrastructures division. Our listed subsidiary, secunet, is helping the German police to coordinate their operations securely via a messenger service and also setting up a confidential voice, video, and chat communication service for all German federal authorities, in a project led by the Federal Foreign Office.

From digital currencies and e-payment to the Internet of Things and highly secure digital infrastructures, enjoying all the benefits of modern society requires a legal identity. Despite that, around a billion people worldwide still cannot definitively prove their identity. Our Veridos joint venture seeks to enable these people to participate more fully in society. As a specialist in ID documents, border control systems, and many other identity solutions, Veridos works with a majority of countries in the world and signed on to the UN Global Compact in 2021. The G+D Group has been a member of this global initiative for promoting sustainable globalization since 2010 and has also published a detailed progress report covering the current reporting year. The report contains information on the family-owned company's commitment to sustainability and climate targets as well as other topics.

All of G+D's current activities are helping to shape the future in the respective markets. But beyond that, our own research, targeted expansion of the Group portfolio, venture financing activity, and partnerships are laying the foundation today for the solutions of tomorrow. Our main areas of focus include artificial intelligence, blockchain, post-quantum cryptography, biometrics, augmented reality, and confidential computing.

In all of these fields, G+D is committed to safeguarding essential assets around the world through trusted technology. This aim is summed up in our corporate claim: G+D – "Creating Confidence."

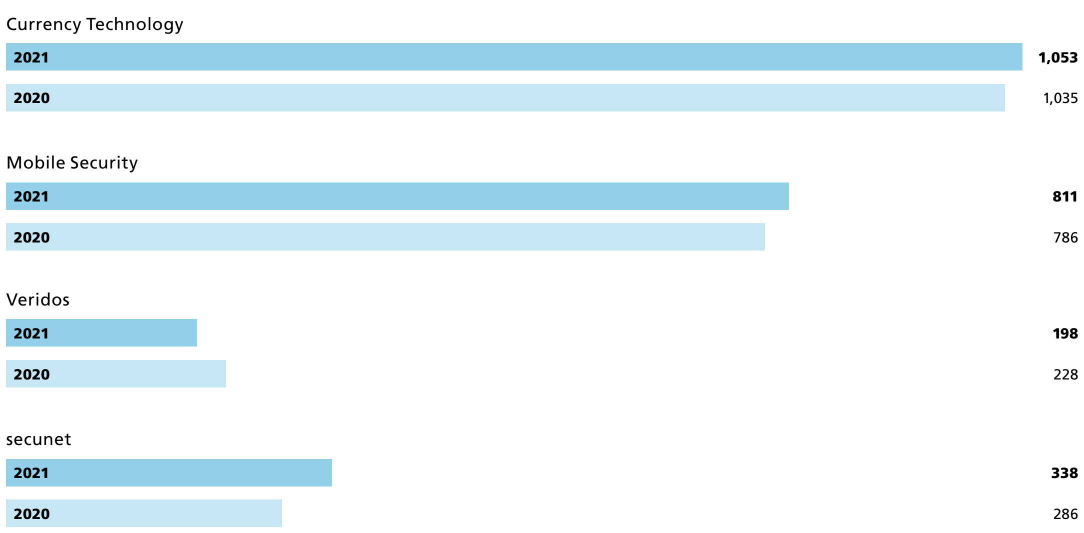
Giesecke+Devrient at a Glance

Giesecke+Devrient Group

EUR million	2021	2020	Change in %
Sales	2,376.6	2,312.8	2.8
Capital expenditure	86.5	96.3	– 10.2
Research and development	118.4	101.0	17.2
EBITDA	305.4	266.0	14.8
EBIT	165.9	131.1	26.5
Net income	85.2	42.9	98.7
Employees as of December 31	11,768	11,482	2.5

Sales by Business Sectors

EUR million



Company Structure

Giesecke+Devrient GmbH

Munich
Head office

11,768
Number of employees

2,376.6
Sales in EUR millions

Giesecke+Devrient Currency Technology GmbH

Head office
Munich

Core expertise
Solutions for the entire banknote lifecycle

Giesecke+Devrient Mobile Security GmbH

Head office
Munich

Core expertise
Solutions for secure and convenient digital mobility

Veridos GmbH

60 %

Head office
Berlin

Core expertise
Solutions for identity management and control

secunet AG

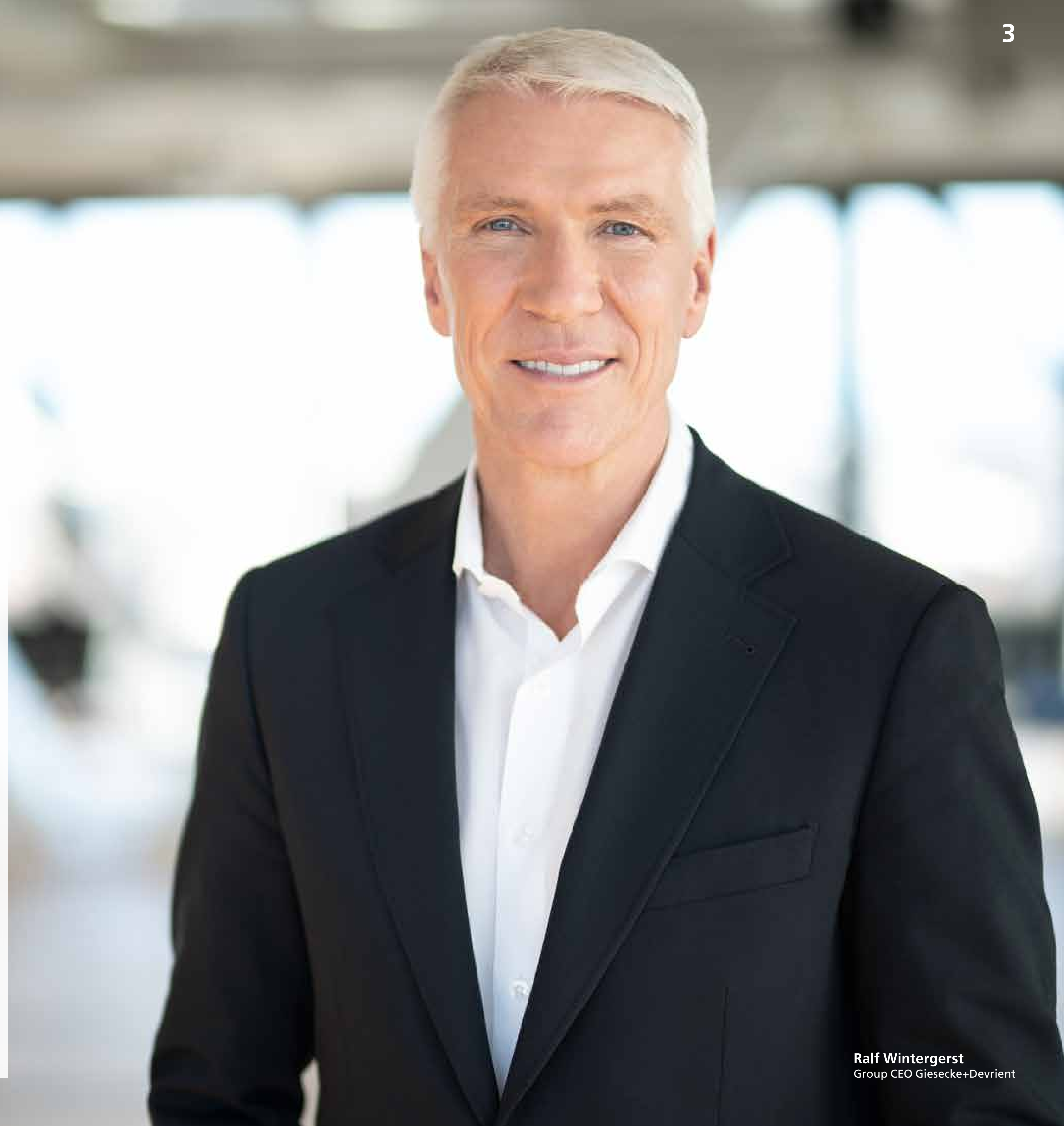
75.12 %

Head office
Essen

Core expertise
Solutions for protecting digital infrastructures

» We are investing significantly in **the future of the company.** «

Ralf Wintergerst, Group CEO of Giesecke+Devrient, is very pleased with the company's performance in fiscal 2021. In this interview, he explains why something else was actually the highlight of the year for him, though.



Ralf Wintergerst
Group CEO Giesecke+Devrient

Sourour Stanke (Head of Corporate Brand Communications) talks to Ralf Wintergerst (Group CEO, Giesecke+Devrient)

Mr. Wintergerst, you've been Group CEO of Giesecke+Devrient since 2016. How has the company developed over the past five years and what is your assessment of the progress made?
If we compare the company of five or six years ago with today, we see healthy sales growth and an improvement across all key financial metrics. We were in a very robust position at the end of fiscal 2021. But the most important thing for me is that we have invested a significant amount of money in the future of the company: in new business, new products, and in significant research and development activity. We have also carried out nine mergers and acquisitions in total. So my assessment of the current position is positive, both as regards our financial robustness and our investment in the future.

In our interview for the annual report a year ago, you specifically highlighted two goals for G+D: to weather the coronavirus crisis well and to successfully continue with the digital transformation agenda. Have your expectations been met?
Yes. Throughout this pandemic, our number one priority has always been to protect our employees as effectively as possible. We were able to do that very well in 2021. And as far as the critical issue of digitization is concerned, we significantly expanded various business areas, such as our activities around protecting identities and enabling highly secure digital infrastructures. Together, those areas accounted for maybe ten percent of sales five or six years ago. Today, the figure is closer to 25 percent – a significant improvement.

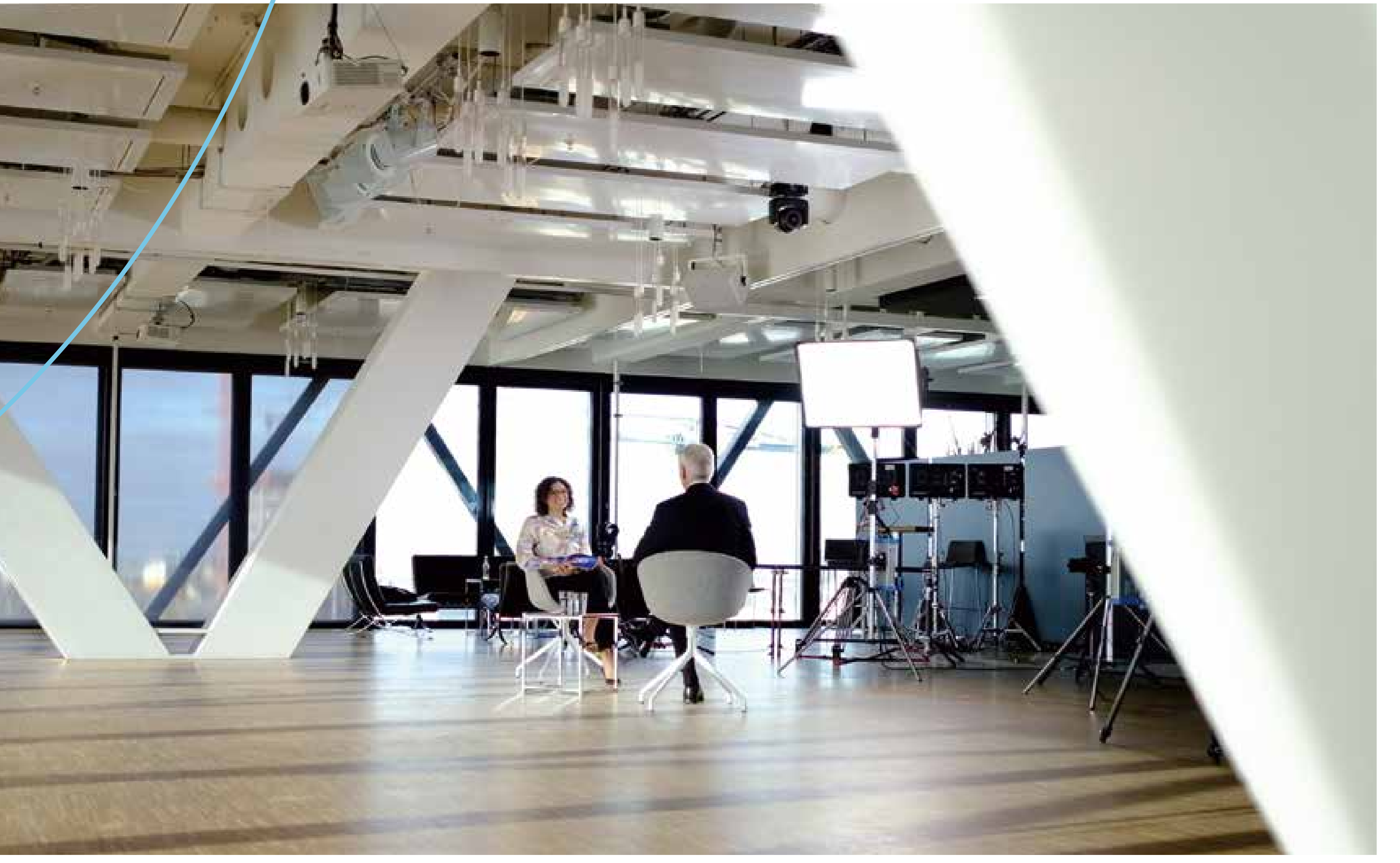
And what was the highlight of 2021 for you personally?
Probably the contact and communication I had with others. During the pandemic, we at G+D – like millions of other people – have mostly been working together online, and we rarely saw each other in person. But then vaccination campaigns were rolled out all over the world and gave us hope. We vaccinated 2,000 people at our Munich headquarters alone – our employees and their friends and families. It was a great feeling to be able to contribute towards fighting the pandemic. Back at the beginning of the year, I picked up the phone and called more than 70 colleagues all over the world. I took the time to have one-on-one conversations with them. Many of them I haven't seen in person for nearly two years, and I miss them. That's why I needed to at least have an in-depth telephone conversation with them in order to find out what their hopes and concerns were. That was one of the highlights of last year for me.

What details of the calls stand out in your memory?
Well, there was a lot to talk about. I was particularly pleased that many of the colleagues I spoke to e-mailed me afterwards to thank me for taking the time to call them personally.

You already mentioned that the company performed very well in 2021. What do the figures look like exactly?
Extremely good! Despite the pandemic and the global shortage of microchips, we posted a Group revenue of EUR 2.4 billion. That's an excellent result and marks a return to pre-pandemic levels. If you look at EBIDTA, EBIT, and free cash flow, we actually beat the 2019 figures. EBITDA reached a new record level and broke through the EUR 300 million barrier for the first time, our free cash flow is excellent while our net income doubled compared to the previous year. I think our response to market needs demonstrated very clearly to our customers that we remain a trusted partner in times of crisis.

How does G+D reconcile its successful existing business with its growing digital business? Is there a risk of cannibalizing established business models?
Complementing and expanding our core business with innovations is central to our strategy. Let's look at what we do. We're the leading player in the banknote market – i.e. cash – and we're also developing digital currencies, or CBDCs, in conjunction with a number of central banks. We make physical payment cards and the associated infrastructures and are also building a stronger presence in digital payment at the same time. We produce physical SIM cards for cell phones and are driving development of the eSIM technology needed for the Internet of Things – which is a completely different business model. We print passports and driver's licenses and program the equivalent products for digital identities. All of this is very important for us because the digital world is getting bigger and bigger every day. We're actively helping to make that happen.

Watch the full video interview here:
www.gi-de-report.com/interview



» We will do our utmost to continue the **transformation of G+D and make it fit for the future.** «

Digital central bank currencies increasingly made the headlines in 2021. Why is momentum building in this area?
There are many reasons, but one of the most obvious ones is the proliferation of so-called cryptocurrencies. They are coming out of nowhere and aiming to be a financial asset. In actual fact, they're highly speculative and central banks all over the world need to respond to that. We urgently need innovative solutions around state-issued and state-managed currencies! Central bank digital currencies are just that kind of innovation. They offer all the advantages of cash but work as a purely digital form of payment on a smartphone or payment card. Digital money also promotes financial inclusion. All these trends are set to continue, and we expect central banks will take the lead in driving them forward.

In our interview last year, you said that G+D would make progress in this area in 2021.
And we did! For example, we're implementing a project together with the Bank of Ghana, and we also have other pilot projects underway in Asia. Our CBDC solution, Filia®, was one of the three winners of a competition organized by Singapore's central bank – alongside Visa and Intel. In Ghana, we're now at the point where members of the public can try out the solution developed by our team in real-world scenarios. That's another major step towards market launch.

Why is it that countries like Ghana and East Asian countries are at the forefront of CBDC development and not a European country or the EU?
Well, the EU is obviously very complex because it has a lot of member states. The European Central Bank is exploring the options for introducing a CBDC here, step by step. But countries like Ghana face more pressing challenges: they're afraid their own national currencies will be upstaged by the offerings of large digital payment organizations, most of whom are commercial providers from abroad. The banking infrastructure in these countries is not as well developed as in industrialized nations, but nearly everyone has a cell phone. However, making payments via a commercial digital platform doesn't automatically mean that the transactions are always secure and data is protected. A digital currency issued by the Bank of Ghana could solve a number of problems here.

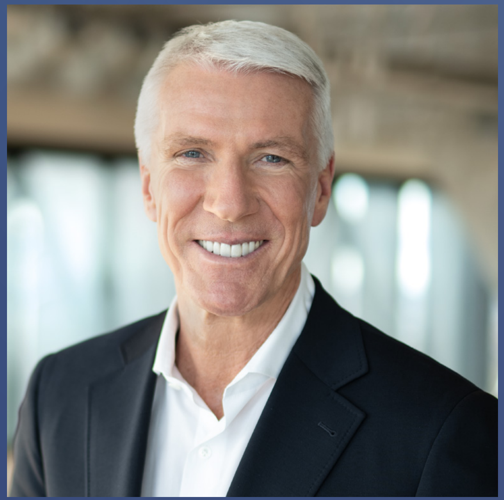
How is G+D aiming to continue growing?
We're taking various routes. Research and development is of vital importance, of course, as are our own investments in new business activities and technologies. We're able to make these investments because we are currently in very good shape. In addition, we invest in ambitious young companies outside G+D and are constantly scanning the market to find them. We ask ourselves: What technologies are being developed? Where and when is it worth getting on board? And the third pillar of our growth – as in the past – are mergers and acquisitions. They offer a fast way for us to access new business areas and solutions for our customers, round out our portfolio, and take G+D to the next level.

How has the company changed internally? What was the impact of Covid-19 on those changes?
The pandemic accelerated existing trends over the past two years. Having said that, we began doubling our spending on corporate IT some five or six years ago. We were thus pretty much able to collaborate effectively online from day one of lockdown in 2020. Without that foresight, I don't think we would have coped so well with the coronavirus crisis. But the pandemic has also shown us where we still need to do better. That's why we're continuing to invest – even though we are a highly digitized company already that collaborates virtually worldwide. We also introduced a new work culture alongside digitization and have made good progress here as well.

What topics are key priorities for 2022?
2022 is a year of uncertainty and is particularly marked by geopolitical turbulence. We're extremely concerned about the war in Ukraine. It's deeply distressing to see the suffering of the people and the effects of the conflict on the humanitarian situation in the country. At the same time, the coronavirus pandemic is continuing, and the microchip crisis is having a major impact. We therefore need to work together very closely as a team in order to deliver the same kind of performance as in 2021. We're also stepping up our efforts to implement a sustainable, climate-friendly business model and act responsibly towards the environment and wider society. Progress on ESG issues is an important priority for me. ESG stands for environmental, social, and responsible corporate governance and is a term used by many organizations, including the UN. Both of these aspects contribute towards the most important objective of all: we will do our utmost to continue the transformation of G+D and make it fit for the future. That's our goal.

What is your greatest wish for 2022?
To be able to say at the end of 2022: we delivered the same fantastic team effort as in 2021. And we have further strengthened our already robust, trusted relationship with our customers – something that is vitally important in a challenging environment. I'd like to report all those achievements this time next year.

Group Executive **Committee**



Dr. Ralf **Wintergerst**

Group CEO
Giesecke+Devrient

Dr. Ralf Wintergerst has been Chairman of the Management Board of Giesecke+Devrient since 2016. He is responsible for overseeing various central services, comprising Information Systems, Corporate Security, Compliance Management and Auditing, Mergers & Acquisitions, Corporate Communications, Corporate Strategy and Development, Legal, and Corporate Governance. In addition to his role at G+D, Ralf Wintergerst is Chairman of the Supervisory Board of secunet.

Dr. Peter **Zattler**

Group CFO
Giesecke+Devrient

Dr. Peter Zattler has been a member of the Giesecke+Devrient Management Board since 2001. As Chief Financial Officer, he oversees Controlling, Treasury, Accounting, and Tax. He is also responsible for Human Resources and Data Protection. In addition, Dr. Zattler has been a member of the Supervisory Board of secunet since 2004.

Carsten **Ahrens**

CEO
Giesecke+Devrient Mobile Security GmbH

Carsten Ahrens has been CEO of Giesecke+Devrient Mobile Security since 2017. G+D Mobile Security is a leading global provider of solutions for electronic and mobile payment and for connectivity, both of mobile applications and within the Internet of Things. It delivers products, solutions, and services that help its customers implement their digital transformation strategies securely and reliably.

Gabrielle **Bugat**

Mitglied der Geschäftsführung
Giesecke+Devrient Mobile Security GmbH

Gabrielle Bugat joined the Giesecke+Devrient management team at the beginning of 2021. She manages the activities related to G+D's smartcard and associated services business and overseas sales, operations, the portfolio, and development. Ms. Bugat also leads the continuing expansion of the digital business around secure digital payment solutions, including the 2020 investment in Swiss software company Netcetera.

Axel **Deininger**

CEO
secunet AG

Axel Deininger joined the Management Board of secunet Security Networks AG in January 2018 and became Chairman in June 2019. His particular responsibilities include Strategy/Business Development, International Sales, Marketing, and Human Resources. As an IT security partner to the Federal Republic of Germany, secunet enables digital sovereignty for governments, businesses, and society.

Dr. Wolfram **Seidemann**

CEO
Giesecke+Devrient Currency Technology GmbH

Dr. Wolfram Seidemann has been CEO of Giesecke+Devrient Currency Technology since 2016. G+D Currency Technology is the market leader for solutions and services relating to banknotes and banknote processing systems. As a partner to central banks and the currency industry, G+D Currency Technology delivers comprehensive expertise and innovative technologies that increase the efficiency of the cash cycle.

Marc-Julian **Siewert**

CEO
Veridos GmbH

Marc-Julian Siewert has been Chairman of the Management Board of Veridos GmbH, a joint venture between Giesecke+Devrient and Bundesdruckerei, since 2022. Veridos provides governments and public authorities with customized end-to-end solutions for secure identities – both physical and digital. Governments and public authorities in more than 100 countries rely on Veridos GmbH's project expertise and product portfolio in the field of integrated identity solutions.

Supervisory Board **Report**

Prof. Klaus Josef Lutz
Chairman of the Supervisory Board

Ladies and Gentlemen:

During the 2021 fiscal year, the Supervisory Board of Giesecke+Devrient GmbH performed all its duties as stipulated by legal provisions and the Articles of Incorporation. The Supervisory Board duly monitored the Management Board and discussed issues of note with its members.

At meetings of the Supervisory Board, the Management Board provided regular, comprehensive information about the situation of the company and the Group as a whole. The Supervisory Board additionally received updates on G+D's performance and finances in the form of quarterly reports. Outside the scheduled meetings, the Chairman of the Supervisory Board was also in regular contact with the Management Board and was kept informed of current issues.

The Supervisory Board held three scheduled meetings (on March 29, July 22, and December 9, 2022) based on detailed reports from the Management Board to review the company's economic situation, including major investment decisions and Group programs.

As in 2020, the main extraordinary issue at all of the Supervisory Board meetings was the impact of the ongoing global Covid-19 pandemic on the Group's business activities.

In accordance with its duties, the Supervisory Board considered the Group's corporate governance, including the compliance management system, the risk report, the risk management system, and the internal audit report.

At the March meeting, the Supervisory Board focused in particular on the measures planned as part of the Group's Planning.Ahead program, which is aimed at helping to optimize existing business operations and also includes initiatives for developing the portfolio.

At the July meeting, the Supervisory Board considered the current business situation, including the latest risk report and forecast, and also reviewed specific aspects of the Group's Planning.Ahead program. In particular, the Supervisory Board was informed about the status of the Cost.Synergies cost optimization program and the formation of the new shared services company called Group Services.

At the December meeting, the Supervisory Board reviewed the operational plans for 2022 with particular regard to the ongoing Covid-19 pandemic. In addition, the meeting focused on the long-term investment associated with the financing of pension liabilities and on the optimization of the Group's D&O insurance.

The Supervisory Board duly received the annual financial statements and management report of Giesecke+Devrient GmbH for the period ending December 31, 2021, prepared in accordance with the German Commercial Code (HGB), and the consolidated financial statements and Group management report for the period ending December 31, 2021, prepared in accordance with IFRS, along with the auditor's reports.

The annual and consolidated financial statements were examined by the auditor, KPMG AG, which issued an unqualified audit opinion in each case.

The auditor attended the meeting of the Supervisory Board on March 29, 2022, at which the financial statements were discussed. In the course of this meeting, the auditor reported on the main findings of the audit, including on the internal control system in relation to the financial reporting process, and answered questions from the Supervisory Board. No circumstances that would indicate a lack of impartiality on the part of the auditor were reported. The consulting services and other services provided by the auditor in addition to the audit are listed in the notes to the financial statements. The Supervisory Board accepted KPMG AG's audit opinion on both sets of financial statements.

The Supervisory Board concluded its review with no objections raised. It approved the annual and consolidated financial statements, including the corresponding management reports, at its meeting on March 29, 2022.

Giesecke+Devrient GmbH achieved very good results in fiscal 2021 despite again facing extremely challenging conditions. This was an exceptional performance by the Management Board and staff across the Group. On behalf of the Supervisory Board, I would like to thank the members of the Management Board, all employees, and the Works Councils of the Group for their efforts and high degree of personal commitment during fiscal 2021.

Munich, March 2022

Prof. Klaus Josef Lutz
Chairman of the Supervisory Board

This story and further information on responsibility are available at **www.gi-de.com/spotlight**

Extremely **innovative**

For almost 170 years, G+D has been a trusted partner for safeguarding assets. To ensure that remains the case in the future, G+D is committed to making the right decisions today for solutions that will deliver substantial added value for customers tomorrow and beyond – and move the company forward. A passion for research and development, targeted acquisitions, and corporate venturing provide the necessary basis. The Corporate Technology Office is driving a number of technology initiatives.

AI enablement
The huge quantities of data generated in the digital world can only be processed with the aid of smart analysis systems. One example is predictive maintenance of machines, which prevents expensive downtime.

Digital values
Distributed ledger technology (DLT), which is most commonly associated with blockchain, can be used to represent a wide variety of values and rights and to manage them more easily. Examples include financial products and artworks.

Future cyber security
It is important to start putting measures in place today to protect security-critical applications from the hackers of the coming quantum computer age. Accordingly, G+D is working on quantum computer-resistant encryption methods, or post-quantum cryptography.

Uniquely secure
Because they are unique, biometric features such as fingerprints, voice and retina are more difficult to forge. Biometric checks are used at border control points at airports, for example, or when opening a bank account online.

The world in view
Augmented reality (AR) – the computer-assisted expansion of the perception of reality – has evolved beyond video games and is now being deployed in the B2B sector. Examples include remote maintenance, telemedicine, digital marketing, and staff training.

Sharing data without risk
In the digital economy, data is the most valuable commodity. The dawning era of confidential computing opens up opportunities for companies to share data with each other without exposing themselves to cyber risks.

Pleasantly **manifold**

The volume of banknotes and coins in circulation continues to grow worldwide but the number of cashless transactions is also increasing rapidly. Current trends make card and digital payments an attractive option for businesses and consumers alike. One new concept is “phygital” – a term created by combining the words physical and digital.

Phygital is being driven by the efforts of banks and financial services providers to offer their customers a seamless blend of online and offline services. Apart from aligning with people’s expectations, this approach also helps traditional financial institutions to remain competitive and build customer loyalty via multiple channels – from brick-and-mortar branches and payment cards to online banking and smartphone apps.

Payment cards are a good example of phygital banking and are often the next significant interaction between bank and customer after an account has been opened. Like everywhere else in life, first impressions matter here. G+D solutions enable the card issuer to personalize messages to customers, keep them updated, and accelerate activation by using digital technology. Users of these G+D offerings include global financial services provider PayPal. If customers want more than an account and a card, smartphones can serve as a digital wallet for managing payments and storing customer cards, loyalty cards, shopping coupons, etc.

Regardless of whether banking transactions are carried out in a bank branch, on a PC, using cards, or via a smartphone, they always need to be secure. G+D provides cutting-edge security solutions for all cashless transactions and for digital payments in e-commerce. Via its Swiss subsidiary Netcetera, G+D enables online retailers to offer their customers a high level of security – e.g. with the 3D Secure protocol or card-on-file tokenization – and a smooth shopping experience at the same time.

This story and further information on responsibility are available at www.gi-de.com/spotlight

Totally **digital**

Cash is the most widely used payment method in the world – and will soon also be available in digital form as a legal and trustworthy means of payment. More than 100 central banks are currently working on a central bank digital currency (CBDC).

In late 2021, a solution developed by Giesecke+Devrient in this field was one of the winners of an international competition held by Singapore's central bank. G+D Filia® enables countries to offer their citizens and economic actors a secure, universal, and inclusive digital payment method.

One of the many benefits is that Filia® was deliberately designed to allow offline payments as well. The digital credit balance is stored on a card, meaning that users do not need a bank account or a smartphone. This is a major step towards achieving financial inclusion because people in less developed regions, refugees, and victims of natural disasters often have no access to modern infrastructure. The G+D solution makes it possible for more people to participate in the digital economy, despite such challenges.

The African state of Ghana is one of the countries that finds this argument compelling. The Bank of Ghana has partnered with G+D to pilot the introduction of a digital central bank currency – the e-Cedi. The project is part of the Digital Ghana Agenda, involving the digitization of government services in this country of 30 million people. Digital central bank money will be a valuable addition to the world of payment in the near future in countries around the globe and will support entirely new applications. To take one example, the rapidly growing number of machines and devices connected in the Internet of Things (IoT) could soon be making electronic payments to each other.

This story and further information on responsibility are available at **www.gi-de.com/spotlight**

Highly **connected**

Using a smartphone to communicate via the Internet is already everyday normality for four and a half billion people around the world. But an increasing number of other devices, electrical appliances, machines, systems, cars, sensors, and even entire factories are also becoming digitally interconnected in the Internet of Things (IoT).

This is largely made possible by the new superfast 5G wireless network technology, which is rapidly being rolled out across the globe. Two things are actually needed for a secure, well-functioning IoT: reliable authentication – which is essentially each device's admission ticket (subscription) to the Web – and an efficient, cost-effective network connection. Giesecke+Devrient provides both of these and significantly expanded its offerings in 2021 by acquiring UK-based firm Pod Group.

Estimates suggest that some 17 billion devices are already connected to the Internet of Things, making it the largest machine ever built. Many of the IoT devices from leading manufacturers such as Apple, Google, and BMW contain an eSIM card made by G+D. It effectively acts as the device's counterfeit-proof admission ticket to the Internet and limits cyber risks in the digital economy. The acquisition of the Pod Group means that G+D is now not only able to offer customers security when accessing the IoT but can also remove obstacles around implementing specific digital business models by providing device connections and device management. Up to now, concerns about complexity and a lack of knowledge have prevented many companies from realizing their IoT dreams: G+D's integrated range of solutions overcomes those challenges. These solutions include independent, closed mobile communications networks for companies, known as campus networks.

The potential of IoT connectivity is nowhere near exhausted. The IoT can and must make an important contribution towards environmental and climate protection over the coming years. This could include analyzing and managing the carbon footprint of industrial activities, extending the service life of machines, optimizing vehicle flows through telematics, and making agricultural practices more environmentally friendly.

