ATON 2 GmbH, Munich

GROUP MANAGEMENT REPORT AS OF 31 DECEMBER 2021

(Translation – the German text is authoritative)

Contents

I. GROUP PROFILE

1. Business segments

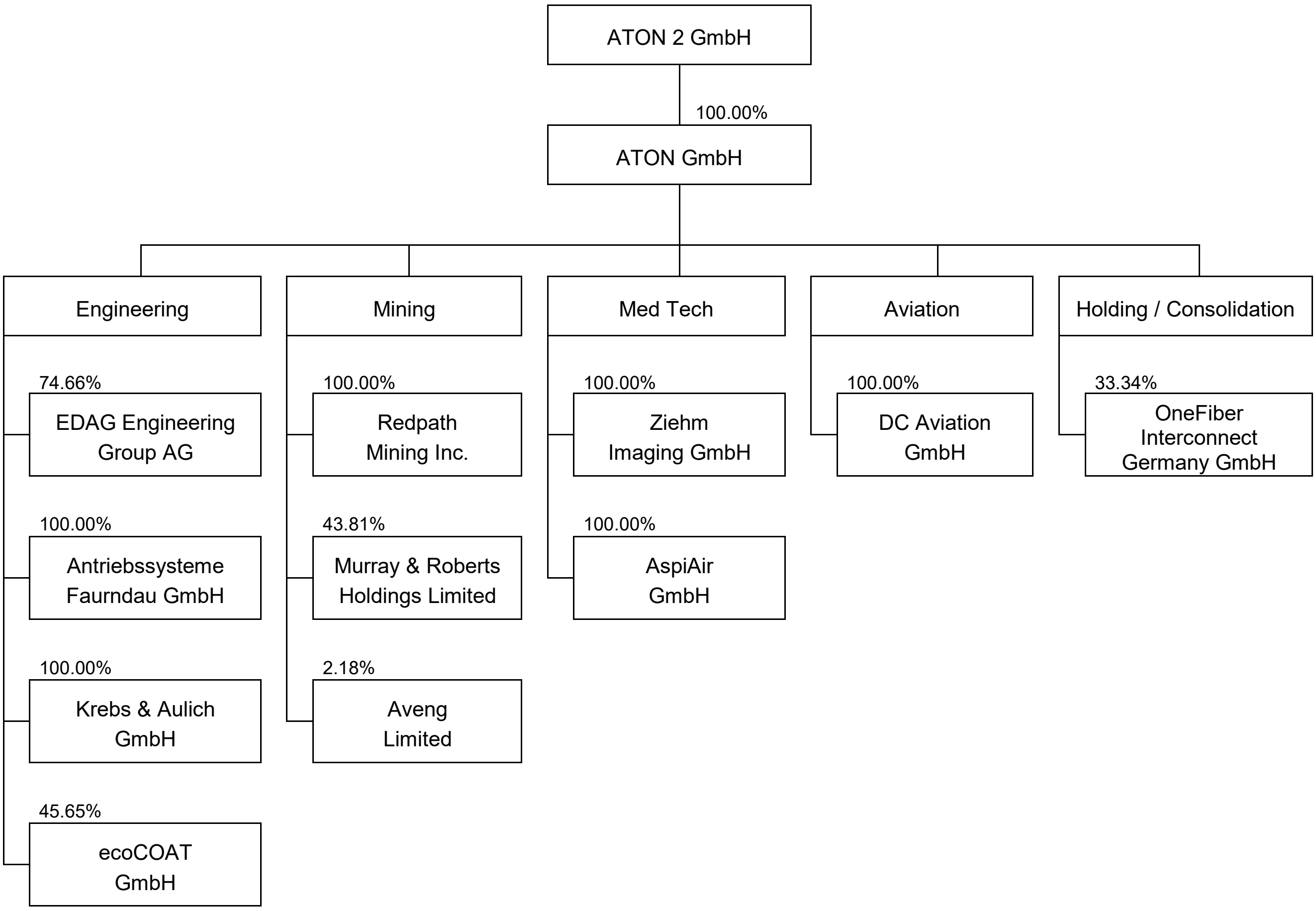
The ATON Group is a group of internationally operating companies in the business segments Engineering, Mining, Med Tech and Aviation.

The ATON Group comprises the ATON 2 GmbH, a corporation established under German law, and the following investments:

	31.12.2021	31.12.2020
Subsidiaries	92	91
thereof consolidated	85	84
Joint Ventures	24	24
thereof consolidated using the equity method	24	24
Investments in associates and investments measured at fair value	6	4
thereof consolidated using the equity method	3	3
Total	**122**	**119**
thereof consolidated	**112**	**111**

The ATON Group continues to focus on the development of the core competencies in the individual business segments. Strategic investments, the merging of similar activities and the use of synergies as well as the disposal of non-core activities shall further enhance the companies' competitive advantage, optimise the use of existing resources and thus further increase value added.

The organisational structure of the ATON Group with the operating units allocated to the relevant business segments is as follows as of 31 December 2021:



The range of services offered by the **segment Engineering** includes in particular the areas of engineering and plant construction for the automotive industry, along with other sectors of the mobility industry. In addition, this segment develops and offers new high-tech solutions for innovative products, primarily through the application of metallic layers to almost all kind of surfaces.

The **EDAG** Group is one of the largest independent engineering partners to the automotive industry for the development of vehicles, derivatives, modules and production facilities. The business is organised in the following divisions: Vehicle Engineering, Production Solutions and Electrics / Electronics. EDAG's focus is on the automotive and commercial vehicle industries. Its global network ensures EDAG’s local presence for its customers.

EDAG works according to the principle of production-optimised solutions, which means that development results are always in line with current production requirements. This comprehensive expertise allows EDAG, as an independent engineering expert, to support its customers from the initial idea to design, through production development and prototyping, to turnkey production systems. In addition, as a technology and innovation leader, the Group operates competence centres for pioneering future technologies in the automotive sector: lightweight construction, electromobility, car IT, integral safety and new production technologies. The organisation and the technological focus areas are constantly adapted in order to continue to develop the right solutions for the dynamic market environment of the mobility industry on a sustainable basis.

Antriebssysteme Faurndau GmbH was acquired 100 % by ATON GmbH with effect from 1 July 2021 and is fully consolidated since then. The company's core competencies are the development, manufacture and sale of standard and customised special drives with high dynamics, maximum rotational acceleration and low mass moments of inertia in synchronous and asynchronous technology (high-performance electric motors). In addition, the associated service is offered, which includes worldwide customer service, spare parts sales, maintenance and repair of motors, converters, power converters and encoder systems as well as electrically rotating systems of all types. On the customer side, the focus is on the automotive sector (test stand technology), the plastics, packaging and paper industries, and general mechanical engineering.

Krebs & Aulich GmbH was also acquired 100 % by ATON GmbH with effect from 1 July 2021 and is fully consolidated since then. For more than 20 years, the company has been calculating, designing, constructing and building electrical machines with the highest efficiencies and for special requirements and, like Antriebssysteme Faurndau GmbH, is active in the field of high-performance electric motors. On the product side, the focus is on the areas of test stand engines for the automotive industry and generators in the field of hydroelectric power. In the field of servo motors the company also provides small batch series of engines for primary flight control actuators as well as built-in engines for machine tools and servo motors for the aerospace industry.

As a result of further capital increases in 2021, ATON now holds 45.65 % in **ecoCOAT GmbH**. Upon reaching certain milestones, ATON GmbH has the option to further increase its shareholding to over 50 % through capital increases. The company develops new high-tech solutions for innovative products. To this end, the company specialises in laying out metallic layers and applying them to virtually any surface. New functions without binders, chemicals or vacuum technology are the focus of the development activities.

The **segment Mining** offers mining and shaft-sinking services and products worldwide.

The **Redpath** Group is a global mining contractor, providing full services to the mining industry, including shaft sinking, shaft equipment repair and rehabilitation, underground mine development and construction, contract mining, surface plant construction, raiseboring, mechanised raising and technical services supporting the design management and construction of all underground mine infrastructure. Redpath Group continues to develop its core services of shaft sinking and mine development, expanding its raisebore fleet, which now includes all relevant sizes, putting the Group in a very strong competitive position in the global raisebore market. In addition, Redpath is pursuing the development of mining equipment automation to apply this technology to projects.

The **Murray & Roberts** Group, in which ATON holds a 43.81 % stake, is a globally operating company for engineering, construction and underground mining services. The range of services covers the areas of oil & gas, underground mining and power & water. The Group applies its capabilities throughout the project life cycle to optimise its clients' fixed capital investments. The Group achieves this by focusing its expertise and capacity on delivering sustainable solutions for project engineering, procurement, construction, commissioning, operations and maintenance. The investment is accounted for using the equity method.

The **Aveng** Group is an engineering, construction and maintenance contractor, delivering complex projects in the building, infrastructure and resources sectors. Furthermore, the Group offers services across the mining value chain in open-cut contract mining. The shareholding has been diluted from 7.02 % in previous year to 2.18 % as a result of capital increases in which ATON did not participate.

The **segment Med Tech** offers solutions for the healthcare market in the fields of surgery and diagnostics, with a focus on X-ray diagnostics on the one hand and products for the pharmaceuticals industry and hospitals on the other hand.

The **Ziehm** Group specialises in the development, production and worldwide marketing of mobile X-ray-based system solutions for imaging (so-called C-arms). Essentially, this involves two main products. Firstly, these are the Ziehm full size C-arm systems, which are used in spine surgery, orthopaedics, traumatology, vascular surgery, interventional radiology, cardiology and cardiac surgery as well as other clinical applications. The focus on intraoperative imaging and innovative X-ray technologies is consistently implemented through high investments in research. The available hardware and software features, which have also been further enhanced through the acquisition of Therenva SAS, support easy communication and improve process efficiency in the OR. The second main product is the Orthoscan mini C-arm systems, where innovative product solutions for orthopaedic imaging are developed, manufactured, distributed and services are offered to our customers worldwide. The mini C-arm is used for fluoroscopic imaging of the extremities in orthopaedic surgery and for digital diagnostic imaging in medical practices.

AspiAir GmbH is focused on the development of inhalation therapies.

The **segment Aviation** comprises business aviation and charter flights.

DC Aviation GmbH, as operator and charter provider including aircraft technology, concentrates on the premium segment of private jets, particularly for medium and long-haul flights. As of 31 December 2021, the DC Aviation Group has 29 aircrafts under contract as operator. The international presence is strengthened by a subsidiary in Malta and a 49.0 % joint venture in Dubai (DC Aviation Al Futtaim LLC) with local infrastructure at Dubai World Central airport. The second business field, which is steadily growing in importance, is the maintenance, repair and technical modification of the business jets operated by DC Aviation as well as the maintenance of third-party aircraft not operated by DC Aviation.

OneFiber Interconnect Germany GmbH, held by **ATON Digital Services GmbH**, plans to build a Germany-wide, cyber-secure fibre optic network along the railway tracks with gigabit products for companies, carriers and public authorities. The company is currently presented within the segment Holding / Consolidation. The **segment Digital Services** is to be further expanded within the ATON Group in the future.

2. Management

ATON 2 GmbH is a strategic holding company with extensive competencies regarding strategy and financing. The management of the individual subsidiaries assumes direct operative responsibility and acts to the extent agreed with the management of ATON 2 GmbH in order to achieve the financial and strategic objectives. There is a permanent exchange between the managing directors of the subsidiaries and the holding company as part of a monthly reporting.

3. Research and development

Some of the Group's companies operate in technological fields that are constantly evolving. These mainly include the Ziehm Group, the EDAG Group, the Redpath Group and AspiAir GmbH. But the investment in ecoCOAT GmbH should also be mentioned here. In order to differentiate from competitors and to keep up with the latest technological developments, these companies individually operate research and development as well as application development departments. Permanent development and enhancement of the product portfolio is of great strategic importance in the respective industries. Expenditure for research and development recognised in the income statement amount to EUR 13.6 million (previous year: EUR 10.5 million). In addition, there are capitalised development costs of EUR 4.0 million (previous year: EUR 3.9 million) for new and further development of products and technologies.

II. MACROECONOMIC DEVELOPMENT

During the reporting year, the world economy recovered strongly from the severe downturn it had suffered in 2020 as a result of the global covid-19 pandemic. At about 5.6 % (previous year: decline of 3.4 %), it expanded at a pace last seen in the 1970s.

The following overview presents the development of the gross domestic product (GDP) in the individual economic regions:

in %	2021	2020	2019	2018	2017
World	5.6	- 3.4	2.7	3.3	3.4
Europe	5.6	- 5.9	1.7	2.1	3.0
Germany	2.7	- 4.9	1.1	1.1	3.0
North America	5.6	- 3.5	2.3	2.9	2.3
South America	6.4	- 6.7	0.8	1.6	2.0
Asia/Pacific	6.0	- 1.0	4.0	4.9	5.1
China	8.1	2.3	6.0	6.7	6.9
Middle East	3.5	- 5.5	2.1	1.2	0.7
Africa	4.0	- 2.4	3.1	3.3	3.4

Source: Global Insight World Overview as of 18 January 2022.

In industrialised countries, the increasing availability of vaccines allowed many restrictions to be lifted, thus triggering a dynamic upswing. The emerging markets were also able to more than offset the prior year’s decrease with a high growth. This situation also caused world trade to recover and expand by a good 12 %. Nevertheless, the ongoing pandemic and regional restrictions led to problems - in some cases considerable - in global supply chains, and caused supply bottlenecks in many sectors of the economy. During the second half of the year in particular, this noticeably slowed down the economic recovery and led to a significant increase in inflation in many regions.

These developments also affected the United States. After the economic recovery had been driven by government stimulus measures and transfer payments in the first half of the year, the spread of the delta variant of covid-19 and the worsening supply bottlenecks caused a noticeable slowdown during the rest of the year. Moreover, the strong increase in US consumer price inflation to 7.0 % in December and 4.7 % for the year as a whole dampened consumer confidence and purchasing power. Nonetheless, the United States economy as a whole grew very dynamically by 5.7 % in 2021 and was already able to return to its pre-crisis level in the second quarter.