This story and further information on responsibility are available at **www.gi-de.com/spotlight**

Clearly identified

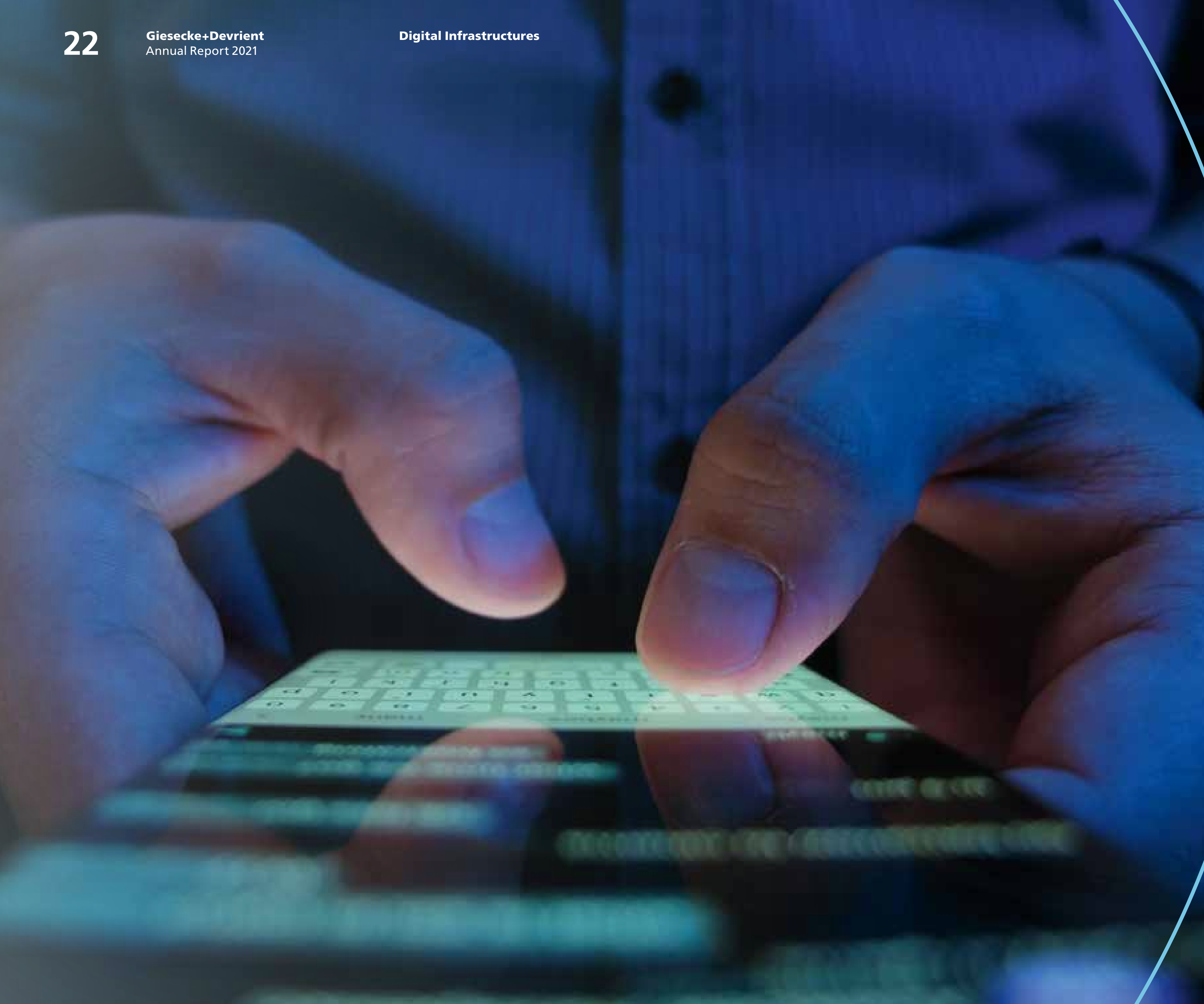
Having a unique legal identity is normal for most people in industrialized countries but cannot be taken for granted by a billion people in less economically developed or politically unstable regions of the world. Birth certificates, ID cards, and passports are essential for our lives. They enable access to government services, education, financial products, business deals, and mobility.

Accordingly, one of the UN's Sustainable Development Goals states that everyone in the world should have a legal identity by 2030. Veridos, a joint venture between G+D and Bundesdruckerei, is a leading manufacturer of identity solutions. It has long been committed to achieving this goal and views having a legal identity as a human right. In 2021, Veridos signed on to the UN Global Compact – the world's largest initiative for responsible governance.

As a leading provider of identity solutions, Veridos works with 100 of the nearly 200 countries in the world – including the US, Canada, Denmark, Kosovo, Bangladesh, and Uganda. In Bangladesh, Veridos is helping the government to roll out a state-of-the-art integrated system of electronic passports, identity solutions, and border control.

Modern identity solutions offer numerous advantages for individual citizens and also for societies as a whole. Reliable registration systems, official documents such as birth certificates and ID cards, and solutions for preventing identity theft are proven to have positive effects on economic growth, tax revenues, equality of opportunity and inclusion, social stability, and the fight against crime. Such solutions are also closely aligned with the digitalization programs being pursued by many countries, with more and more people already able to identify themselves using digital identity documents on their smartphones. This will help fuel the eGovernment megatrend.

This story and further information on responsibility are available at www.gi-de.com/spotlight



Secure **communication**

For many people, messenger services and video conferences have become an essential part of their life. But a number of concerns remain: where are the servers located, how secure is the data, and how serious are the cyber risks? In particular, government authorities and companies in security-critical sectors are restricted in their use of popular platforms such as WhatsApp and Zoom or cannot use them at all.

G+D subsidiary secunet Security Networks AG provides a wide range of solutions for highly secure digital communication, including sending top secret information.

The police force in the German state of Lower Saxony and Germany's THW civil protection organization, for example, have chosen stashcat as their messaging service, a company acquired by secunet in 2021. Stashcat helps emergency teams coordinate their activities even more efficiently at the scene of an accident or during mass events. In total, 1.3 million people, mainly in public authorities, schools, police, armed forces, rescue services, and the healthcare sector, use stashcat. Because stashcat is based in Germany and hosted in a German data center, it meets all data protection requirements and is fully compliant with the GDPR.

secunet is also incorporating stashcat into the highly secure SINA® Workstation, which already enjoys a strong reputation in the market. This will allow public authorities, the military, and others to share highly sensitive information via messenger. SINA also supports public authorities and companies that have enhanced security requirements with regard to video telephony. Remember the red telephone in old political thrillers and spy movies? The modern version of that is the SINA Communicator H. The Federal Foreign Office is currently implementing secunet's multi-layered SINA solution, thereby laying the foundation for digital sovereignty of Germany's federal authorities.

The development teams at secunet are already thinking about the step after next: post-quantum cryptography. These encryption algorithms are so sophisticated that they cannot be broken, even by the quantum computers that are expected to be available in the medium term.

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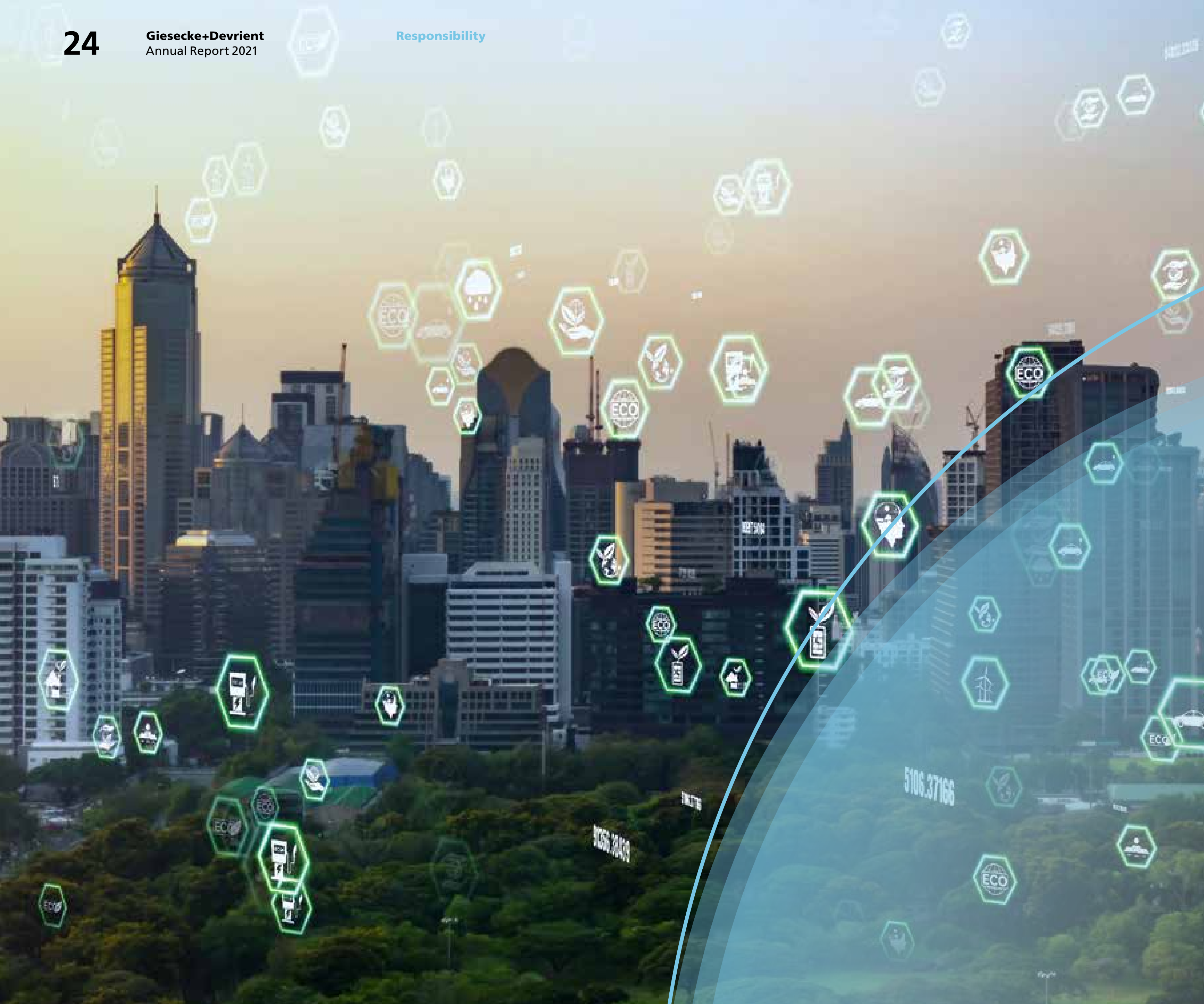

Committed to **sustainability**

G+D has taken its longstanding commitment to sustainability and social responsibility to a new level, with environmental, social, and governance issues (ESG) now being part of the Group's official corporate strategy. A dedicated Corporate Sustainability department has been established specifically to drive progress in these areas.

This reflects the fact that G+D has set itself even more ambitious goals for the years ahead. The company wants to play its part in tackling societal challenges, from ongoing climate change and the continuing COVID-19 pandemic to rising social inequality worldwide.

The E in ESG refers to climate and environmental protection and resource conservation. G+D met its 2022 climate goal ahead of schedule in 2020. It now intends to reduce its Scope 1, 2, and 3 emissions by at least 90 percent by 2040 (compared with 2020) and thus achieve net zero across the Group. The S category – social – covers health and safety at work, diversity, equality, and training and development. This area also includes the social responsibility activities of G+D and the Giesecke+Devrient Foundation. The G aspect, i.e. governance, deals with responsible and forward-looking corporate management. This covers sustainable investment and business models, digital responsibility, data protection, ecologically and socially sustainable supply chains, and the integrity of day-to-day business dealings.

G+D's strong commitment to sustainability is not restricted to its own business activities. The company also works closely with its suppliers to help them implement their own ESG standards. An environmentally friendly range of products is likewise important for G+D's sustainability strategy. G+D's commitment to environmental and social issues dates back many years and is set to continue into the future. An ESG committee, chaired by Group CEO Ralf Wintergerst, was established in early 2022. Its mission is to steer the ongoing development of the sustainability strategy and advise the individual business units.

This story and further information on responsibility are available at www.gi-de.com/spotlight

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Please note: Figures shown may differ from the mathematically exact values (monetary units, percentages, etc.) due to rounding.

1. Group Profile

Giesecke+Devrient (G+D) specializes in security technology that creates confidence. As a trusted partner to international customers with extremely demanding requirements, G+D safeguards essential assets around the world.

G+D develops customized technology in four core areas with passion and precision:

Payment
G+D is a global market leader in products and solutions for secure payment. With its holistic portfolio for official currencies and electronic and digital payment solutions, G+D occupies a unique position in the payment ecosystem.

- Within this core area, the **G+D Currency Technology** business sector provides solutions for end-to-end, secure cash management. This includes the Banknote Solutions division, which produces and distributes banknote paper, banknotes, and high-tech security features. The portfolio of the Currency Management Solutions division includes banknote processing systems of different sizes and complete cash center solutions.
- Complementing this portfolio for physical currencies, subsidiary **G+D advance52** provides comprehensive solutions for developing and operating central bank digital currencies (CBDC).
- As part of the **G+D Mobile Security** business sector, the Secure Transactions + Services division covers all business relating to smartcards and secure electronic and digital payment in the banking sector. It also provides secure access and identity management solutions for the healthcare sector, smart mobility, and corporates, including associated services, such as production, personalization, and product development.

Connectivity
Billions of devices are already connected in the Internet of Things (IoT) – with more being added every second. As a technology leader with extensive expertise in secure connectivity, G+D is both partner and pioneer when it comes to tackling all the challenges around the Internet of Things.

The Trusted Connected Devices division is part of **G+D Mobile Security** and enables secure connections to mobile networks and the IoT. It covers SIM cards, embedded SIMs, SIM management services, eSIM management including secure operating systems, and solutions for enterprise IoT.

Identities
The ability to participate fully in modern society depends on having a secure personal identity. G+D provides governments and public authorities all over the world with reliable, integrated ID solutions – both physical and digital.

Through **Veridos**, a joint venture with state-owned Bundesdruckerei, G+D provides innovative solutions for authentication and verification of people and objects. These include highly secure physical and digital documents, border control and identification systems, and eGovernment solutions.

Digital infrastructures
Digitalization and connectivity are growing exponentially – and with them the number and complexity of cyber attacks. As an IT security partner to the Federal Republic of Germany, G+D enables digital sovereignty for governments, businesses, and wider society.

Listed subsidiary **secunet Security Networks AG** is Europe's leading provider of high-quality cyber security solutions. It offers public authorities and industrial enterprises an extensive portfolio of products and consulting services for the protection of data and infrastructures as well as for the transmission, storage, and processing of information. This includes encryption technology up to the highest security level.

The four core areas listed above encapsulate the G+D business portfolio across the Group. G+D operates as a holding company comprising the legally independent business sectors G+D Currency Technology, G+D Mobile Security, Veridos, and secunet. G+D employs 11,768 people across 33 countries.

The **Corporate Center** comprises parent company G+D GmbH, which manages the overall direction of the G+D Group and actively supports the strategic development of the individual business sectors. It handles topics that are of strategic importance for the whole Group.

These include M&A activities, strategic initiatives for developing future and new digital business activities, investment company G+D Ventures, the Chief Technology Office (CTO), and the Corporate Development Fund. G+D advance52, which has been responsible for G+D's activities around central bank digital currencies since 2019, is also organizationally attached to the Corporate Center.

Within the Corporate Center, Shared Services covers functions such as IT, accounting, and HR. As part of a strategic efficiency improvement program, G+D decided to establish a new corporate unit called Group Services, effective January 1, 2022. The aim is to bring together similar kinds of services, such as IT and procurement, and transactional service elements from accounting and HR within Group Services so they can be delivered more efficiently across the Group. A dedicated G+D real estate company holds and operates the buildings at the Munich site and leases them to the Group companies.

Management Structure in the Core Areas

Payment	Connectivity	Identities	Digital Infrastructures
Secure payment transactions: physical, electronic, and digital	Secure connectivity for mobile devices in the Internet of Things	Identity assurance and authentication of people and things	Protection for digital systems, networks, and confidential data
Currency Technology Banknote Solutions	**Mobile Security** Trusted Connected Devices	**Veridos**	**secunet**
Currency Technology Currency Management Solutions			
Mobile Security Secure Transactions + Services			
advance52 CBDC			
Corporate Center			

2. Business Development

The global economy continued to be impacted by the Covid-19 pandemic in 2021. In addition issues around the availability of materials and logistics also affected the fiscal year.

In the first quarter, mutations of the virus triggered new waves of infection. As a result, restrictions were reintroduced in many countries, with consequences for society and the economy. General economic conditions recovered in the second half of the year due to successful vaccination programs and falling infection rates in the summer of 2021.

The International Monetary Fund (IMF) is assuming global economic growth of 5.9 % for 2021. Extensive stimulus programs and labor market initiatives helped to boost the economic recovery. Overall, however, pandemic-related disruption of supply chains, logistics, and raw materials impacted global economic output. In light of these conditions, a 5.6 % increase in gross domestic product is expected in the US. In China, an increase of 8.1 % is predicted. In 2020, total economic output in the People's Republic was already above the pre-crisis level. The European Union will see a rise of 5.2 %, according to the IMF forecast. In Germany, economic recovery was subdued due to waves of infection in the fall and winter months. Growth of 2.7 % is therefore expected for the full year 2021.

2.1. Group Business Development

The Group is managed on the basis of net sales, earnings before interest and taxes (EBIT), earnings before interest, taxes, depreciation, and amortization (EBITDA), capital expenditure, working capital[1], free cash flow, and return on capital employed (ROCE)[2].

In an economically volatile and rapidly changing market environment, the G+D Group performed well with its security-related solutions and products in the core areas of payment, connectivity, identities, and digital infrastructures. Sales in 2021 rose to almost pre-pandemic levels and growth increased by 3 % compared to the previous year. Operating income (EBIT) reached the highest level ever seen in the company's history.

G+D's core business thus provides a stable commercial foundation. At the same time, the Group is developing its portfolio in strategic areas. Following the acquisition of Netcetera in the previous year, G+D acquired UK-based firm Pod Group, an Enterprise Network Operator (ENO). An ENO is a new type of connectivity provider that focuses on developing the IoT market for SMEs and specializes in scalable solutions for the Internet of Things (IoT). This acquisition is an important step in G+D's strategic development towards becoming a solution provider with a more extensive range of IoT-related services.

With the acquisition of stashcat GmbH, secunet added another key component to its strong portfolio in the cyber security segment. The Hanover-based tech startup's messenger service enables secure, GDPR-compliant communication within companies, public administration, and security services, such as the police.

[1] Since fiscal year 2021, G+D no longer uses working capital intensity as a management measure. Instead, it uses absolute working capital, which is more appropriate for the Group.
[2] Ratio of EBIT to average capital employed (year-end value in each case);
capital employed = intangible assets + property, plant and equipment + financial investments accounted for under the equity method + inventories + accounts receivable trade – accounts payable trade

Also in 2021, Veridos acquired the remaining 25 % of the shares in E-Seek, an American company based in San Diego, and now holds 100 % of the shares. E-Seek is a leader in the design and development of state-of-the-art ID card authentication technology.

2.1.1. Results of Operations

In fiscal year 2021, sales increased by 2.8 % to EUR 2,377 million, thus almost returning to pre-pandemic levels. Despite difficult general conditions including ongoing global travel restrictions and chip shortages, G+D achieved the second-highest sales in the company's history. Adjusted for negative currency effects, growth would have been higher, at EUR 70 million, or 3.0 % respectively.

Sales performance varied across the individual business sectors due to the impact of the pandemic.

Sales by Business Sector

EUR million	2021	2020	Change absolute	Change in %
Currency Technology	1,053.0	1,034.7	18.2	1.8 %
Mobile Security	811.3	785.6	25.6	3.3 %
Veridos	197.7	227.5	–29.8	–13.1 %
secunet	337.6	285.6	52.0	18.2 %
Consolidation	(22.9)	(20.6)	–2.3	–11.0 %
Total	**2,376.6**	**2,312.8**	**63.8**	**2.8 %**

Sales at Currency Technology were slightly above the results achieved in the previous year. In the Banknote Solutions division, sales declined slightly in fiscal 2021. This comes after the very strong demand for banknote paper and security foils in 2020 as a result of the economic boom triggered by the pandemic. The Currency Management Solutions division completed all its planned major projects successfully despite ongoing travel restrictions, which meant sales increased significantly compared to the previous year.

Mobile Security boosted its sales by EUR 25.6 million compared with the previous year. Despite disruption caused by global chip shortages and logistical problems, Mobile Security's worldwide production network and existing safety stock allowed it to respond flexibly and exceed its planned sales targets.

The Trusted Connected Devices (TCD) division saw a significant improvement in sales compared to the previous year. A large proportion of this growth was attributable to integrated SIM card solutions. The so-called embedded Universal Integrated Circuit Card (eUICC) allows users to change mobile network operator without physically swapping out the SIM card. TCD also further expanded its market leadership in eSIM management and made gains in this sector compared to the previous year.

Sales in the Secure Transactions + Services (STS) division increased slightly over the prior year, mainly due to eHealth solutions. In the payment card and solutions segment, it proved possible to maintain sales at the same level as the previous year, despite the tight semiconductor market.

Veridos is the business sector most impacted by the coronavirus pandemic. Ongoing travel restrictions affected the execution of major projects and the company's services business. Sales were also hit by the shortage of semiconductors and by government departments and public sector customers postponing planned spending due to the pandemic.

secunet continued its growth trajectory in 2021 and recorded the most successful year in its history. The main factors behind this strong performance were very good core business with its SINA® product range and additional demand from public authorities and government bodies for security solutions for mobile working environments.

Consolidated Income Statement (IFRS)

EUR million	2021	2020	Change absolute	Change in %
Net sales	**2,376.6**	**2,312.8**	**63.8**	**2.8 %**
Gross profit	**683.7**	**653.7**	**30.1**	**4.6 %**
Gross margin (% of sales)	28.8 %	28.3 %	0.5 pp	1.8 %
Selling, R&D, and general administrative expenses	(524.7)	(501.4)	–23.2	–4.6 %
Other operating income and expenses	7.8	0.3	7.6	>100 %
Operating profit	**166.8**	**152.5**	**14.3**	**9.4 %**
Financial income/(expenses)	(0.9)	(21.3)	20.5	96.0 %
EBIT	**165.9**	**131.1**	**34.8**	**26.5 %**
EBIT margin (% of sales)	7.0 %	5.7 %	1.3 pp	23.1 %
Interest income	1.9	1.7	0.2	12.8 %
Interest expense	(17.1)	(19.9)	2.9	14.3 %
Earnings before income taxes (EBT)	**150.7**	**112.9**	**37.7**	**33.4 %**
Income taxes	(65.5)	(70.0)	4.5	6.4 %
Net income	**85.2**	**42.9**	**42.3**	**98.7 %**
Reconciliation to EBITDA				
EBIT	165.9	131.1	34.8	26.5 %
plus depreciation and amortization[1]	(139.5)	(134.8)	–4.7	–3.5 %
EBITDA	**305.4**	**266.0**	**39.4**	**14.8 %**

[1] Depreciation and amortization = depreciation and amortization of property, plant and equipment and intangible assets + write-downs on investments in associated companies

As part of its corporate strategy, G+D launched a program in 2020 that aims to make the Group more competitive overall and leverage synergies by streamlining processes and combining services. In fiscal year 2021, the program improved both manufacturing and structural costs and thus had a positive effect on earnings before interest and income taxes.

The G+D Group improved its gross profit in 2021 through an increase in sales volumes and a better margin situation than in the previous year. The gross margin increased by 0.5 percentage points due to a more favorable product mix as well as to efficiency gains.

Altogether, structural costs for selling, research, and general administration rose overall by 4.6 % compared to 2020 and thus increased slightly higher than sales. Selling expenses amounted to EUR 249.2 million. The increase of 5.4 % compared to the previous year is a reflection of the Group's sales growth and includes impairments of accounts receivables, which is slightly higher by 2.1 million than in the previous year. G+D is reinforcing its excellent market position through targeted research activities in the fields of digitalization and banknote security features and by boosting its spending on the sustainable development of products and technologies. Consequently, research and development costs rose by 17.2 % to EUR 118.4 million. General administrative expenses fell by –4.3 % to EUR 157.1 million in the reporting year. This decrease was mainly due to lower costs for strategic projects.

Other operating income and expenses improved by EUR 7.6 million. The main reasons for this were proceeds from direct insurance, the receipt of pandemic-related grants, reversed provisions, and sales proceeds from fixed assets. There were, however, also losses from asset disposals in 2020. Operating profit improved by 9.4 % compared with the previous year, rising to EUR 166.8 million.

Financial result was almost neutral at EUR –0.9 million in fiscal year 2021. It contributed over EUR 20 million to improved earnings compared to the previous year, reflecting the stabilization of the global financial markets. Effects on earnings from foreign currency transactions and currency hedging costs totaled EUR –6.8 million, compared with EUR –21.9 million in the previous year. Income from securities was clearly positive, making a EUR +6.1 million contribution to financial income (previous year: EUR 1.2 million). Income from investments in consolidated companies consolidated at equity came in at EUR –0.9 million (previous year: EUR +3.0 million).

At EUR 165.9 million, EBIT was the highest ever recorded in G+D's history. The EBIT margin was 7 %, 1.3 percentage points higher than in the previous year.

Net interest income improved in 2021 by EUR +3.0 million to EUR –15.2 million. It comprised interest of EUR 8.1 million on pension obligations (previous year: EUR 9.6 million) and interest expenses for financial and other liabilities of EUR 9.0 million (previous year: EUR 10.4 million). Interest income totaled EUR 1.9 million (previous year: EUR 1.7 million).

The tax rate was 43.4 %. The difference compared to the expected tax rate of 31.4 % can largely be explained by non-recognition and adjustment of deferred tax assets on loss carryforwards amounting to EUR 9.4 million and by withholding tax paid of EUR 5.6 million. The tax rate improvement of 18.6 percentage points year-over-year was primarily attributable to an extraordinary impairment of deferred tax assets on loss carryforwards in the previous year.

Net income stood at EUR 85.2 million in the reporting year, almost double that of the previous year.

At EUR 305.4 million, EBITDA was 14.8 % higher than in the previous year, marking a record high.

2.1.2. Research and Development

Research and development is of central importance for G+D's ongoing success as an innovative, customer-focused security technology company.

The Group invests continuously in its in-house R&D programs, builds up expertise through partnerships with external companies, and boosts its know-how by acquiring and investing in specialized technology companies.

At EUR 164.0 million, total spending on G+D's own research and development was significantly above the previous year's level. After reviewing its R&D projects in 2020 and postponing a number of them due to the coronavirus pandemic, G+D raised its investment in R&D again in fiscal year 2021. Total spending was above pre-crisis levels and spread across customer-specific development costs (EUR 29.2 million), capitalized research and development costs (EUR 16.4 million), and pure R&D expenditures (EUR 118.4 million). In particular, the increase in pure R&D activities unrelated to customer projects is of high strategic importance for the Group's medium- and long-term development.

Research and Development

	2021	2020	Change in %
Number of R&D employees (FTE)	1,216	1,183	2.8 %
Proportion of total employees (%)	10.3 %	10.3 %	0.6 %
Spending on R&D (EUR million)	164.0	148.1	10.7 %
thereof pure R&D expenditure (EUR million)	118.4	101.0	17.2 %
R&D ratio (% of sales)	5.0 %	4.4 %	14.1 %
thereof cost of goods sold (EUR million)	29.2	34.5	– 15.3 %
thereof capitalizable costs (EUR million)	16.4	12.7	29.4 %
Capitalization ratio (%)	13.8 %	12.5 %	10.4 %
Amortization of capitalized development costs (EUR million)	10.1	11.2	– 9.5 %
Number of active patents	7,410	7,446	– 0.5 %
New patent applications	172	124	38.7 %

G+D drives innovation in its holistic payment portfolio for official currencies as well as electronic and digital payment solutions. The company continues to develop banknote technology and security elements and integrates them into modern designs in order to reinforce its top position in an increasingly tough competitive environment. Major progress was achieved in areas such as industrial micro and nanotechnology, cutting-edge encapsulation technology, and complex chemical compound processes, resulting in a high number of patents. These technologies are supported and optimized with the aid of data analytics and artificial intelligence supported processes, which are already being used successfully in other business sectors.

Sustainability factors are also playing an increasing role in the development of new products and technologies. The design and development of a "green" banknote – with sustainable raw materials, recycling options, and the use of renewable energy all being key parameters – was completed at the end of 2021. The resulting banknote is now in production and is set to be unveiled at an international conference in the early summer of 2022.

In addition to R&D activities relating to innovative solutions for manufacturing and processing banknotes, G+D also stepped up its work on developing a central bank-issued digital currency in 2021. More than 100 central banks around the world are now making preparations to introduce a central bank digital currency (CBDC). Marketed under the name Filia®, G+D offers a technological solution for manufacturing and distributing digital money that is the electronic equivalent of cash. In 2021, G+D advance52 developed customer-specific solutions for the Bank of Ghana as part of a pilot project. A sandbox was also developed, which can be used to simulate the applications, functions, and processes around digital money. The success of Filia® was highlighted when it was named a winner of the Global Central Bank Digital Currency Challenge launched by the Monetary Authority of Singapore in 2021.

Global R&D activities in the Mobile Security business sector underpin the product and solutions portfolio of the Secure Transactions + Services (STS) and Trusted Connected Devices (TCD) divisions. In both divisions, R&D activities in 2021 were focused on migrating current products to new semiconductor platforms with the aim of minimizing risk associated with the ongoing semiconductor shortage.

One of the goals of the ICT (Issuance Core Transformation) R&D program in the Secure Transactions + Services division is global standardization of the production software across all ST+S production facilities. Significant progress was made towards this objective during the year. In addition, high priority was given to migrating digital solutions and services from the existing data center in Munich to the new ST+S data center in Barcelona and also to the cloud, based on Microsoft Azure.

In connectivity solutions, the R&D team further developed the LifeCycle Management Systems (LCM) portfolio in line with standards set by the global industry organization GSMA and with customer requirements. Innovative profile management functions for high-end mobile devices and digital car key applications for the automotive industry were also developed in this field as specific customer solutions. Substantial progress was made on introducing a central platform for generating profile data. The development team also successfully verified and implemented agile working methods for internationally distributed major software projects. In the cryptology and software security field, R&D teams very successfully participated in three high-profile hacking events in 2021, thus demonstrating G+D's expertise in this area.

A key area of R&D activities at Veridos involves connecting physical documents with the digital world. Veridos drove forward the development and standardization of mobile ID documents (e.g. mobile driver's licenses) and further refined a security feature for identity documents that can be verified using a smartphone. Veridos and Secure Transactions + Services are jointly developing a new JavaCard product line, which is nearing completion. The aim on both sides is to provide products around highly secure applications for e-passports and e-ID cards.

A new area of application emerged in 2020 as a result of the Covid-19 pandemic. The VeriGO® True Seal mobile application features technology developed by Veridos that enables authorized entities, such as physicians and vaccination centers, to issue a cryptographically secure digital certificate for proof of vaccination, coronavirus test results, and other documents and send it to the person concerned. Recipients can save this certificate on their mobile device in order to provide proof of vaccination status, for example.

The research and development performed by secunet focuses on hardware and software solutions, applications, and architectures in areas with demanding IT security requirements, such as the cloud, the Internet of Things, eGovernment, eHealth, and biometrics. Research and development activities are carried out for secunet's own purposes and also as part of individual customer projects.

2.1.3. Capital Expenditure

G+D reprioritized its investment activity over the course of the fiscal year. The investment budget for property, plant and equipment and intangible assets was therefore not fully utilized. Rather, some of the funds were redirected to support strategic expansion of the product portfolio and used to acquire equity interests. At EUR 118.2 million, investment[1] in 2021 was lower than the prior-year level.

Capital Expenditure and Depreciation/Amortization

EUR million	2021	2020	Change absolute	Change in %
Investment in property, plant and equipment and intangible assets[2]	86.5	96.3	–9.8	–10.2 %
Investment in equity interests	31.7	35.5	–3.8	–10.7 %
Total capital expenditure	118.2	131.8	–13.6	–10.3 %
Depreciation/amortization[2]	103.7	105.6	–1.9	–1.8 %

[2] Capital expenditure and depreciation/amortization before IFRS 16.

Investment in property, plant and equipment was mainly focused on renewing or optimizing G+D's production facilities for banknote and smartcard manufacturing. Funds were invested in the printing sites in Leipzig and Malaysia. In Brazil and India, the company invested significant amounts in the infrastructure of its cash centers. Machines for card body manufacturing were renewed at several locations in order to make production even more efficient. In North America, G+D invested in state-of-the-art technology for personalizing smartcards. In Barcelona, Spain, a new data center was built for the digital payment solutions business. Investment in property, plant and equipment (including advance payments) totaled EUR 58.8 million.

Investment in intangible assets (EUR 27.7 million) primarily relates to capitalized R&D expenses and capitalized software solutions. G+D has significantly expanded its digital transformation strategy in recent years. In fiscal year 2021, investment in IT was increased compared to the previous year.

The Group is also expanding its business portfolio in strategically important business segments and technologies by investing in other companies (EUR 31.7 million). In fiscal year 2021, stakes in UK-based firm Pod Group, German company stashcat, and other companies were acquired via G+D Ventures.

Depreciation/amortization fell by EUR –1.9 million compared with the previous year.

[1] Investment in intangible assets, property, plant and equipment and associated advance payments, and investment in equity interests (including revaluation of venture investments).

2.1.4. Assets and Liabilities

Balance Sheet Summary (IFRS)

EUR million	2021	2020	Change absolute	2021 % of total assets
Assets	**2,630.1**	**2,668.8**	**–38.7**	
Current assets	**1,664.1**	**1,702.3**	**–38.2**	**63.3 %**
thereof inventories	338.4	341.0	–2.6	12.9 %
thereof current receivables	441.6	582.6	–141.1	16.8 %
thereof contract assets	255.2	222.9	32.3	9.7 %
thereof cash and cash equivalents	401.1	412.8	–11.7	15.2 %
Non-current assets	**966.0**	**966.5**	**–0.5**	**36.7 %**
thereof property, plant and equipment	500.8	529.1	–28.3	19.0 %
thereof intangible assets	188.5	168.1	20.3	7.2 %
thereof other non-current assets	276.7	269.2	7.5	10.5 %
Liabilities and equity	**2,630.1**	**2,668.8**	**–38.7**	
Current liabilities	**842.1**	**883.6**	**–41.5**	**32.0 %**
thereof current financial liabilities	22.4	21.1	1.3	0.9 %
thereof current lease liabilities	19.1	19.9	–0.8	0.7 %
thereof provisions	108.2	93.5	14.8	4.1 %
thereof trade payables	323.0	377.9	–54.9	12.3 %
contract liabilities	182.3	206.2	–23.8	6.9 %
Non-current liabilities	**1,137.0**	**1,301.9**	**–164.9**	**43.2 %**
thereof non-current financial liabilities	329.4	468.5	–139.1	12.5 %
thereof non-current lease liabilities	53.3	62.5	–9.3	2.0 %
thereof pensions and similar liabilities	685.0	711.9	–26.9	26.0 %
Equity	**651.0**	**483.3**	**167.7**	**24.8 %**

Current assets decreased by EUR –38.2 million compared with 2021. In the reporting year, inventories remained at approximately the same level as the previous year, while current trade receivables (primarily advance payments and trade account receivables) decreased significantly by EUR 141.1 million. This was mainly due to successful completion of major projects in Egypt for printing infrastructure and a cash center, and a paper manufacturing plant in China. In addition, trade account receivables were lower in the secunet and Veridos business sectors. Individual impairments of EUR 20 million were recorded on trade account receivables in fiscal year 2021. A detailed analysis of the change in cash and cash equivalents is provided in section 2.1.5.

As of December 31, 2021, non-current assets were at around the same level as in the previous year. The drop of EUR –28.3 million in property, plant and equipment can be explained by the volume of investment, which remained below depreciation/amortization overall. The shift in investment from property, plant and equipment to intangible assets is a conscious strategic move. Accordingly, intangible assets such as software increased in 2021.

Current financial liabilities and current lease liabilities were comparable to the previous year.

Increased business volumes and completed major projects resulted in higher provisions for follow-up costs and guarantees in 2021. In addition, provisions for onerous contracts were increased slightly during the fiscal year.

Accounts payable trade fell by EUR –54.9 million compared with the previous year due to the completion of major projects in Egypt and in China.

Contract assets rose by EUR +32.3 million as a result of higher stocks of banknotes, while contract liabilities decreased by EUR –23.8 million.

Current and non-current financial liabilities were down EUR 137.8 million in total compared with the previous year due to scheduled repayment of loans, temporary repayment of a loan (EUR 120.0 million), and the reduction of short-term bank credit.

Provisions for pensions were EUR –26.9 million lower than in the previous year. This reflects the adjustment of the actuarial interest rate from an average of 1.2 % to 1.4 %, set against the context of an inflation-related adjustment of the pensions trend.

The equity ratio increased to just under 25 % due to the rise in retained earnings and as a result of the balance sheet contraction caused by temporary repayment of loans. It was thus 6.6 percentage points higher than in the previous year.

Working capital improved by EUR 35.0 million due to the effects described above.

At 12.9 %, ROCE was 2.6 percentage points above the prior-year level due to higher EBIT.

No significant effects are expected from off-balance-sheet liabilities. Please see note 31 of the consolidated financial statements in this regard.

2.1.5. Financial Position

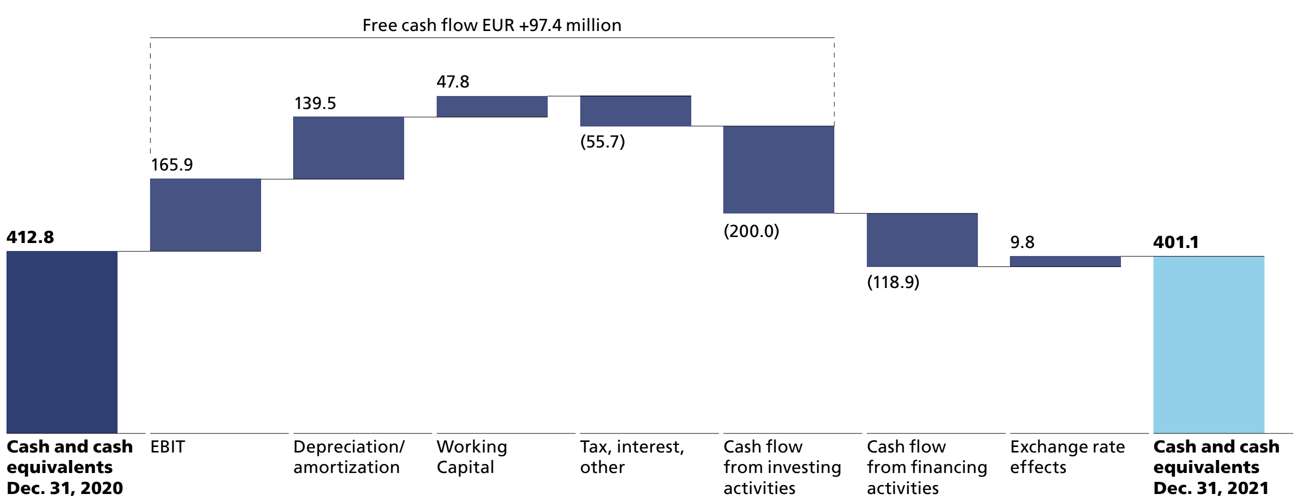
Free cash flow was strongly positive in 2021 at EUR 97.4 million. In particular, increased EBIT led to a higher cash inflow compared with the previous year. Working capital was significantly reduced, despite the growth in sales.

Cash flow from investing activities amounted to EUR 200.0 million in total and included investment in intangible assets and property, plant and equipment (EUR 88.1 million) and acquisitions of EUR 25.9 million. G+D also invested EUR 20 million in a second investment fund. In addition, the company invested EUR 50 million in time deposits with a duration of more than 90 days. Adjusted for M&A activities and financial investments, free cash flow was around EUR 190 million.

Cash flow from financing activities amounted to EUR -118.9 million and included scheduled repayments on existing long-term bank loans (EUR 17.0 million) and temporary repayment of a loan (EUR 120.0 million) as part of the renewal of a syndicated loan. In addition, lease obligations were reduced (EUR –22.8 million) and a dividend payment of EUR 15.4 million was made to shareholders. Please refer to note 13 of the consolidated financial statements for information on approved but unused credit lines in the amount of EUR 760.5 million and on the capital structure. At the same time, there was an incoming payment of around EUR 70 million from the sale of 3.85 % of the shares in secunet. IFRS 16 had an impact of EUR –22.3 million on cash flow from financing activities.

Change in Cash and Cash Equivalents

EUR million



Cash and cash equivalents decreased by EUR 11.7 million to EUR 401.1 million in 2021. However, this includes the temporary repayment of a loan of EUR 120 million and also financial investments of EUR 70 million. Without these short-term measures, cash holdings would have increased to around EUR 180 million in the reporting year.

In fiscal year 2021, in an uncertain environment, G+D renewed its syndicated loan agreement ahead of expiry with a duration of five years, led by UniCredit and Deutsche Bank. The volume of financing was increased by EUR 100 million to EUR 900 million. Including unused credit lines, G+D therefore has total financial resources of EUR 1,028 million at its disposal.

G+D thus again demonstrated its internal financing capability and very strong net assets and financial position.

2.1.6. Employees

The number of employees in the G+D Group increased slightly overall in 2021. Due to business growth, staff was hired mainly in smartcard production and at secunet. Through the acquisition of Pod Group, Mobile Security gained staff in sales and research and development. The number of administrative employees increased, primarily in IT and HR roles.

Number of Employees

FTE at reporting date	2021	2020	Change absolute	Change in %
Production	7,498	7,318	180	2.5 %
Sales	1,446	1,427	19	1.3 %
Research and development	1,216	1,183	33	2.8 %
Administration	1,609	1,555	54	3.5 %
Total	**11,768**	**11,482**	**286**	**2.5 %**

Personnel expenses increased to EUR 768.5 million (+7.0 %) in the reporting year. The reasons for this included pandemic-related payments to employees in many countries and higher bonus payments as a result of the exceptionally good results.

3. Corporate Governance and Declaration on Management and Governance

As a global enterprise, G+D is exposed to significant uncertainty and change. Intelligent integration of all elements of corporate governance allows G+D to
– consistently seize opportunities and develop appropriate strategies, including making decisions about its portfolio, and
– actively manage the risk involved and minimize its impact.

Balancing opportunities and risk safeguards the Group's business development, optimizes financial performance, and increases the enterprise value sustainably.

The Articles of Incorporation, rules of procedure, and Group-wide guidelines constitute the highest level of corporate governance at G+D. The Advisory Board and Supervisory Board serve as controlling bodies.

Corporate governance at G+D is based on three pillars: compliance management, the internal control system, and risk management. These three pillars operate independently of each other. However, they are closely interrelated because they are directly linked to our performance management system. In addition, as an independent function, Corporate Audit helps the Management Board to objectively monitor compliance with all values and rules. This internal check includes external (legal) requirements and internal rules.

By implementing all these elements, G+D has created a clear and effective organizational and management culture that reflects and also promotes G+D's values (collaborative, reliable, innovative).

Corporate Governance

Articles of Incorporation/Rules of procedure/Guidelines

Compliance management ← Internal control system → Risk management

↓

Performance management

Corporate audit

Define targets → Evaluate risks → Take measures → Monitor systems

The management of opportunities and risks is an ongoing task. A risk management system is in place to identify, assess, and manage potential risks. Risks associated with business operations are subject to continuous monitoring, including assessing the impact on performance. Active risk management is therefore an integral part of performance management, with its various strategy, planning, and controlling processes.

The compliance management system (CMS) ensures regulatory compliance across the Group, including preventing corruption and antitrust law violations in business transactions. It thus underpins the confidence of our customers and enables them to rely on us, while also protecting our reputation as a company. The Group-wide compliance organization ensures that every employee and all members of the Management Board, Supervisory Board, and Advisory Board within the G+D Group are familiar with compliance requirements and act accordingly. As part of compliance assessments, risks facing the business units with regard to corruption, antitrust law, and conflicts of interest are reviewed and assessed across all Group entities. In this context, analysis of the results of the global compliance risk assessment carried out in 2020 was completed in 2021 and the Group's CMS was updated accordingly in order to fully meet requirements. Risk assessment was expanded to include fraud prevention.

Compliance managers report on a quarterly basis on activities in the core compliance areas of prevention, detection, and response. G+D management is thus kept informed of the preventive measures that are in place to ensure the organization acts in a compliant manner. Any (potential) compliance violations and the countermeasures taken are also reported, thereby enabling management to address any undesirable developments. The Management Board reports annually to the Supervisory Board.

During the reporting year, the corporate compliance organization was expanded in terms of staff and some areas were realigned. The aim is to achieve synergies in Group-wide compliance management, make processes more efficient, and meet the legal requirements of a compliance matrix organization.

Individual events are handled within the business sectors by the responsible Chief Compliance Officers or are escalated to senior corporate compliance level, as required. Third parties are used as necessary to examine and advise on compliance matters. Individual events are reported on a case-by-case basis directly to the Chairman of the Management Board of the relevant business sector and to the Group CEO, who take appropriate measures in conjunction with the Board members of the subsidiary and in consultation with the relevant Compliance Officer and, where necessary, Corporate Compliance.

Our internal control system ensures proper execution of business processes and defines appropriate responsibilities for minimizing operative and financial risks at G+D.

The control mechanisms implemented within our core processes of HR, accounting, treasury, order to cash (OTC), purchase to pay (PTP), and IT security are documented, with potential gaps being identified and filled on a regular basis. Compliance with legal requirements and internal corporate guidelines is also ensured.

The accounting-related internal control system includes the following key elements:
– the Group accounting policy including details of accounting practices and valuation methods,
– the definition of responsibilities for preparing the annual financial statements, consolidated financial statements, and reporting packages,
– ensuring of the dual-control principle for material matters, and
– plausibility checks.

The internal control system thus operates as a risk-avoiding mechanism. There are restrictions inherent in any internal control system. No control system, regardless of an effectiveness assessment, is capable of preventing or detecting all incorrect information. To improve the efficiency of the internal control system, we worked on tool support during the reporting year and will roll this out in the next fiscal year.

On behalf of the Management Board, the Corporate Audit regularly reviews the effectiveness of Group management and monitoring processes. The focus is on risk management, the internal control system, legal regulations, and internal corporate guidelines.

Compliance management, the internal control system, and risk management operate independently and separately from each other and are coordinated centrally by the Group's Management Board. Individual responsibilities are clearly defined.

Declaration on Management and Governance
In accordance with the German law on equal participation of women and men in leadership positions in the private and public sectors (FüPoG), the Supervisory Board set a target in 2017 for Giesecke+Devrient GmbH of ensuring that a third of the members of the Supervisory Board be women. There are no plans to make changes to the two Management Board positions at G+D GmbH. The aim with regard to the top tier of management below Board level is to achieve a proportion of 17 %, and 30 % for the second management tier. We aim to meet these quotas by March 31, 2022. Membership of the Supervisory Board has been one-third female since the prior year. The target has thus been met.

Equal opportunities for women and having a higher proportion of women in management and key positions are important goals throughout the Group as we seek to achieve greater diversity in the company. Since 2021, G+D's extended senior management team (Group Executive Committee – GEC) is likewise mixed gender-wise. Worldwide, we aim to further increase the proportion of women in leadership positions.

4. Opportunities and Risk Report

4.1. Risk Management System

The following points have been defined as key elements of an effective and at the same time efficient risk management system:
– The focus is on early detection of risks.
– Risks are systematically identified and assessed.
– Where possible, a conscious decision is made about accepting risks.
– Risks and measures are assigned to owners.
– Continuous monitoring and reporting of risks and actions is ensured.

Operational and financial risks are addressed on an ongoing basis in the course of day-to-day business management and assessed during the quarterly performance reviews. In contrast, strategic risks are subject to an annual review as part of the strategy process. Likewise, compliance risks are managed by the compliance organization and are subject to separate reporting, including notification of Corporate Controlling in the event of financial implications. The information below primarily relates to operational and financial risks.

G+D's risk management system is based on a comprehensive, interactive, and management-oriented enterprise risk management approach that is integrated into the global organizational structure. Risk management is organized locally but managed centrally by Corporate Controlling.

All Group employees have a duty to examine their immediate environment for possible risks and report any risks discovered. With support from the Local Risk Officer in each Group company and drawing on other functions (e.g. Legal, Controlling, Patents), risks are assessed, and risk/measure owners defined. Risks are monitored by the business sectors and Corporate Controlling. The Management Board reports to the Supervisory Board on a quarterly basis.

4.2. General Risk Analysis and Assessment

The risks identified are evaluated using the gross and net methods. The gross impact is defined as the potential damage that might result if no measures were in place to mitigate the risk. The net impact is the risk remaining when mitigating measures are taken into account. Appropriate measures have a positive impact on the possible damage or on the likelihood of occurrence associated with the risk. The likelihood of occurrence is multiplied by the net impact to obtain the risk value.

Risk assessment	Net impact = [gross impact] – [measure]
	Risk value = [net impact] × [likelihood of occurrence]

The likelihood of occurrence indicates the estimated probability of the identified risk occurring, which is classified as follows:

Category	Description	Likelihood of occurrence
Very high	Expected to occur	x > 80%
High	Probable	50% < x ≤ 80%
Medium	Not probable	10% < x ≤ 50%
Low	Possible, but largely theoretical	x ≤ 10%

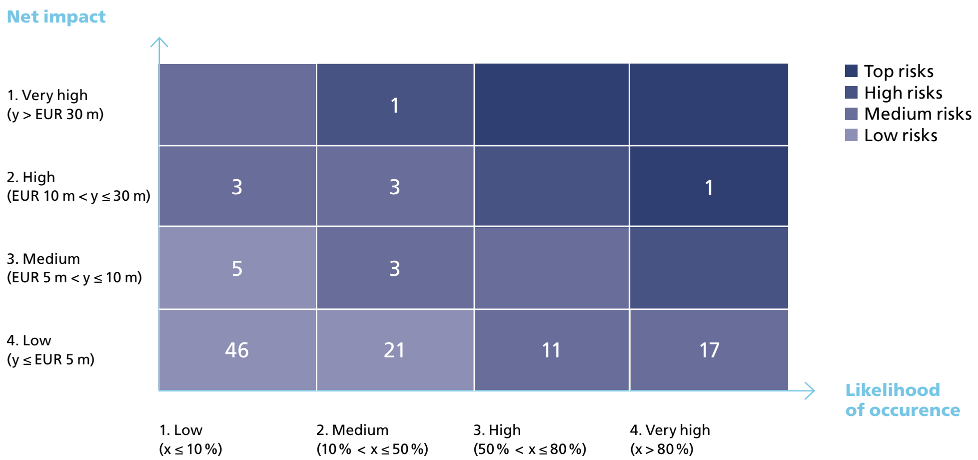
Individual risks are assigned to predefined risk categories (see 4.4) and the risk values summarized at the level of the business sector and Group.

Overall risk is calculated by simple addition of the individual risk values. Due to this approach, the totals for the business sectors and for the Group are largely theoretical since simultaneous occurrence of all individual risks can be virtually ruled out due to the different correlations. Aggregate assessment does offer the advantage that trends are easier to detect, however, and conclusions can be drawn regarding risk resilience.

4.3. Summarized Risk Report

As of December 31, 2021, 111 risks had been reported to the Management Board and the Supervisory Board via the risk report. The total number of risks was thus 30 lower than on December 31, 2020. The risks were evaluated according to net impact and likelihood of occurrence, as shown in the matrix below:

Risk Categories



One risk was assessed as a "Top risk." This is a tax risk linked to the reviewing of international transfer prices. In the course of preparing the annual financial statements for 2020, comprehensive risk provisioning was put in place, which includes writing down capitalized deferred taxes.

In addition, there was just one risk left in the "High risks" category, with the number of "High risks" thus reduced by two compared with the previous year. As in the previous year, risks on a major project being handled by the Veridos business sector are assigned to this category. For each major project the overall risk is recorded in the risk register by assessing and aggregating the individual risks accordingly. Overall, the risk assessment of this major project has improved. Accordingly, the potential net impact included in the assessment was reduced slightly. Risk premiums were taken into account when calculating the project costs, thereby ensuring that comprehensive risk provisioning is in place.

The two "High risks" that were closed in 2021 related to bad debt risk in South America and North Africa. These were written down in full as of December 31, 2021, and are therefore no longer regarded as a risk by G+D. Nonetheless, there is still the possibility of G+D receiving cash from the impaired receivables in the future.

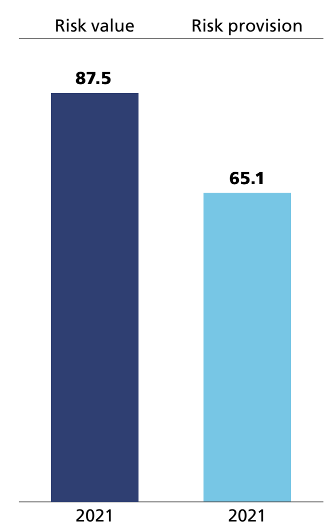
The overall risk value for the Group was EUR 88 million, a significant reduction of EUR 33 million compared with the previous year. Simultaneous occurrence of all individual risks can be virtually ruled out due to the different correlations. This overall risk value is therefore considered to be theoretical.

To manage this risk in financial terms, the Group has made provisions and allowances on receivables or applied corresponding calculation surcharges to major projects totaling EUR 65 million. In 2021, financial risk provisioning was in place for 74 % of the risk value. Financial risk provisioning includes three essential elements: impairments, provisions within the consolidated financial statements, and calculation surcharges on projects.

These risks have been taken into consideration in these financial statements and in the forecast, in accordance with the Group's accounting policy. If the risks for which no provisions have been made due to the low likelihood of occurrence (≤50 %) do occur or the risk premiums calculated for major projects turn out to be too low, this would have a negative impact on net assets, the financial position, and results of operations. If the risks covered by provisions occur, there would be a cash outflow.

Risk Value and Risk Provision

EUR million



EUR million

	Risk value	Risk provision	Δ PY Risk Value	Δ PY Risk Provision
Tax and Customs Risks	40.7	28.0		
Major Project Risks	24.0	21.2		
Value Creation Risks	9.5	9.7		
Market Risks	7.0	2.1		
Bad Debt Risks	2.8	2.1		
Product Development Risks	1.2	1.8		
Legal Risks	0.7	0.1		
IT Risks	0.7	0.0		
Security Risks	0.6	0.0		
Political Risks	0.6	0.0		
Total Risks	**87.5**	**65.1**		

Global tax risks are assessed as having the highest risk values, followed by aggregated risks arising from major projects, value creation risks, and market risks.

In particular, bad debt risks decreased compared with the previous year. The risk value in these categories was reduced by nearly 90 % compared with the prior year following full impairment of receivables at risk of default.

After careful analysis, the Group-wide risks are not deemed existential in nature, either individually or overall. Due to G+D's strong market positioning, capacity for technological innovation, globally standardized processes, and committed employees, the Management Board is confident that the Group is well equipped to meet the challenges posed by these risks in 2022 and to leverage the opportunities that arise. G+D is pursuing strategic development of its business portfolio accordingly.

The global spread of Covid-19 since the beginning of 2020 poses health risks, financial risks, and logistical risks. In response, G+D has set up a central crisis management system, which – in addition to business performance and liquidity development – addresses location-based employee/health management and enables a swift reaction to changing situations. It also monitors the countermeasures identified to cut costs and ensure ongoing liquidity. The results are reported separately to the Management Board and supervisory bodies. Explicit Covid-19-related risks are not included in the above risk report in order to avoid double reporting.

Potential risks arising from the continuing war between Russia and Ukraine are likewise not included in the risk report because it was impossible to predict the extent of the war at the time the risk report was prepared. Independent of that, a comprehensive and continuous review of all the implications of this war for G+D is currently being carried out by the Management board. At the time of preparing this report, G+D had two subsidiaries in Russia (Moscow and St. Petersburg) and no subsidiaries in Ukraine. At present, G+D does not see an increased security risk for its employees in Russia. Sales via and with the regions affected are of minor importance for G+D. The sanctions already imposed and any potential sanctions in the future will therefore not have a material impact on G+D's financial stability. There is no dependence on suppliers from the conflict regions concerned.

4.4. Risks and Opportunities by Category

G+D divides risks into geo-political risks, product development risks, value creation risks, security risks, IT risks, bad debt risks, market risks, tax and customs risks, legal risks, and major project risks.

Political risks
A renewed escalation of the trade-related dispute between China and the US and (geo-)political tensions could lead to a significant deterioration in global growth prospects. Political decisions could result in the introduction of further trade barriers at the international level. In Europe, economic challenges remain despite the Trade and Cooperation Agreement between the EU and the UK.

G+D counters these risks by continually monitoring economic and political developments in the key markets. Production and capital expenditure are managed centrally, enabling a rapid response in the event of any economic slowdown. At the same time, G+D benefits from having a local presence. The strong regional focus of the sales organization allows G+D to recognize and respond to changing customer requirements at an early stage. G+D's proximity to its customers gives it an advantage here, with fast response times allowing it to seize emerging business opportunities as they arise.

Product development risks
G+D offers its customers high-quality products and solutions. Development of new product features is based on market analysis. Misinterpretation of market analysis or delays in introducing products could result in higher costs and have an adverse effect on demand. In new product development in particular, deadline compliance is crucial in order to meet customer requirements and avoid substantial additional costs during the subsequent commercialization phase. In addition to these risks, intellectual property rights must be protected, licensed, and acquired as part of R&D activities. G+D could be accused by third parties of breaching their intellectual property rights. This could result in payment of compensation for damages and a ban on using certain technologies. The Group's patent department works with external law firms to register and monitor patents.

Maintaining an extensive vertical and horizontal portfolio of products and solutions allows the Group to diversify risk and take advantage of corresponding market opportunities. G+D is a leader in the fields of payment, connectivity, identities, and digital infrastructures, all of which have huge market potential. If these trends gain in importance over the short term in industry, the public sector, or the private sphere, and the associated change processes take place more quickly, opportunities for solutions provided by G+D could emerge, leading to additional sales and earnings growth.

Value creation risks
At G+D, supply chain management is handled individually in each of the business sectors. Any disruptions, such as those resulting from regulatory frameworks, disruption of infrastructure, interruptions to the supply of raw materials, or an increase in prices of raw materials (particularly semiconductors and cotton), may have adverse effects on the availability, quality, and cost of G+D products and therefore impact sales and earnings. Against this backdrop, G+D has introduced dedicated semiconductor reporting due to the ongoing shortage of semiconductors. This enables the entire value chain to be closely monitored. In addition, many risk-reducing measures were introduced and implemented in 2021 as a response to the semiconductor shortage. On the purchasing and production side, these include migration to alternative chips, certification of these chips with the respective customers, and close tracking of orders and deliveries.

Undetected quality problems could result in higher costs for G+D and have an adverse impact both on demand for the company's products and on its reputation. This is countered by defining precise quality requirements and ongoing and efficient development of the quality management system, with a corresponding focus on customer needs. Our underlying approach is that "quality is everybody's business." Making this attitude a reality requires processes, organizational interfaces, tasks, and responsibilities to be clearly defined and communicated in quality handbooks and work instructions. All employees therefore need to be fully aware of the contribution they can make within their role.

Production could also be compromised by technical failures. Additional production capacity must be maintained to minimize this risk. G+D seeks to ensure optimum machine utilization and back-up capacity by means of detailed production planning and management. Machines that are outdated or no longer meet the latest technical standards could lead to a loss of production capacity, resulting in partial or complete failure to produce the planned quantities. Problems of this kind can result in project delays or late delivery of products to end customers. If G+D is late in delivering products, it could face contractual penalties for failing to comply with delivery deadlines, for example. Prompt investment in replacement machinery is intended to prevent such issues. Capital expenditure is managed by the business sectors at G+D and closely monitored by the project controlling team.

In a dynamic market environment, G+D strikes a balance between effectively meeting the current needs of customers and investing in promising new products and solutions.

If heightened awareness of security issues in the digital world and new technologies result in an even greater need for security technology than expected, G+D could see a faster rise in demand for new and improved products. Alongside product innovation, process innovation boosts efficiency and can create competitive advantages. Increased vertical and horizontal expansion of value-adding activities offers additional opportunities. Global sourcing is one strategy that contributes to reduced costs. Dependence on particular suppliers is reduced and access to special resources is secured. This could strengthen G+D's competitive position and have a positive impact on net assets, the financial position, and results of operations, allowing an upward revision of existing forecasts. Continuous monitoring is essential in order to exploit potential opportunities arising from global sourcing. This also allows the resulting new risks to be identified at an early stage and countered by appropriate action.

Employees are crucial to the success of the company. To counteract a potential shortage of qualified staff, G+D is taking appropriate action to recruit, retain, and develop skilled workers. G+D highlights its attractiveness as an employer through activities such as an integrated program to nurture talent. Measures for attracting and developing qualified staff and boosting retention enable G+D to secure the necessary human capital as an important production factor. Any knowledge advantage gained could be a crucial competitive factor. In addition, information is the basis for all business decisions, thereby ensuring the continued existence of G+D.

Security risks
G+D is not completely immune to cyber security risks, whether in the form of economic or industrial espionage, cyber attacks, or common non-specific attacks, such as ransomware. Specific attacks may be carried out by certain countries, potential competitors, or a mix of these (countries or criminal organizations acting on behalf of, or in support of, competitors). Non-specific (opportunistic) attacks are mainly carried out by actors associated with organized crime.

These scenarios could lead to unintentional disclosure of confidential information or intellectual property, product damage (e.g. through loss of IT system integrity), supply difficulties as a result of loss of production, or compromised (personal) data. G+D may also be faced with threats from individuals who gain unauthorized access to buildings or systems and misuse, steal, or damage information, products, materials, or other assets.

G+D has taken a range of preventive measures to minimize these risks. They include various technical IT security measures, organizational and procedural security measures (e.g. identity management, monitoring of IT processes, staff security measures), physical security measures (e.g. entry and access control systems, camera and alarm systems, site security), and naturally also raising the awareness of all employees through regular training sessions on the various security issues.

G+D has thus implemented a security and control system that makes it possible to identify and respond promptly to risks.

Through stringent security management, G+D has systematically developed a robust culture of security and prevention. This internal competence could enable G+D to sustainably set itself apart from other companies with lower security levels and allow it to continue to operate as a trusted business partner.

IT risks
The availability of internal IT systems is essential for G+D's ability to do business. In the age of digitalization, IT infrastructure and IT applications are becoming ever more important because all the company's business activities are based on IT systems. This dependence entails huge potential for damage. Workflows are becoming more complex and dependency on information and communication technologies and on systems designed to harmonize processes is growing. G+D counters these risks by continually adapting its IT systems to changing requirements and ensuring redundancy of critical IT systems. In addition to availability, legally compliant use of licenses is also a possible risk area. Active license management is in place to counter this risk.

As digitalization progresses, new digital business segments are being created in the IT area. Considerable sales potential could be opened up through the development and provision of digital solutions as well as in the field of connectivity. This could result in new sales opportunities for G+D.

Bad debt risks
Like all market players, G+D is subject to typical liquidity risk and counterparty credit risk. Liquidity risk is the risk of being unable to meet financial commitments as they fall due. This is minimized by means of a carefully considered financing policy. If contract partners do not meet commitments when due or collateral loses value, this is referred to as counterparty credit risk. The Group primarily manages these risks as part of its ongoing business and financing activities. The G+D Group and its operating subsidiaries are subject to written policies issued and managed by G+D GmbH. Bad debt risks form part of the risk reports submitted to the Management Board and are also included in regular reporting to the Supervisory Board and Advisory Board.

If, contrary to expectations, it becomes possible for a customer to settle the outstanding receivables, any derecognition would be reversed. This would positively impact net assets, the financial position, and results of operations by the corresponding amount.

Market risks
G+D is subject to market risks. Changes in exchange rates and interest rates significantly affect operational business and also investment and financing activities. If necessary, derivative financial instruments are used in relation to foreign currency and interest rates to hedge underlying transactions. The purpose of these financial instruments is to reduce risks stemming from fluctuations in exchange rates and interest rates and to increase planning security. In accordance with risk management standards applying to international banks, all trading activity is subject to financial monitoring that is independent of the Group's treasury department. A positive change in interest rates or exchange rates could result in higher financial income.

In addition to cash invested directly with banks, some money is managed by a well-known German asset management company in a special investment fund. The investment consists of a portfolio of top-grade bonds (government bonds, corporate bonds, and fixed income bonds) and equities (top-grade companies), as well as commodities and cash equivalents. To ensure diversification, the proportion of equities is restricted to a maximum of 50.0 % of the total portfolio. The risk associated with the equity component of this investment is presented monthly using the value-at-risk (VaR) indicator. Value-at-risk shows the loss level that will not be exceeded in a period of ten days with a probability of 99.0 %.

In accordance with IAS 19, G+D is required to recognize actuarial gains and losses arising from pension obligations fully and immediately in equity. This leads to high volatility of equity in response to changes in capital market interest rates. In a favorable capital market environment, opportunities may arise that have a positive impact on G+D's assets.

For further details on financial risks, including sensitivity analyses, please see note 22 of the consolidated financial statements.

Risk associated with an impairment of goodwill at the Group level is subsumed under market risks. Goodwill shown in the consolidated balance sheet is tested annually for impairment.

Opportunities may arise in general from changed market circumstances. G+D could achieve higher sales volumes through flexible sales and production processes as well as through a focus on internal skills. The company's own market position could lead to higher pricing.

Tax and customs risks
As a globally active company, G+D's business activities are subject to a wide range of tax-related laws and regulations. These include country-specific tax regimes, possible tax obstacles that make business more difficult, and import/export regulations. Trade barriers in the form of customs duties may lead to negative volume and cost effects, as additional levies may become due. Intercompany netting may be challenged by the tax authorities during a tax audit, which can entail lengthy negotiations and the need to produce extensive documentation.

G+D seeks to counter these risks by continually adapting its internal processes to changing requirements. The company also takes advice from auditors, lawyers, and tax consultants in the countries concerned.

The introduction of a holding structure in 2017 and the associated carve-out and establishment of legally independent local companies increased the potential risks. Where possible, the risk position was substantially reduced by obtaining binding information from the relevant local tax authorities.

Legal risks
When selecting external partners, care must be taken to ensure that they abide by internal rules and applicable laws and regulations, and supply G+D's customers with high-quality products. When contractual relationships end, legal disputes may arise, in which claims could be brought against G+D or the costs of a legal defense may be incurred. Risks arising in connection with legal disputes are continuously monitored. Risks may also arise from business relationships as a result of possible violation of export control law or through warranty periods and warranty conditions.

Legal requirements could also lead to an increase in sales and earnings. If, for instance, the use of a technology that G+D is involved in developing or that is contained in its products were to be made mandatory, internal forecasts could be revised upward.

With regard to data protection, the requirements of the GDPR must be met. Breaches of data protection law or the loss of sensitive data can lead to fines or reputational damage and also negatively impact G+D's competitive position. Employees receive regular awareness training on this subject.