In Europe, a severe wave of infections in the winter of 2020/21 triggered another recession and caused a weak start to the year. However, thanks to the declining numbers of infections, restrictions were eased more and more from the second quarter onwards and completely eliminated in some areas. This led to a strong economic recovery in the summer months. Towards the end of the year, supply problems in the industry slowed down the further recovery and a renewed flare-up of the pandemic strained the confidence of companies and consumers alike. Nonetheless, Europe’s economy as a whole grew by 5.6 % and thus returned to its pre-crisis level by the end of the year. With large differences between the individual countries, consumer prices in the eurozone also rose significantly, increasing by 2.6 % on average compared to the prior year, although the increases differed widely between the various member states. In December, the inflation rate actually reached 5.0 %.

The Chinese economy was the first major economy to fully recover. However, the country's economic growth was considerably less dynamic later in the year due to the government's rigorous zero-covid strategy, a more restrictive monetary and fiscal policy, regulatory interventions, a slowdown of the real estate sector and the energy shortage as a result of a lack of coal. But thanks to positive base effects, the gross domestic product increased strongly by 8.1 % during the year as a whole.

The oil price is one of the most important values on the commodity markets and rose sharply in 2021. In 2021, the average price was at USD 71.18 per barrel, an almost continuous increase of around 70.5 % year-on-year. On 31 December 2021, a barrel of Brent crude oil cost USD 74.17 (year-end 2020: USD 49.99) (see "Statista GmbH").

The inflation rate in the eurozone rose sharply to 5.0 % in 2021 (previous year: -0.3 %) (please refer to the statistical office of the European Union "Eurostat" as of 20 January 2022). The main refinancing interest rate is unchanged to the previous year at 0.0 %. The marginal lending facility and the deposit facility also remained unchanged at 0.25 % and -0.50 % respectively.

Exchange rates remained volatile and inconsistent during the financial year. Compared with the exchange rate level at the end of previous year, the Euro lost 10.3 % against the Chinese Renminbi, 7.9 % against the Canadian Dollar, 7.7 % against the US Dollar, 6.5 % against the British Pound and 4.4 % against the Swiss Franc in 2021. Against the Japanese Yen, however, the Euro gained 3.1 %.

III. DEVELOPMENT OF THE BUSINESS SEGMENTS

The following comments explain the development of the gross revenue and results attributable to the particular segments.

1. Engineering

The gross revenue of this business segment is mainly generated by the EDAG Group. The Group's customers are predominantly from the automotive sector. Insofar, the development of the automotive industry has a significant impact on this segment. However, even in economically weak times, manufacturers need to work on long-term development projects for new vehicles and technologies and the associated investments in new production facilities for new types of vehicles require a longer lead time.

The international automotive markets underwent a turbulent year 2021: While the first half of the year in particular saw significant growth in some cases due to the low year-on-year comparison and catch-up effects, the second half of the year presented a clearly negative picture. In particular, the shortage of semiconductors put a strain on global supply chains. In addition, shortages of other intermediate products and raw materials as well as rising prices for energy and logistics are causing problems for the industry. Of the three largest sales regions, however, only Europe with just under 11.8 million new vehicles registered recorded a decline of around 2 % in 2021 as a whole. Europe has therefore yet to recover from the pandemic-related declines. In the US, light vehicle sales (cars and light trucks) grew by 3 % to 14.9 million vehicles in 2021, but remained well below the pre-crisis level of around 17.0 million vehicles in 2019. The Chinese light vehicle market completed the year 2021 with a market volume of 21.1 million newly registered vehicles, representing growth of 7 %. The annual balance was thus also better than in the pre-covid-19 year 2019. However, the sales volumes continued to fall well short of the record year 2017 (refer to VDA press release dated 18 January 2022).

IHS Markit assumes that approximately 79.4 million light vehicles have been sold worldwide in 2021 overall. This figure is only 2.9 % above the 2020 level. IHS Markit also remains cautious about the prospects for recovery as the global automotive industry struggles with a "perfect storm" of unprecedented circumstances. Depressed vehicle output levels are expected to continue to impact vehicle lead times, pressuring depleted inventories and delaying fulfilment of prevailing order levels (refer to press release from IHS Markit from 16 December 2021). Global light vehicle production is estimated at 76.4 million units in 2021, which represents only a marginal increase of 2.5 % compared to 2020 (refer to HS Markit production forecast from January 2022).

While OEMs responded to the chip crisis by producing and delivering primarily high-margin models, the automotive supply industry had no chance for such optimisation. German development service providers also suffered significantly from the covid-19 crisis, as explained in a recent market analysis by Lünendonk.

The automotive market remains in a state of transition and continues to be subject to major structural changes. Innovation drivers such as autonomous and connected driving, digitalisation, electromobility and new mobility services are having an impact worldwide and are also influencing the market for development services (EDL). At the same time, there are changing customer needs (including the declining relevance of "automotive status"), falling demand for automobiles and political uncertainties. These trends are creating a highly dynamic environment that entails both opportunities and risks for the EDL market. As a consequence, the engineering service provider industry is also optimistic for the next two years, as there is sufficient potential due to the digital transformation, among other things (see Konstruktionspraxis "What drives engineering service providers and their customers" as of 4 October 2021).

The gross revenue and the EBIT of this business segment developed as follows compared to the previous year's period:

in EUR '000	2021	2020	Change
Gross revenue	702,886	650,467	52,419
EBITDA	68,605	24,735	43,870
EBITDA margin in %	9.8	3.8	6.0
EBIT	- 4,824	- 48,463	43,639
EBIT margin in %	- 0.7	- 7.5	6.8

The following comments on the individual companies of the segment are based on unconsolidated figures.

Due to the partial market recovery, EDAG Group's gross revenue increased from EUR 650.5 million in previous year by 5.8 % to EUR 688.4 million. It is very positive that all three business units Electrics / Electronics, Vehicle Engineering and Production Solutions, were able to contribute to the increase in gross revenue. In the still challenging environment, EBIT also improved significantly to EUR 20.9 million (previous year: EUR -23.8 million), although this was negatively impacted in the reporting period by directly attributable special effects in connection with the cyberattack in the amount of EUR 2.7 million.

From a Group perspective, it must be taken into account that the EDAG's EBIT is burdened by amortisation effects on hidden reserves from the purchase price allocation at ATON Group level in the amount of EUR 26.9 million (previous year EUR 24.7 million).

As at 31 December 2021, the order backlog increased to EUR 348.9 million (as of 31 December 2020: EUR 333.8 million). However, the order backlog does not include potential requests from framework contracts or from series orders.

Antriebssysteme Faurndau GmbH is fully consolidated since its acquisition on 1 July 2021 and generated a gross revenue of EUR 8.2 million in the period from July to December, with an EBIT of EUR 1.7 million. It is thus continuing along the growth path of the past. At Group level, amortisation effects from hidden reserves from the purchase price allocation have a negative impact on EBIT of EUR 0.7 million. As of 31 December 2021, the company has an order backlog of EUR 4.0 million.

Krebs & Aulich GmbH is also fully consolidated since its acquisition as of 1 July 2021 and was able to generate a gross revenue of EUR 6.2 million in the period from July to December. The EBIT for the period amounts to EUR 0.5 million. The amortisation effects at Group level from hidden reserves from the purchase price allocation burden the EBIT with EUR 0.3 million. Krebs & Aulich GmbH's order backlog is EUR 6.6 million as of 31 December 2021.

The interest in ecoCOAT GmbH has been increased to 45.65 % in the meantime, but the investment is still accounted for using the equity method and therefore currently does not contribute to the Group's gross revenue and EBIT.

2. Mining

The gross revenue of this segment is generated exclusively by the Redpath Group. In addition, the Murray & Roberts Group, as an associated company, contributes to the financial result of the segment.

The most important factor influencing Redpath's business worldwide is commodity prices. Based on the Bloomberg Commodity Index, which reflects the development of commodity prices, commodity prices increased by a total of approximately 26% during financial year 2021. Prices for industrial metals in particular rose sharply, which also had a corresponding effect on the development of inflation. The commodity-intensive industrial sectors are booming, and the further recovery from the covid-19 recession is evident here.

Regarding industrial, the prices for aluminium rose the most with +48 %, as production is very energy-intensive. But also the prices for zinc (+30 %), copper (+26 %) and nickel (+26 %) increased accordingly (based on 1-month futures contracts according to " DEKA Macro Research – Economics Economics Commodities" from January 2022).

In contrast, the prices for precious metals tended to decline. While the gold price (-1 %) remained relatively stable, the prices for silver (-8 %), platinum (-11 %) and palladium (-20 %) fell much more sharply (based on 1-month futures contracts according to " DEKA Macro Research – Economics Commodities" from January 2022).

The price of potash rose by a good 9 % in the financial year 2021 (refer to the spot price development for potassium chloride at https://ycharts.com).

The key performance indicators of the segment developed as follows compared to the previous year’s period:

in EUR '000	2021	2020	Change
Gross revenue	686,655	637,529	49,126
EBITDA	90,611	100,849	- 10,238
EBITDA margin in %	13.2	15.8	- 2.6
EBIT	28,535	33,197	- 4,662
EBIT margin in %	4.2	5.2	- 1.1

The following comments on the individual companies of the segment are based on unconsolidated figures.

The Redpath Group's business development varies from region to region. In Canada, an increased demand for the services offered could be recorded. The US market was as well stronger than in 2020. The projects in Indonesia and Mongolia also developed well, although there were some covid-related restrictions on activity in Mongolia. The Australian market still represents the largest revenue share for the Redpath Group and has improved further in 2021. The European market has so far had its greatest potential in Eastern Europe and Russia. The Slavkaliy project in Belarus was going well, but stalled in 2021 due to sanctions against Belarus.

Due to non-payment, Redpath was allowed to cancel the contract after three months. However, the Slavkaliy project burdened EBIT in the financial year with a total of EUR -23.5 million due to necessary impairments on contract assets and other assets. On the African market, the picture is mixed as far as new projects are concerned. Here, the planned revenue volume could not be reached either. In this environment, gross revenue could be overall increased by EUR 49.1 million or 7.7 % to EUR 686.7 million in 2021.

The higher gross revenue in combination with an improved gross margin and better asset utilisation in many projects also had a positive impact on the Group's profitability. However, due to the negative effect of the Slavkaliy project of EUR -23.5 million and the EUR 10.5 million decrease in covid government grants, EBIT declined overall to EUR 28.5 million (previous year: EUR 33.1 million). Consequently, the EBIT margin decreased to 4.2 % (previous year: 5.2 %).

The significantly increased order backlog as of 31 December 2021 amounts to EUR 876.8 million (as of 31 December 2020: EUR 813.3 million) and relates 39 % to copper and gold mines, 12 % to zinc mines and 10 % to nickel mines.

3. Med Tech

The Med Tech segment consists of the Ziehm Group and AspiAir GmbH.

Between 2014 and 2019, global healthcare spending increased by an average of 2.8 % annually. In 2020, however, due to the covid-19 pandemic and the resulting restrictions on public life, it fell by 2.6 % year-on-year to around USD 8.2 trillion (refer to "Deloitte - 2021 Global Health Care Outlook" and "Deloitte - 2020 Global Health Care Outlook"). It is assumed that spending - despite, but also because of, the pandemic – will have increased again significantly in 2021 to approx. USD 8.8 trillion (refer to "Global healthcare spend to remain stable", update November 2021, by GlobalData).

The size of the global medical technology market was approximately USD 457 billion in 2019, the year before the pandemic began, and fell to approximately USD 432 billion in 2020 due to covid-19. In 2021, the market is expected to have returned to its 2019 level of approximately USD 455 billion. Current forecasts assume that it will grow at an average annual rate of 5.4 % in the coming years, reaching approximately USD 658 billion in 2028 (see "Medical Devices Market Size," September 2021, from Fortune Business Insights).

Diagnostic imaging, the market segment in whose sub-segment "mobile C-arms", served by Ziehm Group, is the third largest market segment of the medical technology market after in-vitro diagnostics and cardiology. This market segment had a size of approximately USD 38 billion in 2020, the first year influenced by covid-19, and is expected to grow at an average of 5.8 % per year since then and in the coming years; this market is assumed to grow to approximately USD 59 billion by 2028 (see "Medical Imaging Market," August 2021, by Global Market Insights). The volume of the mobile C-arms sub-segment is currently estimated to be between USD 800 and 900 million.

The gross revenue and the EBIT of this segment developed as follows compared to previous year's period:

in EUR '000	2021	2020	Change
Gross revenue	206,594	180,195	26,399
EBITDA	38,764	28,058	10,706
EBITDA margin in %	18.8	15.6	3.2
EBIT	28,703	19,139	9,564
EBIT margin in %	13.9	10.6	3.3

The following comments on the individual companies of the segment are based on unconsolidated figures.

In the reporting period, the Ziehm Group achieved a gross revenue of EUR 206.6 million, which corresponds to an increase of 14.7 % compared to the same period of the previous year (EUR 180.2 million). Especially sales of high-margin high-end equipment, mainly in the USA, Germany and Spain, contributed to the increase in 2021. However, the service business was also further expanded. At EUR 29.8 million, EBIT was also significantly higher than in the previous year (EUR 20.3 million). In addition to the higher proportion of high-margin high-end equipment as a special effect, the loan waiver in the USA (PPP - Paycheck Protection Program) in the amount of EUR 1.7 million also contributed to this. The EBIT margin thus increased to 14.4 % (previous year: 11.3 %). The order backlog as of 31 December 2021 has also increased to EUR 24.4 million (as of 31 December 2020: EUR 17.1 million).

In addition, the Ziehm Group successfully completed the relocation to the new Ziehm Imaging Global Headquarters in Nuremberg in the financial year, in order to be able to realise the further planned growth in terms of infrastructure in the future.

AspiAir GmbH, which was newly founded towards the end of 2019, is developing inhaled therapies and is still in the research and development phase and therefore does not generate any revenue or gross revenue to date. EBIT amounts to EUR -1.1 million (previous year: EUR -1.2 million) and results primarily from research and development activities not yet eligible for capitalisation.

4. Aviation

Business Aviation experienced exceptionally high demand in 2021. As a result of the ongoing pandemic-related travel difficulties, there was a continuous, cross-seasonal demand for charter flight services, which could be served at an increased earnings level. Many customers, including new ones, switched to individual business jets for both private and business travel due to health considerations and travel restrictions. This is also reflected in the fact that the market share of European business aviation has risen from 6.4 % in 2019 to 12 % in 2021 (see Eurocontrol Thinkpaper #15 from 1 January 2022: "Charting the European Aviation recovery: 2021 COVID-19 impacts and 2022 outlook"). Aircraft trading as an asset class has become a seller's market and prices for used aircrafts have increased significantly. Both supply shortages and the strong inflationary developments worldwide accelerated this trend to an extent last seen before the financial crisis of 2008 (source: Market Report of 1 February 2022 by IC Leasing Aircraft Finance based on data from AMSTAT Inc.).

For DC Aviation, 2021 was a successful but challenging financial year, as the delivery of flight services was linked to constantly changing pandemic restrictions. Increased charter demand, which partly replaced flights by aircraft owners, led to an even more individual, often heterogeneous flight route profile, which was accompanied by additional requirements for permit and safety precautions. As a result of very extensive maintenance events, the DC Aviation technical department worked almost permanently at the limits of its capacity. A special milestone was the commissioning of the company's own long-haul Falcon 2000 LXS aircraft, which is successfully chartered out since July 2021.

The gross revenue and the EBIT of this segment, which consists of the DC Aviation, developed as follows compared to the previous year’s period:

in EUR '000	2021	2020	Change
Gross revenue	85,523	63,690	21,833
EBITDA	3,262	2,068	1,194
EBITDA margin in %	3.8	3.2	0.6
EBIT	806	67	739
EBIT margin in %	0.9	0.1	0.8

DC Aviation reported a higher than planned EBIT of EUR 0.8 million (previous year: EUR 0.1 million) for the 2021 financial year and, with 6,801 flight hours, completed 58 % more hours than in 2020. Gross revenue increased to EUR 85.5 million, of which around EUR 20 million was attributable to third-party charters, i.e. aircraft were marketed to non-owner aircrafts. Gross revenue was thus 34.3 % higher than in the same period of the previous year (EUR 63.7 million) and 17 % higher than in the pre-crisis year 2019.

As at 31 December 2021, a total of 29 aircraft (previous year: 27 aircraft) are operated within the DC Aviation fleet.

IV. RESULTS OF OPERATIONS, FINANCIAL AND NET ASSETS POSITION

The business development of the ATON Group, which results from the sum of the segments presented above as well as the ATON 2 GmbH and the other companies within the ATON Group, is explained below.

The key financial performance indicators are gross revenue, earnings before interest and taxes (EBIT) and earnings after taxes (EAT).

1. Results of operations

The following overview presents the Group's results of operations, whereby the items of income and expense are grouped from an economic perspective:

in EUR '000	2021		2020		Change	
Revenue	1,679,023	99.5%	1,536,849	100.3%	142,174	9.3%
Gross revenue	**1,686,926**	**100.0%**	**1,532,418**	**100.0%**	**154,508**	**10.1%**
Cost of materials	- 354,423	- 21.0%	- 322,496	- 21.0%	- 31,927	9.9%
Gross profit	**1,332,503**	**79.0%**	**1,209,922**	**79.0%**	**122,581**	**10.1%**
Personnel expenses	- 940,294	- 55.7%	- 873,022	- 57.0%	- 67,272	7.7%
Impairment losses / reversal of impairment losses on financial assets	- 79,479	- 4.7%	- 21,766	- 1.4%	- 57,713	265.2%
Other operating expenses ./. income	- 157,518	- 9.3%	- 180,955	- 11.8%	23,437	- 13.0%
EBITDA	**155,212**	**9.2%**	**134,179**	**8.8%**	**21,033**	**15.7%**
Depreciation and amortisation	- 146,530	- 8.7%	- 148,992	- 9.7%	2,462	- 1.7%
Impairment losses	- 2,053	- 0.1%	- 3,221	- 0.2%	1,168	- 36.3%
EBIT	**6,629**	**0.4%**	**- 18,034**	**- 1.2%**	**24,663**	**- 136.8%**
Net interest expense	- 8,375	- 0.5%	- 10,296	- 0.7%	1,921	- 18.7%
Other financial result	76,771	4.6%	- 40,612	- 2.7%	117,383	- 289.0%
Net financial result	**68,396**	**4.1%**	**- 50,908**	**- 3.3%**	**119,304**	**- 234.4%**
Income taxes	- 19,278	- 1.1%	- 6,117	- 0.4%	- 13,161	215.2%
Consolidated earnings after taxes (EAT)	**55,747**	**3.3%**	**- 75,059**	**- 4.9%**	**130,806**	**- 174.3%**
EAT attributable to non-controlling interest	- 4,088	- 0.2%	- 16,615	- 1.1%	12,527	- 75.4%
EAT attributable to owners of the parent	**59,835**	**3.5%**	**- 58,444**	**- 3.8%**	**118,279**	**- 202.4%**

Gross revenue is EUR 154.5 million or 10.1 % higher than in previous year's period, mainly reflecting the recovery from the covid-19 pandemic, which had a strong impact on the same period of previous year. All segments contributed to this increase. In the Engineering segment, gross revenue increased by 8.1 % to EUR 702.9 million, in the Mining segment by 7.7 % to EUR 686.7 million, in the Med Tech segment by 14.7 % to EUR 206.6 million and in the Aviation segment by 34.3 % to EUR 85.5 million. The forecasted slight growth in gross revenue from previous year was thus exceeded in the financial year under review.

The cost of materials ratio remained stable at 21.0 %. While the cost of materials ratio in the Engineering segment increased from 12.3 % to 12.8 %, in the Med Tech segment from 38.8 % to 40.6 % and in the Aviation segment from 59.7 % to 65.3 %, the decrease in the Mining segment from 20.9 % to 17.4 % almost compensated for this. The effects result from changes in material prices but also from the volume of purchased services.

As a consequence, gross profit increased by EUR 122.6 million or 10.1 % to EUR 1,332.5 million. At 79.0 % the gross profit margin remained at the previous year's level.

Although personnel expenses increased by EUR 67.3 million in absolute terms, the personnel expense ratio of 55.7 % is actually slightly lower than in the same period of the previous year (57.0 %).

The net amount of other operating expenses / income improved by EUR 23.4 million from EUR -181.0 million in previous year to EUR -157.5 million, which is mainly due to significantly increased income and reduced expenses from foreign currency translation.

As a result of the effects described above, EBITDA rose by EUR 21.0 million to EUR 155.2 million.

Compared to the previous year's period, depreciation and amortisation decreased by EUR 3.6 million to EUR 148.6 million, which is mainly due to project-related factors in the Mining segment.

EBIT improved by a total of EUR 24.7 million to EUR 6.6 million (previous year's period: EUR -18.0 million). The EBIT margin was thus turned around from -1.2 % in the same period of the previous year to 0.4 % in the reporting period. This improvement can be seen in almost all segments. In the Engineering segment, the EBIT margin improved significantly from -7.5 % in the prior year to -0.7 % in the current year, but is still negative due to the amortisation effects of the purchase price allocations. In the Med Tech segment, the EBIT margin improved significantly to 13.9 % (previous year: 10.6 %) and in the Aviation segment, the EBIT margin increased to 0.9 % (previous year: 0.1 %). Only in the Mining segment there was a decrease in the EBIT margin from 5.2 % to 4.2 %, due to the special effect from the sanction-related project termination in Belarus. Without this non-recurring effect, the EBIT margin would also have improved significantly. The forecast significant improvement in EBIT can be seen in the figures for 2021, but would have been even stronger if it had not been for the special effects described above.

The net interest result is negative at EUR -8.4 million, but improved by EUR 1.9 million compared to the previous year's period, which is mainly due to the Mining segment.

The other financial result improved from EUR -40.6 million in the comparative period to EUR 76.8 million in the reporting period. Whereas in the previous year a (net) impairment of EUR 36.4 million on the investment in the Murray & Roberts Group to the stock market price was recognised, there is a (net) write-up of EUR 57.4 million in 2021. In addition, the result from companies accounted for using the equity method has turned positive from EUR -13.2 million in the previous year to EUR 6.7 million, thus improving by a total of EUR 19.9 million.

With earnings before income taxes (EBT) of EUR 75.0 million, the tax rate in the reporting period is at 25.7 % (previous year's period: -8.9 %) and is thus closer to the expected Group tax rate. However, the tax rate is always strongly dependent on the composition of earnings within the Group. In addition, non-tax-effective special items had again an impact this year. For example, the (net) write-up for the Murray & Roberts shares, the result from companies accounted for using the equity method and the unrealised income from securities are not effective for tax purposes. The same applies to the impairment losses for loans granted to related companies.

In line with the aforementioned effects, the consolidated earnings after taxes (EAT) improved by EUR 130.8 million to EUR 55.7 million, thus significantly increasing as forecasted.

After deduction of EAT attributable to non-controlling interest, the EAT attributable to owners of the parent amounts to EUR 59.8 million (previous year's period: EUR -58.4 million). Overall, this increase in earnings reflects the recovery effects from the Covid-19 pandemic. However, the increase is dampened by the special effects described above.

2. Financial position

The statement of cash flows presents the Group's cash flows from operating, investing and financing activities, as well as the resulting change in cash and cash equivalents. The following overview contains a condensed cash flow statement:

in EUR '000	**2021**	**2020**	**Change**	
Cash and cash equivalents at the beginning of the period	**669,773**	**529,492**	**140,281**	**26.5%**
Earnings before interest, dividends and income taxes	81,069	- 60,221	141,290	
Depreciation and amortisation / write-ups of assets	162,801	182,356	- 19,555	
Result from the disposal of property, plant and equipment and securities	115	- 6,542	6,657	
Result from the disposal / deconsolidation of consolidated subsidiaries	-	15	- 15	
Change in provisions	5,169	10,535	- 5,366	
Other non-cash transactions	- 11,468	23,574	- 35,042	
Gross cash flow	**237,686**	**149,717**	**87,969**	**58.8%**
Interest, dividends and income taxes paid / received	- 29,946	- 32,433	2,487	
Changes in trade working capital	- 89,271	111,719	- 200,990	
Changes in other working capital	18,562	6,589	11,973	
Cash flow from operating activities	**137,031**	**235,592**	**- 98,561**	**- 41.8%**
Investments in / proceeds from the disposal of intangible assets and property, plant and equipment	- 66,151	- 37,066	- 29,085	
Investments in / proceeds from the disposal of financial assets / associates	- 61,866	128,282	- 190,148	
Proceeds from the disposal of / payments for the acquisition of consolidated subsidiaries	- 30,211	- 12,194	- 18,017	
Cash flow from investing activities	**- 158,228**	**79,022**	**- 237,250**	**> -100%**
Proceeds from shareholder	-	107,497	- 107,497	
Payments to shareholders	- 98,940	- 150,000	51,060	
Payments for the acquisition of non-controlling interests	-	- 4,880	4,880	
Proceeds from / repayments of loans and leases liabilities	- 7,156	- 115,368	108,212	
Cash flow from financing activities	**- 106,096**	**- 162,751**	**56,655**	**- 34.8%**
Effect of changes in exchange rates	- 13,380	- 11,582	- 1,798	
Cash and cash equivalents at the end of the period	**529,100**	**669,773**	**- 140,673**	**- 21.0%**

The cash flow from operating activities decreased by EUR 98.6 million compared to previous year's period.

At EUR 237.7 million, gross cash flow is EUR 88.0 million above previous year's level. This is mainly caused by an EUR 141.3 million improved earnings before interest, dividends and income taxes. In contrast, depreciation and amortisation to be added back decreased by EUR 19.6 million. In addition, the increase in trade working capital by EUR 89.3 million (previous year's period: decrease in trade working capital by EUR 111.7 million) reduced the increase in cash flow from operating activities. This effect reduced the cash flow by a total of EUR 201.0 million compared to the previous year. In contrast, other working capital decreased by EUR 18.6 million, which means an improvement of EUR 12.0 million compared to the previous year. Thus, the net increase in working capital in the reporting period of overall EUR 70.7 million has a negative effect on the development of cash flow from operating activities.

The cash flow from investing activities shows a cash outflow of EUR 158.2 million in the reporting period (previous year: cash inflow of EUR 79.0 million). Net investments in property, plant and equipment and intangible assets increased by EUR 29.1 million to EUR 66.2 million. Net investments in financial assets and in shares in associated companies led to a net cash outflow of EUR 61.9 million in the reporting period (previous year: net cash inflow of EUR 128.3 million). This mainly relates to additional loans (mainly to related companies) of EUR 33.8 million and net payments for the acquisition of securities of EUR 27.0 million, which are measured at fair value through profit and loss. In addition, the acquisition of shares in Antriebssysteme Faurndau GmbH, Göppingen, and in Krebs & Aulich GmbH, Wernigerode, resulted in a cash outflow in the amount of EUR 29.7 million in the reporting period.

The cash flow from financing activities shows a total cash outflow of EUR 106.1 million (previous year: EUR 162.8 million). The cash flow from financing activities is mainly due to the net payments to shareholders amounting to EUR 98.9 million (previous year: EUR 42.5 million) as well as the net repayment of bank loans and lease liabilities of EUR 7.2 million (previous year: EUR 115.4 million). There were no payments for the acquisition of non-controlling interest in the reporting period (previous year: EUR 4.9 million).

Taking into account the effect of changes in currency exchange rates of EUR -13.4 million (previous year: EUR -11.6 million), cash and cash equivalents decreased by a total of EUR 140.7 million in the reporting period. Accordingly, cash and cash equivalents decreased from EUR 669.8 million at the beginning of the reporting period to EUR 529.1 million at the end of the reporting period.