Environmental issues are becoming increasingly important for businesses. G+D seeks to counter the impact of its business operations on the environment and the resulting risks by taking measures as part of its sustainability activities and through a certified environmental management system, which includes occupational health and safety management. For more details, see our progress report for the UN Global Compact (https://www.gi-de.com/en/group/values). Opportunities based on a positive reputation in environmental matters could boost the attractiveness of G+D as a business partner and employer. This could have positive effects on the ability to achieve financial indicators and on human capital.

Major project risks
G+D is responsible for a number of major projects with high sales potential and lengthy implementation periods spanning several years. These projects have an elevated risk structure, which is taken into account accordingly in risk calculations for the business models. As work on these ongoing major projects progressed, the overall risk assessment in the reporting period improved.

Professional project management and coordination and a dedicated project controlling team have been put in place to support and oversee these major projects. The risks posed by major projects can be successfully addressed and reduced through continuous risk management.

An increase in the number of major projects in the portfolio could create a long-term order backlog and provide access to new markets. A positive impact on brand perception is another potential benefit.

5. Overall Assessment of Economic Situation and Forecast

5.1. Overall Assessment of Economic Situation

Despite the challenges posed by semiconductor shortages and global travel restrictions, G+D's sales were nearly back to pre-pandemic levels in fiscal 2021 and thus exceeded forecasts. EBIT and EBITDA were the highest ever recorded in G+D's history. Net income almost doubled compared to the previous year.

Broken down by individual business sector, Currency Technology achieved its predicted sales. The Banknote division was on target; the Currency Management Solutions division slightly exceeded expectations.

Mobile Security's sales were above expectations for 2021. It coped well with the impact of the microchip shortage on the product range. The Secure Transactions + Services (STS) division exceeded sales targets mainly as a result of its eHealth solutions. The Trusted Connected Devices (TCD) division significantly exceeded the budgeted level of sales. This growth was largely attributable to integrated SIM card solutions, known as embedded Universal Integrated Circuit Cards (eUICC). TCD also expanded its market leadership in eSIM management and achieved the budget targets in this area.

At Veridos, ongoing travel restrictions impacted the execution of major projects and the company's services business. Countries also refocused their budgets due to the ongoing pandemic. Both of these factors had an impact on sales in this business sector, which meant that Veridos's performance fell considerably short of expectations for fiscal 2021.

Fiscal 2021 was another exceptional year for secunet, with expectations being significantly exceeded. Very good core business with the SINA product range was the main driver of this positive performance. Due to the ongoing pandemic, there was also increased demand from public sector clients for secunet security solutions for mobile working environments.

G+D significantly exceeded its target for operating income, EBIT, and EBITDA. Increased EBIT also meant that the predicted ROCE was exceeded.

Working capital was slightly above target due to higher sales, but working capital intensity was lower than expected at 24.3 %.

Investments were slightly below the planned budget.

Free cash flow was considerably positive and exceeded expectations. All business sectors contributed to positive free cash flow.

5.2. Forecast

G+D started fiscal year 2022 with an order backlog of EUR 1.4 billion and a forward order book covering a period of 7.2 months.

2022 will be marked by the ongoing Covid-19 pandemic and restrictions on travel, which are set to continue for at least the first six months of the year. In addition to existing logistical problems and supply bottlenecks in materials procurement, G+D's business activities will be affected by the shortage of chips, impacting in particular the financial performance of Mobile Security, but also of Veridos and secunet, and thus the entire Group.

A number of measures for mitigating risk were introduced and implemented in 2021. On the purchasing and production side, these include migration to alternative chips, certification of these chips with the respective customers, and close tracking of orders and deliveries. Our new suppliers need to prove they are reliable in terms of agreed quantities and delivery dates in 2022, thereby ensuring that our plants can be utilized as efficiently as possible throughout the year. On the sales side, the majority of price rises have already been addressed in negotiations with customers.

Early on in the pandemic, our banknote printing was able to gain market share and increase sales while largely maintaining production capacity. This changed during the course of 2021 and market demand declined. At the start of 2022, however, there are positive signs that the market situation is set to recover in the second half of the year.

The pandemic and the chip shortage may actually amplify the future development of the Group.

Given the comparatively high level of uncertainty, we have taken these factors into account in our planning. Our plans have not taken the escalating conflict between Russia and Ukraine into consideration. The effects on our two subsidiaries in Russia are serious. However, compared to the pandemic and the microchip shortage, this war is of secondary relevance as regards the Group's financial metrics. We have implemented systems for closely monitoring sanctions, security issues, and economic impacts.

Compared to the record year of 2021, G+D assumes that Group sales will remain almost unchanged in 2022, but EBIT will fall. At the time of preparing this report, it was possible to identify both positive and negative trends. Depending on the actual development of these factors, there are not only risks but also opportunities for the Group to exceed its planned performance.

Actual results may, of course, vary from expected performance.

Assuming there are no significant changes in current exchange rates, G+D aims to maintain the level of sales seen in the reporting year in 2022.

In the Currency Technology business sector, sales are not expected to reach the prior-year level. Sales in the Banknote Solutions division are subject to the usual fluctuations of a cyclical business. After a surge in demand at the beginning of the pandemic, demand for banknote paper and banknotes is expected to decline slightly, particularly in the first six months of 2022. Following the completion of two major projects, the Currency Management Solutions division expects sales to remain at approximately the same high level as in the previous year.

Mobile Security expects to be able to further increase its strong sales despite the chip shortage affecting both divisions. In particular, Secure Transactions + Services (STS) will contribute to this; Trusted Connected Devices (TCD) is also forecasting a slight rise in sales.

Veridos expects a significant increase in fiscal year 2022 compared with the previous year.

After an excellent fiscal 2021, secunet expects sales to be slightly down in 2022 compared with the previous year, which was marked by a number of special effects due to the pandemic.

Our planning thus assumes that EBIT and EBITDA will be below the record result achieved in 2021, returning roughly to the level seen in previous years. This is partly because G+D intends to significantly increase its spending on research and development and on strategic initiatives, thereby investing in the future of the Group. G+D will not be able to fully compensate for the partial absence of pandemic-related special effects, and it is expected that the shortage of chips and difficulties in the logistics sector will affect Group earnings to a greater extent than in 2021.

In 2022, working capital is expected to be largely unchanged compared with the reporting year.

G+D is planning to slightly increase investment in property, plant and equipment and intangible assets, with a focus on IT investment and capitalized research and development expenses. Overall, investment will be slightly below the level of the previous year because no acquisitions are currently included in our planning, apart from venture investments.

Free cash flow will be firmly positive and remain at roughly the previous year's level.

ROCE is expected to be slightly below that achieved in 2021 due to EBIT performance.

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Independent Auditor's Report

To Giesecke+Devrient Gesellschaft mit beschränkter Haftung, Munich

Opinions

We have audited the consolidated financial statements of Giesecke+Devrient Gesellschaft mit beschränkter Haftung, Munich and its subsidiaries (the Group), which comprise the consolidated balance sheet as of December 31, 2021, the consolidated income statement, the consolidated statement of profit or loss and other comprehensive income, the consolidated statement of changes in equity and the consolidated statement of cash flows for the financial year from January 1 to December 31, 2021, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of Giesecke+Devrient Gesellschaft mit beschränkter Haftung for the financial year from January 1 to December 31, 2021. In accordance with German legal requirements, we have not audited the content of those components of the group management report specified in the "Other Information" section of our auditor's report.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Section 315e (1) HGB [Handelsgesetzbuch: German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities and financial position of the Group as of December 31, 2021, and of its financial performance for the financial year from January 1 to December 31, 2021, and
- the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our opinion on the group management report does not cover the content of those components of the group management report specified in the "Other Information" section of the auditor's report.

Pursuant to Section 322 (3) sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and the group management report.

Basis for the Opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Section 317 HGB and the German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the group management report.

Other Information

Management and/or the Supervisory Board are/is responsible for the other information. The other information comprises the following components of the group management report, whose content was not audited:
- the Group's corporate governance statement included in Section 3 of the group management report, and
- the progress report for the UN Global Compact, which is referred to in the group management report.

The other information does not include the consolidated financial statements, the group management report information audited for content and our auditor's report thereon.

Our opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information
– is materially inconsistent with the consolidated financial statements, with the group management report information audited for content or our knowledge obtained in the audit, or
– otherwise appears to be materially misstated.

Responsibilities of Management and the Supervisory Board for the Consolidated Financial Statements and the Group Management Report

Management is responsible for the preparation of consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) HGB and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position, and financial performance of the Group. In addition, management is responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, management is responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, management is responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The supervisory board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Section 317 HGB and in compliance with the German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

– Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls.
– Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems.
– Evaluate the appropriateness of accounting policies used by management and the reasonableness of estimates made by management and related disclosures.
– Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
– Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) HGB.
– Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our opinions.
– Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with [German] law, and the view of the Group's position it provides.
– Perform audit procedures on the prospective information presented by management in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by management as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Munich, March 22, 2022

KPMG AG
Wirtschaftsprüfungsgesellschaft

[Original German version signed by:]

Huber	**Hachmann**
Wirtschaftsprüfer	Wirtschaftsprüfer
[German Public Auditor]	[German Public Auditor]

Consolidated income statement

for the years ended December 31, 2021 and 2020

EUR million	Note	2021	2020
Net sales	15	2,376.6	2,312.8
Cost of goods sold		(1,692.9)	(1,659.1)
Gross profit		**683.7**	**653.7**
Selling expenses		(227.1)	(216.4)
Research and development expenses		(118.4)	(101.0)
General and administrative expenses		(157.1)	(164.1)
Impairments on trade receivables and contract assets		(22.1)	(20.0)
Other operating income/(expenses), net		7.8	0.3
Operating profit		**166.8**	**152.5**
Share in earnings from equity investments	6	(0.9)	2.4
Other financial income/(expenses), net	17	–	(23.8)
Earnings before interest and income taxes		**165.9**	**131.1**
Interest income	18	1.9	1.7
Interest expense	18	(17.1)	(19.9)
Earnings before income taxes		**150.7**	**112.9**
Income taxes	19	(65.5)	(70.0)
Net income		**85.2**	**42.9**
thereof apportioned to non-controlling interests		7.8	7.7
thereof apportioned to the shareholders of Giesecke+Devrient GmbH		77.4	35.2
		85.2	**42.9**

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

Consolidated statement of comprehensive income

for the years ended December 31, 2021 and 2020

EUR million	Note	2021	2020
Net income		**85.2**	**42.9**
Other comprehensive income			
Items that will never be reclassified to the income statement			
Actuarial gains and losses[1]	14	25.0	(41.5)
Deferred taxes on actuarial gains and losses	19	(6.7)	11.1
Fair value change in financial assets recorded in other comprehensive income		2.1	–
		20.4	**(30.4)**
Items that are or may be reclassified to the income statement			
Currency effects from the translation of foreign operations		19.5	(18.5)
Effective part of fair value changes in cash flow hedges		(4.8)	2.5
Share of income and expenses recognized directly in equity resulting from the use of the equity method of accounting		0.1	(0.2)
		14.8	**(16.2)**
Other comprehensive income, net of tax		**35.2**	**(46.6)**
Total comprehensive income		**120.4**	**(3.7)**
thereof apportioned to non-controlling interests		8.2	6.7
thereof apportioned to the shareholders of Giesecke+Devrient GmbH		112.2	(10.4)
		120.4	**(3.7)**

[1] Variation due to changes in consolidation structure

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

Consolidated balance sheet

as of December 31, 2021 and 2020

EUR million	Note	Dec 31, 2021	Dec 31, 2020
ASSETS			
Current assets			
Cash and cash equivalents		401.1	412.8
Financial assets	2	177.1	93.4
Accounts receivable trade and other accounts receivable, net	3	441.6	582.6
Inventories, net	4	338.4	341.0
Income taxes receivable		9.8	11.5
Other current assets	5	40.9	38.1
Contract assets	23	255.2	222.9
Total current assets		**1,664.1**	**1,702.3**
Non-current assets			
Investments accounted for under the equity method	6	43.4	43.8
Investments in other related parties	6	10.8	5.5
Financial assets	2	22.5	24.9
Accounts receivable trade and other accounts receivable, net	3	13.3	11.9
Intangible assets	7	188.5	168.1
Property, plant and equipment	8	500.8	529.1
Deferred tax assets	19	155.5	163.6
Income taxes receivable		3.0	1.8
Other non-current assets		14.2	4.1
Contract assets	23	14.0	13.7
Total non-current assets		**966.0**	**966.5**
Total assets		**2,630.1**	**2,668.8**

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

EUR million	Note	Dec 31, 2021	Dec 31, 2020
LIABILITIES AND EQUITY			
Current liabilities			
Accounts payable trade and other accounts payable	10	323.0	377.9
Provisions	11	108.2	93.5
Financial liabilities	13	22.4	21.1
Lease obligations	9	19.1	19.9
Accrual for income taxes and income taxes payable		28.2	28.9
Other current liabilities	12	158.9	136.1
Contract liabilities	23	182.3	206.2
Total current liabilities		**842.1**	**883.6**
Non-current liabilities			
Provisions	11	14.6	12.1
Financial liabilities	13	329.4	468.5
Lease obligations	9	53.3	62.5
Pensions and related liabilities	14	685.0	711.9
Deferred tax liabilities	19	15.3	9.0
Other non-current liabilities		8.7	9.0
Contract liabilities	23	30.7	28.9
Total non-current liabilities		**1,137.0**	**1,301.9**
Equity			
Capital stock	20	25.8	25.8
Additional paid-in capital	20	29.5	29.5
Retained earnings	20	594.3	447.3
Accumulated income and expenses recognized directly in equity		11.2	(3.5)
Treasury stock	20	(60.1)	(60.1)
Non-controlling interests		50.3	44.3
Total equity		**651.0**	**483.3**
Total liabilities and equity		**2,630.1**	**2,668.8**

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

Consolidated statement of changes in equity

for the years ended December 31, 2021 and 2020

EUR million	Capital stock	Additional paid-in capital	Retained earnings	Accumulated income and expenses recognized directly in equity resulting from currency translations	Accumulated income and expenses resulting from cash flow hedges	Treasury stock	**Subtotal**	Non-controlling interests	**Total**
Balance as of January 1, 2020	**25.8**	**29.5**	**455.9**	**12.5**	**–**	**(60.1)**	**463.6**	**42.6**	**506.2**
Net income	–	–	35.2	–	–	–	35.2	7.7	42.9
Other comprehensive income	–	–	(29.6)	(18.5)	2.5	–	(45.6)	(1.0)	(46.6)
Total comprehensive income	**–**	**–**	**5.6**	**(18.5)**	**2.5**	**–**	**(10.4)**	**6.7**	**(3.7)**
Changes in consolidation structure	–	–	–	–	–	–	–	0.6	0.6
Dividends paid	–	–	(14.2)	–	–	–	(14.2)	(5.6)	(19.8)
Balance as of December 31, 2020	**25.8**	**29.5**	**447.3**	**(6.0)**	**2.5**	**(60.1)**	**439.0**	**44.3**	**483.3**
Net income	–	–	77.4	–	–	–	77.4	7.8	85.2
Other comprehensive income	–	–	20.1	19.5	(4.8)	–	34.8	0.4	35.2
Total comprehensive income	**–**	**–**	**97.5**	**19.5**	**(4.8)**	**–**	**112.2**	**8.2**	**120.4**
Sale of shares in affiliated companies (see note 24)	–	–	64.9	–	–	–	64.9	4.0	68.9
Total changes in equity	–	–	162.4	19.5	(4.8)	–	177.1	12.1	189.3
Dividends paid	–	–	(15.4)	–	–	–	(15.4)	(6.1)	(21.5)
Balance as of December 31, 2021	**25.8**	**29.5**	**594.3**	**13.5**	**(2.3)**	**(60.1)**	**600.7**	**50.3**	**651.0**

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

Consolidated statement of cash flows

for the years ended December 31, 2021 and 2020

EUR million	2021	2020
Cash flows from operating activities		
Earnings before interest and income taxes	165.9	131.1
Adjustments to reconcile earnings before interest and income taxes to cash provided by operations		
Depreciation, amortization and impairment/recoveries	139.5	134.7
(Gain)/loss on sale of investments, net	–	2.4
(Recoveries)/impairment on investments in associated companies	–	0.1
(Gain)/loss on sale and disposal of intangible assets and property, plant and equipment	(0.7)	0.9
(Gain)/loss on the sale of shares in associated companies and joint ventures	–	(0.6)
Undistributed earnings in associated companies and joint ventures excluding dividend payments	1.0	(1.8)
Dividends received from associated companies and joint ventures	1.8	2.1
Change in operating assets and liabilities		
(Increase)/decrease in investments in trading securities	0.4	(6.4)
(Increase)/decrease in accounts receivable trade and other accounts receivable, net	140.7	70.2
(Increase)/decrease in prepaid expenses and other assets	(7.0)	11.7
(Increase)/decrease in contract assets	(26.6)	(52.6)
(Increase)/decrease in inventories, net	11.0	(14.7)
Increase/(decrease) in accounts payable trade and other accounts payable	(60.8)	(50.0)
Increase/(decrease) in provisions	16.3	(8.6)
Increase/(decrease) in pensions and related liabilities	(10.2)	(5.4)
Increase/(decrease) in other liabilities	19.7	(13.1)
Increase/(decrease) in contract liabilities	(26.5)	(19.2)
Income taxes paid, net	(59.6)	(33.5)
Interest received	1.9	1.7
Interest paid	(9.4)	(10.5)
Net cash provided by operating activities	**297.4**	**138.5**

EUR million	2021	2020
Cash flows from investing activities		
(Increase)/decrease in short-term investments	(51.1)	0.4
Additions to and prepayments on intangible assets	(27.6)	(24.7)
Additions to and prepayments on property, plant and equipment	(60.5)	(72.8)
Capital increase in and founding of associated companies and joint ventures	–	(33.9)
Capital increase in investments in related companies	(3.2)	(1.6)
Acquisitions, net of cash acquired	(22.7)	–
Proceeds from the sale/purchase of available-for-sale securities	(20.9)	0.5
Loans to associated companies	–	(0.5)
Loans to shareholders	–	(3.5)
Loans to third parties	–	(0.7)
Loans to related parties	(21.0)	–
Payments received on loans to related parties	4.5	–
Proceeds from sale of intangible assets	0.1	–
Proceeds from sale of property, plant and equipment	2.4	0.5
Proceeds from sale of equity investments	–	6.3
Net cash used in investing activities	**(200.0)**	**(130.0)**
Free Cashflow[1]	**97.4**	**8.5**
Cash flows from financing activities		
Investment in subsidiaries under common control	67.0	–
Proceeds from issuance of long-term debt	0.4	42.8
Repayment of long-term debt	(137.0)	(27.4)
Payments on lease obligations	(22.8)	(21.6)
Net (decrease)/increase in short-term debt and borrowings	(5.0)	(1.0)
Dividends paid to shareholders	(15.4)	(14.2)
Dividends paid to non-controlling interests	(6.1)	(5.5)
Net cash used in financing activities	**(118.9)**	**(26.9)**
Effect of exchange rates on cash and cash equivalents	9.8	(8.1)
Net increase/(decrease) in cash and cash equivalents	(11.7)	(26.5)
Cash and cash equivalents at beginning of the year	412.8	439.3
Cash and cash equivalents at end of the year	**401.1**	**412.8**

[1] Free cash flow consists of net cash provided by operating activities less net cash used in investing activities.

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

Notes to the consolidated financial statements

for the years ended december 31, 2021 and 2020

1 Summary of Significant Accounting Policies and Practices

A Description of Business

Giesecke+Devrient Gesellschaft mit beschränkter Haftung and subsidiaries (“G+D” or “Giesecke+Devrient”) is in the business of printing banknotes and securities, as well as the development and production of security paper and currency automation equipment. Giesecke+Devrient also develops and manufactures magnetic stripe cards and smartcards mainly for the telecommunications, banking and health services industries. A further field of business includes security-related solutions for governments and public authorities, ranging from ID cards and travel documents to e-government solutions. New technologies comprise network solutions and secure mobile transaction solutions as well as a software system for mobile devices.

Giesecke+Devrient, headquartered in Prinzregentenstraße 159, 81677 Munich, Germany, is entered in the Commercial Register of the Munich District Court Dept. B under the number 4619. G+D has a strong international orientation with Germany being one of its major markets. Other key markets include the United States, Canada and China. As of December 31, 2021, G+D had subsidiaries in 33 countries and 11,768 employees (for simplification purposes the term “employee / employees“ represents individuals of all genders) worldwide, including 7,366 outside Germany.

The consolidated financial statements were approved by the Management Board on March 22, 2022.

B Basis of Presentation

The consolidated financial statements as of December 31, 2021 have been prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU, and the applicable supplementary German statutory requirements in accordance with Section 315e no. 1 German Commercial Code (HGB).

MC Familiengesellschaft mbH was founded in 2012. MC Familiengesellschaft mbH became the Group parent company and prepared statutory consolidated financial statements in accordance with IFRS as of December 31, 2021.

Some figures may not precisely add up in total due to rounding differences.

C Consolidated Group and Principles of Consolidation

Consolidated Group
All material G+D subsidiaries, joint ventures and associated companies are included in the consolidated financial statements.

Affiliated companies are companies that are controlled by the Group. The Group controls a company if it is exposed to or has rights to variable returns from its involvement in the company and has the ability to affect the amount of these returns by using its power. Financial statements of subsidiaries are included from the time the Group obtains control and ceases when the Group loses control. Non-controlling interests are valued at the respective share of the net assets of the company acquired that can be identified at the date of acquisition. Changes in the ownership interest in a subsidiary that do not result in loss of control are accounted for as equity transactions.

Group interests that are accounted for in accordance with the equity method comprise shares in associated companies and joint ventures. Associated companies are companies in which the Group has significant influence but does not control or jointly control with respect to financial and business policies. A joint venture is an arrangement whereby the Group has joint control of the arrangement and has rights to the net assets instead of rights to the assets and obligations for the liabilities of the arrangement.

The consolidated Group comprises 23 domestic and 58 foreign subsidiaries which are fully consolidated. Giesecke+Devrient has had a holding structure since January 2017, in which the divisions are fully consolidated as legally independent subgroups. As Giesecke+Devrient has more than half of the voting rights in Veridos Matsoukis S.A. Security Printing, Athens at each level, management has determined that G+D controls the company. This assessment is on the basis that G+D owns the majority of the voting rights in Veridos GmbH, Berlin, which in turn holds the majority of the voting rights in Veridos Matsoukis S.A. Security Printing, Athens. Additionally, eight joint ventures and / or associated companies are accounted for under the equity method.

Principles of consolidation
The financial statements of the companies included in the consolidated financial statements are prepared using uniform accounting policies in accordance with IFRS.

Income and expenses, receivables, payables and provisions, as well as intragroup profits between companies included in the consolidated financial statements are eliminated.

A subsidiary is deconsolidated from the date it is no longer controlled by G+D.

Investments in joint ventures and associated companies accounted for using the equity method are initially recognized at cost and adjusted accordingly in subsequent periods. Intragroup profits from transactions with these companies are eliminated in proportion to the acquirer’s interest.

Under IFRS, all business combinations are accounted for using the acquisition method. The acquirer allocates the cost of a business combination by recognizing the acquiree’s identifiable assets, liabilities, and contingent liabilities that satisfy the recognition criteria at their fair value on the date control over the entity is obtained (acquisition date). The full amounts of identifiable assets and liabilities and contingent liabilities irrespective of the company’s ownership interest are recognized at their fair values. Any excess of the purchase price over the fair value of the identifiable assets, liabilities, and contingent liabilities less any minority interests is recognized as goodwill. Where the fair value exceeds the purchase price, the resulting amount is recorded in the income statement.

Non-controlling interests are measured at the fair value of the proportionate identifiable net assets. In a business combination achieved in stages, interests held at the time of transfer of control are revalued and the resulting gain or loss is recognized in profit or loss. An adjustment of conditional purchase price components that were reported as a liability at the acquisition date is recognized in profit or loss for business combinations. Transaction costs are recognized as expenses at the time they are incurred.

After having gained control of a subsidiary, the difference between the purchase price and the proportionate share of equity for additional shares acquired is charged against retained earnings. Transactions which do not result in loss of control have no impact on the income statement and are recorded as equity transactions.

Remaining interests are measured at fair value at the time of loss of control. In the case of non-controlling interests, reporting negative balances are permitted, i.e. future losses are allocated in proportion to the participation without restriction.

D Use of Estimates

Preparation of the financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent amounts and liabilities as of the date of the financial statements and reported amounts of revenues and expenses during the reporting period.

Information about estimation uncertainties and where critical judgment in applying accounting policies that have the most significant effect on the amounts recognized in the consolidated financial statements and those through which a considerable risk can arise or a material adjustment will be required within the fiscal year ending on December 31, 2021 is included in the following notes:
– Note 1 (j) “Goodwill and Other Intangible Assets”
– Note 1 (n) “Provisions”
– Note 19 “Income Taxes”
– Note 24 “Business Combinations”

Interpretation 23 of the IFRS Interpretation Committee (IFRIC) clarifies the application of the recognition and measurement under International Accounting Standards (IAS) 12 if there is uncertainty regarding the income tax treatment. Estimates and assumptions must be made for recognition and measurement, e.g. whether an assessment is made independently or together with other uncertainties, whether a probable or expected value is used for the uncertainty and whether changes have occurred compared to the previous period. The risk of detection is irrelevant for the accounting of uncertain balance sheet items. The accounting is based on the assumption that the tax authorities are investigating the matter in question and that they have all the relevant information.

For G+D, this has no material impact on the consolidated financial statements.

E Foreign Currency Translation

Transactions in foreign currency are translated into euros using the exchange rate on the date of the transaction. At the balance sheet date, monetary assets and liabilities are remeasured using the period-end exchange rate. Non-monetary assets and liabilities denominated in foreign currency are translated using the historical exchange rates as of the date of the transaction.

The individual functional currency for each of the Group companies is the currency in the primary economic environment in which the entity operates. The assets and liabilities of foreign subsidiaries with functional currencies other than the euro are translated using period-end exchange rates, while the revenues and expenses are translated using average exchange rates during the period. Differences arising from the translation of assets and liabilities in comparison with the translation of the prior periods are included in cumulative translation adjustment and reported as a separate component of equity.

The average and closing rates for significant currencies for the fiscal years ended December 31 are as follows:

1 euro equals X units of foreign currency	Rates – December 31, 2021		Rates – December 31, 2020	
	Average	Closing	Average	Closing
US dollar – USD	1.1835	1.1334	1.1412	1.2281
Australian dollar – AUD	1.5747	1.5594	1.6558	1.6025
British pound – GBP	0.8602	0.8393	0.8893	0.9031
Canadian dollar – CAD	1.4835	1.4481	1.5295	1.5701
Chinese renminbi – RMB	7.6340	7.2230	7.8707	8.0134
Swedish krona – SEK	10.1449	10.2438	10.4897	10.0568

F Financial Instruments

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

Financial assets include, in particular, cash and cash equivalents, accounts receivable trade, loans, other receivables, marketable securities, and derivative financial instruments.

For regular-way purchases and sales of all categories of financial assets, with the exception of derivative financial instruments, the date of initial recognition in the balance sheet or of derecognition is the settlement date, i.e. the date on which an asset is delivered to or by an entity. The trade date is determinant for derivative financial instruments.

Financial liabilities include accounts payable trade, liabilities to financial institutions, finance lease obligations, and derivative financial liabilities.

Financial assets and liabilities are generally measured at fair value at initial recognition. Accounts receivable trade that do not have a significant financing component are initially recognized at their transaction price.

The fair value is the estimate of the price at which an orderly transaction to sell an asset or to transfer a liability would take place between market participants at the measurement date under current market conditions (i.e. to estimate an exit price). This is the price within a defined market which could be achieved in selling an asset or should be paid for a liability.

After initial recognition, financial assets are classified at either amortized cost, at fair value through other comprehensive income (FVOCI) or at fair value through profit or loss (FVTPL) under IFRS 9. A financial asset is derecognized when the contractual rights to the cash flows relating to the financial asset expire, that is, when the asset is realized, forfeited or is no longer under the control of the company. G+D did not record interest income on impaired financial assets.

The Group designates the spot element of forward foreign exchange contracts to hedge its currency risk and applies a hedge ratio of 1:1. The forward elements of forward exchange contracts are excluded from the designation of the hedging instrument. The Group’s policy is to align the critical terms of the forward exchange contracts with the hedged item.

The Group assumes that the credit risk on a financial asset, unless specified otherwise, has increased significantly if it is more than 30 days past due. Lastly, the Group considers that its cash and cash equivalents based on the external ratings of the selected banks and financial institutions and the internal monitoring and limits per institutions ensures a low default risk (“low credit risk exemption”).

The creditworthiness of a financial asset is impaired when one or more events occur that adversely affect expected future cash flows. Indicators for this are, for example, significant financial difficulties of the debtor or the probability that the debtor will go into insolvency or other restructuring proceedings.

The Group considers a financial asset to be in default if the debtor is unlikely to pay its credit obligations in full to the Group without recourse by the Group with actions such as realizing collaterals (if any are held) or the financial asset is more than 90 days past due.

The Group defines a financial asset based on trade receivables as default by 360 days or more past due.

Derivative financial instruments
Derivative financial instruments are used to manage the foreign currency exposure incurred in the normal course of business in the form of forward exchange contracts.

G+D has made use of the option to continue applying hedge accounting requirements of IAS 39.

Hedging of major projects by applying Cash Flow Hedge Accounting (CFH)
Currency risks from contracts with a nominal volume exceeding EUR 8.0 million are generally secured and verified in applying and presenting cash flow hedge accounting in the balance sheet.

In these individual transactions, fluctuations in earnings are avoided by the pro rata temporis accounting of the valuation effects of the derivatives in equity.

The Group designates the spot element of forward foreign exchange contracts to hedge its currency risk and applies a hedge ratio of 1:1. The forward elements of forward exchange contracts are excluded from the designation of the hedging instrument and are separately accounted for as hedging costs in financial result, shown analogously to free-standing derivatives. The Group's policy is to align the critical terms of the forward exchange contracts with the hedged item.

There are stringent requirements related to the underlying transaction in applying cash flow hedge accounting. They are constantly monitored at inception date of the project as well as during the applicable period. If, during the term of the project, the criteria are no longer met, the cash flow hedge account is dissolved and any effects are continuously reported in profit and loss. The commercial part remains in force.

In connection with the prospective effectiveness test, the Group specifies that there is a high balance between expected cash flows initiated by the hedging instrument and the hedged underlying transaction based on currency, amount and term of the corresponding cash flows (critical terms match). Retrospectively, the Group assesses whether the hedging instrument of the designated derivate was offset by the changes of cash flows of the secured transaction were effective using the hypothetical derivative approach.

In these hedging relationships, sources of ineffectiveness can arise from:

- the effect of the counterparties' and the Group's own credit risk on the fair value of the forward foreign exchange contracts, which is not reflected in the fair value change of the hedged cash flows attributable to the change in exchange rates; and
- mainly based on changes in the value of the hedged transactions.

Hedging of major projects by applying Fair Value Hedge Accounting (FVH)
G+D does not otherwise apply hedge accounting in managing foreign currency exposure. These derivative financial instruments therefore qualify as held-for-trading and are recorded at fair value at the balance sheet date as either an asset or a liability. Changes in fair value are recognized in the income statement as financial income or expense. The fair market values of forward exchange contracts are calculated on the basis of the applicable spot market rates as well as the forward contract premium or discount compared to the contracted forward contract rate.

Giesecke+Devrient identifies derivative instruments embedded in host contracts of financial liabilities and accounts for them separately in accordance with the provisions of IFRS 9 Financial Instruments: Recognition and Measurement. Financial derivatives that are embedded in financial contracts of financial assets are recognized at fair value. These derivatives consist solely of foreign currency derivatives embedded in certain firm sales and purchase contracts denominated in a currency that is neither the functional currency of G+D nor of the contractual counterparty and which is also not a currency in which transactions are commonly denominated in the jurisdiction in which the transaction is to occur.

The fair values of the external and embedded foreign currency derivatives are recorded as current financial assets and liabilities in the balance sheet.

Cash and cash equivalents/ Short-term investments
Giesecke+Devrient considers all highly liquid investments with an original maturity of three months or less to be cash equivalents. These are valued at amortized cost.

Highly liquid commercial paper with an original maturity up to three months is also classified as cash and cash equivalents and is measured at fair value.

Short-term investments with a duration between three months and one year are classified as current financial assets.

Accounts receivable trade and other accounts receivable, net
Accounts receivable trade and other accounts receivable, net are allocated to the category "at amortized cost". They are measured at their transaction price at the time of initial recognition. The valuation at subsequent balance sheet dates at G+D is carried out on the basis of the business model for managing receivables and characteristics of contractual cash flows using amortized cost.

For doubtful accounts, credit risk impairments in the form of specific allowances are carried out. Specific defaults lead to derecognition of the receivables affected. In addition, according with IFRS 9, lifetime expected credit losses are calculated on a collective basis on the remaining balance on accounts receivable trade third party balances not subject to specific allowances. G+D first records impairments on an individual basis and then on a collective basis on the remaining balance of estimated credit losses in accordance with IFRS 9. Allowances on accounts receivable trade and other accounts receivable are recorded in separate allowance accounts.