3. Net assets position

in EUR '000	31.12.2021		31.12.2020		Change	
Assets						
Intangible assets	379,056	15.6%	377,388	16.1%	1,668	0.4%
Property, plant and equipment	483,265	19.8%	474,828	20.2%	8,437	1.8%
Other financial assets and at-equity-investments	468,510	19.2%	346,734	14.8%	121,776	35.1%
Inventories	111,619	4.6%	101,952	4.3%	9,667	9.5%
Trade and other receivables	358,599	14.7%	280,149	11.9%	78,450	28.0%
Deferred tax assets	26,466	1.1%	26,617	1.1%	- 151	- 0.6%
Cash and cash equivalents	529,100	21.7%	669,773	28.5%	- 140,673	- 21.0%
Contract assets	68,092	2.8%	58,387	2.5%	9,705	16.6%
Other assets	12,781	0.5%	11,458	0.5%	1,323	11.5%
Total assets	**2,437,488**	**100.0%**	**2,347,286**	**100.0%**	**90,202**	**3.8%**
Equity and liabilities						
Equity	1,393,860	57.2%	1,333,858	56.8%	60,002	4.5%
Provisions	94,475	3.9%	88,554	3.8%	5,921	6.7%
Financial liabilities	501,514	20.6%	541,112	23.1%	- 39,598	- 7.3%
Trade and other payables	227,871	9.3%	186,390	7.9%	41,481	22.3%
Deferred tax liabilities	56,396	2.3%	49,522	2.1%	6,874	13.9%
Contract liabilities	156,635	6.4%	136,316	5.8%	20,319	14.9%
Other liabilities	6,737	0.3%	11,534	0.5%	- 4,797	- 41.6%
Total equity and liabilities	**2,437,488**	**100.0%**	**2,347,286**	**100.0%**	**90,202**	**3.8%**

The balance sheet total increased by EUR 90.2 million compared to 31 December 2020.

The increase of intangible assets by EUR 1.7 million is mainly due to additions in the reporting period in the amount of EUR 11.3 million, additions from changes in the scope of consolidation in the amount of EUR 25.7 million from the acquisition of Antriebssysteme Faurndau GmbH and Krebs & Aulich GmbH, additions from reclassifications in the amount of EUR 1.8 million and currency translation effects in the amount of EUR 2.3 million. This is offset by scheduled amortisation of EUR 39.3 million, which relates in particular to the customer base, and disposals of EUR 0.1 million.

Property, plant and equipment increased by EUR 8.4 million. This is primarily due to additions of EUR 132.6 million in the reporting period, in particular from new leases at the EDAG Group and the Redpath Group, an aircraft acquisition at DC Aviation, changes in the scope of consolidation from company acquisitions, as well as currency translation effects of EUR 8.5 million. This is offset by depreciation and amortisation of EUR 108.9 million, disposals of EUR 21.6 million and reduction due to reclassifications of EUR 2.0 million.

Other financial assets and at-equity-investments increased by EUR 121.8 million. This is due, on the one hand, to the increase in securities reported under non-current and current other financial assets in the amount of EUR 39.7 million. In addition, there was a (net) write-up of the shares in Murray & Roberts Holdings Limited by EUR 67.8 million from accounting under the equity-method and from the revaluation to the stock market price (book value after write-up: EUR 153.9 million). Other investments accounted for using the equity method increased by EUR 5.7 million. Furthermore, loans (after impairment) to investments and non-consolidated subsidiaries, related parties and shareholders rose by EUR 6.7 million.

Trade and other receivables increased by EUR 78.5 million. This is mainly due to a EUR 74.5 million increase in net trade receivables, which is largely attributable do the EDAG Group and the Redpath Group. Impairment losses on trade receivables increased by a total of EUR 2.2 million. In addition, other receivables (no financial instruments) are EUR 3.9 million higher.

Cash and cash equivalents decreased by EUR 140.7 million. For further information on the change in cash and cash equivalents, please refer to section **IV.2. Financial position**.

Contract assets increased by EUR 9.7 million, mainly due to an increase at EDAG Group of EUR 13.4 million due to the recovery effects from the Corona pandemic and, in the opposite direction, to a decrease of EUR 3.7 million at Redpath Group (after impairment for Slavkaliy project).

Other assets, which increased by EUR 1.3 million to EUR 12.8 million, include income tax receivables of EUR 11.2 million (previous year: EUR 11.0 million), aircraft spare parts of EUR 0.4 million (previous year: EUR 0.4 million) and assets held for sale of EUR 1.2 million (previous year: EUR 0.0 million). The latter result from the EDAG Group in connection with the obligation existing at the balance sheet date to sell all shares in the subsidiary EDAG Production Solutions CZ S.R.O., Mladá Boleslav, to a third party effective at 31 January 2022.

The equity ratio increased from 56.8 % at the end of the previous year to 57.2 % as at the balance sheet date, with equity increasing by EUR 60.0 million in absolute terms. This is mainly due to the positive consolidated earnings after tax of EUR 55.7 million in the reporting period. Other comprehensive income increased by EUR 4.5 million, primarily due to currency translation effects and actuarial gains and losses relating to pension provisions.

Provisions increased by EUR 5.9 million. This is mainly due to higher other provisions (EUR +3.9 million), higher tax provisions (EUR +1.2 million) and higher pension provisions by EUR 0.7 million.

Financial liabilities were reduced by EUR 39.6 million. This is mostly due to a decrease in liabilities from loans from shareholders in the amount of EUR 90.3 million. In contrast, liabilities to banks increased by EUR 24.2 million and liabilities to related parties by EUR 18.0 million. Lease liabilities also increased by EUR 8.5 million, which can be mainly traced back to the EDAG Group and the Redpath Group.

Trade and other payables increased by EUR 41.5 million. This is largely due to the increase in trade payables (EUR +15.3 million), liabilities to employees (EUR +12.0 million), liabilities to participating interests (EUR +4.9 million), advance payments received on orders (EUR +2.8 million), other liabilities (EUR +2.4 million), liabilities from company purchase agreements (EUR +1.2 million), social security liabilities (EUR +1.9 million) and liabilities from VAT and other taxes (EUR +1.8 million). On the other hand, liabilities from deferred income decreased (EUR -1.0 million).

Contract liabilities increased by EUR 20.3 million. This balance sheet item essentially results from the fact that customers have (partially) paid the consideration before the Group has provided the service over a certain period of time. While contract liabilities are higher by EUR 21.9 million at EDAG Group due to advance payments received from customers in the brightening market environment and by EUR 2.7 million at Ziehm Group due to an increase in receivables from service contracts compared to the previous year's balance sheet date, the item decreased by EUR 4.3 million at Redpath Group.

Other liabilities decreased by EUR 4.8 million to EUR 6.7 million as of the reporting date and include income tax liabilities, which decreased by EUR 6.1 million compared to the previous year. In contrast, the EDAG Group now reports liabilities of EUR 1.3 million in connection with assets held for sale.

Working capital increased by a total of EUR 36.0 million, which is primarily due to the increase in trade receivables and other receivables by EUR 78.5 million, contract assets by EUR 9.7 million and inventories by EUR 9.7 million. On the other hand, trade payables and other liabilities increased by EUR 41.5 million and contract liabilities by EUR 20.3 million, but overall less than the assets.

The following overview presents assets and capital according to maturity:

in EUR '000	31.12.2021		31.12.2020	
Non-current assets				
Intangible assets and property, plant and equipment	862,321	35.4%	852,216	36.3%
Financial assets	304,450	12.5%	205,392	8.8%
Other assets	33,127	1.4%	39,780	1.7%
	1,199,898	**49.2%**	**1,097,388**	**46.8%**
Current assets				
Inventories	111,619	4.6%	101,952	4.3%
Receivables and contract assets	420,415	17.2%	325,785	13.9%
Other financial assets	164,060	6.7%	141,342	6.0%
Cash and cash equivalents	529,100	21.7%	669,773	28.5%
Other assets	12,396	0.5%	11,046	0.5%
	1,237,590	**50.8%**	**1,249,898**	**53.2%**
Non-current capital				
Equity	1,393,860	57.2%	1,333,858	56.8%
Financial liabilities	376,623	15.5%	446,751	19.0%
Provisions, other liabilities, trade payables and contract liabilities	84,398	3.5%	78,972	3.4%
Other liabilities	56,396	2.3%	49,522	2.1%
	1,911,277	**78.4%**	**1,909,103**	**81.3%**
Current capital				
Financial liabilities	124,891	5.1%	94,361	4.0%
Provisions, other liabilities, trade payables and contract liabilities	394,583	16.2%	332,288	14.2%
Other liabilities	6,737	0.3%	11,534	0.5%
	526,211	**21.6%**	**438,183**	**18.7%**

Non-current assets of EUR 1,199.9 million are financed by non-current capital by 159.3 % (previous year: 174.0 %). Including current financial liabilities from loans from related parties and shareholders in the amount of EUR 34.0 million (previous year: EUR 106.1 million), which are made available to the Group as basic funding, the coverage ratio amounts to 162.1 % (previous year: 183.6 %). Furthermore, 57.5 % (previous year: 64.9 %) of current assets are financed by non-current capital.

The following overview presents the graduated coverage ratio of current assets and capital:

in EUR '000	31.12.2021	Share in total assets	31.12.2020	Share in total assets
Current assets	1,237,590	51%	1,249,898	53%
Current capital	526,211	22%	438,183	19%
Surplus cover or Coverage ratio	**711,379**	**235%**	**811,715**	**285%**

The coverage ratio shows that the Group continues to have extremely solid financing as of 31 December 2021. Current capital can be repaid at any time by liquidation of current assets.

Net debt position as of 31 December 2021 is as follows:

in EUR '000	31.12.2021	31.12.2020	Change
Cash and cash equivalents	529,100	669,773	- 140,673
Short-term securities	81,436	63,459	17,977
Short-term loans	82,623	77,883	4,740
Financial liabilities	- 501,514	- 541,112	39,598
Net cash (+) / debt (-)	**191,645**	**270,003**	**- 78,358**

The net cash position decreased compared to the previous year's balance sheet date. Cash and cash equivalents is partly offset by an increase in short-term securities and short-term loans. At the same time, financial liabilities also decreased, mainly as a result of the net reduction of shareholder loans in the amount of EUR 89.9 million, with an offsetting increase of EUR 24.2 million in bank liabilities and EUR 18.2 million in current liabilities to related parties at the EDAG Group due to a loan from VKE Versorgungskasse EDAG e.V. Leasing liabilities also increased by EUR 8.5 million, particularly at the EDAG Group due to newly concluded long-term leasing agreements and at Antriebssysteme Faurndau GmbH and Krebs & Aulich GmbH, which are fully consolidated since mid-2021.

V. EMPLOYEES

The expertise of qualified employees is our main asset. Qualified and highly motivated employees are essential to the success and future competitive advantage of our companies. In selected training programmes, our employees are continuously developed in the are of professional, methodological and social skills. Furthermore, the Group promotes consistent professional development and prepares young employees to take on management responsibilities.

With initial vocational training and dual study opportunities in commercial and technical professions, the company offers young professionals a broad selection of opportunities for starting a career. The promotion of training programmes is complemented by cooperation with public educational institutions and universities.

In 2021, EUR 5.5 million (previous year: EUR 4.9 million) were invested in further education and training for our employees. The still relatively low level is due to the fact that the covid-19 pandemic continues to limit the opportunities for further education and training.

The ATON Group employed on average 14,149 employees during the year 2021 (previous year: 14,616 employees).

In the financial year, the breakdown of employees, as non-financial performance indicator, into categories was as follows:

	2021	in %	2020	in %
Salaried staff	9,905	70%	10,259	70%
Industrial workers	3,873	27%	3,929	27%
Trainees and interns	371	3%	428	3%
Total employees	**14,149**	**100%**	**14,616**	**100%**
Production and service	12,478	88%	12,748	87%
General administration	1,282	9%	1,370	9%
Sales and marketing	268	2%	407	3%
Research and development	121	1%	91	1%
Total employees	**14,149**	**100%**	**14,616**	**100%**
Germany	6,761	48%	6,777	46%
Europe (excluding Germany)	1,764	12%	1,880	13%
North America	1,856	13%	1,696	12%
South America	142	1%	289	2%
Australia	901	6%	858	6%
Asia	2,131	15%	2,158	15%
Africa	594	4%	958	7%
Total employees	**14,149**	**100%**	**14,616**	**100%**

VI. EXPECTED DEVELOPMENTS, OPPORTUNITIES AND RISKS

1. Expected developments

According to the International Monetary Fund's (IMF) assessment from January 2022, the global economy is heading into 2022 weaker than previously expected. With the spread of the new covid-19 variant Omicron, countries have reimposed mobility restrictions. Rising energy prices and supply disruptions have resulted in higher and more broad-based inflation than anticipated, notably in the United States and many emerging and developing economies. The ongoing retrenchment of China's real estate sector and slower-than-expected recovery of private consumption have also limited growth prospects (refer to IMF World Economic Outlook, update from January 2022).

In accordance with IMF's World Economic Outlook Update from January 2022, the global growth is expected to moderate from 5.9 % in 2021 to 4.4 % in 2022, which is half a percentage point lower for 2022 than in the October World Economic Outlook (WEO), largely reflecting forecast markdowns in the two largest economies. A revised assumption removing the Build Back Better fiscal policy package from the baseline, earlier withdrawal of monetary accommodation, and continued supply shortages produced a downward 1.2 percentage-points revision for the United States. In China, pandemic-induced disruptions related to the zero-tolerance covid-19 policy and protracted financial stress among property developers have induced a 0.8 percentage-point downgrade. Global growth is expected to slow to 3.8 % in 2023. Although this is 0.2 percentage point higher than in the previous forecast, the upgrade largely reflects a mechanical pickup after current drags on growth dissipate in the second half of 2022. The forecast is conditional on adverse health outcomes declining to low levels in most countries by end-2022, assuming vaccination rates improve worldwide and therapies become more effective.

Elevated inflation is expected to persist for longer than envisioned in the October WEO, with ongoing supply chain disruptions and high energy prices continuing in 2022. Assuming inflation expectations stay well anchored, inflation should gradually decrease as supply-demand imbalances wane in 2022 and monetary policy in major economies responds.

Risks to the global baseline are tilted to the downside. The emergence of new covid-19 variants could prolong the pandemic and induce renewed economic disruptions. Moreover, supply chain disruptions, energy price volatility, and localized wage pressures mean uncertainty around inflation and policy paths is high. As advanced economies lift policy rates, risks to financial stability and emerging market and developing economies' capital flows, currencies, and fiscal positions - especially with debt levels having increased significantly in the past two years - may emerge. Other global risks may crystallize as geopolitical tensions remain high, and the ongoing climate emergency means that the probability of major natural disasters remains elevated.