The Group uses the simplified approach to calculate expected credit losses on accounts receivable trade using a provision matrix that includes an analysis of historical data over the past five years and current observable and future orientated data. Default risks within each default risk rating are segmented based on industry. Based upon the analysis of historical data as well as reasonable and supportable information regarding accounts receivable more than one-year past-due, G+D has assumed rebuttable rates equal to 90.0 % for all subgroup HUBs. The analysis therefore assumes a non-rebuttable rate of 10.0 % – being those receivables not expected to be recovered. The non-rebuttable rate is then reduced by a recovery rate of 25.0 % which represents the write-off portion expected to be collected in the event of insolvency proceedings. The calculation of collective allowances for the individual G+D companies incorporates the customer payment patterns which have been derived from the average ageing of accounts receivable trade third parties over the last five years as of December 31.

Income and expenses in connection with the recognition and reversal of specific allowances and allowances on a collective basis, as well as direct derecognitions of receivables are recorded in selling expenses and, if significant, in a separate line item in the income statement as a result of IFRS 9. Non- and low-interest-bearing non-current receivables are recorded at the present value of the expected future cash flows when the interest impact is material. For such amounts, the subsequent valuation is made applying the effective interest method. Assets are classified as non-current when the remaining duration at the balance sheet date exceeds 12 months.

Marketable securities and investments
G+D's marketable securities are classified as trading securities or as held-to-collect and sell securities. The classification under IFRS 9 is based on the business model in which a financial asset is managed and its contractual cash flow characteristics. IFRS 9 contains three general classification categories for financial assets: measured at amortized cost, at fair value through other comprehensive income (FVOCI) and at fair value through profit or loss (FVTPL).

G+D has designated the financial assets to the business model "Other" and therefore measures them at fair value through profit or loss. Investment funds classified as held-to-collect and sell do not meet the cash flow criteria and are therefore measured at fair value through profit or loss.

The equity instruments include investments in other related parties. These include the investments in Brighter AI Technologies GmbH with 8.5 % of the shares, FINANCIAL NETWORK ANALYTICS LTD with 6.5 % of the shares, IDnow GmbH with 5.1 % of the shares, Metaco SA with 3.9 % of shares and Verimi GmbH with 1.0 % of the shares. These investments are measured at fair value through other comprehensive income (FVOCI) and are shown in a separate line item in the balance sheet "Investments in other related parties". Trading securities include shares in a closed and fully consolidated special fund which invests in publicly traded equity and debt securities and common stocks in Nxt-ID, Inc. These trading securities are measured at fair value through profit or loss as determined by the most recently traded price of each security at the balance sheet date. Highly liquid commercial paper with an original maturity of up to three months is classified as cash and cash equivalents and is measured at amortized cost.

Unrealized gains and losses on trading securities and held-to-collect and sell securities (investment securities) are included in net income on a current basis.

If, in a subsequent period, the fair value increases and the increase can be objectively related to an event occurring after the impairment loss was recognized, the impairment loss shall be reversed in the income statement.

Other financial assets
With the exception of derivative financial instruments, other financial assets recognized as assets are allocated to the measurement category "at amortized cost". The valuation is in accordance with the explanation provided for accounts receivable trade and other receivables, net. Impairments on financial assets are recognized using the impairment model for expected credit losses. An impairment is reversed when the reasons for the impairment recorded no longer prevail.

Financial liabilities
With the exception of derivative financial instruments, financial liabilities recorded as liabilities are allocated to the measurement category "financial liabilities measured at amortized cost". The initial valuation of these financial liabilities is at fair value and in subsequent periods at amortized cost using the effective interest method. Transaction costs are deducted from the acquisition costs to the extent to which they are directly attributable. Liabilities are classified as non-current when the remaining maturity as of the balance sheet date exceeds 12 months.

The valuation of accounts payable trade is in accordance with the procedures noted previously for financial liabilities.

A financial liability is derecognized when the underlying obligation relating to the liability is fulfilled, terminated or extinguished.

Giesecke+Devrient has not made use of the option to designate financial liabilities as financial liabilities measured at fair value through profit or loss at the time of initial recognition in the balance sheet.

G Risk Management and Foreign Currency Exposure Policies

Risk management for the entire Group is coordinated centrally. Policies for risk management, foreign currency exposure, and documentation requirements are set forth in guidelines and procedures issued by the corporate treasury department. These guidelines are examined and updated on a regular basis. The approval of the guidelines is the responsibility of management.

Derivative financial instruments are used by G+D solely to reduce the risks inherent within its global business. As such, Giesecke+Devrient does not hold or issue derivative financial instruments for speculative purposes.

Refer to Note 22 "Financial Risk" and section 4.3 of the Group management report, "Summarized Risk Report" for additional related disclosures.

H Inventories

Inventories are carried at cost. Cost is determined using the weighted average, FIFO (first-in first-out) or standard cost method. Finished goods and work-in-progress inventories include direct material, labor, and manufacturing overhead costs which are based on the normal capacity of the production facilities. Items in inventory are written down at the balance sheet date if their net realizable value is lower than their carrying amount.

I Non-current Assets Held for Sale

Non-current assets are classified as held for sale if they are available for immediate sale in their present condition, subject only to terms that are usual and customary for sales of such assets and their sale is highly probable. They are measured at the lower of their carrying amount and fair value less costs to sell.

J Goodwill and Other Intangible Assets

Intangible assets consist of purchased intangible assets, such as standard software, licenses, patents, water rights, know-how, goodwill, and internally developed intangible assets.

Intangible assets with definite useful lives are valued at cost and are amortized on a straight-line basis over their estimated economic useful lives.

Development costs are capitalized when the requirements of IAS 38 "Intangible Assets" are fulfilled. Capitalized development costs recognized include production costs less accumulated depreciation and impairments. Production costs comprise direct material and personnel costs as well as directly attributable material and manufacturing overhead costs and production-related depreciation. Such costs are amortized on a straight-line basis over the estimated economic useful lives. Research costs are expensed in the period in which they are incurred.

The useful lives of intangible assets with definite useful lives are generally as follows:

	Years
Capitalized development costs/Technology	3–10
Software, rights, customer base etc.	2–15

Goodwill is not amortized but rather tested at least annually for impairment. Reversals of impairments on goodwill are not permitted.

At least once a year, Giesecke+Devrient evaluates the recoverability of goodwill at the cash-generating unit (CGU) level or group of CGUs applying a one-step impairment test. Where the recoverable amount (value in use equal to the present value of future cash flows) of the CGU or group of CGUs, to which the goodwill was allocated, is less than the carrying amount, an impairment loss is recognized. If the impairment loss exceeds the goodwill of the CGU, the excess is allocated to the other assets (generally property, plant and equipment and intangible assets) of the CGU or group of CGUs pro rata on the basis of the carrying amount of each asset.

The most critical assumptions in the calculation of the fair value less costs to sell and the calculation of the value in use are based upon include estimated growth rates, weighted average capital costs and tax rates. Such assumptions, as well as the underlying methodology, can materially influence the respective values and therefore impact the determination of a potential impairment of the goodwill. Where property, plant and equipment and intangible assets are included in the goodwill impairment tests, the determination of the recoverable amount is based on management estimates.

K Property, Plant and Equipment

Property, plant and equipment are valued at cost less accumulated depreciation. Depreciation of property, plant and equipment is calculated on a straight-line basis over the estimated economic useful lives of the assets. Depreciation of an asset commences once it has been placed in service.

The cost of self-constructed property, plant and equipment comprises the direct cost of materials and direct manufacturing expenses plus appropriate allocations of material and manufacturing overheads as well as production and output-related general and administrative costs.

Acquisition or manufacturing costs also include estimated dismantling and removal costs as well as costs relating to the restoration of the location to its original state.

Any investment allowances or grants received reduce the acquisition or manufacturing costs of the assets for which they were granted.

If an item of property, plant and equipment is comprised of several components with differing useful lives, the separate components are depreciated over their individual useful lives. Expenses for the day-to-day repair and maintenance of property, plant and equipment are normally charged against income.

Estimated economic useful lives of G+D's property, plant and equipment are as follows:

	Years
Buildings	up to 50
Technical equipment and machinery	2–25
Other plant and office equipment	2–23

L Impairment of Intangible Assets and Property, Plant and Equipment

Impairment of other intangible assets and items of property, plant and equipment is identified by comparing the carrying amount with the recoverable amount (the higher of fair value less costs to sell and value in use). If no future cash flows generated independently of other assets can be allocated to the individual assets, recoverability is tested on the basis of the cash-generating unit to which the assets can be allocated. With the exception of goodwill, impairment losses are reversed if the reasons for recognizing the original impairment loss no longer apply.

M Leasing

When concluding an agreement, the Group determines whether such an agreement is or contains a lease in accordance with the regulations of IFRS 16.

IFRS 16 defines a lease as a contract that conveys the right to control the use of an identified asset for a period of time in exchange for consideration. The contract conveys the right to control the use of an identified asset if the lessee has the right to obtain substantially all of the economic benefits from the use of the identified asset and has the right to direct the use of that asset.

Applying IFRS 16, as a lessee the Group records right-of-use assets and lease obligations in the amount of the present value of the payment obligations for all identified leases. According to the new regulations of IFRS 16 the Group does not distinct between operating and finance leases anymore. No right-of-use assets or lease obligations are recorded in the balance sheet for short-term leases with a lease term of up to twelve months as well as leases for which the underlying asset is of low value (the original price of the underlying asset is below 5,000 EUR). The lease payments from these contracts are recorded as expenses in the amount of the monthly lease payments. The lease components of a contract are accounted for separately from the non-lease components on the basis of the stand-alone selling price.

Applying IFRS 16, the principal portion of lease payments on lease obligations is shown in the cash flows from financing activities. Corresponding interest payments as well as lease payments for short-term leases and leases for which the underlying asset is of low value are still recorded in the cash flows from operating activities.

Lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be readily determined, the Group's incremental borrowing rate is used for discounting.

At initial recognition, right-of-use assets are measured at cost. The cost of the right-of-use assets comprise the lease liabilities as well as any lease payments made at or before the commencement date, initial direct costs and asset retirement obligations, less lease incentives received.

The subsequent measurement is carried out at amortized cost, deducting accumulated depreciation and accumulated impairment losses, in accordance with the cost model. Right-of-use assets are depreciated on a straight-line basis over the term of the lease.

If the lessee has a favorable extension option, so that it is reasonably certain that the lessee will exercise that option, the lease payments from the extension period are to be considered in the measurement of the lease obligation.

N Provisions

Pension provisions and similar obligations
Obligations for pensions and other postretirement benefits and related expenses and income are determined in accordance with actuarial measurements. These measurements are based on key assumptions, including discount rates, salary trends, pension trends, biometric probabilities and assumptions about the trend of health insurance benefits. The discount factors applied reflect the interest rates achieved at the balance sheet date for senior, fixed-interest bonds with commensurate maturities. As a result of a fluctuating market and economic situation, the underlying assumptions may deviate from the actual development, which can have a significant impact on the obligations for pensions and other postretirement benefits upon termination of employment.

Pension provisions under defined benefit plans are measured in accordance with the projected unit credit method. Thereby, not only the pensions and acquired expectancies known at the reporting date but also increase in compensation and pensions expected in the future are taken into account. Actuarial gains or losses and other remeasurements of the net obligation are determined at the reporting date and recorded through other comprehensive income (changes in equity not affecting profit or loss for the period).

In order to determine the discount rate for the measurement of the pension provisions and similar obligations, Giesecke+Devrient uses the Mercer Pension Discount Yield Curve Method. This is a method for determining the interest rate that conforms with IAS 19. The new method is based on a selection of AA-rated corporate bonds in accordance with Bloomberg analyses. Net interest expense, i.e. the interest portion of the allocation to the provision less the expected return on plan assets, is reported in interest expense. The amount payable in conjunction with defined contribution plans is reported as an expense.

When the benefits of a plan change or a plan is curtailed the resulting change in the relevant past service performance or the gain or loss from the curtailment is immediately recognized in the income statement. The Group recognizes gains and losses from the settlement of a defined benefit pension plan at the time of settlement.

Pre-retirement part-time work agreements
An obligation for pre-retirement part-time working arrangements is recognized from the point in time at which the employee is entitled under an individual agreement to the premature termination of employment. For pre-retirement part-time working arrangements in connection with the block model, the outstanding obligation for work performed by the employee during the work phase and the obligation to pay top-up amounts are measured separately. Both obligations are recorded in instalments applying actuarial principles from the start of the active phase until the end of the employment phase. In the passive phase, the present value of the future payments is provided. The net interest portion included in the pre-retirement part-time working arrangement expenses is reported as interest expense.

Product warranties
A provision for the expected warranty-related costs is established when the product is sold. Estimates of accrued warranty costs are primarily based on historical experience.

Provision for restructuring costs
A provision for restructuring costs is recorded where a legal or constructive obligation exists. A constructive obligation for restructuring costs arises only when there is a detailed formal plan identifying key features of the plan and its implementation and a valid expectation on the part of those affected, either by starting to implement the plan or announcing its main features to those affected by it. A restructuring provision should include only the direct expenditures arising from the restructuring, which are those that are both necessarily entailed by the restructuring and not associated with the ongoing activities of G+D.

Provision for onerous contracts
The calculation of provisions for onerous contracts is to a great extent based on estimates. Such estimates are mainly related to the status of the projects, the fulfillment of the services requested, changes regarding the volume of the projects, the update of budgeted costs as well as applied customized and runtime-specific discount rates.

Giesecke+Devrient records provisions for onerous contracts for contracts in which the unavoidable costs of meeting the obligations exceed the expected benefits. The unavoidable costs under a contract reflect the minimum net costs of exiting from the contract, which is the lower of the cost of fulfilling it and any compensation or penalties arising from failure to fulfill it. Before a separate provision for an onerous contract is established, any impairment loss that has occurred on assets dedicated to that contract is recognized.

Other provisions
Other provisions are recognized where there are legal or constructive obligations to third parties on the basis of past transactions or events that will probably require an outflow of resources to settle, and this outflow can be reliably measured. They are recorded at their expected settlement amount, taking into account all identifiable risks, and may not be offset against potential reimbursements, for example, via insurance claims. The settlement amount is calculated on the basis of the best estimate. Non-current provisions are discounted where the effect of the time value of money is material.

Changes in the interest rate or the amount and timing of payments applied in measuring provisions for decommissioning, restoration, and similar obligations are recognized in the same amount as the related assets to be considered. Where the decrease in the amount of a provision is greater than the carrying amount of the related asset, the excess is recognized immediately in profit or loss.

O Recognition of Revenue, Interest and Dividends

In accordance with IFRS 15, revenue is recognized when the customer gains control of the asset. In several contracts for the sale of customer specific products, especially in the cards, passports and ID business, the Group transfers control during the production phase. Revenues relating to such contracts are realized based upon the percentage of completion of the products and therefore before the delivery of the assets to the customer.

In certain instances, G+D is the general contractor concerning the construction of paper mills, special facilities (e.g. production of security products), and personalization centres. The fulfillment of these types of contracts usually extends over a long period and can last up to several years until final completion. For construction contracts, the revenue is recorded over time provided that the revenue and expenses can be estimated reliably. The percentage of completion is generally determined using the output method (e.g. agreed milestones) or the cost-to-cost method. Profit recognized in the period is calculated by multiplying the contract revenues and costs by the percentage of completion less the results recognized in prior periods.

For long-term customer contracts in which the major components consist of the production, modification, or customizing of software, revenue is generally recognized upon customer acceptance as the percentage of completion cannot be reliable determined.

Giesecke+Devrient has contractual arrangements in which it performs multiple revenue-generating activities, for example, the delivery of card bodies and personalization services. Revenue allocation is based upon the relative stand-alone selling prices of the individual components of the total arrangement.

Across all business units, the increased scope of estimations referring to variable consideration affects the amount and the timing of revenue recognition.

Interest is recognized using the effective interest method. Dividends are recognized when the shareholder's right to receive payment is established.

P Grants

Where grants are received for certain assets, they are offset against the acquisition or manufacturing costs of the related assets and therefore reduce the acquisition costs. The grants/allowances are released to the income statement in instalments in the form of a reduction of depreciation expense.

Other types of grants are recorded in the income statement in the period in which the entitlement arises.

Q Deferred Taxes

Deferred tax assets and liabilities are recognized on temporary differences between the carrying amounts in the consolidated balance sheet and the tax base, as well as for tax loss carryforwards that are expected to reduce tax expense in future periods in accordance with the liability method.

R Statement of Cash Flows

The statement of cash flows is prepared in accordance with IAS 7 and indicates the cash inflows and outflows during the fiscal year classified by cash flows from operating activities, investing activities and financing activities. Cash flows from operating activities are presented using the indirect method, in which earnings are adjusted for non-cash transactions. Moreover, items attributable to cash flows from investing activities and financing activities are eliminated. Cash flows from interest received and interest paid, as well as dividends received, are allocated to cash flows from operating activities. Cash outflows for the acquisition of additional shares in affiliated companies under common control are classified as cash flows from financing activities.

The cash flow funds comprise the balance sheet line item “cash and cash equivalents”. Cash and cash equivalents include cash on hand and cash at banks, as well as cash from funds and investments with an original maturity of up to three months.

S Change in Accounting and Valuation Policies

The IASB has published a series of pronouncements that were applied for the first time in fiscal year 2021. These had no major impact on the consolidated financial statements of G+D.

T New and Changed Accounting Pronouncements

The IASB has published further standards, interpretations and amendments to existing standards whose application is not yet mandatory and which have not been early adopted in the consolidated financial statements. Those new standards and amendments are expected to have no material impact on the net assets, financial position, and results of operations of the Group.

2 Financial Assets

Financial assets are comprised of the following as of December 31, 2021 and 2020:

EUR million	Dec 31, 2021	Dec 31, 2020
Current		
Short-term investments (> 3 months and < 1 year)	51.6	0.5
Trading securities	74.8	75.1
Investment securities	30.5	9.3
Derivative financial instruments	0.2	5.0
Loans receivable from related parties	20.0	3.5
	177.1	**93.4**
Non-current		
Cash surrender value of reinsurance	19.8	19.8
Loans receivable from related parties	–	0.7
Loans receivable from associated companies	–	2.1
Loans to third parties	0.9	0.4
Investment securities	1.8	1.9
	22.5	**24.9**

Investment securities have been recorded at fair value in the amount of EUR 32.3 million as of December 31, 2021 and EUR 11.2 million as of December 31, 2020. The fair value represents the fair market value.

3 Accounts Receivable Trade and Other Accounts Receivable, net

Accounts receivable trade and other accounts receivable, net comprise the following as of December 31, 2021 and 2020:

EUR million	Dec 31, 2021	Dec 31, 2020
Current		
Accounts receivable trade	431.2	465.0
Accounts receivable from joint ventures and associated companies	0.9	0.6
Accounts receivable from related parties	0.1	0.8
Accounts receivable from shareholders	–	0.1
Other	17.9	19.2
Prepayments	45.4	129.9
	495.5	**615.6**
Allowance for doubtful accounts	(53.9)	(33.0)
	441.6	**582.6**
Non-current		
Accounts receivable trade	9.7	8.5
Prepayments on property, plant and equipment	3.6	2.6
Prepayments on intangible assets	–	0.8
	13.3	**11.9**

Aging structure of accounts receivable trade and other accounts receivable (excluding prepayments) as of December 31, 2021:

EUR million	Not past due	past due 1–30 days	past due 31–90 days	past due 91–180 days	past due 181–360 days	past due more than 360 days	Total
Accounts receivable trade and other accounts receivable	323.4	44.1	22.7	13.6	10.1	45.9	459.8
Less allowance for doubtful accounts on accounts receivable trade and other accounts receivable	(8.7)	(0.6)	(0.2)	(0.4)	(0.6)	(43.4)	(53.9)
Accounts receivable trade and other accounts receivable, net	**314.7**	**43.5**	**22.5**	**13.2**	**9.5**	**2.5**	**405.9**
Average credit losses in %	–	1.4	0.9	2.9	5.9	94.6	11.7

Aging structure of accounts receivable trade and other accounts receivable (excluding prepayments) as of December 31, 2020:

EUR million	Not past due	past due 1–30 days	past due 31–90 days	past due 91–180 days	past due 181–360 days	past due more than 360 days	Total
Accounts receivable trade and other accounts receivable	347.6	47.2	18.5	19.9	17.1	43.9	494.2
Less allowance for doubtful accounts on accounts receivable trade and other accounts receivable	(0.1)	–	(0.8)	(0.2)	(0.3)	(31.6)	(33.0)
Accounts receivable trade and other accounts receivable, net	**347.5**	**47.2**	**17.7**	**19.7**	**16.8**	**12.3**	**461.2**
Average credit losses in %	–	–	4.3	1.0	1.8	72.0	6.7

The allowances for expected credit losses for accounts receivable trade and other accounts receivable are as follows:

EUR million			2021			2020
	Estimated credit losses (impaired)	Estimated credit losses (not impaired)	Total	Estimated credit losses (impaired)	Estimated credit losses (not impaired)	Total
Balance as of January 1	**27.9**	**5.1**	**33.0**	**11.4**	**3.8**	**15.2**
Changes in consolidation structure	–	–	–	(0.8)	–	(0.8)
Additions (through profit or loss)	25.9	0.2	26.1	21.0	1.7	22.7
Recoveries (through profit or loss)	(1.9)	(2.3)	(4.2)	(2.9)	(0.4)	(3.3)
Write-offs	(1.3)	–	(1.3)	(0.5)	–	(0.5)
Transfers	0.1	–	0.1	–	–	–
Foreign currency effects	0.2	–	0.2	(0.3)	–	(0.3)
Balance as of December 31	**50.9**	**3.0**	**53.9**	**27.9**	**5.1**	**33.0**

The allowances for expected credit losses (impaired) relate to several customers that disclosed that they would not be able to settle the outstanding balances due to their economic circumstances.

Accounts receivable trade and other accounts receivable which have neither been impaired nor are past due as of the balance sheet date amounted to EUR 314.7 million and EUR 347.5 million as of December 31, 2021 and 2020. G+D anticipates that the full amount of accounts receivable which have neither been impaired nor are past due are collectible. There is no indication that the debtors will not be able to meet their payment obligations. This estimate is based on the payment history as well as extensive analysis relating to the customer default risk.

Allowances for doubtful accounts on accounts receivable from joint ventures, associated companies, as well as related parties were not recorded.

In 2015, the Group entered into a service concession arrangement with a foreign authority for the construction and operation of a common factory for the production of identification cards and passports (BOT model = Build-Operate-Transfer). In addition to the one-year construction phase, it also provides for a ten-year operational phase.

A common investment budget was established for the construction of the factory. The Group bears 60.0 % of the budget and the contract partner 40.0 %. The major tasks of the Group are the initial planning of the factory, the procurement of the machinery required, the construction of the production plant, as well as the cash funding (construction phase). The Group is responsible for the business operations for a period of ten years (with a possibility of extension for another five years), whereas the contractual partners are entitled to the earnings before interest, taxes, depreciation and amortization (EBITDA) of the factory in proportion to their investment shares (60/40) to be distributed on a yearly basis. The contract partner has guaranteed a minimum order quantity of identification cards and passports for each year of the operational phase.

The Group is responsible for maintaining the operational readiness of the factory during the operational phase. The ownership of the factory is transferred to the grantor after the termination of the operational period.

The service concession arrangement is categorized as a "financial asset model".

In 2015, a cash payment of EUR 2.7 million was made within the scope of the construction phase which was recorded as deferred charges in accounts receivable trade and other accounts receivable. As this cash payment has not been utilized yet, these remain unchanged within deferred charges as of December 31, 2021.

The selection process for suitable land was completed and decided at the end of 2017. In 2018 and 2019, G+D continuously rendered services for the construction of the passport factory. The construction of the passport factory was completed in 2019. Accounts receivable in the amount of EUR 12.3 million and EUR 11.9 million were recorded as non-current contract assets as of December 31, 2021 and 2020, since the revenues cannot be realized until the operational phase.

In fiscal year 2021, G+D did not record any net income or expense as the revenues were equal to the corresponding expenses.

4 Inventories, net

Inventories are comprised of the following as of December 31, 2021 and 2020:

EUR million	Dec 31, 2021	Dec 31, 2020
Raw materials	127.6	116.0
Work in process	91.9	113.3
Finished goods	9.2	20.8
Merchandise	54.0	29.3
Spare parts, modules, sensors – Currency Management Solutions	55.7	61.6
	338.4	**341.0**

In fiscal years 2021 and 2020, write-downs on inventory amounted to EUR 20.0 million and EUR 28.9 million, respectively.

The carrying value of inventory which serves as collateral for financial liabilities (see Note 13 "Financial Liabilities") amounted to EUR 0.0 million as of December 31, 2021 and 2020, respectively.

5 Other Current Assets

EUR million	Dec 31, 2021	Dec 31, 2020
Taxes receivable (other than income taxes)	26.0	24.8
Restricted cash	9.6	9.7
Other	5.3	3.6
	40.9	**38.1**

6 Investments

Investments include the following:

EUR million	Dec 31, 2021	Dec 31, 2020
Investments accounted for under the equity method	43.4	43.8
Investments in other related parties	10.8	5.5
	54.2	**49.3**

The following investments (see Note 1c "Consolidated Group and Principles of Consolidation") are accounted for using the equity method of accounting:

	Interest in the company
Name of the joint venture	
Podsystem MX SAPI de CV, León	51.0 %
Shenzen Giesecke & Devrient Currency Automation Systems Co. Ltd., Shenzen	50.0 %
E-Kart Elektronik Kart Sistemleri Sanayi ve Ticaret Anonim Sirketi, Gebze	50.0 %
UGANDA SECURITY PRINTING COMPANY (USPCL) LIMITED, Entebbe	29.4 %
Name of the associated company	
Build38 GmbH, Munich[1]	31.2 %
Netcetera Group AG, Zurich	30.0 %
Emirates German Security Printing L.L.C., Abu Dhabi	29.4 %
Netset Global Solutions d.o.o., Belgrade	24.0 %

[1] The shares were reduced

Joint Ventures

Podsystem MX SAPI de CV serves as a sales office for the Pod Group.

Shenzen Giesecke & Devrient Currency Automation Systems Co. Ltd. sells and installs banknote processing systems.

E-Kart Elektronik Kart Sistemleri Sanayi ve Ticaret Anonim Sirketi manufactures and sells cards, card systems, and card-based solutions.

UGANDA SECURITY PRINTING COMPANY (USPCL) LIMITED., Uganda is manufacturing passports and identity documents for the local market.

Associated companies

The purpose of the company Build38 GmbH is the development and distribution of software solutions as service provider for third parties, including related consulting services.

Effective September 18, 2020, G+D acquired 30.0 % of the shares in Netcetera Group AG. Netcetera Group AG is engaged in IT related services as well as in the distribution of products of the IT business.

Emirates German Security Printing L.L.C. merchandises and sells security devices in the United Arab Emirates and other states of the Arabian Peninsula.

Netset Global Solutions d.o.o. develops specialized information systems with integrated information protection for electronic identification, for large national registers, for smart card applications and cryptographic solutions.

Investments in other related parties

G+D owns 8.5 % of the shares Brighter AI Technologies GmbH, Berlin, 6.5 % of the shares in FINANCIAL NETWORK ANALYTICS LTD, London, 5.1 % of the shares in IDnow GmbH, Munich, 3.9 % of the shares in Metaco SA, Lausanne, and 1.0 % of the shares in Verimi GmbH, Frankfurt am Main. As G+D classifies its influence on these investments as not significant, these investments are classified as investments in other related parties. The investments are classified as held-to-collect and sell and measured at fair value through other comprehensive income.

Joint Ventures and associated companies

The following table summarizes the financial information for material joint ventures and associated companies based on their financial statements prepared in accordance with IFRS. This information is adjusted for fair value adjustments at acquisition and differences in the Group accounting policies:

EUR million	Joint Venture Shenzen Giesecke & Devrient Currency Automation Systems Co. Ltd.	
	2021	**2020**
Revenues	15.1	19.2
Profit from continuing operations	–	4.3
thereof depreciation and amortization	(0.7)	(0.8)
thereof interest income/(expense)	(0.1)	(0.1)
thereof income taxes	(0.9)	(1.1)
Other comprehensive income	0.2	(0.3)
Total comprehensive income	**0.2**	**4.0**
Group's share of total comprehensive income	0.1	2.0
Elimination of intercompany profits	0.2	0.4
Group's share of total comprehensive income	**0.3**	**2.4**
Dividends received during the year	**(1.8)**	**(2.1)**
Current assets	12.1	13.4
thereof cash and cash equivalents	9.0	4.4
Non-current assets	3.3	4.9
Current liabilities	(3.0)	(6.0)
Non-current liabilities	(3.9)	(0.4)
thereof non-current financial liabilities	(3.7)	–
Net assets	**8.5**	**11.9**
Group's share of net assets	4.2	5.9
Elimination of intercompany profits	(0.1)	(0.3)
Carrying amount of interest in joint venture at year end	**4.1**	**5.6**

Non-material joint ventures

The following table summarizes the financial information for the Group's share in non-material joint ventures based on the amounts as reported in the Group's financial statements:

EUR million	**Dec 31, 2021**	**Dec 31, 2020**
Carrying amount of interest in non-material joint ventures	**5.6**	**4.3**
Share of		
Capital increase	–	1.4
Gain/(Loss) from continuing operations	1.3	–
Other comprehensive income	–	(0.2)
Total comprehensive income	**1.3**	**(0.2)**

Non-material associated companies

The following table summarizes the financial information for the Group's share in non-material associated companies based on the amounts as reported in the Group's financial statements:

EUR million	Dec 31, 2021	Dec 31, 2020
Carrying amount of interest in non-material associated companies[1]	**33.7**	**33.9**
Share of		
Capital increase	2.1	–
Gain/(Loss) from continuing operations	(2.3)	(1.1)
Total comprehensive income	**(2.3)**	**(1.1)**

[1] The associated company Netcetera Group AG is classified as non-material. For this reason, the previous year amounts are also disclosed in non-material associated companies.

7 Intangible Assets

A summary of the activity for goodwill and other intangible assets is as follows:

EUR million	Customer base/ Rights	Development costs/ Technology	Software	Goodwill	Total
Costs					
January 1, 2020	**39.4**	**128.4**	**180.0**	**68.9**	**416.7**
Additions	0.9	12.7	9.9	–	23.5
Transfers	0.1	–	0.3	–	0.4
Changes in consolidation structure	(0.8)	–	(0.3)	–	(1.1)
Disposals	–	–	(0.9)	–	(0.9)
Foreign currency effects	(1.2)	0.9	(1.7)	0.8	(1.2)
December 31, 2020	**38.4**	**142.0**	**187.3**	**69.7**	**437.4**
January 1, 2021	**38.4**	**142.0**	**187.3**	**69.7**	**437.4**
Additions	0.2	16.4	11.1	–	27.7
Transfers	0.1	(0.9)	0.9	–	0.1
Changes in consolidation structure	3.5	2.2	4.4	17.9	28.0
Disposals	(1.8)	(3.4)	(8.8)	–	(14.0)
Foreign currency effects	1.3	(0.2)	1.6	(0.3)	2.4
December 31, 2021	**41.7**	**156.1**	**196.5**	**87.3**	**481.6**

The additions in 2021 and 2020 comprise self-constructed intangible assets in the amount of EUR 19.8 million and EUR 15.6 million, respectively.

EUR million	Customer base/ Rights	Development costs/ Technology	Software	Goodwill	Total
Accumulated amortization					
January 1, 2020	**27.6**	**86.1**	**124.0**	**1.7**	**239.4**
Additions	2.4	11.2	14.8	–	28.4
Changes in consolidation structure	(0.7)	–	(0.3)	–	(1.0)
Impairment losses	0.1	–	4.5	–	4.6
Disposals	–	–	(0.9)	–	(0.9)
Foreign currency effects	(1.1)	0.9	(1.0)	–	(1.2)
December 31, 2020	**28.3**	**98.2**	**141.1**	**1.7**	**269.3**
January 1, 2021	**28.3**	**98.2**	**141.1**	**1.7**	**269.3**
Additions	2.8	10.1	15.4	–	28.3
Transfers	–	(0.4)	0.4	–	–
Impairment losses	–	5.0	2.6	–	7.6
Disposals	(1.8)	(3.4)	(8.7)	–	(13.9)
Foreign currency effects	1.2	(0.3)	0.9	–	1.8
December 31, 2021	**30.5**	**109.2**	**151.7**	**1.7**	**293.1**
Carrying value					
January 1, 2020	11.8	42.3	56.0	67.2	177.3
December 31, 2020	10.1	43.8	46.2	68.0	168.1
December 31, 2021	**11.2**	**46.9**	**44.8**	**85.6**	**188.5**

The amounts of amortization of intangible assets recorded in the functional areas of the income statement are as follows:

EUR million	2021	2020
Cost of goods sold	20.7	19.1
Selling expenses	1.2	1.1
Research and development expenses	0.7	0.2
General and administrative expenses	5.7	8.0
	28.3	**28.4**

In fiscal year 2021, impairment losses in the amount of EUR 2.6 million were recorded on software and EUR 0.4 million on development costs within cost of goods sold, EUR 1.5 million were recorded within research and development expenses, EUR 2.5 million were recorded within general and administration expenses and EUR 0.6 million were recorded within selling expenses. In the prior year, EUR 4.5 million impairment losses were recorded on software within general and administration expenses.