With the pandemic continuing to maintain its grip, the emphasis on an effective global health strategy is more salient than ever. Worldwide access to vaccines, tests, and treatments is essential to reduce the risk of further dangerous covid-19 variants. The effects of the ongoing Covid-19 pandemic are difficult to forecast due to the existing uncertainties. Above all, the Group's manufacturing companies are still struggling with supply bottlenecks. Possible further mobility restrictions could also slow down the activities of the individual Group companies.

Neither the assumptions of our Group planning, which has been prepared on a bottom-up basis, nor do the described expected developments currently include any effects from Russia's attack on Ukraine. We are monitoring developments very closely. The impact on our business performance in 2022 and the associated key figures cannot yet be conclusively quantified at the time of preparing the consolidated financial statements, but will probably have a negative impact on the economic growth compared with the presented expected development and the Group planning. Please refer to our comments in the risk and opportunity report.

Overall, we nevertheless expect the ATON Group to achieve a stable gross revenue in 2022, a significant increase in EBIT and (after adjusting for the effects of the development of the Murray & Roberts' share price, which cannot be reliably forecasted) also a significant increase in EAT.

Management constantly monitors possible effects of the pandemic on the business and takes comprehensive measures to ensure that the protection of employees and going concern of business operations in the Group companies are guaranteed.

2. Risks

a) Macroeconomic risks

With regard to the macroeconomic risks, please refer to the expected developments as well as to the explanations of the macroeconomic development.

b) Financial risks

Liquidity risks

The provision of required liquid funds to implement corporate objectives remains of central importance. At present The Group's liquidity supply is ensured by the existing cash and bank balances as well as sufficient lines of credit. At the end of financial year, cash, including short-term investments in securities and bonds, amounted to EUR 610.5 million. Including short-term loans and financial liabilities, the Group presents a net cash amounted to EUR 191.6 million. Financial liabilities of EUR 501.5 million include EUR 34.0 million of loans from related parties and shareholders. In addition, the Group and the individual companies have access to sufficient lines of credit and guarantee facilities from banks and credit insurers. At the end of December 2021, the Group had EUR 491.1 million of unutilised lines of credit at banks and credit insurers.

The development of liquidity and available liquid funds is monitored and managed by means of a weekly cash report. Thus, liquidity risks are addressed by appropriate measures at an early stage. Additional profit contributions are generated by maturity transformation of financial assets. Furthermore, the necessary liquidity reserve is optimised at the overall Group level and the aim is always to improve the conditions with banks in the area of payment transactions and cash management by using higher transaction volumes.

Interest rate risks

An interest rate risk due to a change in the market interest rates result primarily from variable interest loan liabilities. The Group addresses this risk through a mixture of fixed and variable interest rate financial liabilities. At the end of the year, EUR 176.7 million of financial liabilities from banks were fixed-rate liabilities and EUR 33.5 million were at variable interest rates. In addition, EUR 34.0 million of fixed interest rate financial liabilities to related parties and shareholders exist at the end of the year. The low level of variable interest rate financial liabilities in the Group limits the effects of interest rate changes.

Foreign currency risks

To the extent possible and available, foreign currency risks are hedged by local financing of the subsidiaries in their respective national currency. For further hedging, forward exchange contracts are concluded at the level of the subsidiaries and in individual cases between the parent company and the subsidiaries.

Default risks

In order to limit default risks, a number of protective measures are in place at the subsidiaries. In Germany, default risks are generally addressed by credit insurers, letters of credit and prepayments. In Germany as well as abroad, the subsidiaries have established credit assessment procedures. In the great majority of cases, customers are companies with high credit ratings operating in the automotive, commodities or medical industries and public-sector clients. Default risks are furthermore mitigated by retentions of title and the use of letters of credit.

Covenant risks

The majority of financing contracts with banks include covenants that are based on predefined financial ratios. The ratios are mainly equity ratios, leverage ratios and, in individual cases, interest coverage ratios. If one of the agreed thresholds of the covenants is exceeded, the lenders have a right of termination. The existing loan covenants were complied with.

As already at the end of 2020, there are no contractual clauses on the level of the parent company regarding a limitation of the financial debt of the ATON Group and regarding the financial debt of the ATON subsidiaries in 2021. Covenants that exist on the level of the subsidiaries are monitored independently by these companies.

Other price risks

Another market risk is price risk, which is the risk of unfavourable changes in the prices of financial assets. Particularly, stock market prices or indices can be considered as risk variables. At the end of the financial year 2021, the Group holds EUR 132.6 million in securities at fair value through profit or loss, which mainly consist of an actively managed portfolio of share positions and an actively managed portfolio of European corporate bonds and assets managed by Royal Bank of Canada Investment Management (UK) Limited. Since the invests are actively managed, negative developments can be counteracted in good time. The value at risk, i.e. the maximum loss in value to be expected for the actively managed portfolio of share positions of EUR 50.5 million, is EUR 31.1 million at a confidence level of 95% and an observation period of 12 months.

For further information regarding the risk report and the risk management system, please refer to chapter **36. Objectives and methods of financial risk management** in the notes to the consolidated financial statements.

c) Risks of the segments

In addition to the aforementioned macroeconomic and financial risks, the individual segments are exposed to specific risks from operating activities.

Engineering

In the Engineering segment, the focus is on project risks. Large-scale projects in particular are usually complex and are often carried out in parallel in different countries. Sometimes, the scope of the services is not finally agreed until the total price has been agreed. Occasionally, the scope of services is formulated in an unclear way and leads to additional expenses that are not reimbursed. Unexpected project developments may lead to delays, cost overruns and quality deficiencies, thus straining the company's net assets and financial position and results of operations. Through continuous project and risk management, the collection of appropriate advance payments, continuous project assessments as well as detailed reporting within the context of project steering committees, the companies are able to identify such risks at an early stage and take countermeasures.

The EDAG Group is in part strongly dependent on certain automotive manufacturers and hence on their long-term strategy and sales success. In recent years, the Group has responded to this with an intensified internationalisation strategy on the customer side.

Mining

The greatest risk concerning growth within the Redpath Group is the challenge to retain qualified employees to the company in the long term. In addition, political risks play an important role. The activities of the Redpath Group are partly carried out in politically unstable regions. This may have an impact on the future results of operations of the Redpath Group. Other risks, especially in the short and medium term, consist of a decline in commodity prices as this may cause mine operators to abandon or postpone projects and cut back on investments. Furthermore, long delivery times for machinery could lead to delays in existing projects and increasing competition could reduce profitability. The cancellation of major projects and technical risks in new projects can also influence the development of the Group.

Med Tech

The Ziehm Group develops innovative products. Naturally, there is a risk that the products will not be accepted by the market in the foreseen manner and that the targeted expansion of market shares will not be achieved, and in the worst case that even market shares will be lost. The Group counters this risk by continuously observing the market and the competition, as well as through close exchange with doctors in order to understand the needs of users as best as possible.

Another risk arises from the fact that the growing internationalisation and speed of innovation in the medical technology market makes it increasingly difficult to meet all regulatory requirements. Both nationally and internationally, a large number of standards and regulations have to be considered; if mistakes are made here, marketing bans may follow. The Group counters this risk by continuously expanding the regulatory expertise required internal.

A fundamental risk arises from economic developments. With a downturn in economy, spending within the healthcare sector can be cut, which could have a negative impact on sales of medical technology products. However, due to the strong regulation of the medical technology markets, there may also occur fluctuations in demand that are decoupled from the rest of the economy. The Group addresses this risk through accelerated internationalisation in order to minimise dependence on individual national markets.

Aviation

As a company in the aviation industry, DC Aviation is currently dependent not only on the general economic conditions, but also in particular on the development of commodity prices, changes in environmental regulations in the course of a changing political and public perception of aviation, as well as geopolitical crises and the resulting threat of sanctions. Overlaying all other developments, however, the covid-19 pandemic confronts DC Aviation with operational, personnel and economic challenges that can only be mastered through the extraordinary commitment of all employees and resources.

In addition, there are technical operational risks which could lead to flight operations not being able to be carried out as planned. These are countered by comprehensive internal procedural rules and the continuous development of the internal control system. Ongoing internal and external quality and compliance audits ensure that risks are identified and avoided at an early stage. The risk of air accidents caused by human factors is counteracted by regular safety training for the crews, which in some cases goes beyond the legally prescribed requirements. Economic accident risks are covered by appropriate liability and hull insurance policies.

DC Aviation specialises in the management, operation and maintenance of business aircraft as well as in the high-end charter business. The direct dependence of Business Aviation on the economic situation, which was observed in the past, has recently been relativized to a certain extent. Only in isolated cases does a weakening of the economy lead to more restrictive travel behaviour, especially on the part of individual large corporations. Due to increased individual wealth, the prevailing inflationary monetary policy and the desire for more individual travel, the industry is participating in the increased demand for luxury goods, or in this case premium services in the sense of charter flights. This effect, which overlays the current situation of economic downturns, as well as the constellation that in the area of aircraft management the fixed costs are borne by the aircraft owners and the maintenance intervals of the aircraft must be adhered to irrespective of economic cycles, gives DC Aviation a certain cyclical resistance.

d) Legal risks

Following the squeeze-out of the external shareholders of W.O.M. World of Medicine AG the former minority shareholders have initiated legal proceedings (“Spruchverfahren”) years ago to verify the adequacy of the cash compensation (“Barabfindung”) of EUR 12.72 per share. The legal proceedings before the Regional Court of Berlin (“Landgericht Berlin”) are still pending. The duration and outcome of the legal dispute are currently still open. Since, contrary to our expectations, there was again no final decision in 2021, we now assume that a decision will be reached in the financial year 2022.

e) IT risks

In almost all units of the ATON Group, the importance of electronically processed information and the availability of IT structures continues to increase due to the steadily growing use of IT technologies. This concerns both the frequency of virus and / or hacker attacks, for example, as well as their possible damage potential. Many companies in the ATON Group are highly dependent on functioning IT and secure data connections to customers. However, disruptions and attacks on the IT systems and networks cannot be completely ruled out. An IT system breakdown or loss of data could have severe consequences. There is also a risk that strictly confidential information, especially with regard to new technological findings or partnerships in the research and development sector, could be disclosed to third parties without authorisation. This could have an adverse impact on the good position in the market; in addition, there is the possible loss of reputation associated with this. To guarantee disruption and error free operations, the Group units attach great importance to the availability of IT resources and services. To protect confidential information, a number of security standards (such as firewall systems, virus protection, access and admission controls at operating system and application level, encryption, etc.) have been implemented, which are regularly reviewed for effectiveness by various committees in the individual Group units. The applicable IT security guidelines are continuously updated and adapted to the latest technical standards. The aim is to identify operational IT risks at an early stage and to implement appropriate concepts to prevent dangers.

f) Risks from epidemics / pandemics

Risks exist around the world from the transmission of pathogens from animals to humans, from humans to humans and by other means. Epidemics, pandemics or other spread patterns could cause high rates of disease in various countries, regions or continents. In the short, medium and long term, this can lead to a drop in demand for products and services offered. A high prevalence of sickness among employees may also endanger operations. Restrictions imposed by the authorities can also cause operational restrictions.

Specifically, the ongoing covid-19 crisis causes macroeconomic risks that lead, at least temporarily, to significant declines in economic growth worldwide. Such risks for the ATON Group may not only affect the development of unit sales, but may also lead to significant adverse effects on production, provision of services, the procurement markets and the supply chains.

g) Geopolitical and trade risks

Uncertainties for the global economy and the business development of the ATON Group may arise in particular from geopolitical and trade policy developments worldwide. In the first place, there is Russia's war against Ukraine, in the worst case, its expansion to other countries. The war could have a negative impact on the sales development of individual Group units, production processes as well as purchasing and logistics processes, for example through interruptions in supply chains and energy supplyor bottleneck situations for components, raw materials and intermediate products. Higher cyber risks cannot be ruled out either. Currency risks and bad debt risks may also increase as a result of restrictions on cross-border payment transactions.

Additionally, a further intensification of tensions between the United States and China as well as a further deterioration of political relations between the European Union and China could lead to increased uncertainty and affect both the global economic outlook and the business development of the ATON Group.

3. Opportunities

a) Opportunities in general

According to our own assessment, the subsidiaries of the ATON Group are among the national and international market leaders in various fields and product segments in terms of revenue or the technological level of their products and services. Based on the high level of technological expertise, a high product quality as well as long-term customer relationships the ATON Group sees opportunities for further expansion of the particular market shares. The future strategic orientation of the individual companies' services and products and prospective selective strengthening of the corporate portfolio in the individual business segments leveraging synergies within those segments will enable the companies to create additional opportunities.

b) Opportunities of the segments

Engineering

According to IHS Markit, global light vehicle production was at 76.4 million units in 2021. For 2022, IHS Markit forecasts an 8.5 % increase in light vehicle production to 82.9 million units. The outlook will be characterised by the availability of automotive-grade chips at least until 2023. This assessment is based on the balance between capacity expansion in the semiconductor sector, increased demand for chips per vehicle and robust demand for chips in the non-automotive sector. The strongest growth in units produced is expected in Europe (increase of 2.8 million units or +17.5 %) and North America (increase of 2.2 million units or +16.6 %). For Greater China, IHS Markit forecasts only slight growth in light vehicle production of 0.8 % to 24.7 million units in 2022. A more normalised supply chain is forecast to support vehicle output levels of 90.8 million units for 2023, a further 9.5 % year-over-year increase, well above the 2019 pre-pandemic production level (refer to IHS Markit press release from 16 December 2021 and IHS production forecast from January 2022).

The automotive market remains in a state of transition and continues to be subject to major structural changes. Innovation drivers such as autonomous and connected driving, digitalization, electromobility and new mobility services are having an impact worldwide and are also influencing the market for development services (EDL). At the same time, there are changing customer needs (including the declining relevance of " automobile as a status symbol"), falling demand for automobiles, and political uncertainties. These trends are creating a highly dynamic environment that entails both opportunities and risks for the EDL market. As a consequence, the engineering service provider industry is also optimistic for the next two years, as there is sufficient potential due to the digital transformation, among other things (see Konstruktionspraxis "What drives engineering service providers and their customers" from 4 October 2021).