The goodwill from CI Tech Components AG in the amount of EUR 14.0 million (prior year EUR 14.0 million), as well as the goodwill from Giesecke+Devrient Currency Technology Netherlands B.V. in the amount of EUR 4.8 million (prior year EUR 4.8 million), were allocated to the CGU “Currency Management Solutions”. As the CGU “Currency Management Solutions” business is mainly conducted in Euro, these goodwills are recorded in Euro. The goodwill from secunet AG in the amount of EUR 10.9 million (prior year EUR 5.2 million) was assigned to the “secunet” CGU. In fiscal year 2021, there was an increase in goodwill in the amount of EUR 5.7 million. This increase results from acquired shares as part of a share deal in the associated company stashcat GmbH. Sensitivity analyses are not required since the recoverability of these goodwills is not deemed to be critical.

The goodwill from Veridos Matsoukis S.A. Security Printing in the amount of EUR 2.1 million (prior year EUR 2.1 million) and the goodwill from Veridos GmbH in the amount of EUR 4.4 million (prior year EUR 4.4 million), as well as the goodwill from E-SEEK Inc. in the amount of EUR 3.9 million (prior year 3.6 EUR million), recognized within the acquisition of the companies were allocated to the “Veridos” CGU. The goodwill from Giesecke+Devrient Mobile Security Sweden AB in the amount of EUR 28.5 million (prior year EUR 29.1 million) was assigned to the business sector “Mobile Security” and thereby to the divisional CGUs “Secure Transactions + Services ” in the amount of EUR 8.1 million (prior year EUR 8.3 million), and “Trusted Connected Devices” in the amount of EUR 20.4 million (prior year EUR 20.8 million). The goodwill acquired in the connection with the purchase of C.P.S. Technologies S.A.S. in the amount of EUR 0.5 million (prior year EUR 0.5 million) was allocated to the CGU “Secure Transactions + Services” . The goodwill from the acquisition of the Crédit Agricole's personalization business in the amount of EUR 4.3 million (prior year EUR 4.3 million) was also allocated to the CGU “Secure Transactions + Services“. The goodwill from the acquisition of the Pod Group in the amount of EUR 12.2 million was allocated to the CGU “Trusted Connected Devices“.

In performing the impairment tests for goodwill, the recoverable amount of the CGU is based on the value in use. The value in use is the present value of the future cash flows expected to be derived from the CGU. Since 2014, the cash flow projections are based upon G+D’s five-year plans. The cash flows for the CGU “secunet” were determined using the planning assumptions of an average EBITDA margin of 18.3 % (prior year 17.7 %) during the planning period and perpetual growth rate of 1.0 % (prior year 1.0 %). The cash flows for the CGU “Veridos” were determined using the planning assumptions of an average EBITDA margin of 11.3 % (prior year 10.9 %) during the planning period and perpetual growth rate of 1.0 % (prior year 0.0 %). The cash flows for the CGUs “Secure Transactions + Services“ und “Trusted Connected Devices“ were determined using the planning premises of average EBITDA margins of 12.1 % and 11.0 % (prior year 12.3 % and 11.4 %) during the planning period and perpetual growth rate of 1.0 % (prior year 1.0 %). The cash flows for the CGU “Currency Management Solutions” were determined using the planning premises of average EBITDA margin of 11.4 % (prior year 11.5 %) during the planning period and perpetual growth rate of 1.0 % (prior year 0.0 %).

In discounting the cash flows of the “secunet” CGU, pre-tax interest rate of 11.2 % was used in 2021 and 10.5 % in 2020. For the CGU “Currency Management Solutions“, a pre-tax interest rate of 11.3 % was applied in 2021 and 10.7 % in 2020. In discounting the cash flows of the “Veridos” CGU, a pre-tax interest rate of 12.8 % was applied in 2021 and 10.3 % in 2020. In discounting the cash flows of the “Secure Transactions + Services” and “Trusted Connected Devices” CGUs, a pre-tax interest rate of 12.0 % was used in 2021 and 11.4 % in 2020. Impairments on goodwill were not recorded in fiscal years 2021 and 2020.

A sensitivity analysis was carried out for the goodwill in the CGU “Veridos”. An increase in the interest rate from 12.8 % to 20.9 % ceteris paribus as of December 31, 2021 would result in a first time impairment loss. A reduction in the cash flows for the terminal value ceteris paribus from EUR 40.9 million to EUR 15.7 million as of December 31, 2021 would result in an impairment loss. The headroom amounted to EUR 124.9 million as of December 31, 2021.

A sensitivity analysis was carried out for the goodwill in the CGUs “Secure Transactions + Services“ and “Trusted Connected Devices“ . An increase in the interest rate ceteris paribus from 12.0 % to 16.2 % for “Secure Transactions + Services“ as of December 31, 2021, from 12.0 % to 15.6 % for “Trusted Connected Devices“ would result in a first time impairment loss. A reduction in the cash flows for the terminal value ceteris paribus from EUR 41.5 million to EUR 22.9 million for “Secure Transactions + Services“ as of December 31, 2021, from EUR 22.9 million to EUR 13.9 million for “Trusted Connected Devices“ would result in an impairment loss. The headroom amounted to EUR 149.1 as of December 31, 2021.

No intangible assets serve as collateral for financial liabilities (see Note 13 “Financial Liabilities”) as of December 31, 2021 and 2020, respectively.

8 Property, Plant and Equipment

A summary of the activity for property, plant and equipment[1] is as follows:

EUR million	Land and buildings[1]	Technical equipment and machinery[1]	Other plant and office equipment[1]	Construction in process	Total
Costs					
January 1, 2020	**525.8**	**777.0**	**225.9**	**37.5**	**1,566.2**
Additions	35.2	33.6	20.7	11.3	100.8
Transfers	31.9	32.1	–	(33.5)	30.5
Changes in consolidation structure	–	(0.4)	(9.2)	–	(9.6)
Disposals	(5.1)	(11.1)	(8.7)	–	(24.9)
Foreign currency effects	(7.3)	(18.3)	(4.1)	(0.3)	(30.0)
December 31, 2020	**580.5**	**812.9**	**224.6**	**15.0**	**1,633.0**
January 1, 2021	**580.5**	**812.9**	**224.6**	**15.0**	**1,633.0**
Additions	12.7	21.0	22.4	12.9	69.0
Transfers	0.2	10.2	5.8	(11.8)	4.4
Changes in consolidation structure	–	0.1	0.1	–	0.2
Disposals	(8.3)	(14.2)	(13.2)	–	(35.7)
Foreign currency effects	6.9	15.4	3.6	0.1	26.0
December 31, 2021	**592.0**	**845.4**	**243.3**	**16.2**	**1,696.9**

[1] Including assets under leases (see Note 9 “Leasing”).

EUR million	Land and buildings[1]	Technical equipment and machinery[1]	Other plant and office equipment[1]	Construction in process	Total
Accumulated depreciation					
January 1, 2020	**259.7**	**609.6**	**164.0**	**–**	**1,033.3**
Additions	31.2	45.4	23.2	–	99.8
Transfers	17.5	–	(0.2)	–	17.3
Changes in consolidation structure	–	(0.4)	(8.6)	–	(9.0)
Impairment losses	2.5	–	–	–	2.5
Disposals	(0.6)	(10.6)	(8.3)	–	(19.5)
Foreign currency effects	(3.7)	(13.6)	(3.2)	–	(20.5)
December 31, 2020	**306.6**	**630.4**	**166.9**	**–**	**1,103.9**
January 1, 2021	**306.6**	**630.4**	**166.9**	**–**	**1,103.9**
Additions	32.4	43.3	23.8	–	99.5
Transfers	0.1	(0.1)	2.8	–	2.8
Impairment losses	1.6	3.0	–	–	4.6
Disposals	(7.5)	(14.0)	(12.8)	–	(34.3)
Foreign currency effects	4.3	12.3	3.0	–	19.6
December 31, 2021	**337.5**	**674.9**	**183.7**	**–**	**1,196.1**
Carrying value					
January 1, 2020	266.1	167.4	61.9	37.5	532.9
December 31, 2020	273.9	182.5	57.7	15.0	529.1
December 31, 2021	**254.5**	**170.5**	**59.6**	**16.2**	**500.8**

In fiscal years 2021 and 2020, Giesecke+Devrient recorded impairments amounting to EUR 4.6 million (previous year EUR 2.5 million) on property, plant and equipment in cost of goods sold.

The carrying value of property, plant and equipment which serves as collateral for financial liabilities (see Note 13 "Financial Liabilities") amounted to EUR 0.0 million and EUR 6.9 million as of December 31, 2021 and 2020, respectively.

Commitments for the purchase of property, plant and equipment amounted to EUR 20.0 million and EUR 18.8 million as of December 31, 2021 and 2020, respectively.

9 Leasing

As a lessee, Giesecke+Devrient rents various lease objects. This includes land and buildings, manufacturing facilities, electronic data processing equipment, motor vehicles and other office equipment. Lease contracts are negotiated for different terms and may include extension or cancellation options. The conditions are negotiated individually and include various conditions.

The Group includes right-of-use assets within property, plant and equipment in the consolidated balance sheet. A summary of the activity for right-of-use assets is as follows:

EUR million	Land and buildings	Technical equipment and machinery	Other plant and office equipment	Total
January 1, 2020	**70.4**	**3.1**	**5.4**	**78.9**
Additions	28.4	0.5	2.8	31.7
Disposals	(4.3)	–	(0.3)	(4.6)
Depreciation	(18.5)	(1.6)	(3.1)	(23.2)
Foreign currency effects	(2.3)	(0.2)	(0.1)	(2.6)
December 31, 2020	**73.7**	**1.8**	**4.7**	**80.2**
January 1, 2021	**73.7**	**1.8**	**4.7**	**80.2**
Additions	7.7	1.2	3.0	11.9
Disposals	(0.4)	–	(0.2)	(0.6)
Depreciation	(19.9)	(0.9)	(2.9)	(23.7)
Foreign currency effects	1.7	0.1	0.1	1.9
December 31, 2021	**62.8**	**2.2**	**4.7**	**69.7**

The lease obligations are recorded as current lease obligations and non-current lease obligations in the consolidated balance sheet.

The following expenses were recorded in the income statement due to leases:

EUR million	2021	2020
Depreciation on right-of-use assets	(23.7)	(23.2)
Interest expense from lease obligations	(1.4)	(1.7)
Expenses for short-term leases	(0.5)	(2.0)
Expenses from leases for low value assets	(0.5)	(0.5)
	(26.1)	**(27.4)**

The total cash outflows for leases in 2021 amounted to EUR 25.2 million (prior year EUR 25.8 million).

The future cash outflows from lease payments amount to:

EUR million	
Less than one year	20.1
Between one and five years	44.1
More than five years	11.1
Total minimum lease payments	75.3
Less amount representing interest	(2.9)
Present value of net minimum lease payments	**72.4**

The present value of net minimum lease payments is as follows:

EUR million	
Less than one year	19.1
Between one and five years	42.5
More than five years	10.8
Present value of net minimum lease payments	**72.4**

Potential future cash outflows in the amount of EUR 30.8 million EUR (prior year EUR 21.2 million) were not included in the lease obligations as it is not reasonably certain that the leases will be extended or not cancelled.

Regarding the summary of the activity for lease obligations, refer to Note 13 "Financial Liabilities".

10 Accounts Payable Trade and Other Accounts Payable

EUR million	Dec 31, 2021	Dec 31, 2020
Current		
Accounts payable trade due to third parties	322.1	374.7
Accounts payable due to related parties	–	0.1
Accounts payable due to associated companies and joint ventures	0.9	0.7
Other similar liabilities	–	2.4
	323.0	**377.9**

11 Provisions

EUR million	Warranties	Personnel-related costs	Licenses and patent infringements	Onerous contracts	Restructuring	Other	Total
January 1, 2021	**55.5**	**16.0**	**1.6**	**9.4**	**3.3**	**19.8**	**105.6**
Additions	26.2	5.8	0.1	10.5	4.4	14.7	61.7
Transfers	(0.9)	–	–	(0.1)	–	0.6	(0.4)
Utilization	(4.0)	(5.9)	(0.6)	(3.8)	(2.8)	(6.0)	(23.1)
Release	(14.3)	–	(0.1)	(2.9)	(1.1)	(3.6)	(22.0)
Foreign currency effects	0.5	–	–	–	–	0.5	1.0
December 31, 2021	**63.0**	**15.9**	**1.0**	**13.1**	**3.8**	**26.0**	**122.8**
thereof current	63.0	9.5	1.0	13.1	3.7	17.9	108.2
thereof non-current	–	6.4	–	–	0.1	8.1	14.6

Personnel-related provisions include obligations for pre-retirement part-time working arrangements and long-service awards. The interest component on pre-retirement part time working arrangements and long-service awards in the amount of EUR 0.1 million is included in interest expense.

Provisions for restructuring mainly consist of provisions relating to personnel measures.

Other provisions include, in particular, provisions for penalties, withholding tax obligations, asset retirement obligations and litigation.

12 Other Current Liabilities

EUR million	Dec 31, 2021	Dec 31, 2020
Payroll and social security taxes	119.9	93.4
Sales and other taxes	28.7	29.3
Other liabilities	10.3	13.4
	158.9	**136.1**

13 Financial Liabilities

Financial liabilities consist of the following as of December 31, 2021 and 2020:

EUR million	Dec 31, 2021	Dec 31, 2020
Current		
Short-term borrowings due to financial institutions	0.5	5.5
Current portion of debt due to financial institutions	15.5	13.4
Current portion of debt due to Giesecke+Devrient Foundation	4.3	–
Accrued interest on debt to financial institutions	1.4	1.7
Derivative financial instruments	0.7	0.5
Total current portion of financial liabilities	**22.4**	**21.1**
Non-current		
Unsecured notes payable to financial institutions, interest rates 0.13 % to 1.74 %, due through July 29, 2029	298.0	429.0
Unsecured notes payable to Giesecke+Devrient Foundation, interest rate 1.22 %, due through May 10, 2025	21.0	21.0
Unsecured notes payable to Giesecke+Devrient Foundation Geldscheinsammlung, interest rate 1.00 %, due through November 17, 2023	0.4	–
Unsecured notes payable to other third parties, interest rates 1.25 % to 3.03 %, due through September 30, 2026	27.1	27.1
Mortgage notes payable to financial institutions, interest rate 1.57 %, due through March 31, 2023	2.7	4.8
Total	**349.2**	**481.9**
Less current portion of non-current financial liabilities	(19.8)	(13.4)
Total non-current portion of financial liabilities	329.4	468.5
Total financial liabilities	**351.8**	**489.6**

The aggregate maturities of financial liabilities for each of the following years are as follows:

EUR million	
2022	22.4
2023	87.3
2024	18.0
2025	104.2
2026	43.1
thereafter	76.8
	351.8

A summary of the activity for financial liabilities is as follows as of December 31, 2021 and 2020:

EUR million	Non-current borrowings (incl. short-term portion)	Current borrowings	Derivative financial instruments	Sum of financial liabilities	Lease obligations[1]	Total
Carrying value January 1, 2020	**455.8**	**20.1**	**5.4**	**481.3**	**80.9**	**562.2**
Repayments during the period	(27.4)	(4.2)	–	(31.6)	(21.6)	(53.2)
New borrowings	42.8	3.1	–	45.9	–	45.9
Total change in cash flow from financing activities	15.4	(1.1)	–	14.3	(21.6)	(7.3)
New lease contracts	–	–	–	–	30.7	30.7
Termination of lease contracts	–	–	–	–	(4.9)	(4.9)
Other changes	–	(0.1)	–	(0.1)	–	(0.1)
Fair value changes	–	–	(4.9)	(4.9)	–	(4.9)
Transfers	11.2	(11.2)	–	–	–	–
Currency effects	(0.5)	(0.5)	–	(1.0)	(2.7)	(3.7)
Carrying value December 31, 2020	**481.9**	**7.2**	**0.5**	**489.6**	**82.4**	**572.0**
Fair value December 31, 2020	**470.2**	**7.2**	**0.5**	**477.9**	**82.4**	**560.3**
Carrying value January 1, 2021	**481.9**	**7.2**	**0.5**	**489.6**	**82.4**	**572.0**
Repayments during the period	(137.0)	(5.5)	–	(142.5)	(22.8)	(165.3)
New borrowings	0.4	0.5	–	0.9	–	0.9
Total change in cash flow from financing activities	(136.6)	(5.0)	–	(141.6)	(22.8)	(164.4)
New lease contracts	–	–	–	–	11.2	11.2
Termination of lease contracts	–	–	–	–	(0.5)	(0.5)
Acquisitions	3.6	–	–	3.6	–	3.6
Other changes	–	(0.3)	–	(0.3)	–	(0.3)
Fair value changes	–	–	0.2	0.2	–	0.2
Currency effects	0.3	–	–	0.3	2.1	2.4
Carrying value December 31, 2021	**349.2**	**1.9**	**0.7**	**351.8**	**72.4**	**424.2**
Fair value December 31, 2021	**351.5**	**1.9**	**0.7**	**354.1**	**72.4**	**426.5**

[1] For additional information regarding lease obligations refer to Note 9 "Leasing".

Lines of credit

Giesecke+Devrient maintains global credit facilities in the amount of EUR 1,027.6 million (prior year EUR 792.6 million). As of December 31, 2021, G+D used EUR 262.6 million (prior year EUR 310.8 million) of these facilities for bank guarantees, EUR 4.5 million (prior year EUR 9.5 million) for credit orders and EUR 0.0 million (prior year EUR 0.0 million) due to other third parties. Thus, EUR 760.5 million (prior year EUR 472.3 million) in credit lines were not used as of the reporting date.

14 Pensions and Related Liabilities

Description of the plans

Giesecke+Devrient maintains defined benefit pension plans for a considerable number of employees in Germany and at a few subsidiaries abroad. These defined benefit pension plans charge the Group with actuarial risks such as longevity risks, currency exchange risks and interest rate risks.

In addition to the number of years of service, the defined benefit pension plans are based on the current salary received or are dependent on the final salary. For most of the employees who had employment contracts from January 1, 2002 onwards with a German Group company, the pension plan is based on pension components whose benefits are adjusted each year by 1.0 %. Furthermore, employees in German Group companies are granted the right to use particular salary components for future pension payments.

The measurement date for the calculation of the DBO for the principal pension plans and the other key postretirement benefits is December 31.

Payment obligations exist for defined contribution state pension plans in Germany and abroad.

For new employees joining G+D after January 1, 2014, the existing defined contribution plan was terminated. For employees joining the company from January 1, 2014 on, an externally financed pension obligation was introduced.

Total provisions for pensions and related liabilities

Obligations under the Giesecke+Devrient pension plans and other postretirement benefit plans are comprised of the following:

EUR million	Dec 31, 2021	Dec 31, 2020
Pension benefits	680.6	707.4
Other postretirement benefits	3.5	3.7
Other	0.9	0.8
Total accrual for pension and related liabilities	**685.0**	**711.9**

Pensions and other postretirement benefits

Details of the changes in the defined benefit obligation, the current value of plan assets and the other postretirement benefits are summarized in the following tables:

EUR million	Pension benefit plans		Other postretirement benefit plans	
	Dec 31, 2021	Dec 31, 2020	Dec 31, 2021	Dec 31, 2020
Change in defined benefit obligation				
Defined benefit obligation at beginning of year	**716.4**	**681.8**	**3.7**	**2.5**
Foreign currency exchange rate differences	0.1	–	(0.1)	(0.3)
Service cost	7.6	8.4	0.4	0.3
Interest cost	8.0	9.7	0.2	0.2
Past service cost	(0.4)	–	–	0.4
Plan amendments	(0.4)	–	–	0.4
Additions/(disposals) due to changes in consolidation structure	(0.1)	(10.1)	–	–
Actuarial (gains)/losses	(25.0)	41.1	(0.5)	0.8
due to demographic parameter changes	–	0.2	(0.1)	0.1
due to financial parameter changes	(23.4)	38.1	(0.4)	0.7
due to experience adjustments	(1.6)	2.8	–	0.1
Benefits paid	(16.6)	(14.5)	(0.2)	(0.2)
Defined benefit obligation at end of year	**690.0**	**716.4**	**3.5**	**3.7**
Change in plan assets				
Fair value of plan assets at beginning of year	**9.0**	**16.1**	**–**	**–**
Foreign currency exchange rate differences	–	0.2	–	–
Additions/(disposals) due to changes in consolidation structure	–	(7.7)	–	–
Employer contributions	0.4	0.4	–	–
Fair value of plan assets at end of year	**9.4**	**9.0**	**–**	**–**
Net amount recognized at end of year	**680.6**	**707.4**	**3.5**	**3.7**

Net liability recorded

The development of the net liability recorded in fiscal years ended December 31, 2021 and 2020 is as follows:

EUR million	Pension benefit plans		Other postretirement benefit plans	
	Dec 31, 2021	Dec 31, 2020	Dec 31, 2021	Dec 31, 2020
Net liability at beginning of year	**707.4**	**665.7**	**3.7**	**2.5**
Service cost	7.6	8.4	0.4	0.3
Past service cost	(0.4)	–	–	0.4
Plan amendments	(0.4)	–	–	0.4
Interest expense/(income)	8.0	9.7	0.2	0.2
Additions/(disposals) due to changes in consolidation structure	(0.1)	(2.4)	–	–
Actuarial (gains)/losses	(25.0)	41.1	(0.5)	0.8
due to demographic parameter changes	–	0.2	(0.1)	0.1
due to financial parameter changes	(23.4)	38.1	(0.4)	0.7
due to experience adjustments	(1.6)	2.8	–	0.1
Benefits paid (excluding plan settlements)	(16.6)	(14.5)	(0.2)	(0.2)
Employer contributions	(0.4)	(0.4)	–	–
Foreign currency exchange rate differences	0.1	(0.2)	(0.1)	(0.3)
Net liability at end of year	**680.6**	**707.4**	**3.5**	**3.7**

Plan assets

The plan assets were invested in the following classes of assets:

Information as % of plan assets	Dec 31, 2021	Dec 31, 2020
Cash surrender value of reinsurance	93.3	93.2
Equity securities	6.2	6.4
Money market funds	0.5	0.4
	100.0	**100.0**

The majority of the plan assets are invested in the form of cash surrender value of reinsurance policies and shares in mutual funds for German companies. The management and reinvestment are controlled by defined investment policies which foresee investment in high quality and diversified investment classes.

There are no additions to plan assets planned for fiscal year 2022 (prior year EUR 0.0 million). There are no minimum funding requirements.

Actuarial assumptions

The discount rates and percentages for salary and pension increases assumed in the determination of the future pension obligations fluctuate in accordance with the economic situation in the countries in which the pension plans exist. The weighted average assumptions for the calculation of the actuarial amounts are as follows:

in %	Pension benefit plans		Other postretirement benefit plans	
	Dec 31, 2021	Dec 31, 2020	Dec 31, 2021	Dec 31, 2020
Discount rate/expected return on plan assets	1.4	1.2	7.6	5.8
Rate of compensation increase	2.2	2.2	7.7	6.5
Rate of pension progression	1.6	1.4	–	–
Mortality tables:				
Germany	RT Heubeck 2018 G	RT Heubeck 2018 G		

The rate of the expected long-term return on plan assets corresponds with the discount rate. The weighted average term for pension obligations amounts to 18.0 years (prior year 19.1 years) and 9.3 years for other benefit obligations (prior year 10.8 years).

Sensitivity analysis

The results of the sensitivity analyses for the significant actuarial assumptions for pension obligations as of December 31, 2021 and December 31, 2020 are as follows:

EUR million	Dec 31, 2021	Dec 31, 2020
Discount rate + 50 basis points	(79.4)	(83.4)
Discount rate – 50 basis points	89.0	98.0
Rate of pension progression + 25 basis points	34.3	35.2
Rate of pension progression – 25 basis points	(32.8)	(34.2)
Increase of 2 years in life expectancy	70.7	73.1

The assumptions for all sensitivity calculations were not performed jointly, but rather individually for each calculation assumption examined.

Contributions to pension plans

Contributions to state pension plans in the amount of EUR 30.4 million and EUR 28.5 million were recorded in 2021 and 2020, respectively. Payments amounting to EUR 2.6 million and EUR 3.4 million were made for the newly established company pension plans in 2021 and 2020, respectively.

15 Revenue

Revenue is comprised of the following categories:

EUR million	2021	2020
Sales of goods	2,101.5	1,870.9
Rendering of services	209.4	386.9
Royalties	65.7	55.0
	2,376.6	**2,312.8**

The following table contains the revenue separated in subgroups, divisions and the time of revenue recognition:

EUR million	2021	2020
Currency Technology	1,052.9	1,034.7
Banknote Solutions	552.6	576.4
Currency Management Solutions	500.3	458.4
Mobile Security	811.3	785.6
Veridos	197.7	227.5
secunet	337.6	285.6
Group internal	(22.9)	(20.6)
	2,376.6	**2,312.8**

In the division Banknote Solutions and in the subgroups Veridos and secunet, revenue is mainly recognized over time, whereas in the subgroup Mobile Security, revenue is largely recognized at a point in time. In the division Currency Management Solutions, revenue is also increasingly recognized over time, but still, predominantly, at a point in time.

16 Income and Expenses Relating to Other Periods

EUR million	2021	2020
Income relating to other periods	31.2	29.2
Expenses relating to other periods	(28.6)	(18.3)
	2.6	**10.9**

Income relating to other periods consists primarily of releases of warranty provisions, provisions for onerous contracts and other provisions included in cost of goods sold, as well as reversals of allowances (see Note 3) recorded in selling expenses. For the most part, expenses relating to other periods comprise tax expenses for prior years recorded in income tax expense.

17 Other Financial Income, net

EUR million	2021	2020
Gains/(losses) from trading securities, net	6.8	1.9
Foreign currency exchange gains/(losses), net	5.7	(31.6)
Gains/(losses) from derivative financial instruments, net	(12.5)	7.1
Other financial income/(expenses), net	–	(1.2)
	–	**23.8**

The changes in net unrealized gains and losses on trading securities included in earnings during the fiscal years ending December 31, 2021 and 2020 were EUR 4.5 million and EUR 0.6 million, respectively. The net foreign currency exchange losses in 2020 include a net loss from the derecognition of the recorded foreign exchange effects in the amount of EUR 1.7 million previously recorded in shareholders´ equity due to the liquidation of BA International Inc., Ottawa/Ontario as well as from the sale of CI Tech Components AG, Burgdorf (refer to Note 24 "Business Combinations").

18 Interest Income and Interest Expense

EUR million	2021	2020
Interest income		
Loans and receivables	0.1	0.1
Cash and cash equivalents/short-term investments	0.5	0.6
Trading securities	0.5	0.4
Taxes receivable	0.6	0.3
Receivables from associated companies and joint ventures	–	0.1
Other	0.2	0.2
	1.9	**1.7**
Interest expense		
Loans and receivables	0.6	0.5
Financial liabilities and lease obligations	8.3	8.6
Other provisions	–	0.1
Provisions for pensions	8.0	9.5
Taxes payable	–	0.2
Other	0.2	1.0
	17.1	**19.9**

Interest income and expense relating to financial assets and financial liabilities that are not valued at fair value are as follows:

EUR million	2021	2020
Interest income		
Loans and receivables	0.1	0.2
Cash and cash equivalents/short-term investments	0.5	0.6
	0.6	**0.8**
Interest expense		
Loans and receivables	0.6	0.5
Financial liabilities measured at amortized cost	8.3	8.6
	8.9	**9.1**

19 Income Taxes

Income tax expense

Income tax expense for fiscal years 2021 and 2020 is comprised of:

EUR million	2021	2020
Current income tax		
Current year income tax expense	(34.7)	(25.6)
Income tax expense for prior periods	(26.9)	(16.1)
	(61.6)	**(41.7)**
Deferred income tax		
Gross expenditure from origination and reversal of temporary differences and tax loss carryforwards	5.0	1.0
Income tax expense from changes in tax rates and introduction of new taxes	0.5	(0.5)
Change in usability of tax loss carryforwards	(9.4)	(28.8)
	(3.9)	**(28.3)**
Income tax expense, net	**(65.5)**	**(70.0)**

In fiscal year 2021, G+D was subject to German federal corporate tax at a base rate of 15.0 % for the parent company plus a solidarity surcharge of 5.5 % on federal corporate taxes payable. Hence, the statutory rate consisted of a federal corporate tax rate of 15.8 % and trade tax of 15.63 %, resulting in a combined tax rate of 31.43 %.

Reconciliation between the expected and actual income tax expense

Following is a reconciliation of the expected income tax expense to the actual income tax expense which was recorded. The calculation of the expected income tax expense is based on the multiplication of income before income tax at the German corporate combined statutory rate of 31.43 % and 31.43 % in 2021 and 2020, respectively.

EUR million	2021	2020
Expected income tax expense	(47.4)	(35.5)
Foreign taxation differential	7.5	9.2
Non-deductible expenses	(3.3)	(2.1)
Changes in tax rates	0.5	(0.5)
Tax-free income	0.2	(6.0)
Additions due to tax risks and tax payments (refunds) for prior years	(5.6)	1.0
Changes in tax loss carryforwards	(9.4)	(28.8)
Withholding taxes	(5.6)	(7.4)
Deferred taxes relating to prior periods	(2.1)	–
Other	(0.3)	0.1
Actual income tax expense	**(65.5)**	**(70.0)**

The (negative) change in tax loss carryforwards is mainly the result of a correction to the international transfer prices over the last few years.

Deferred tax assets and liabilities

The gross values of deferred tax assets and liabilities as of December 31, 2021 and 2020 are attributable to the following balance sheet line items:

EUR million	Assets		Liabilities		Net			Recorded in Income Statement	Recorded in Other Comprehensive Income
	Dec 31, 2021	Dec 31, 2020	Dec 31, 2021	Dec 31, 2020	Dec 31, 2021	Dec 31, 2020	Change		
Financial assets	3.7	2.7	–	–	3.7	2.7	1.0	1.0	–
Accounts receivable trade and other receivables, net	0.8	4.4	(0.5)	–	0.3	4.4	(4.1)	(4.1)	–
Contract assets	0.3	0.1	(10.6)	(5.0)	(10.3)	(4.9)	(5.4)	(5.2)	(0.2)
Inventories, net	63.5	126.9	–	–	63.5	126.9	(63.4)	(63.6)	0.2
Other assets	0.9	1.2	(43.1)	(35.7)	(42.2)	(34.5)	(7.7)	(7.7)	–
Intangible assets	14.1	14.4	(25.7)	(23.5)	(11.6)	(9.1)	(2.5)	0.2	(2.7)
Property, plant and equipment (excluding Right-of-Use)	1.5	1.4	(19.0)	(23.4)	(17.5)	(22.0)	4.5	4.5	–
Right-of-Use	–	–	(9.4)	(8.3)	(9.4)	(8.3)	(1.1)	(1.1)	–
Accounts payable trade and other accounts payable	4.4	3.8	–	–	4.4	3.8	0.6	0.6	–
Contract liabilities	2.2	–	(0.6)	(0.1)	1.6	(0.1)	1.7	1.7	–
Provisions	22.3	21.8	(2.2)	(3.0)	20.1	18.8	1.3	1.3	–
Financial liabilities	0.7	0.1	–	–	0.7	0.1	0.6	0.6	–
Lease obligations	17.3	21.0	–	–	17.3	21.0	(3.7)	(3.8)	0.1
Deposits received/deferred income	0.1	0.2	(0.4)	–	(0.3)	0.2	(0.5)	(0.5)	–
Pensions and related liabilities	116.1	125.5	–	–	116.1	125.5	(9.4)	(1.4)	(8.0)
Other liabilities	2.1	1.7	(18.3)	(102.7)	(16.2)	(101.0)	84.8	84.8	–
Tax loss carryforwards	20.0	31.1	–	–	20.0	31.1	(11.1)	(11.2)	0.1
Deferred tax assets/ (liabilities), gross	270.0	356.3	(129.8)	(201.7)	140.2	154.6	(14.4)	(3.9)	(10.5)
Set-off of tax	(114.5)	(192.7)	114.5	192.7	–	–	–	–	
Deferred tax assets/ (liabilities), net	**155.5**	**163.6**	**(15.3)**	**(9.0)**	**140.2**	**154.6**	**(14.4)**	**(3.9)**	**(10.5)**

As of December 31, 2021 and December 31, 2020 net deferred tax assets relating to leases in the amount of EUR 7.9 million and EUR 12.7 million were recorded, respectively.