EDAG considers itself well positioned in the market for engineering services, also in the future. Significant growth impulses will result above all from electromobility. Alongside electromobility, digitalisation is the second major future trend in the automotive industry. The aim is to develop vehicles and production systems that make optimum use of the advantages of networking. EDAG is expected to participate strongly in these positive trends. The EDAG Group is one of the leading independent engineering service providers in the automotive sector (refer to the publication of "ATZextra - Top 50 Ranking of Automotive Engineering Partners" from June 2021 at springerprofessional.de). The resulting strengthened market position and the significantly expanded range of services offer opportunities to further strengthen existing customer relationships and establish new ones.

The two newly acquired Group companies Antriebssysteme Faurndau GmbH and Krebs & Aulich GmbH also see themselves very well positioned in the market for high-performance electric motors and expect a positive development of sales and earnings in the coming years.

ecoCOAT GmbH, in which the ATON Group acquired control in March 2022, is looking to the future with optimism due to the completion of its first own product developments and the product market launches that have been started.

Mining

The development of commodity prices is determined in the long term by the interaction between physical supply and demand. In the short term, many other variables such as market sentiment or the positioning of speculative market participants can have an influence on price developments. Since 2016, commodity prices have moved volatile sideways for a long time. In March 2020, the covid-19 pandemic led to a brief but significant price collapse. Since then, prices have been rising steadily again. The covid-19 crisis will be largely overcome in the forecast period with the help of vaccines, and the global economy will return to its long-term growth path. For commodity prices, however, the strong upward momentum from the years 2020/21 will not continue. This is because many commodity prices have already far exceeded their pre-covid-19 levels, which is mainly due to pandemic-related supply chain, transport and logistics dislocations rather than a genuine supply shortage of the respective commodities. The easing of the problems will lead to a much more moderate development of commodity prices from the levels reached. Cyclically sensitive segments such as industrial metals can profit from the continuing global economic growth. Precious metals will no longer receive the strong support from monetary policy in the forecast period as they have in recent years (refer to “DEKA Macro Research – Economy Commodities” from January 2022).

Med Tech

The growth in worldwide health expenditure is largely driven by population growth, the increasing ageing of society, rising prosperity (especially in Asia) and clinical and technological progress. This is counteracted by the pressure to cut costs in the healthcare systems and increases in efficiency.

The Ziehm Group essentially stands for the Med Tech segment within the ATON Group, where mobile X-ray imaging in so-called C-arms is to be regarded as the core competence. The Ziehm Group focuses on research and development, which benefits both clinical users and patients. The growth potential for of the Ziehm Group lies primarily in the continued penetration of the core markets of Europe and North America and in continued expansion into the markets of Asia and South America. This will be made possible by the continuous advancement of technological innovations, which will ensure technological leadership.

Aviation

DC Aviation is licensed to operate an airline at three international locations. At all three destinations, the company holds its own "AOC" (Aircraft Operating Certificate), i.e. a national licence to operate a commercial airline. The same applies to the permission to handle private aircraft as a handling agent within the framework of a so-called "FBO" (Fixed Base Operator) and to offer various ground services, including refuelling (as in the case of Dubai). The provision of technical services under an "MRO" licence (Maintenance, Repair, Overhaul) takes place in Germany at the locations in Stuttgart and Schwäbisch Hall and within the United Arab Emirates in Dubai. In order to better serve the demand for business jets in the greater Munich area in the future, DC Aviation is currently building a 6,000 sqm hangar at the airport in Oberpfaffenhofen. The new facility is scheduled to open in June 2022.

DC Aviation has a very high reputation in the business aviation industry in terms of service quality and safety standards. The significant increase in demand for individual flight services during the covid-19 crisis enabled the company to demonstrate this to new charter and aircraft owner customers. Based on this and taking into consideration the new presence at the location in Oberpfaffenhofen / Munich, it is the company's goal to continuously expand its fleet strength by acquiring additional corporate and private customers. An expansion of the aircraft fleet operated under the company's own profit responsibility is also being considered in order to achieve economies of scale with regard to central services, procurement and route optimisation.

c) General statement on risks and opportunities

The ATON Group is exposed to a large number of different risks and opportunities. From the management's point of view, the operational risks of the business units, the macroeconomic risks and currently also the geopolitical risks are more important for the ATON Group than the legal and financial risks. According to the management's current assessment, these risks overall do not have adverse financial effects on the Group due to the heterogeneous structure and diversified operations in various markets of the ATON Group.

However, it remains to be considered that the covid-19 pandemic, which has still not been overcome, and its effects on the global economy as well as the war in Ukraine can strongly influence the overall risk situation of the ATON Group. The overcoming of these two crises cannot yet be predicted conclusively, so that a final risk assessment is not possible in this respect. However, due to the diversified composition of the Group and the available liquid funds, there should be no risks that could endanger going concern of the Group.

VII. RISK MANAGEMENT AND ACCOUNTING-RELATED INTERNAL CONTROL SYSTEM

1. Management of risks and opportunities

In the course of its business operations, the Group is exposed to risks, which are inextricably linked to its entrepreneurial activities. A complete exclusion of such risks would only be possible by stopping business activities, insofar the acceptance of risks is part of entrepreneurial action.

The primary objective of risk management is to ensure the success and going concern of the companies. This involves identifying risks and opportunities of the individual subsidiaries, evaluating them, and limiting or elimination any risks that could potentially endanger the success of companies.

The subsidiaries of ATON 2 GmbH operate in different industries, at different geographical locations and in various national and international markets. This entails individual company-specific risks, which can result in risks different in nature and scope depending on the activities and the environment of the respective company. Therefore, the focus of risk identification by the respective subsidiaries' management is first of all placed on the continuous identification of financial risks in the form of risks to results of operations, financial position and liquidity, which may jeopardise the company as a going concern. Identified risks are reported by the subsidiaries' management on an ad-hoc basis to the ATON Group's management. In addition, economic, legal, technical and other risks are assessed at least every six months and discussed with ATON Group's management.

As a result of the highly differentiated Group structure, the distribution of opportunities and risks also depends on very different factors in the individual segments and in the individual companies. For this reason, risk management and implementation of opportunities is planned and controlled by the individual companies and agreed with the holding company in short- and medium-term strategy and financial planning meetings. Key financial data is monitored through weekly respectively monthly by means of financial reporting by the individual companies, which are analysed by the holding company for deviations. Regularly, the companies and the holding management review agreed development of strategy and results of operations and determine possible strategy adjustments and countermeasures.

2. Accounting-related internal control system

The ATON Group's internal control system of the is designed to ensure that the Group wide (accounting) processes are carried out in a consistent, transparent and reliable manner as well as in compliance with legal standards and the company's internal guidelines. It comprises principles, procedures and measures to reduce risk and to ensure the effectiveness and accuracy of the processes.

The Group's management bears the overall responsibility for the internal control system and risk management with regard to the group accounting process. All companies included in the consolidated financial statements are embedded in a defined management and reporting organisation. In the ATON Group, the areas of responsibility related to accounting are clearly structured and assigned. The central units of ATON 2 GmbH / ATON GmbH, as well as the Group companies, are responsible for the proper execution the accounting processes. Major processes and deadlines are determined by the parent company on a Group-wide basis. Beyond that, the accounting within the ATON Group is fundamentally organised on a decentralised basis. For the most part, accounting tasks are performed by the consolidated companies at their own responsibility. The audited financial information of the subsidiaries prepared in accordance with IFRS and the uniform accounting policies are submitted to the Group. The departments involved in the accounting process are appropriately staffed and funded. The employees acting have the necessary qualifications; external experts are also involved on a case-by-case basis. Control activities at Group level include analysing and, if necessary, adjusting the data reported in the financial information submitted by the subsidiaries. The Group management report is prepared centrally in accordance with the applicable requirements and regulations with the involvement of and in consultation with the Group companies. Segregation of duties and the implementation of the four-eye principle are additional control mechanisms. The IT systems are protected against unauthorised access. Access rights are granted on a function-related basis.

Based upon documented processes, risks and controls, the internal control and risk management system is regularly monitored and adjusted to current developments and therefore provides transparency with regard to the structure, workflows and effectiveness of the internal and external reporting.

VIII. DISCLAIMER

The management report contains forward-looking statements on expected developments. These statements are based on current estimates and are subject to risks and uncertainties by nature. Actual results may deviate from the statements made here in the management report, particularly in view of the effects of Russia’s war against the Ukraine and the not finally overcome covid-19 pandemic, which cannot yet be finally assessed.

Munich, 16 May 2022

ATON 2 GmbH
Management Board

[original German version signed by:]

Georg Denoke Dr. Wolfgang Salzberger

ATON 2 GmbH, Munich

CONSOLIDATED FINANCIAL STATEMENTS AS OF 31 DECEMBER 2021

(Translation – the German text is authoritative)

CONSOLIDATED INCOME STATEMENT 2021

in EUR '000	Note	2021	2020
Revenue	6	1,679,023	1,536,849
Changes in inventories and own work capitalised	7	7,903	-4,431
Other operating income	8	69,429	47,959
Cost of materials	9	-354,423	-322,496
Personnel expenses	10	-940,294	-873,022
Impairment losses / reversal of impairment losses on financial assets	22, 23, 24	-79,479	-21,766
Depreciation and amortisation	17, 18	-148,583	-152,213
Other operating expenses	11	-226,947	-228,914
Earnings before interest and taxes (EBIT)		**6,629**	**-18,034**
Result from investments accounted for using the equity method	12	6,696	-13,219
Other investment result	13	57,442	-36,423
Interest income	14	3,810	4,087
Interest expense	14	-12,185	-14,383
Other financial result	15	12,633	9,030
Financial result		**68,396**	**-50,908**
Earnings before income taxes (EBT)		**75,025**	**-68,942**
Income taxes	16	-19,278	-6,117
Profit or loss for the period from continuing operations		**55,747**	**-75,059**
Profit or loss for the period (EAT)		**55,747**	**-75,059**
attributable to non-controlling interest		-4,088	-16,615
attributable to owners of the parent		**59,835**	**-58,444**

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME 2021

in EUR '000	Note	2021	2020
Profit or loss for the period		**55,747**	**- 75,059**
attributable to non-controlling interest		- 4,088	- 16,615
attributable to owners of the parent		59,835	- 58,444
Items that may be subsequently reclassified to profit or loss			
Currency translation differences			
Gains (+) / losses (-) from currency translation differences recognised in other comprehensive income	28	- 5,769	- 9,146
Share of other comprehensive income for investments accounted for using the equity method	21	9,270	7,058
		3,501	**- 2,088**
Items that will not be reclassified to profit or loss			
Remeasurements of defined benefit plans			
Remeasurements of defined benefit plans recognised in other comprehensive income	29	1,449	- 816
Deferred taxes on remeasurements of defined benefit plans	16	- 510	283
Share of other comprehensive income for investments accounted for using the equity method		17	- 19
		956	**- 552**
Other comprehensive income before income taxes		**- 4,320**	**- 9,962**
Income taxes on other comprehensive income		**- 510**	**283**
Other comprehensive income, net of income taxes		**4,457**	**- 2,640**
attributable to non-controlling interest		566	- 273
attributable to owners of the parent		3,891	- 2,367
Total comprehensive income for the period		**60,204**	**- 77,699**
attributable to non-controlling interest		- 3,522	- 16,888
attributable to owners of the parent		63,726	- 60,811

CONSOLIDATED BALANCE SHEET AS OF 31.12.2021

Assets **in EUR '000**	**Note**	**31.12.2021**	**31.12.2020**
Goodwill	17	281,408	270,120
Other intangible assets	17	97,648	107,268
Property, plant and equipment	18	483,265	474,828
Reparable aircraft spare parts		385	412
Other financial assets	22	101,529	76,369
Investments accounted for using the equity method	21	202,921	129,023
Trade and other receivables	23	6,276	5,808
Deferred tax assets	16	26,466	26,617
Contract Assets	24	-	6,943
Non-current assets		**1,199,898**	**1,097,388**
Inventories	25	111,619	101,952
Trade and other receivables	23	352,323	274,341
Other financial assets	22	164,060	141,342
Income tax receivables	16	11,234	11,046
Contract assets	24	68,092	51,444
Cash and cash equivalents	26	529,100	669,773
		1,236,428	1,249,898
Assets held for sale	27	1,162	-
Current assets		**1,237,590**	**1,249,898**
Total assets		**2,437,488**	**2,347,286**

CONSOLIDATED BALANCE SHEET AS OF 31.12.2021

Equity and liabilities in EUR '000	**Note**	**31.12.2021**	**31.12.2020**
Equity attributable to owners of the parent *	28	1,386,271	1,315,871
Non-controlling interest	28	7,589	17,987
Equity	28	**1,393,860**	**1,333,858**
Provisions for pensions	29	50,821	50,075
Provisions for income taxes	30	146	68
Other provisions	30	6,663	6,142
Financial liabilities	31	376,623	446,751
Trade and other payables	32	22,216	18,946
Deferred tax liabilities	16	56,396	49,522
Contract liabilities	24	4,552	3,741
Non-current liabilities		**517,417**	**575,245**
Provisions for income taxes	30	4,447	3,286
Other provisions	30	32,398	28,983
Financial liabilities	31	124,891	94,361
Trade and other payables	32	205,655	167,444
Income tax liabilities	16	5,421	11,534
Contract liabilities	24	152,083	132,575
		524,895	438,183
Liabilities associated with assets held for sale	27	1,316	-
Current liabilities		**526,211**	**438,183**
Total equity and liabilities		**2,437,488**	**2,347,286**

* Regarding the information of subscribed capital and reserves, please refer to the statement of changes in equity.