The changes in deferred tax assets, net included in net income or other comprehensive income for fiscal years 2021 and 2020 are included in the following summary:

EUR million	2021	2020
Deferred tax assets, net as of January 1	**154.6**	**172.4**
Changes affecting net income	(3.9)	(28.3)
Changes not affecting net income		
Changes in consolidation structure	(2.7)	–
Changes in net deferred tax assets recognized in other comprehensive income resulting from deferred tax assets on actuarial gains and losses and foreign currency translations	(7.8)	10.5
Deferred tax assets, net as of December 31	**140.2**	**154.6**

Deferred tax assets not recorded in the balance sheet

The amount of deductible timing differences and tax loss carryforwards for which deferred tax assets were not recorded are as follows:

EUR million	2021		2020	
	Gross amount	Tax effect	Gross amount	Tax effect
Deductible temporary differences	9.2	3.0	12.1	3.7
Unused tax losses	162.4	43.0	142.6	36.8
	171.6	**46.0**	**154.7**	**40.5**

The unused tax losses expire as follows:

EUR million	2021		2020	
	Gross amount	Expiration date	Gross amount	Expiration date
Limited	14.3	2022–2031	6.4	2021–2030
Unlimited	148.1	–	136.2	–

Furthermore, deferred tax assets in the amount of EUR 20.0 million and EUR 31.1 million on tax loss carryforwards in the amount of EUR 73.2 million and EUR 110.1 million were recorded as of December 31, 2021 and 2020, respectively.

The determining factor in recognizing deferred tax assets is the probability of the reversal of the temporary differences which resulted in the recognition of the deferred tax assets and future taxable profit against which the unused tax losses can be offset. This is dependent on future taxable profits arising in those periods in which taxable temporary differences reverse and tax losses carryforwards may be utilized. As of December 31, 2021, significant deferred tax assets were recorded on tax loss carryforwards by the following companies: Giesecke+Devrient GmbH, Munich, EUR 13.9 million, Giesecke+Devrient Mobile Security Sweden AB, Stockholm, EUR 2.7 million and Giesecke+Devrient Mobile Security Iberia S.A., Barcelona, EUR 1.6 million. Expected taxable profits based on the forecasts for the next five years are recognized by the respective companies. Based upon the level of historical taxable income and projections of future taxable income, G+D believes that it is not probable that the benefits of deductible timing differences and carryforward tax losses in the amount of EUR 171.6 million and EUR 154.7 million will be realized and therefore has not recognized deferred tax assets for these amounts in 2021 and 2020.

Due to the sustained positive earnings expectations in the G+D tax group in Germany, deferred tax assets in the amount of EUR 22.9 million on tax loss carryforwards and the excess of deferred tax assets in the amount of EUR 108.8 million due temporary differences were recorded in 2020 although a negative tax result was achieved in the fiscal year. The negative result in fiscal year 2020 was mainly the from one-time special effects in the form of specific allowances on receivables and impairments on assets in the tax group. As of December 31, 2021, the G+D tax group recorded deferred tax assets in the amount of EUR 122.9 million since the company expects profits as a result of positive business developments.

Income tax on dividends

As of December 31, 2021 and 2020, G+D recorded deferred tax liabilities on cumulative earnings in subsidiaries and investments that are intended for distribution. Furthermore, deferred taxes were recorded on the taxable temporary differences relating to investments in associated companies and joint ventures. As of December 31, 2021 and 2020, the amount of these obligations was EUR 1.2 million and EUR 0.0 million, respectively.

Temporary differences relating to investments in subsidiaries for which deferred tax liabilities were not recorded amounted to EUR 1.9 million and EUR 0.0 million as of December 31, 2021 and 2020, respectively. Deferred tax liabilities were not recognized here, as G&D is able to control the timing of the reversal and the temporary differences will not be reversed in the foreseeable future.

20 Equity

As of December 31, 2021 and 2020, the nominal value of the treasury stock amounted to EUR 4.3 million, respectively.

Unappropriated reserves amounted to EUR 565.0 million and EUR 414.6 million as of December 31, 2021 and 2020, respectively.

With respect to capital management, the main objective of Giesecke+Devrient is to secure its continuation as well as generate shareholder value, i.e. in the form of dividend payments. As of December 31, 2021 and 2020, the equity ratio amounted to 24.8 % and 18.1 %, respectively. G+D is not subject to external minimum capital requirements.

21 Financial Instruments

The following tables incorporate the carrying amounts and fair values of G+D's financial instruments. The pure exit price is thereby understood as the fair value of a financial instrument. This is the price at which a transaction to sell an asset or to transfer a liability would take place under current market conditions.

The tables do not contain information relating to fair values of financial assets or liabilities that are not valued at fair value if the carrying amount represents a reasonable approximation of the fair value.

Furthermore, the following tables contain an allocation of the fair value measurement of classes of financial assets and liabilities to levels in accordance with IFRS 13 as of December 31, 2021 and 2020:

EUR million						Dec 31, 2021					Dec 31, 2020
	Classification	Carrying amount	Fair value	Level 1	Level 2	Level 3	Carrying amount	Fair value	Level 1	Level 2	Level 3
Financial assets											
Loans and receivables[1]	Amortized cost	426.8	–	–	–	–	468.0	–	–	–	–
Financial assets held for trading[2]											
Derivative financial assets	FVTPL	0.2	0.2	–	0.2	–	5.0	5.0	–	5.0	–
Trading securities	FVTPL	74.8	74.8	74.8	–	–	75.1	75.1	75.1	–	–
Total		**75.0**					**80.1**				
Investment securities	FVTPL	32.3	32.3	32.3	–	–	11.2	11.2	11.2	–	–
Investments in other related parties[3]	FVOCI	10.8	10.8	–	–	10.8	5.5	5.5	–	–	5.5
Special classes											
Cash and cash equivalents[4]	Amortized cost	401.1	–	–	–	–	412.8	–	–	–	–
Short-term investments	Amortized cost	51.6	–	–	–	–	0.5	–	–	–	–
Total financial assets		**997.6**					**978.1**				

[1] Amount does not include prepayments in the amount of EUR 49.0 million and EUR 133.3 million as of December 31, 2021 and 2020, respectively, as these are not included in the scope of IFRS 7.
[2] Amount does not include cash surrender value of reinsurance in the amount of EUR 19.8 million and EUR 19.7 million as of December 31, 2021 and 2020, respectively, as this is not included in the scope of IFRS 7.
[3] The changes includes investments in the amount of EUR 3.2 million as well as FVOCI changes in the amount of EUR 2.1 million, which were valued using the sales multiple method as well as the last financing round.
[4] Cash and cash equivalents include cash in the amount of EUR 0.1 million and EUR 0.1 million, cash in banks in the amount of EUR 390.3 million and EUR 408.4 million as well as short-term investments in the amount of EUR 10.7 million and EUR 4.4 million as of December 31, 2021 and 2020, respectively.

EUR million						Dec 31, 2021					Dec 31, 2020
	Classification	Carrying amount	Fair value	Level 1	Level 2	Level 3	Carrying amount	Fair value	Level 1	Level 2	Level 3
Financial liabilities											
Financial liabilities	Other financial liabilities	351.1	353.4	–	353.4	–	489.1	477.4	–	477.4	–
Accounts payable	Other financial liabilities	323.0	–	–	–	–	377.9	–	–	–	–
Total		**674.1**					**867.0**				
Derivative financial liabilities	Fair value - hedging instrument	0.7	0.7	–	0.7	–	0.5	0.5	–	0.5	–
Special class											
Lease obligations	N/A	72.4	72.4	–	72.4	–	82.4	82.4	–	82.4	–
Total financial liabilities		**747.2**					**949.9**				

In the tables, financial instruments measured at fair value are allocated to levels in accordance with IFRS 7, "Financial Instruments: Disclosures". Thereby, the fair value measurement of a financial instrument is allocated in its entirety to the level for which inputs are material to determine its fair value. At level 1, fair values are mainly determined by using quoted prices from active markets for identical financial assets or liabilities. The fair values at level 2 are determined via market comparison procedures based on observable quoted prices for similar financial assets or liabilities. The discounted cash flow model is used here, in which the future cash flows are discounted with a risk-adjusted interest rate. Fair value measurements at level 3 are mainly based on unobservable market data. In 2021, Giesecke+Devrient determined fair values of financial instruments based at level 1, level 2 and level 3. In 2021 and 2020, no material reclassifications between the levels were recorded.

The fair value of foreign currency forward contracts is based on mark-to-market since similar contracts are being traded on active markets. As of December 31, 2021 and 2020, these derivative financial instruments are stated at fair value and recorded on the balance sheet under current financial assets in the amount of EUR 0.2 million and EUR 5.0 million and under current financial liabilities in the amount of EUR 0.7 million and EUR 0.5 million, respectively.

The nominal volume of foreign currency forward contracts entered into by Giesecke+Devrient as of December 31, 2021 amounted to:

in million foreign currency units	Purchase contracts	Sales contracts
US dollar	25.6	85.8
Australian dollar	–	9.5
Brazilian real	–	25.0
British pound	–	3.0
Chinese renminbi	–	200.0
Indian rupee	–	200.0
Canadian dollar	16.5	–
South African rand	–	135.0

Prior Year 2020

in million foreign currency units	Purchase contracts	Sales contracts
US dollar	8.9	237.7
Australian dollar	–	7.0
Brazilian real	–	50.0
Chinese renminbi	–	420.0
Indian rupee	–	700.0
Hong Kong dollar	4.7	51.5
South African rand	110.0	207.0

Financial instruments not valued at fair value

Cash and cash equivalents, short-term investments, as well as the current portion of accounts receivable, other assets, loans, trade accounts payable and other accounts payable, and other liabilities.
The carrying amounts of these financial instruments are considered to approximate fair value because of the relatively short period of time between origination and their expected realization.

Financial instruments valued at fair value

The fair values of non-derivative financial instruments for the individual classes are as follows:

Marketable securities
Debt and equity securities are carried at fair value, which is based on quoted market prices at the balance sheet date.

Investments
If the fair value cannot be readily determined, acquisition cost are used as the best estimate of the fair value.

Non-current financial assets and financial liabilities
The fair value is determined based on the expected future cash flows discounted using the prevailing market rate as of the balance sheet date for similar maturities and contracts.

As of December 31, 2021 and 2020, there were no significant differences between the fair values and the carrying values of non-current financial assets.

Impairment losses and reversals of impairment losses during fiscal years 2021 and 2020 related solely to financial assets in the class "loans and receivables".

EUR million	2021	2020
Impairment losses	(26.7)	(24.6)
Reversals of impairment losses	4.4	4.7
	(22.3)	**(19.9)**

Net gains and losses from financial assets and liabilities by measurement category amounted to:

EUR million	2021	2020
Financial assets measured at amortized cost	(19.0)	(23.4)
Financial assets and financial liabilities held for trading, at fair value through profit or loss	(10.7)	4.4
Financial assets held for trading, at fair value through other comprehensive income	2.1	–
Financial liabilities measured at amortized cost	(3.1)	3.3
	(30.7)	**(15.7)**

Net gains and losses on loans and receivables consist of results from impairments, reversals of impairments and foreign currency exchange effects.

Net gains and losses on financial assets and liabilities measured at fair value contain results from changes in fair market values and adjustments on settlement of these financial instruments.

Net gains and losses from financial liabilities measured at amortized cost comprise foreign currency exchange effects.

22 Financial Risk

Due to the global scope of its operations, the Group is exposed to a variety of financial risks, notably counterparty default risks, liquidity risks as well as market price risks in particular through fluctuations of exchange rates, interest rates and securities. Risks on the procurement side arise from the increase in purchase prices. The financial situation as well as the Group's profitability may be adversely affected by those risks. Giesecke+Devrient manages these risks predominantly within their current business and finance activities as well as based on specific written guidelines. The aim of the financial risk management is the transparency of the risks for the Group and their limitation by suitable countermeasures.

All of the above risks are monitored by risk management procedures. Financial risks are part of the monthly risk reporting for management as well as part of the regular reports to the Supervisory and Advisory Boards.

Counterparty Default Risk

The counterparty default risk is the risk of financial losses in the event that a customer or a contracting partner of a financial instrument fails to meet its contractual obligations. The risk of default generally refers to trade receivables as well as to debt instruments held as financial assets by the Group.

The Group's exposure to counterparty default risk is determined mainly by the individual characteristics of each customer. Giesecke+Devrient handles the risk of default by using an internal evaluation method relating to the solvency of the customer. Factors which are taken into account include those risks of default which may influence the customer base such as country default risk and regions in which the customer operates. Based on the determined internal rating, a classification is undertaken in credit rating categories A to C. Doubtful positions are strictly limited and agreed payment terms are closely monitored. Where customer creditworthiness is a critical issue, measures to secure payment, such as confirmed and unconfirmed letters of credit, are – wherever possible - requested to minimize the credit risk. To fulfill reporting requirements in accordance with IFRS 9, the maximum exposure to credit risk with regard to financial assets corresponds with the carrying value of these financial assets.

With regard to the exposure of counterparty risks in the financial sector, Giesecke+Devrient ensures that the investment volume is spread widely in order to reduce default risks and excessive dependence on individual financial institutions. The banks with which Giesecke+Devrient conducts financial transactions are selected and regularly reviewed according to various criteria, particularly with regard to creditworthiness.

Liquidity Risk

Liquidity risk is the risk that the Group is potentially unable to fulfill its external financial obligations as contractually agreed in delivering cash or another financial assets. The objective of the Group liquidity management is to ensure, as far as possible, that sufficient liquidity is available to meet its liabilities whenever due under both normal and strained conditions without incurring unacceptable expenses or damaging the Group's reputation.

Securing liquidity has the highest priority and is managed by holding a disposable liquidity reserve appropriate to the size of the company. This means maintaining sufficient cash and unused credit lines with banks. Additionally, appropriate financial instruments such as annual planning for all Group companies and short-term liquidity planning for all major Group companies are used. These planning instruments are complemented by a contractually agreed centralized cash management based on an arrangement in which all the main German and foreign Group companies participate.

In addition to sufficient cash deposits, the Group held cash credit lines of EUR 330.9 million (prior year EUR 228.1 million) as of December 31, 2021 to ensure adequate liquidity to cover fluctuations in operating activities. The principal part thereof is a long-term credit line of EUR 280.0 million provided by a consortium to Giesecke+Devrient GmbH running until October 2026. All lenders are banks with an investment grade. As of December 31, 2021, EUR 0.5 million of the total available credit line were drawn by affiliated companies (previous year EUR 5.5 million).

In addition, loans incl. accrued interest amounted to EUR 350.7 million (prior year EUR 483.6 million). These consisted of EUR 53.3 million in loans from the European Investment Bank EIB and EUR 200.0 million promissory note loans. The remaining amount includes loans from other third parties (including Bundesdruckerei, G+D Stiftung, G+D Stiftung Geldscheinsammlung, KFW development loan in favor of Veridos) as well as local loans for subsidiaries.

The following tables show the carrying amount of all G+D Group liabilities (from financing, trade payables and leasing) with the contractually agreed (undiscounted) interest and redemption payments, as well as derivative financial instruments with negative fair values:

Information on Liquidity Risk as of December 31, 2021

EUR million

			Up to 1 year		1–2 years		2–3 years		3–4 years		4–5 years		over 5 years	
	Carrying value	**Gross outflows**	Repayment	Interest	Repayment	Interest	Repayment	Interest	Repayment	Interest	Repayment	Interest	Repayment	Interest
Original financial liabilities														
Accounts payable trade and other liabilities	323.0	323.0	323.0											
Financial liabilities	351.1	370.4	20.3	4.7	87.3	4.5	18.0	3.7	104.2	3.4	43.1	2.0	76.8	2.4
Lease obligations	72.4	75.3	19.0	1.0	17.0	0.7	12.9	0.4	8.0	0.3	4.7	0.2	10.8	0.3
Derivative financial liabilities														
Derivative financial instruments	0.7	(84.8)	(84.8)											
(gross inflow dervatives)		84.8	84.8											
Total	**747.2**	**768.7**	**362.3**	**5.7**	**104.3**	**5.2**	**30.9**	**4.1**	**112.2**	**3.7**	**47.8**	**2.2**	**87.6**	**2.7**

Information on Liquidity Risk as of December 31, 2020

EUR million

			Up to 1 year		1–2 years		2–3 years		3–4 years		4–5 years		over 5 years	
	Carrying value	**Gross outflows**	Repayment	Interest	Repayment	Interest	Repayment	Interest	Repayment	Interest	Repayment	Interest	Repayment	Interest
Original financial liabilities														
Accounts payable trade and other liabilities	377.9	377.9	377.9	–	–	–	–	–	–	–	–	–	–	–
Financial liabilities	489.2	515.4	18.9	6.5	136.2	5.3	86.6	4.5	18.0	3.8	107.7	3.4	120.1	4.4
Lease obligations	82.4	86.5	19.9	1.3	16.0	1.0	13.9	0.7	11.4	0.4	7.1	0.3	14.1	0.4
Derivative financial liabilities														
Derivative financial instruments	0.4	34.0	34.0	–	–	–	–	–	–	–	–	–	–	–
Total	**949.9**	**1,013.8**	**450.7**	**7.8**	**152.2**	**6.3**	**100.5**	**5.2**	**29.4**	**4.2**	**114.8**	**3.7**	**134.2**	**4.8**

All financial instruments held as of December 31, 2021 and December 31, 2020 for which payments were already contractually agreed have been included. Target figures for future liabilities are not included. Amounts in foreign currencies were translated at the closing rate applicable on the reporting date. Variable interest payments from financial instruments were determined by applying the last fixed interest rates before December 31, 2021 or December 31, 2020, respectively. Financial liabilities that are repayable at any time are always assigned to the earliest time period.

The available cash liquidity is held in bank accounts. The aim is to avoid deposit fees. For this reason, only time deposits and deposits at notice were made with the core banks. The decision on the investment period was based on short-term liquidity planning. There were deposits at notice at the amount of EUR 50.0 million as of December 31, 2021. In addition, cash investments with a term of more than three months to the amount of EUR 1.6 million (previous year EUR 0.5 million) were held by foreign subsidiaries.

Market Risk

Market risk is the risk that market prices such as exchange rates, interest rates or stock prices change, and thereby affect the Group's earnings or the value of the financial instruments held.

A Currency Risk
Due to its international focus, Giesecke+Devrient has both import and export deliveries and payment flows in various currencies. Currency risks arise from future transactions including both purchasing and selling activities. Recognized assets and liabilities as well as highly probable forecasted cashflows in foreign currency are considered. Furthermore, risk exposure occurs due to financing in foreign currency.

Risk exposure can occur at the level of Giesecke+Devrient GmbH as well as on the subsidiary level. For risk control reasons, these currency exposures can be concentrated at a group level to Giesecke+Devrient GmbH by using internal foreign currency transactions with corresponding subsidiaries.

The objective of the hedging strategy is to reduce risks from exchange rate fluctuations. Apart from the ongoing endeavor to avoid currency risk or to mitigate the effects naturally, forward exchange contracts, options and swaps with financial institutions with high credit ratings are used to hedge group-wide currency exposures. Foreign exchange options can also be used here.

Forward exchange contracts as well as options are used exclusively for hedging and not for speculative purposes. In accordance with the risk management standards applicable to international banks, all trading activities are subject to financial controls (back office) that are independent from corporate finance.

Currency risks, which are solely driven by the consolidation effects in the balance sheet and profit and loss statements of foreign subsidiaries (translation risks) are generally not hedged against exchange rate fluctuations.

Giesecke+Devrient uses a multi-level process for its currency hedging:

1. In the hedging of recognized assets and liabilities (economic exposure), the net position for each foreign currency (reporting date) is ideally statically secured to 100 %. It applies to all currencies and includes outstanding trade receivables, outstanding trade payables as well as intercompany loans issued to subsidiaries.

2. In the hedging of forecasted transactions (from major projects) on unrecorded risks, hedging is performed on a case-by-case basis and, if possible, hedge accounting is applied (according to IAS 39).

3. In hedging forecasted transactions (from other projects) the remaining exposure relating to currencies such as USD and RMB is hedged in phases based on a 12 months net position. The economic exposure of the self-contained portion of a natural hedge can also be temporally hedged.

The following table shows expected intercompany and third party receivables and payables in foreign currency as well as financial derivatives entered into for hedging purposes (net exposure or nominal value of financial derivatives > EUR 5.0 million), as of December 31, 2021:

Net Currency Exposure as of December 31, 2021

Foreign currency risk in EUR million	AUD		BRL		CAD		GBP		INR	
	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
Hedging of booked transactionen										
Net exposure	7.4	7.3	4.1	9.5	(18.0)	–	5.2	(1.5)	5.0	5.3
Firm Comittment	–	–	–	–	–	–	–	–	–	–
Financial derivatives	(6.0)	(4.4)	(3.8)	(8.0)	11.4	–	(3.5)	–	(2.3)	(3.9)
Hedging of expected transactions (Cash Flow Hedge)										
Financial derivatives (FX Forwards)	–	–	–	–	–	–	–	–	–	–
Hedging of expected transactions (other projects)										
Financial derivatives (FX Forwards)	–	–	–	–	–	–	–	–	–	(3.9)
Financial derivatives (FX Options)	–	–	–	–	–	–	–	–	–	–
Net exposure Netting										
Financial derivatives (FX Forwards)	–	–	–	–	–	–	–	–	–	–

Net Currency Exposure as of December 31, 2021

Foreign currency risk in EUR million	RMB		SEK		USD		ZAR	
	2021	2020	2021	2020	2021	2020	2021	2020
Hedging of booked transactionen								
Net exposure	40.4	41.5	(3.6)	(3.3)	13.3	61.2	11.5	7.2
Firm Comittment	–	–	–	–	–	–	–	–
Financial derivatives	(27.6)	(37.4)	–	–	0.9	(61.9)	(7.5)	(5.1)
Hedging of expected transactions (Cash Flow Hedge)								
Financial derivatives (FX Forwards)	–	–	–	–	(3.7)	(55.9)	–	–
Hedging of expected transactions (other projects)								
Financial derivatives (FX Forwards)	–	(15.0)	–	–	(50.2)	(59.1)	–	–
Financial derivatives (FX Options)	–	–	–	–	(4.0)	(12.5)	–	–
Net exposure Netting								
Financial derivatives (FX Forwards)	–	–	–	–	–	(12.3)	–	–

AUD = Australian Dollar, BRL = Brasilian Real, CAD = Canadian Dollar, GBP = British Pound, INR = Indian Rupee, RMB = Chinese Renminbi, SEK = Swedish Krona, USD = US-Dollar, ZAR = South African Rand

The valuation effects as of the balance sheet date influence the consolidated income statement.

Sensitivity analyses are used to determine the effects of hypothetical changes and their effects on the profits/losses and on the total equity of the company as of the balance sheet date. Only major foreign currencies are considered.

The following shows the impacts of primary and derivative financial instruments exceeding EUR 2.0 million on equity as well as the income statement (without consideration of tax effects), assuming that the EUR had risen or fallen by 10.0 % against the specified foreign currencies as of December 31, 2021 and December 31, 2020, respectively:

Primary Financial Instruments as of December 31, 2021 (Impact > EUR 2 million)

Impact in EUR million				Equity				Profit/Loss
		2021		2020		2021		2020
	−10.0 %	+10.0 %	−10.0 %	+10.0 %	−10.0 %	+10.0 %	−10.0 %	+10.0 %
RMB	–	–	–	–	4.2	(4.2)	4.2	(4.2)
USD	–	–	–	–	1.3	(1.3)	6.1	(6.1)

Derivative Financial Instruments as of December 31, 2021 (Impact > EUR 2 million)

Impact in EUR million				Equity				Profit/Loss
		2021		2020		2021		2020
	−10.0 %	+10.0 %	−10.0 %	+10.0 %	−10.0 %	+10.0 %	−10.0 %	+10.0 %
RMB	–	–	–	–	(3.1)	2.5	(5.8)	4.8
USD	(0.4)	0.3	(6.0)	4.9	(5.6)	4.5	(16.1)	13.2

Global netting agreement and similar agreements

The Group enters into derivative contracts in accordance with the German Master Agreement (GMA). In certain cases – for example, if a payment default occurs – all outstanding transactions are terminated under this agreement, the value determined, and only the net amount is paid.

The German Master Agreement (GMA) does not fulfill the netting criteria for the balance sheet due to the fact that the Group currently has no legal right to net the recorded amounts. Only on future events such as a delay on bank loans or other credit events can a legal right to net be substantiated.

The following chart reflects the carrying amount of financial instruments which are included in the described agreements.

December 31, 2021

EUR million	Gross amounts of financial instruments in the statement of financial position	Related financial instruments that are not offset	Net amount
Financial assets			
Other investments, including derivatives			
Forward exchange contracts used for hedging	0.2	(0.2)	–
Other forward exchange contracts	–	–	–
Sum of financial assets	**0.2**	**(0.2)**	**–**
Financial liabilities			
Trade and other payables	(0.7)	0.2	(0.5)
Forward exchange contracts used for hedging	–	–	–
Other forward exchange contracts	–	–	–
Sum of financial liabilties	**(0.7)**	**0.2**	**(0.5)**

December 31, 2020

EUR million	Gross amounts of financial instruments in the statement of financial position	Related financial instruments that are not offset	Net amount
Financial assets			
Other investments, including derivatives			
Forward exchange contracts used for hedging	4.2	(0.3)	3.9
Other forward exchange contracts	0.5	–	0.5
Sum of financial assets	**4.6**	**(0.3)**	**4.3**
Financial liabilities			
Trade and other payables	(0.4)	0.3	(0.2)
Forward exchange contracts used for hedging	–	–	–
Other forward exchange contracts	–	–	–
Sum of financial liabilties	**(0.4)**	**0.3**	**(0.2)**

Hedging of major projects applying “Cash Flow Hedge Accounting” (CFH)

In principle, contracts with a volume of > EUR 8.0 million are hedged via a forward exchange contract and checked whether they can be recorded using cash flow hedge accounting.

As such fluctuations in valuations of the derivatives due to timing in these individual transactions can be avoided in shareholders‘ equity.

The Group designates the spot element of forward foreign exchange contracts to hedge its currency risk and applies a hedge ratio of 1:1. The forward elements of forward exchange contracts are excluded from the designation of the hedging instrument and are separately accounted for as a cost of hedging in the financial result in the same way as for standalone derivatives. The Group’s policy is to align the critical terms of the forward exchange contracts with the hedged item.

There are strict requirements in order to apply cash flow hedge accounting. These are checked on initiation of the project as well as on an ongoing basis. If the criteria during the term of validity are no longer met, the cash flow hedge accounting is terminated and the effects are subsequently reported in the profit and loss statement. The economic hedge remains in force.

The Group determines the existence of an economic relationship between the hedging instrument and hedged item based on the currency, amount and timing of their respective cash flows (critical terms match). The Group assesses whether the derivative designated in each hedging relationship has been effective in offsetting changes in cash flows of the hedged item using the hypothetical derivative method.

In these hedging relationships, ineffectiveness can arise from:
- the effect of the counterparties‘ and the Group’s own credit risk on the fair value of the forward foreign exchange contracts which is not reflected in the change in the fair value of the hedged cash flows attributable to the change in exchange rates; and
- to a greater extent changes in the value of the hedged transactions.

Hedging of the cash flows using Cash Flow Hedge Accounting:

As of December 31, 2021 and December 31, 2020 respectively, the Group maintained the following instruments to hedge foreign exchange fluctuations:

2021

	Maturity	
	< 1 year	> 1 year
Foreign currency risk		
Forward exchange contracts		
Net exposure (in millions of euro)	3.7	–
Average EUR/USD forward contract rate	1,1848	–

2020

	Maturity	
	< 1 year	> 1 year
Foreign currency risk		
Forward exchange contracts		
Net exposure (in millions of euro)	52.3	3.7
Average EUR/USD forward contract rate	1,1785	1,1848

As of December 31, 2021 and December 2020 respectively the amounts related to positions designated to the hedged underlying transactions are following:

Dec 31, 2021

EUR million	Change in value used for calculating hedge ineffectiveness	Cash flow hedge reserve	Balances remaining in the cashflow hedge reserve from hedging relationships for which hedge accounting is no longer applied
Foreign currency risk			
Sales (receivables)	(2.8)	(0.3)	(0.1)
Purchases (liabilities)	–	–	–

Dec 31, 2020

EUR million	Change in value used for calculating hedge ineffectiveness	Cash flow hedge reserve	Balances remaining in the cashflow hedge reserve from hedging relationships for which hedge accounting is no longer applied
Foreign currency risk			
Sales (receivables)	2.5	2.5	–
Purchases (liabilities)	–	–	–

Amounts referring to designated hedging instruments and their inefficiencies in relation to the hedging relationship are as follows:

2021

EUR million		Carrying amount					
	Nominal amount	Assets	Liabilities	Balance sheet account in which hedging instrument included	Changes in the value of the hedging instrument recognised in OCI	Amount reclassified from hedging reserve to profit or loss	Profit and loss account which is affected by the reclassification
Foreign currency risk							
Forward exchange contracts – sales (receivables)	3.7	–	0.1	Other investments and other payables (liabilities)	2.5	0.3	Revenue
Forward exchange contracts – purchases (liabilities)	–	–	–	–	–	–	–

2020

EUR million		Carrying amount					
	Nominal amount	Assets	Liabilities	Balance sheet account in which hedging instrument included	Changes in the value of the hedging instrument recognised in OCI	Amount reclassified from hedging reserve to profit or loss	Profit and loss account which is affected by the reclassification
Foreign currency risk							
Forward exchange contracts – sales (receivables)	55.9	–	2.5	Other investments and other payables (liabilities)	2.7	0.2	Revenue
Forward exchange contracts – purchases (liabilities)	–	–	–	–	–	–	–

The following table contains a reconciliation of the equity component risk categories and the analysis of the positions reported in other comprehensive income after tax, resulting from the reporting of cash flow hedges:

2021

EUR million	**Hedging reserve**
Balance at January 1, 2021	2.5
Cashflow hedges	
Foreign currency risk - inventory purchases	–
Foreign currency risk - other items	(2.5)
Amount reclassidied to profitor loss:	
Foreign currency risk - other items	(0.3)
Balance at December 31, 2021	**(0.3)**

2020

EUR million	Hedging reserve
Balance at January 1, 2020	–
Cashflow hedges	
Foreign currency risk - inventory purchases	–
Foreign currency risk - other items	2.7
Amount reclassidied to profitor loss:	
Foreign currency risk - other items	(0.2)
Balance at December 31, 2020	**2.5**

B Interest Rate Risk

Giesecke+Devrient's interest rate risks mainly arise from bank loans and the promissory note loan with their respective fixed interest rates until maturity.

Financial instruments with variable interest rates are subject to cash flow risks which consist of uncertainty regarding the amount of future interest payments. This risk also exists for financial instruments with fixed interest rates when they are due to be reinvested or refinanced.

As of December 31, 2021, the values were as follows:

Interest rate risk financial instruments as of December 31, 2021

EUR million	Average rate of interest		Total amount		Up to 1 year		1–2 years		2–5 years		Over 5 years	
	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
Fixed-interest financial instruments												
Financial liabilities (current and non-current)	1.4	1.4	327.1	338.9	18.4	12.1	67.5	15.0	164.2	192.7	77.0	119.1
Lease obligations	1.9	2.1	72.4	82.4	19.0	19.9	17.0	16.0	25.6	32.4	10.8	14.1
Variable-interest financial instruments												
Financial liabilities	0.7	1.4	22.7	148.6	1.8	6.8	19.8	121.2	1.1	19.6	–	1.0

There were no interest rate derivatives in 2021 and 2020.

Interest rate sensitive financial assets are mainly subject to variable interest rates. The balance sheet item cash and cash equivalents is not considered here.

G+D has analyzed the impact of the Interest Rate Benchmark Reform. There are no significant effects from this.

C Special Investment Fund

In addition to money invested directly with banks, assets as of December 31, 2021 of EUR 84.4 million are managed by a well-known German asset management company in a special investment fund. The investment consists of a portfolio of firstgrade bonds (government bonds, corporate bonds and fixed income bonds) and equities (first-grade companies), as well as commodities and cash equivalents.

In 2019 the proportion of shares was set at a maximum of 50.0% of the total portfolio to ensure diversification. The risk of the share component in this investment fund is shown monthly using the Value-at-Risk (VaR) indicator. The Value-at-Risk indicates the loss amount that will not be exceeded in a period of 10 days with a probability of 99.0 %.

The following values arise for the special investment fund as of December 31, 2021 (VaR and assets):

EUR million	2021
Marketvalue fund (incl. derivatives)	84.4
99 % VaR	2.4
Assets	
Equities incl. equityfunds	41.5
Bonds incl. bondfunds	26.5
Derivatives	(0.1)
Commodities	6.8
Cash	9.7
Other Assets	–

The following values arise for the special investment fund as of December 31, 2020 (VaR and assets):

EUR million	2020
Marketvalue fund (incl. derivatives)	78.2
99 % VaR	9.2
Assets	
Equities incl. equityfunds	38.5
Bonds incl. bondfunds	29.3
Derivatives	0.3
Commodities	6.5
Cash	3.6
Other Assets	–

In addition to the special investment fund, Giesecke+Devrient holds securities that are classified as available-for-sale securities. The market value as of December 31, 2021 is EUR 30.5 million (previous year: EUR 9.3 million). EUR 20.2 million thereof consist of investments into two investment funds. The remaining amount of these securities are investments in funds that serve as insolvency insurance to cover the provision for pensions and pre-retirement arrangements. Due to minor fluctuations in the value of these shares, no sensitivity analysis is performed. G+D has not identified any concentration of risk as defined in IFRS 7.34.

The information in this section is disclosed in accordance with IFRS 7, Financial Instruments: Disclosures.