STATEMENT OF CHANGES IN EQUITY AS OF 31.12.2021

in EUR '000	Equity attributable to owners of the parent						Non-controlling interest	Equity
				Other comprehensive income				
	Subscribed capital	Capital reserve	Retained earnings incl. profit or loss	Currency translation differences	Remeasurements of defined benefit plans	Total		
Balance as of 1st January 2020	**415,025**	**73,355**	**1,075,244**	**- 22,868**	**- 5,605**	**1,535,151**	**31,286**	**1,566,437**
Equity transactions with shareholders								
Changes in the scope of consolidation	-	-	- 38	-	38	-	-	-
Capital decrease	- 150,000	-	-	-	-	- 150,000	-	- 150,000
Acquisition of non-controlling interests	-	-	- 8,469	-	-	- 8,469	3,589	- 4,880
	- 150,000	-	- 8,507	-	38	- 158,469	3,589	- 154,880
Total comprehensive income for the period								
Other comprehensive income, net of income taxes 2020	-	-	-	- 1,860	- 507	- 2,367	- 273	- 2,640
Profit or loss 2020	-	-	- 58,444	-	-	- 58,444	- 16,615	- 75,059
	-	-	- 58,444	- 1,860	- 507	- 60,811	- 16,888	- 77,699
Balance as of 31 December 2020	**265,025**	**73,355**	**1,008,293**	**- 24,728**	**- 6,074**	**1,315,871**	**17,987**	**1,333,858**
Balance as of 1st January 2021	**265,025**	**73,355**	**1,008,293**	**- 24,728**	**- 6,074**	**1,315,871**	**17,987**	**1,333,858**
Equity transactions with shareholders								
Acquisition / Sale of non-controlling interests	-	-	6,674	-	-	6,674	- 6,876	- 202
Other changes	-	1	- 83	82	-	-	-	-
	-	1	6,591	82	-	6,674	- 6,876	- 202
Total comprehensive income for the period								
Other comprehensive income, net of income taxes 2021	-	-	-	3,220	671	3,891	566	4,457
Profit or loss 2021	-	-	59,835	-	-	59,835	- 4,088	55,747
	-	-	59,835	3,220	671	63,726	- 3,522	60,204
Balance as of 31 December 2021	**265,025**	**73,356**	**1,074,719**	**- 21,426**	**- 5,403**	**1,386,271**	**7,589**	**1,393,860**

CONSOLIDATED STATEMENT OF CASH FLOWS 2021

Cash and cash equivalents corresponds to the balance sheet item cash and cas equivalents.

in EUR '000	Note	2021	2020
Income before interest, dividends and income taxes	33	81,069	- 60,221
Income taxes paid	16	- 21,985	- 23,844
Interest paid		- 12,010	- 14,088
Interest received		1,718	3,484
Dividends received		2,331	2,015
Depreciation and amortisation / write-ups of assets		162,801	182,356
Change in provisions		5,169	10,535
Other non-cash transactions		- 11,468	23,574
Result from the disposal of property, plant and equipment		404	- 5,633
Result from the disposal of securities		- 289	- 909
Result from the disposal / deconsolidation of consolidated subsidiaries	5	-	15
Change in other assets		- 126,514	139,938
Change in other liabilities		55,805	- 21,630
Cash flow from operating activities		**137,031**	**235,592**
Investments in intangible assets	17	- 11,320	- 11,069
Proceeds from the disposal of intangible assets		144	56
Investments in property, plant and equipment	18	- 64,681	- 66,455
Proceeds from the disposal of property, plant and equipment		9,706	40,402
Investments in financial assets / associates		- 198,540	- 693,592
Proceeds from the disposal of financial assets		136,674	821,874
Cash outflow from the acquisition of consolidated subsidiaries	5	- 29,672	- 12,194
Cash outflow from the disposal of consolidated subsidiaries or reclassifications to assets held for sale	27	- 539	-
Cash flow from investing activities		**- 158,228**	**79,022**
Proceeds from shareholders		-	107,497
Payments to shareholders		- 98,940	- 150,000
Payments for the acquisition of non-controlling interest	28	-	- 4,880
Repayments of lease liabilities		- 46,535	- 46,564
Proceeds from bank loans		142,522	38,487
Repayments of bank loans		- 103,143	- 107,291
Cash flow from financing activities		**- 106,096**	**- 162,751**
Change in cash and cash equivalents		- 127,293	151,863
Effect of changes in exchange rates		- 13,380	- 11,582
Cash and cash equivalents at the beginning of the period		669,773	529,492
Cash and cash equivalents at the end of the period	26	**529,100**	**669,773**

Notes to the consolidated financial statements 2021

Contents

1. General information

ATON 2 GmbH (ATON or the "Company") has its registered office in Leopoldstraße 53, 80802 Munich, Germany, and is registered at the Munich Local Court under the registration number HRB 229865.

ATON 2 GmbH and its subsidiaries (collectively, the "Group") are organised globally and operate on all continents with core activities in the defined business segments of Engineering, Mining, Med Tech and Aviation.

The consolidated financial statements of ATON 2 GmbH as of 31 December 2021 have been prepared in accordance with Section 315e of the German Commercial Code (Handelsgesetzbuch, "HGB") and the provisions of the International Financial Reporting Standards (IFRSs) issued by the International Accounting Standards Board (IASB), London, and with the interpretations of the International Financial Reporting Interpretations Committee (IFRIC), applicable on the reporting date and as adopted by the European Union.

Dr. Lutz Helmig in turn exercises control over ATON 2 GmbH.

As the parent company of the Group, ATON 2 GmbH prepares the mandatory consolidated financial statements in accordance with IFRS. These are submitted to the operator of the Electronic Federal Gazette and published. The shareholders still have the theoretical option of amending the financial statements within the framework of the statutory provisions.

The consolidated financial statements are prepared in Euro. Unless indicated otherwise, all amounts are rounded either up or down to the nearest thousand (k EUR) in accordance with normal commercial practice. Rounding may result in rounding differences of +/- EUR 1k.

The financial year corresponds to the calendar year.

Individual items in the income statement and the statement of comprehensive income, the statement of financial position, the statement of cash flows and the statement of changes in equity of the ATON Group have are summarised to improve clarity. Full details are given in the notes to the financial statements. The income statement has been prepared in accordance with the nature of expense method. The statement of financial position is classified by maturity of the assets and liabilities. Assets and liabilities are considered to be current if they are due or to be sold within one year or within the normal business cycle of the company or the Group, or if they are intended to be sold. Deferred tax assets and liabilities as well as provisions for pensions are generally presented as non-current.

2. Basis of preparation of the consolidated financial statements

2.1. General principles

The financial statements of the domestic and foreign subsidiaries included in the consolidated financial statements are prepared in accordance with the uniform accounting policies that are applied consistently by the ATON Group. The financial statements of the subsidiaries included in the consolidated financial statements are prepared as of the reporting date of the consolidated financial statements.

The consolidated financial statements are prepared based on historical acquisition and production costs, with the exception of items reported at their fair values, such as derivative financial instruments, available-for-sale financial assets and plan assets relating to pension obligations.

2.2. Application of new, amended or revised standards

The accounting policies adopted are consistent with those of the previous financial year except as described below.

Accounting standards applied on a mandatory basis for the first time during the current financial year

The Group has applied all accounting pronouncements adopted by the EU and required to be applied as from 1 January 2020, which consist of:

- Amendments to IFRS 9, IAS 39, IFRS 4, IFRS 7 and IFRS 16 regarding Interest Rate Benchmark Reform - Phase 2,
- Amendments to IFRS 16 Leases – Covid-19-Related Rent Concessions: Extension of the scope of the 2020 amendments by increasing the period of eligibility to apply the practical expedient from 30 June 2021 to 30 June 2022.

None of those applied standards had a material effect on the consolidated financial statements.

New or amended standards and interpretations not applied

Standards/ amendments		**EU Endorse-ment**	**Mandatory application*1)**	**Expected effect**
Amendments to IAS 37	Onerous Contracts – Cost of Fulfilling a Contract	Yes	01.01.2022	No material effects
Amendments to IAS 16	Property, Plant and Equipment: Proceeds before Intended Use	Yes	01.01.2022	No material effects
Amendments to IFRS 3	Updating the Reference to the Conceptual Framework	Yes	01.01.2022	No material effects
Amendments to IAS 1	Classification of Liabilities as Current or Non-current	No	01.01.2023	No material effects
Amendments to IAS 1 + IFRS Practice State-ment 2	Determining the extent of disclosure of accounting policies based on materiality	No	01.01.2023	No material effects
Amendments to IAS 8	Definition of accounting estimates and other amendments to help entities distinguish changes in accounting esti-mates from changes in accounting policies	No	01.01.2023	No material effects
Amendments to IAS 12	Deferred Tax related to Assets and Liabilities arising from a Single Transaction	No	01.01.2023	No material effects

* Mandatory application for financial years beginning on or after the given date.

1) In accordance with section 315e HGB, application is not mandatory for standards and interpretations that have not yet been endorsed by the EU.

2.3. Scope of consolidation and consolidation principles

The shareholdings of the ATON Group comprise subsidiaries, associates and joint ventures.

Subsidiaries

In addition to ATON 2 GmbH, the consolidated financial statements include all material subsidiaries. Subsidiaries are all entities that are controlled by the Group. The Group controls an entity when it is exposed, or has rights, to variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity.

Subsidiaries are fully consolidated from the date on which the Group gains control. When control over the entity ceases, the Group deconsolidates the subsidiary as of this date.

Acquired subsidiaries are accounted for using the acquisition method. The cost of a business acquisition is measured according to the fair value of the assets acquired and the liabilities incurred or assumed at the date of the acquisition. Acquisition-related costs are recognised as expenses at the date when they are incurred. The identifiable assets acquired in a business combination and the liabilities assumed are measured at their fair value at the date of acquisition, irrespective of the extent of any non-controlling interests in equity. Non-controlling interests are measured either at fair value (full goodwill method) or at the proportionate share of the fair value of the assets acquired and liabilities assumed. The amount by which the total of the cost of the acquisition, the amount of the non-controlling interest in the business acquired and the fair value of any previously held equity interest at the date of acquisition exceeds the Group's share of the net assets measured at fair value is recognised as goodwill. If the cost of the acquisition is lower than the fair value of the net assets of the subsidiary acquired, the difference is recognised directly in the income statement.

After initial recognition, profits and losses are attributed on an unlimited basis in proportion to the shareholdings, which may also result in a negative balance for non-controlling interests.

Any contingent consideration to be transferred by the Group is recognised at fair value at the acquisition date. Subsequent changes in the fair value of the contingent consideration that is classified an asset or liability are measured and any resulting gain or loss is recorded in the income statement.

In cases where business acquisitions are achieved in stages, the equity share acquired before is remeasured at the fair value at the acquisition date. Transactions not resulting in a loss of control are recorded as equity transactions with no effect on profit or loss for non-controlling interest. At the date on which control is lost, all remaining shares are remeasured at their fair value through profit or loss.

Intercompany profit or losses and income, expenses arising from transactions within the scope of consolidation are eliminated, as are receivables and liabilities existing between consolidated companies. Unrealised gains and losses in fixed assets and in inventories arising from intra-group transactions are eliminated. Consolidation entries with effect on profit or loss are subject to deferred taxes.

Transactions with non-controlling interests that do not result in loss of control are accounted for as transactions with equity of the Group. Any difference arising on the acquisition of non-controlling interests between the consideration paid and the relevant share acquired of the carrying amount of net assets is recorded directly within equity. Gains or losses on disposals to non-controlling interests are also recorded in equity.

When the Group loses control over an entity, any retained interest is remeasured to its fair value and the resulting difference is recognised in profit or loss. The fair value is the fair value determined at initial recognition as an associate, joint venture or financial asset. In addition, any amounts previously recognised in other comprehensive income in respect of that entity are accounted for as if the Group had directly disposed of the related assets and liabilities. This means that amounts previously recognised in other comprehensive income are reclassified to profit or loss.

Associates

The ATON Group accounts for investments in associates using the equity method.

An “associate” is an entity over which the Group has significant influence but not control, and which is not an interest in a joint venture. Excluded are investments in associates, which are accounted for under IFRS 5 as non-current assets held for sale and discontinued operations.

Based on the acquisition costs at the time of acquiring the shares in an associate, the relevant book value of the participation is increased or reduced annually to take account of the proportional profits or losses, reduced by dividends paid to the ATON Group as well as by changes in other comprehensive income of the associate, insofar as these are attributable to the ATON Group. Goodwill arising from the acquisition of an associate is included in the carrying amount of the investment and is not amortised; rather it is tested for impairment as part of the overall investment in the associate.

If the ATON Group’s share of losses of an investment accounted for using the equity method equals or exceeds its interest in the associate, no further losses are recognised, unless the Group has incurred legal or constructive obligations or made payments on behalf of the associate.

Unrealised intercompany gains and losses resulting from transactions of Group companies with associates are eliminated proportionally in the income of the Group.

The Group assesses at each reporting date whether there is any indication that an investment accounting for using the equity method may be impaired. If such evidence exists, the ATON Group determines the impairment requirement as the difference between the carrying amount and the recoverable amount.

Joint arrangements

According to IFRS 11, there are two forms of joint arrangements, depending on the contractual rights and obligations: joint operations and joint ventures. The ATON Group has assessed the nature of its joint arrangements and identified them as joint ventures. Joint ventures are accounted for using the equity method.

For information on accounting for companies using the equity method, please refer to the explanations for associated companies.

As of 31 December 2021, the scope of consolidation is as follows:

	Germany	International	Total	31.12.2020
Fully consolidated companies	15	70	85	83
Associates	3	3	6	4
Joint ventures	16	8	24	24
Fully consolidated companies (at fair value)	3	4	7	7
Companies within the scope of consolidation	**37**	**85**	**122**	**118**

For a complete overview, please refer to the list of shareholdings.

Investments of minor significance are recognised at the lower of their respective acquisition cost or fair value and are not consolidated. Companies are considered to be of minor significance if their cumulative share of net sales, annual results and total assets amounts to less than 1 % of consolidated net sales, annual result and total assets, and therefore, they are not relevant for the presentation of a true and fair view of the Group's net assets, financial position, and profit or loss, as well as its cash flows.

The following domestic subsidiaries, having the legal form of a corporation or of a partnership within the meaning of Section 264a of the German Commercial Code (Handelsgesetzbuch, "HGB"), have fulfilled the necessary conditions in accordance with Section 264 (3) and Section 264b HGB for making use of the exemption provision and therefore do not publish their annual financial statements:

Name of company	Registered office
EDAG Production Solutions GmbH & Co. KG	Fulda

2.4. Currency translation

The consolidated financial statements are prepared in Euro, the reporting currency of ATON 2 GmbH. The functional currency of the subsidiaries is generally the same as the company's respective national currency since the subsidiaries run their operations independently from a financial, economic and organisational point of view.