23 Contract balances

Descriptions of significant changes in contract assets and contract liabilities:

EUR million	2021	2020
Contract assets at the beginning of the period	**236.6**	**187.0**
Currency differences	6.0	(3.1)
Transfers from contract assets to accounts receivable trade at the beginning of the year	(191.5)	(175.9)
Impairment losses on contract assets	(1.5)	(0.3)
Changes in the measure of progress	219.9	228.9
Changes in consolidation structure	(0.3)	–
Contract assets at the end of the period	**269.2**	**236.6**
Contract liabilities at the beginning of period	**235.1**	**259.6**
Currency differences	4.5	(5.3)
Revenue recognized that was included in the contract liability balance at the beginning of the period	(199.3)	(226.8)
Prepayments received excluding revenue during the period	171.7	207.6
Changes in consolidation structure	1.0	–
Contract liabilities at the end of the period	**213.0**	**235.1**

The Group does not make use of the exemption option of IFRS 15.121. The transaction prices reported in accordance with IFRS 15.120 were not reduced by components that represent consideration from customer contracts.

24 Business Combinations

G+D recognizes the results of operations of the acquired business starting from the date of acquisition for business combinations. The net assets acquired are recorded at fair value at the date of acquisition. The excess of the purchase price over the fair value of tangible and identifiable intangible net assets acquired is recorded as goodwill in the accompanying consolidated balance sheet. In addition, gains and losses on disposals or liquidations are recorded on the exit date of the affiliated company.

In March 2018, Veridos acquired shares in the company E-SEEK Inc., San Diego/USA. The acquisition date was March 27, 2018. Initially, Veridos acquired 75.0 % of the shares at a purchase price of EUR 6.4 million. In addition, the parties agreed on conditional consideration for a maximum amount of USD 1.5 million for a period of two years. The conditional consideration was dependent on the achievement of certain key figures (net sales, gross profit). Veridos maintained a call option and the non-controlling shareholders had a put option for the remaining 25.0 % of the shares. G+D had a call option and the shareholder had a put option for the remaining 25.0 % shares in E-Seek. In accordance with the anticipated acquisition method, the present value of the exercise price was recorded as a financial liability and represented part of the consideration. As of April 1, 2021, G+D exercised the call option for a price of EUR 1.6 million and as a result derecognized the financial liability. As G+D holds 60.0 % in the shares of Veridos, G+D in turn holds 60.0 % in the shares of E-SEEK Inc. Thus, G+D assumed control over E-SEEK Inc. in 2018 and since then consolidated the company in full.

E-SEEK Inc. develops and markets high definition verification devices for ID cards and driver's licenses. The portfolio of products of E-SEEK Inc. represents an excellent enrichment for the business sector Veridos in the field of verification solutions. Veridos thereby offers customers complete solutions which allows for an efficient identification of citizens. These are in place for instance for border control systems, for example at airports. Reading devices developed and marketed by E-SEEK Inc. are a significant component of the solution in connection with the documents and background systems developed by Veridos. Moreover, the business combination broadens the presence of Veridos in the North American market directly which is considered to be of strategic importance due to the high market volume.

As of May 13, 2020 BA International Inc., Ottawa/Ontario, was liquidated. The company's purpose was services relating to the handling of bank notes. At the time of liquidation, a gain arising from disposal in the amount of EUR 1.0 million in derecognizing prior years OCI translation differences was recorded.

As of September 1, 2020, CI Tech Components AG, Burgdorf, was sold at a selling price of EUR 1. The company's objective was the development and market introduction of security technology for testing and processing bank notes. At the time of liquidation, a loss arising from disposal of EUR 4.3 million was recorded. Thereof, EUR 2.7 million in derecognizing prior years OCI translation differences.

As of December 15, 2020, Giesecke+Devrient Mobile Security FZOO, Dubai, was liquidated. The company's objective was to perform services for personalized card systems. No disposal gain was reported.

On February 12, 2021 G+D sold 3.8 % of the shares held in secunet Security Networks AG, Essen for a purchase price of EUR 71.0 million. This amount less the apportionable taxes in the amount of EUR 1.1 million as well as the effects from the changes of the corresponding shares were directly recorded in equity (see statement of shareholder's equity). G+D still holds 75.5 % in the shares in secunet Security Networks AG and thus retains control.

Effective May 7, 2021 (time of acquisition) secunet acquired 100 % in the shares in stashcat GmbH, Hanover, a German provider of secure communication and collaboration. With the takeover, secunet Security Networks AG is expanding its portfolio in secure and flexible communication and collaboration for companies, administration and security authorities. The consideration transferred for the shares in stashcat GmbH amounted to EUR 10.0 million and was paid in cash. As G+D holds 75.5 % in the shares of secunet, G+D in turn holds 75.5 % in the shares of stashcat GmbH. Thus, G+D assumed control over stashcat GmbH and consolidates the company in full since May 2021.

The difference between the fair value of the consideration in the amount of EUR 10.0 million and the fair value of the identifiable net assets of stashcat GmbH amounting to EUR 4.3 million at the time of acquisition was recorded as goodwill and amounted to EUR 5.7 million. The goodwill is essentially attributable to the skills of the stashcat workforce and the expected synergies. The goodwill recorded is not deductible for tax purposes.

The identifiable assets acquired and liabilities assumed consist of:

EUR million	
Other assets	0.3
Intangible assets	6.5
Property, plant and equipment	0.2
Deferred tax liabilities	2.1
Other liabilities	0.6

In the period between May 7, 2021 and December 31, 2021, stashcat contributed EUR 1.3 million in net sales and net losses in the amount of EUR 1.0 million to the Group result. If the acquisition had occurred on January 1, 2021, the changes to these values would have been immaterial.

Effective July 7, 2021 Giesecke+Devrient acquired 100% in the shares in the British IoT provider Pod Group and assumed control. Thereby, G+D complements its product and solution portfolio in the field of the secure network accesses for IoT devices as well as the management, billing and protection of data traffic. As a first step, the consideration transferred amounted to EUR 11.9 million and was paid in cash. As a second step, G+D has to pay an additional amount of EUR 0.8 million nine months after the acquisition date. This part of the purchase price was recorded as a financial liability and constitutes part of the consideration.

The difference between the fair value of the consideration in the amount of EUR 12.7 million and the fair value of the identifiable net assets of the Pod Group amounting to EUR 0.5 million at the time of acquisition was recorded as goodwill and amounted to EUR 12.2 million. The goodwill is essentially attributable to the skills of the Pod Group workforce and the expected synergies. The goodwill recorded is not deductible for tax purposes.

The identifiable assets acquired and liabilities assumed consist of:

EUR million	
Other assets	1.0
Accounts receivable trade and other receivables, net (carrying value = fair value)	1.9
Intangible assets	3.6
Accounts payable trade and other accounts payable	1.1
Financial liabilities	3.4
Deferred tax liabilities	0.9
Other liabilities	0.6

In the period between July 7, 2021 and December 31, 2021, the Pod Group contributed EUR 4.7 million in net sales and net losses in the amount of EUR 0.7 million to the Group result. If the acquisition had occurred on January 1, 2021, the changes to these values would have been immaterial.

As of September 22, 2021, Giesecke+Devrient Currency Technology Switzerland AG, Burgdorf, was liquidated. The company was a holding company. No disposal gain was reported.

25 Disclosures on Material Non-controlling Interests

The disclosures on material non-controlling interests (NCI) are as follows:

EUR million	**Giesecke & Devrient Malaysia SDN BHD,** Kuala Lumpur		**Giesecke & Devrient Kabushiki Kaisha,** Tokyo		**Veridos Matsoukis S.A. Security Printing,** Athens	
	Dec 31, 2021	**Dec 31, 2020**	**Dec 31, 2021**	**Dec 31, 2020**	**Dec 31, 2021**	**Dec 31, 2020**
Capital shares NCI	20.0 %	20.0 %	49.0 %	49.0 %	64.0 %	64.0 %
Voting rights NCI	20.0 %	20.0 %	49.0 %	49.0 %	64.0 %	64.0 %
Profit/(loss) attributable to NCI	0.5	0.7	2.0	1.5	1.4	1.1
Dividend paid to NCI	(0.7)	–	(1.1)	(3.1)	–	–
Share of equity relating to NCI	8.2	8.5	4.7	3.9	7.5	6.1
Assets[1]	53.1	57.9	12.2	9.5	44.7	49.2
thereof cash and cash equivalents[1]	1.2	3.1	7.9	4.6	2.9	2.1
Liabilities[1]	9.8	13.3	4.6	3.6	32.5	39.2
Revenues[1]	41.6	42.7	24.6	20.1	40.1	43.3
Other comprehensive income[1]	–	–	(0.2)	(0.2)	–	(0.1)
Comprehensive income[1]	2.4	3.7	3.9	2.8	1.8	1.6

[1] Before elimination of group transactions; aggregated (not proportional)

EUR million	**Veridos GmbH,** Berlin[2]		**secunet Security Networks AG,** Essen including subsidiaries	
	Dec 31, 2021	**Dec 31, 2020**	**Dec 31, 2021**	**Dec 31, 2020**
Capital shares NCI	40.0 %	40.0 %	24.5 %	20.7 %
Voting rights NCI	40.0 %	40.0 %	24.5 %	20.7 %
Profit/(loss) attributable to NCI	(5.6)	(4.4)	10.5	7.2
Dividend paid to NCI	–	–	(4.0)	(2.1)
Share of equity relating to NCI	(3.5)	1.7	32.3	21.9
Assets[1]	171.7	199.7	271.4	238.1
thereof cash and cash equivalents[1]	16.6	18.5	119.5	101.6
Liabilities[1]	160.4	186.1	141.6	135.3
Revenues[1]	153.9	171.1	337.6	285.6
Other comprehensive income[1]	0.9	(1.2)	0.5	(0.1)
Comprehensive income[1]	(14.3)	(9.7)	43.5	34.9

[1] Before elimination of group transactions; aggregated (not proportional)
[2] The non-controlling shareholders also hold shares in Veridos Canada Ltd., Veridos Brasil Comércio de Smart Cards e Soluções para Identificação Segura e Autenticação Ltda., Veridos México S.A. de C.V., Veridos Matsoukis S.A. Security Printing, Veridos America Inc., Veridos FZE, Firdaus Al Aman for general Trading, E-SEEK Inc., VERIDOS IDENTITY SOLUTIONS UGANDA SMC LIMITED and VERIDOS TRADING AND SERVICES L.L.C. via Veridos GmbH

26 Related Party Disclosures

Transactions with MC Familiengesellschaft mbH

Since 2012, MC Familiengesellschaft mbH is the Group parent company of Giesecke+Devrient GmbH.

In fiscal year 2020, G+D issued a loan to MC Familiengesellschaft mbH in the amount of EUR 3.5 million with a duration until December 2021, which was fully redeemed in September 2021. As of December 31, 2021 and December 31, 2020, no further material transactions involving receivables and payables or income and expenses with MC Familiengesellschaft mbH existed.

Giesecke+Devrient GmbH entered into a service contract with MC Familiengesellschaft mbH. G+D renders accounting/taxes, finance and IT-system services. The allocated fee is immaterial.

Transactions with DER bogen GmbH & Co. KG

In fiscal year 2021, G+D issued a loan to DER bogen GmbH & Co. KG in the amount of EUR 20.0 million with a duration until March 2022. As of December 31, 2021 and December 31, 2020, no further material transactions involving receivables and payables or income and expenses with DER bogen GmbH & Co. KG existed. The interest expenses amounted to EUR 0.1 million in December 31, 2021.

Giesecke+Devrient GmbH entered into a service contract with DER bogen GmbH & Co. KG. G+D renders accounting/taxes, finance and IT-system services. The allocated fee is immaterial.

Transactions with Giesecke+Devrient Foundation and Giesecke+Devrient Foundation Geldscheinsammlung

In fiscal year 2010, G+D established the Giesecke+Devrient Foundation. The company maintained a loan from the Giesecke+Devrient Foundation in the amount of EUR 21.0 million and EUR 21.0 million as of December 31, 2021 and 2020, respectively. The loan is due at maturity on May 10, 2025. Interest expense amounted to EUR 0.3 million and EUR 0.4 million in 2021 and 2020, respectively (see Note 13 “Financial Liabilities”). The grants amounted to EUR 0.2 million and EUR 0.3 million in fiscal years 2021 and 2020, respectively.

Additionally in fiscal year 2021, the newly established Giesecke+Devrient Foundation Geldscheinsammlung took out a loan in the amount of EUR 0.4 million as of December 31, 2021. The loan is due at maturity on November 17, 2023.

Transactions between affiliated companies and joint ventures and associated companies

Transactions were carried out between affiliated companies and joint ventures as well as associated companies. The following summary presents these transactions from the viewpoint of the affiliated companies:

EUR million	Services rendered		Services received	
	2021	2020	2021	2020
Joint ventures				
Goods and services	9.9	7.4	0.9	0.9
Other financial transactions	–	–	–	0.1
	9.9	7.4	0.9	1.0
Associated companies				
Goods and services	–	–	2.9	2.2
	–	–	2.9	2.2
	9.9	**7.4**	**3.8**	**3.2**

Accounts receivable and accounts payable from joint ventures and associated companies are comprised of the following:

EUR million	Dec 31, 2021	Dec 31, 2020
Joint ventures		
Accounts receivable from joint ventures	0.8	0.5
Accounts payable to joint ventures	0.1	0.1
Associated companies		
Loans receivable from associated companies	–	2.1
Accounts receivable from associated companies	0.1	0.1
Accounts payable to associated companies	0.8	0.6

None of the balances from joint ventures and associated companies are secured.

Refer to Note 31 "Commitments and Contingent Liabilities" for commitments and contingent liabilities from joint ventures.

Transactions with members of key management personnel

The members of key management personnel include the members of the management board of Giesecke+Devrient GmbH, the chairmen of the management boards of Giesecke+Devrient Currency Technology GmbH, Giesecke+Devrient Mobile Security GmbH and Veridos GmbH, the chairman of the board of directors of secunet Security Networks AG (equal to Group Executive Committee – GEC) as well as the members of the supervisory board and the advisory board of Giesecke+Devrient GmbH since these bodies are responsible for planning, managing and monitoring the Group activities.

Compensation of key management personnel
The total compensation for active members of key management personnel amounted to EUR 10.4 million and EUR 6.2 million in 2021 and 2020, respectively.

In 2021 and 2020, the short-term benefits amounted to EUR 7.7 million and EUR 5.2 million, respectively. Thereof, EUR 6.8 million (prior year EUR 4.2 million) are attributable to the GEC, EUR 0.4 million (prior year EUR 0.4 million) to the supervisory board, and EUR 0.5 million (prior year EUR 0.5 million) to the advisory board.

The past service cost for pensions for the GEC (benefits after termination of employment contract) amounted to EUR 0.6 million and EUR 0.5 million in 2021 and 2020, respectively.

Furthermore, long term benefits for active members of the GEC amounted to EUR 2.1 million (prior year EUR 0.6 million).

In the current reporting year, members of the GEC, with exception of the chairman of the board of directors of secunet Security Networks AG, are entitled to receive 40.0 % of their variable salary at the end of two additional years (deferral) in so far as they already held their positions and obtained consent in the prior year. The payment is based on the achievement of target average ROCE (return on capital employed) for fiscal years 2021 and 2020 and each of the two following years. The right to deferral only exists if employment continues or is terminated because of specific predetermined reasons. The related expense is included in other long-term payments.

The consolidated financial statements include provisions for pensions for the GEC amounting to EUR 4.3 million and EUR 3.8 million as of December 31, 2021 and 2020, respectively, as well as provisions or payables relating to compensation for members of key management personnel in the amount of EUR 8.0 million and EUR 5.2 million, respectively.

Total remuneration of the supervisory board and the advisory board in accordance with commercial law equals the stated short-term benefits. Total remuneration of the active members of the management body of the parent company in accordance with commercial law are not disclosed according to Section 315e (1) in conjunction with Sections 314 (3) no. 2, 286 (4) no. 2 German Commercial Code (HGB).

Business transactions with members of key management personnel or other related parties
In the course of ordinary business activities, Giesecke+Devrient receives advisory and consultancy services from companies and personnel with connections to the members of the supervisory board and advisory board or to the shareholder as well as to the members of the supervisory board and the advisory board itself.

No prepayments or loans to members of key management personnel were granted in fiscal years 2021 and 2020.

Former key management personnel of Giesecke+Devrient GmbH
Compensation to former members of the management board of the parent company and their survivors amounted to EUR 2.4 million and EUR 2.3 million in 2021 and 2020, respectively. In 2021, this includes EUR 0.2 million for long-term variable compensation from a 2019 commitment.

Pension obligations to former members of the management board of the parent company and their survivors amounted to EUR 22.0 million and EUR 22.1 million as of December 31, 2021 and 2020, respectively.

27 Number of Employees

The average number of full-time equivalent employees (excluding trainees and employees on maternity leave):

	2021	2020
Production	7,411	7,365
Sales	1,448	1,423
Research and development	1,192	1,169
Administration	1,574	1,579
	11,625	**11,536**

28 Personnel Expenses

EUR million	2021	2020
Wages and salaries	652.9	608.2
Social security contributions	104.4	98.1
Pension entitlements	11.2	11.6
	768.5	**717.9**

29 Disclosure in accordance with Section 161 German Stock Corporations Act (AktG)

The consolidated financial statements include secunet Security Networks AG, a publicly traded company. In accordance with Section 161 AktG (German Stock Corporation Act), the management of secunet AG has filed the required declaration and made it permanently available to the public on their website (http://www.secunet.com).

30 Exemption from the disclosure of the annual financial statements and management report in accordance with Section 264 /Section 264b HGB

The following companies will exercise their right not to prepare annual financial statements as well as not to prepare management reports in accordance with the regulations for corporate entities and certain registered partnerships as corporate entities (Section 264 (3) HGB) or partnerships that do not have an individual person either directly or indirectly as a general partner ("Kapitalgesellschaft und Co.") (Section 264b HGB). They also exercise their right not to have them audited or to disclose them:

– Giesecke+Devrient Mobile Security GmbH, Munich
– Giesecke+Devrient Currency Technology GmbH, Munich
– Papierfabrik Louisenthal GmbH, Gmund am Tegernsee
– Giesecke+Devrient Mobile Security Germany GmbH, Munich
– Giesecke+Devrient Secure Data Management GmbH, Neustadt near Coburg
– Giesecke+Devrient advance52 GmbH, Munich
– EPC Electronic Payment Cards GmbH & Co. KG, Munich
– Giesecke+Devrient Ventures GmbH, Munich
– Giesecke+Devrient Immobilien Management GmbH, Munich
– Giesecke+Devrient Grundstücksgesellschaft mbH & Co. KG, Gruenwald
– MC Holding GmbH & Co. KG, Gruenwald

31 Commitments and Contingent Liabilities

Legal proceedings/contingent liabilities
Giesecke+Devrient is involved in pending claims and legal proceedings arising in the ordinary course of business. Provisions have been made for estimated liabilities for certain items. G+D believes the resolution of all such matters will not have a material impact on G+D's net assets, results of operations and financial position.

Contingent liabilities in the amount of EUR 17.9 million as of December 31, 2021 (as of December 31, 2020 EUR 12.1 million) relating to tax risks outside Germany exist. As of December 31, 2021, additional contingent liabilities relating to legal disputes amounting to EUR 0.1 million (December 31, 2020: EUR 0.3 million) exist. G+D believes claims relating to these tax risks and legal disputes are improbable.

With regard to financial guarantees, the maximum credit risk is the maximum amount that the Group would have to pay.

Guarantees
Giesecke+Devrient does not hold material amounts of financial assets which serve as collateral for liabilities or contingent liabilities. Moreover, G+D does not hold collateral which it would be permitted to sell or repledge in the event of default by the owner of the collateral.

G+D has issued guarantees for deposits received in the amount of EUR 60.1 million as of December 31, 2021 and EUR 124.3 million as of December 31, 2020.

Giesecke+Devrient guarantees indebtedness of a joint venture concerning contractual performance to third parties. These arrangements cover credit lines of the joint venture in the amount of up to EUR 4.0 million in 2021 and 2020, respectively. Amounts relating to interest charges are also guaranteed. In the event of default of the joint venture, G+D is required to repay the borrowings covered by these guarantees. The maximum exposure relating to these guarantees amounted to EUR 4.0 million and EUR 4.0 million as of December 31, 2021 and December 31, 2020, respectively. Furthermore, Giesecke+Devrient guarantees indebtedness of a third party concerning contractual performance to third parties. These arrangements cover credit lines of the third party in the amount of up to EUR 1.0 million in 2021 and EUR 1.0 million in 2020. Amounts relating to interest charges are also guaranteed. In the event of default of the third party, G+D is required to repay the borrowings covered by these guarantees. The maximum exposure relating to these guarantees amounted to EUR 1.0 million as of December 31, 2021 and EUR 1.0 million as of December 31, 2020, respectively.

Commitments
As of December 31, 2021, Giesecke+Devrient has material purchase commitments which mainly consist of short-term agreements that were entered into during the 2021 fiscal year for the purchase of supplies, inventories, property, plant and equipment, land and services.

The aggregate amount of required payments for commitments as of December 31, 2021 is allocated to the respective years as follows:

EUR million	
2022	461.1
2023	98.3
2024	4.5
2025	2.0
2026	2.9
thereafter	0.3
	569.1

32 Grants

In fiscal years 2021 and 2020, G+D received other miscellaneous grants for operational investments in the amount of EUR 3.2 million and EUR 8.7 million which were recognized in income. At present, there is reasonable assurance that the attached conditions will be fulfilled.

33 Risks

The global spread of Covid-19 since the beginning of 2020 poses health risks, financial risks, and logistical risks. In response, G+D has set up a central crisis management system, which – in addition to business performance and liquidity development – addresses location-based employee/health management and enables a swift reaction to changing situations. It also monitors the countermeasures identified to cut costs and ensure ongoing liquidity. The results are reported separately to the Management Board and supervisory bodies.

Refer to section 4 of the Group management report, "Opportunities and Risk Report", for the related disclosures.

34 Audit fees in accordance with Section 314 (1) no. 9 HGB

The audit fees for KPMG AG for the fiscal year ended 2021 amounted to EUR 2.6 million. The breakdown into categories is as follows: fees for audit services EUR 1.3 million, fees for audit-related services EUR 0.1 million, fees for tax-related services EUR 1.0 million and fees for all other services EUR 0.2 million.

35 Group to which the Company belongs

MC Familiengesellschaft mbH is the parent company of the Giesecke+Devrient Group (see Note 26 "Related Party Disclosures"). As of December 31, 2021, consolidated financial statements and a group management report will be prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU. The consolidated financial statements of MC Familiengesellschaft mbH will be published electronically in the German Federal Gazette.

36 Events after the Balance Sheet Date

There are potential risks arising from the continuing war between Russia and Ukraine. The extent of the conflict is not possible to predict at the time of preparation of the consolidated financial statements.
A comprehensive and continuous review of all the implications of this war for G+D is currently being carried out by senior management. At the time of preparing this report, G+D had two subsidiaries in Russia (Moscow and St. Petersburg) and no subsidiaries in Ukraine. At present, G+D does not see an increased security risk for its employees in Russia. Sales via and with the regions affected are of minor importance for G+D. The sanctions already imposed and any potential sanctions in the future will therefore not have a material impact on G+D's financial stability. There is no dependence on suppliers from the conflict regions concerned.

G+D's consortium agreement was renegotiated in October 2021. In this context, the previous term loan in the amount of EUR 120.0 million was repaid and not used as of the balance sheet date of December 31, 2021. It was not until January 2022 that the term loan was drawn down in the same amount before the end of the availability period. The term loan has a term until October 2026.

There have been no further significant events after the balance sheet date which are expected to have a material impact on the net assets, financial position, and results of operations of the Group.

37 Shareholdings

Direct and indirect investments held by Giesecke+Devrient GmbH in affiliated companies

	Shareholding in %
Giesecke+Devrient Mobile Security GmbH, Munich	100.0
Giesecke+Devrient Currency Technology GmbH, Munich	100.0
MC Holding GmbH & Co. KG, Gruenwald	100.0
Giesecke & Devrient Grundstücksgesellschaft mbH & Co. KG, Gruenwald	100.0[1]
Giesecke & Devrient Immobilien Verwaltungsgesellschaft mbH, Gruenwald	100.0
Papierfabrik Louisenthal GmbH, Gmund am Tegernsee	100.0
Giesecke+Devrient Mobile Security Germany GmbH, Munich	100.0
Giesecke+Devrient Secure Data Management GmbH, Neustadt near Coburg	100.0
Giesecke+Devrient advance52 GmbH, Munich	100.0
Giesecke+Devrient Ventures GmbH, Munich	100.0
Giesecke+Devrient Immobilien Management GmbH, Munich	100.0
EPC Electronic Payment Cards GmbH & Co. KG, Munich	100.0
Giesecke + Devrient Mobile Security Iberia S.A., Barcelona	100.0
Giesecke + Devrient Currency Technology Iberia S.L., Madrid	100.0
Giesecke+Devrient Mobile Security GB Ltd, Wembley/Middlesex	100.0
Giesecke+Devrient Currency Technology GB Ltd, Milton Keynes	100.0
Giesecke+Devrient Mobile Security Slovakia, s.r.o., Nitra	100.0
Giesecke+Devrient Mobile Security Italia S.R.L., Milan	100.0
Giesecke+Devrient Currency Technology Italia S.R.L., Rome	100.0
Giesecke+Devrient Mobile Security France S.A.S., Craponne	100.0
Giesecke+Devrient Mobile Security Sweden AB, Stockholm	100.0
Giesecke+Devrient Mobile Security Finland Oy, Helsinki	100.0
Giesecke+Devrient Currency Technology Netherlands B.V., Amsterdam	100.0
Giesecke+Devrient Currency Technology Istanbul Ticaret ve Servis Limited Sirketi, Istanbul	100.0
Giesecke+Devrient Mobile Security Russia, OOO, Moscow	100.0
Giesecke+Devrient Currency Technology FZE, Dubai	100.0
Giesecke+Devrient Holding FZE, Dubai	100.0

[1] The general partner is Giesecke & Devrient Immobilien Verwaltungsgesellschaft mbH, Gruenwald

Direct and indirect investments held by Giesecke+Devrient GmbH in affiliated companies

	Shareholding in %
Giesecke & Devrient Egypt Ltd. i.L., Cairo	100.0
Giesecke+Devrient Currency Technology Saudi Arabia, Riyadh	100.0
Giesecke and Devrient Currency Technology South Africa (Pty) Ltd, Johannesburg	100.0
Giesecke+Devrient Currency Technology Africa Limited, Lagos	100.0
Giesecke+Devrient Currency Technology America, Inc., Dulles/Virginia	100.0
Giesecke+Devrient Mobile Security America, Inc., Dulles/Virginia	100.0
Giesecke+Devrient Mobile Security Canada, Inc., Toronto/Ontario	100.0
Giesecke y Devrient de México S.A. de C.V., Mexico City	100.0
Giesecke y Devrient Currency Technology de México, S.A. de C.V., Mexico City	100.0
Giesecke+Devrient Mobile Security Brasil Indústria e Comércio de Smart Cards S/A, São Paulo	100.0
Giesecke+Devrient Currency Technology Brasil Serviços e Comércio de Soluções Tecnológicas Ltda., São Paulo	100.0
GyD Latinoamericana S.A., Buenos Aires	100.0
Giesecke and Devrient Mobile Security Australia Pty Ltd, Knoxfield/Victoria	100.0
Giesecke+Devrient Mobile Security Asia Pte. Ltd., Singapore	100.0
Giesecke & Devrient Asia Pacific Banking Systems (Shanghai) Co. Ltd., Shanghai	100.0
Giesecke+Devrient (China) Technologies Co., Ltd., Nanchang/Jiangxi	100.0
Giesecke & Devrient Asia Pacific Ltd., Hong Kong	100.0
Giesecke & Devrient India Private Limited, New Delhi	100.0
Giesecke & Devrient MS India Private Limited, New Delhi	100.0
Giesecke and Devrient Currency Technology Korea Co., Ltd., Seoul	100.0
PT Giesecke & Devrient Indonesia, Jakarta	100.0
PT Giesecke and Devrient Mobile Security Indonesia i.L., Jakarta	100.0
Giesecke+Devrient Group Services GmbH & Co. KG, Munich	100.0
PODSYSTEM LIMITED, Buckingham	100.0
LUNER.IO LIMITED, Buckingham	100.0
Podsystem Corporation, San Francisco, CA	100.0
Pod Group Asia Pacific Limited, Wan Chai	100.0
Data Connectivity Podsystem SL, Seville	100.0
Giesecke+Devrient Ventures Management GmbH i. G., Munich	100.0
Giesecke+Devrient Ventures GP GmbH i. G., Munich	100.0
Giesecke & Devrient Egypt Services LLC i.L., Cairo	99.0
Giesecke & Devrient LOMO, ZAO, St. Petersburg	84.7
Giesecke and Devrient Mobile Security Southern Africa (Pty) Ltd, Johannesburg	84.0
Giesecke & Devrient Malaysia SDN BHD, Kuala Lumpur	80.0

Giesecke+Devrient Currency Technology Switzerland AG i.L., Burgdorf was deconsolidated in 2021, major changes are reflected under business combinations

Direct and indirect investments held by Giesecke+Devrient GmbH in affiliated companies

	Shareholding in %
secunet Security Networks AG, Essen	75.5
secunet s.r.o., Prague	75.5
Secunet Inc., Austin (shell company)	75.5[1]
secunet International GmbH & Co.KG, Essen	75.5
secunet International Management GmbH, Essen	75.5
finally safe GmbH, Essen	75.5
stashcat GmbH, Hanover	75.5
Veridos GmbH, Berlin	60.0
Veridos Canada Ltd., Toronto/Ontario	60.0
Veridos America Inc., Wilmington/Delaware	60.0
Veridos FZE, Dubai	60.0
VERIDOS IDENTITY SOLUTIONS UGANDA SMC LIMITED, Kampala	60.0
Firdaus Al Aman for general Trading, Baghdad	60.0
Veridos Brasil Comércio de Smart Cards e Soluções para Identificação Segura e Autenticação Ltda., São Paulo	60.0
Veridos México S.A. de C.V., Mexico City	60.0
E-SEEK Inc., San Diego/California	60.0
Giesecke & Devrient Kabushiki Kaisha, Tokyo	51.0
secustack GmbH, Dreden	38.5
Veridos Matsoukis S.A. Security Printing, Athens	36.0
VERIDOS TRADING AND SERVICES L.L.C., Abu Dhabi	29.4

[1] Not consolidated due to immateriality

Investments held by Giesecke+Devrient GmbH in associated companies and joint ventures

	Shareholding in %
Podsystem MX SAPI de CV, León, Gto	51.0
E-Kart Elektronik Kart Sistemleri Sanayi ve Ticaret Anonim Sirketi, Gebze	50.0
Shenzhen Giesecke & Devrient Currency Automation Systems Co. Ltd., Shenzhen	50.0
Build38 GmbH, Munich	31.2
Netcetera Group AG, Zurich	30.0
Emirates German Security Printing L.L.C. i.L., Abu Dhabi	29.4
UGANDA SECURITY PRINTING COMPANY (USPCL) LIMITED, Entebbe	29.4
Netset Global Solutions d.o.o., Belgrade	24.0

Investments held by Giesecke+Devrient GmbH in other related parties

	Shareholding in %
Brighter AI Technologies GmbH, Berlin	8.5
FINANCIAL NETWORK ANALYTICS LTD, London	6.5
IDnow GmbH, Munich	5.1
Metaco SA, Lausanne	3.9
Verimi GmbH, Frankfurt am Main	1.0

The affiliated company secunet Service GmbH, Essen, was merged into secunet AG, Essen. The affiliated company PROCOIN GmbH, Langen, was merged into Giesecke+Devrient Currency Technology GmbH, Munich.

Munich, March 22, 2022

Giesecke+Devrient GmbH
The Management Board

[original German version signed by:]

Dr. R. Wintergerst
Group CEO

Dr. P. Zattler
Group CFO

Corporate Bodies

Supervisory Board

Prof. Klaus Josef Lutz
(Chairman) Munich

Eva Schäflein-Bohsewe[1]
(Deputy Chairman) Neubiberg

Achim Berg
Munich

Prof. Dr. Gabi Dreo Rodosek
Haar

Ralf Gerlach[1]
Gilching

Raimund Litters[1]
Rosenheim

Astrid Meier-Sikorski[1]
Munich

Horst Müller[1]
Ernsgaden

Claudia Scheck[1]
Königsmoos

Dr. Walter Schlebusch
Munich

Verena von Mitschke-Collande
Tutzing

Stefan Winners
Munich

Advisory Board

Prof. Klaus Josef Lutz
(Chairman) Munich

Verena von Mitschke-Collande
(Deputy Chairman) Tutzing

Achim Berg
Munich

Prof. Dr. Gabi Dreo Rodosek
Haar

Dr. Walter Schlebusch
Munich

Stefan Winners
Munich

Management Board

Dr. Ralf Wintergerst
(Group CEO Giesecke+Devrient)

Dr. Peter Zattler
(Group CFO Giesecke+Devrient)

[1] Employee representatives

Legal Notice

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Both versions can be found on the G+D website: www.gi-de.com

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