Foreign currency transactions in the individual financial statements of the Group companies are translated into the functional currency using the exchange rates at the transaction date. At each reporting date, monetary assets and liabilities whose amount is stated in a foreign currency are translated at the closing rate. Non-monetary assets and liabilities measured at fair value and whose amount is stated in a foreign currency are translated at the date on which the fair value is determined. Currency translation gains and losses are recorded in profit or loss. An exception is made in the case of currency translation differences relating to non-monetary assets and liabilities. Those changes in fair values are recognised directly in equity.

The earnings and balance sheet items of all Group companies with a functional currency other than the Euro are translated into Euro as the reporting currency. The assets and liabilities of the relevant Group companies are translated at the closing rate. Items of income and expenses are translated at average exchange rates for the period. Components of equity are translated at historical rates at the respective dates at which they were initially recognised from the point of view of the Group.

Differences arising from the translation at closing rates are reported separately in equity and in the notes under "Currency translation". Currency translation differences recorded directly in equity, while the subsidiary forms part of the Group, are reclassified to profit or loss when the subsidiary leaves the scope of consolidation.

Goodwill and fair value adjustments arising from the acquisition of a foreign company are treated as assets and liabilities of the foreign company and translated at the closing rate.

The most important exchange rates for the translation of the foreign currencies financial statements have developed in relation to the Euro as follows (in each case for 1 EUR):

Country	Currency Units per Euro		2021		2020	
			Closing rate	Average rate	Closing rate	Average rate
Australia	Dollar	AUD	1.5615	1.5749	1.5896	1.6549
Brazil	Real	BRL	6.3101	6.3779	6.3735	5.8943
China	Renminbi	CNY	7.1947	7.6282	8.0225	7.8747
United Kingdom	Pound	GBP	0.8403	0.8596	0.8990	0.8897
India	Rupee	INR	84.2292	87.4392	89.6605	84.6392
Japan	Yen	JPY	130.3800	129.8800	126.4900	121.8500
Canada	Dollar	CAD	1.4393	1.4826	1.5633	1.5300
Korea	Won	KRW	1,346.3800	1,354.0600	1,336.0000	1,345.5800
Malaysia	Ringgit	MYR	4.7184	4.9015	4.9340	4.7959
Mexico	Peso	MXN	23.1438	23.9852	24.4160	24.5194
Namibia	Dollar	NAD	18.0442	17.4709	17.9813	18.7577
Norway	Krone	NOK	9.9888	10.1633	10.4703	10.7228
Poland	Zloty	PLN	4.5969	4.5652	4.5597	4.4430
Romania	Leu	RON	4.9490	4.9215	4.8683	4.8383
Russian Federation	Rouble	RUB	85.3004	87.1527	91.4671	82.7248
Zambia	Kwacha	ZMW	18.7632	23.6840	25.9103	20.8323
Sweden	Krona	SEK	10.2503	10.1465	10.0343	10.4848
Switzerland	Franc	CHF	1.0331	1.0811	1.0802	1.0705
Singapore	Dollar	SGD	1.5279	1.5891	1.6218	1.5742
South Africa	Rand	ZAR	18.0625	17.4766	18.0219	18.7655
Czech Republic	Koruna	CZK	24.8580	25.6400	26.2420	26.4550
Hungary	Forint	HUF	369.1900	358.5200	363.8900	351.2500
USA	Dollar	USD	1.1326	1.1827	1.2271	1.1422

3. Summary of significant accounting policies

3.1. Goodwill

Goodwill is not subject to scheduled amortisation but is tested annually for impairment. An impairment test is carried out also during the financial year if events or circumstances (triggering events) occur giving rise to indications of possible impairment. Goodwill is recognised at purchase cost at the date of acquisition and subsequently measured at its purchase cost less any accumulated impairment losses. For the purposes of impairment testing, goodwill acquired in the context of a business combination is allocated to the cash-generating unit or group of cash-generating units, which are expected to benefit from the synergies of the combination. A cash-generating unit is the smallest identifiable group of assets capable of generating cash inflows that are largely independent of the cash inflows from other assets or other groups of assets. If the recoverable amount of a cash-generating unit is less than the carrying amount of the unit, the impairment loss is allocated first to the carrying amount of any goodwill allocated to the unit and then to the other assets pro rata on the basis of the carrying amount of each asset within the unit. The recoverable amount is the higher of the fair value of the unit less costs to sell and its value in use. As a matter of principle, the ATON Group utilises the value in use of the relevant cash-generating units to determine the recoverable amount. This is based on the current business plan prepared by management, which generally covers a period of three years. If necessary to achieve a sustainable planning year, the planning period will be extended to five years. Reasonable assumptions are made with respect to the future development of the business for the subsequent years. The cash flows are determined based on the expected growth rates in the relevant sectors and markets. The cash flows after the end of the detailed planning period are estimated using individual growth rates derived from information relating to the particular market of no more than 1.0 % p.a. Individual discount rates for the particular cash-generating units between 5.1 % and 8.6 % (previous year: 5.0 % and 8.1 %) are used for the purpose of determining the value in use. A goodwill impairment loss recognised in one period may not be reversed in future periods. In the event of the sale of a subsidiary, the associated amount of goodwill is included in the calculation of the gain or loss on disposal. The treatment of goodwill arising on the acquisition of an associate is described under "associates".

3.2. Other intangible assets

Purchased intangible assets are measured at cost and amortised on a straight-line basis over their economic useful lives. Other intangible assets mainly comprise software, together with patents, licences and similar rights. The expected useful life for concessions, patents and similar rights is generally defined between three and ten years and for software between one and eight years.

Research costs are expensed in the period in which they are incurred.

The development costs of a project are only capitalised as an intangible asset if the company can demonstrate both the technical feasibility of completing the intangible asset so that it will be available for internal use or sale and also the intention to complete the intangible asset and to use or sell it. It must also demonstrate how the asset will generate future economic benefits, the availability of resources to complete the asset and the ability to reliably measure the expenditure attributable to the intangible asset during its development. The cost of an internally generated intangible asset is the total of the directly attributable direct costs and overheads incurred from the date when the intangible asset first meets the recognition criteria described above. Financing costs are not capitalised except in the case of qualifying assets. Internally generated intangible assets are amortised on a straight-line basis over their economic useful lives of three years. Amortisation in the case of internally generated intangible assets begins when the asset is available for use, i.e. when it is in the condition necessary for it to be capable of operating in the manner intended by management.

In cases where it is not possible to recognise an internally generated intangible asset, the costs of development are expensed in the period in which they are incurred.

Intangible assets acquired in a business combination are recorded separately from goodwill if the fair value of the asset can be reliably measured. The costs of such an intangible asset correspond to its fair value at the date of acquisition. Amortisation is calculated using the straight-line method based on the estimated useful life.

Intangible assets with indefinite useful lives are not amortised but are tested annually for possible impairment. If events or changes in circumstances occur giving indications of possible impairment, impairment testing must be carried out more frequently. Further details of the procedure for annual impairment tests are provided under note **3.4. Impairment of property, plant and equipment and other intangible assets**.

3.3. Property, plant and equipment

Items of property, plant and equipment used in the business for longer than one year are recognised at the cost of acquisition or production less straight-line depreciation and accumulated impairment losses. The cost of production comprises all directly attributable costs and appropriate portions of production-related overheads. Investment grants are generally deducted from the cost of the asset. If the production or acquisition of items of property, plant and equipment is spread over a longer period, borrowing costs incurred up to the date of completion are capitalised as a component of cost in conformity with the provisions of IAS 23. If the costs of particular components are significant in relation to the total cost of the item of property, plant and equipment, then those components are capitalised and depreciated separately. The cost of replacing a part of the item of property, plant and equipment is included in the carrying amount of that item at the date when it is incurred, provided that the criteria for recognition are satisfied. The cost of carrying out a major inspection is also recognised in the carrying amount of property, plant and equipment as a replacement, provided that the recognition criteria are met. All other servicing and maintenance costs are recorded immediately in the income statement. Subsequent costs of acquisition or production are only recognised as part of the cost of the asset if it is probable that it will bring future economic benefit to the Group and if the cost of the asset can be reliably determined.

The useful lives of the principal categories of assets of the Group are determined using comparative tables customary in the industry and on the basis of its own past experience, which can be classified as follows:

Property, plant and equipment	**Useful life in years**
Buildings	2 to 60
Technical equipment and machinery (excluding mining and construction machinery)	2 to 25
Other machinery and equipment	2 to 8
Operating and office equipment	1 to 25

3.4. Impairment of property, plant and equipment and other intangible assets

At each reporting date or the occurrence of respective events, the Group assesses whether there are indications that items of property, plant and equipment and intangible assets might be impaired. If such indications are identified, the recoverable amount of the asset is estimated in order to determine the extent of an impairment loss. The recoverable amount is calculated as the higher of the fair value less costs to sell ("net realisable value") and the present value of the expected net cash inflows from the continuing use of the asset ("value in use"). Where a forecast of the expected cash inflows for an individual asset is not possible, the cash inflows are estimated for the next larger group of assets, which generates cash inflows that are largely independent of those from other assets, (cash-generating unit) to which the asset belongs to.

For the purpose of estimating value in use, the estimated future cash flows are discounted to their present value using a pre-tax rate of interest. If the estimated recoverable amount of an asset (or of a cash-generating unit) falls below its carrying amount, the carrying amount of the asset (or of the cash-generating unit) is reduced to the recoverable amount. First, any goodwill allocated to the cash-generating unit is impaired and any remaining impairment loss is then allocated to the other assets of the unit on the basis of the carrying amount of each asset in the unit.

The impairment loss is recognised immediately with effect on income statement. If the impairment loss is subsequently reversed, the carrying amount of the asset (or of the cash-generating unit) is increased to the updated estimate of the recoverable amount. The carrying amount resulting from this increase must not exceed the carrying amount that would have been determined for the asset (or the cash-generating unit) if an impairment loss had not been recognised in previous periods. The reversal of an impairment loss is recorded immediately in the income statement. Impairment losses recognised in respect of goodwill may not be reversed.

Internally generated intangible assets that have not yet been completed are tested for impairment at least once a year.

3.5. Cash and cash equivalents

Cash reported in the consolidated statement of financial position comprises cheques, cash-in-hand and balances with banks with an original maturity of up to three months. Cash equivalents reported in the balance sheet consist of short-term, highly liquid financial assets that can be converted into specified amounts of cash at any time and are exposed only to insignificant risks of fluctuations in value. Cash and cash equivalents are measured at amortised cost. Cash and cash equivalents in the consolidated statement of cash flows are defined in accordance with the above definition.

3.6. Investment properties

This item refers to property held for the purpose of generating rental income and/or increase in value (including property being constructed or developed and intended for such purposes). Investment properties are initially recognised at cost, including transaction costs. In subsequent periods, investment properties are recorded at amortised cost net of accumulated straight-line depreciation and impairment losses. The useful life is generally between 50 and 60 years. Unchanged to prior year as of 31 December 2021 no investment properties exist.

3.7. Leases

The ATON Group applies the provisions of IFRS 16 "Leases" since 1 January 2019 (previously accounting under IAS 17). The standard contains a comprehensive model for identifying lease agreements and accounting for lessors and lessees. The provisions of IFRS 16 were applied modified retrospectively within the Group, i.e. the cumulative adjustment amounts will be recognized as retained earnings in equity as of 1 January 2019.

Identifying a lease

At inception of a contract, it must be assessed whether a contract is or contains a lease. This is the case if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

In the transition to IFRS 16, the Group made use of the practical relief of IFRS 16.C3, which permits that for all existing contracts at the transition date, no new reassessment has to be made as to whether an arrangement is a lease or not. The Group applies the new lease definition to all agreements that are closed or modified on or after 1 January 2019.

The Group as lessee

Lessees recognize a right-of-use for a leased asset (so-called right-of-use asset or RoU asset) and a corresponding lease liability for all leases in accordance with IFRS 16. An exception is short-term leases with a maximum term of 12 months and leases where the underlying asset is of low value. The lease payments resulting from these leases are recognised in the Group as an expense on a straight-line basis over the term of the lease.

RoU assets are valued at cost at the commencement date. These costs comprise the amount of the lease liability initially recognised plus any lease payments made at or before the commencement date, plus any initial direct costs and estimated costs of dismantling and eliminating the underlying asset less any lease incentives received. In subsequent periods, RoU assets are generally measured at amortised cost. If the lease transfers ownership of the underlying asset to the lessee by the end of the lease term or if the cost of the right-of-use asset reflects that the lessee will exercise a purchase option, the lessee shall depreciate the right-of-use asset from the commencement date to the end of the useful life of the underlying asset. Otherwise, the lessee shall depreciate the right-of-use asset form the commencement date to the earlier of the useful life of the right-of-use asset or the end of lease term.

At the commencement date of the lease, the Group measures the lease liabilities at the present value of the lease payments not yet paid. The lease payments are discounted using the interest rate implicit in the lease. If this rate cannot be readily determined, the Group uses the incremental borrowing rate. As part of the subsequent valuation, the book value of the lease liability is increased to reflect interest using the interest rate used for discounting and reduced by the lease payments made.

Leasing liabilities are remeasured,

- if there is a change in the estimated amounts expected to be payable under residual value guarantees;
- if future lease payments change as a result of a change in an index or interest; or
- if the Group's assessment changes with respect to purchase options, extension options or cancellation options.

If the lease liability is remeasured on the basis of one of the aforementioned reasons, the adjustment is recognised against the right-of-use asset. If the carrying amount of the right-of-use asset is zero, the adjustment is recognised in profit or loss.

The Group as a lessor

The lessor distinguishes between finance and operating leases. Leases under which substantially all the risks and rewards are retained by the Group are classified as operating leases. The leased assets continue to be capitalised by the ATON Group as fixed assets. Initial direct costs incurred in negotiating and concluding a lease agreement are added to the carrying amount of the leased asset and expensed over the term of the lease agreement in a manner corresponding to the recognition of the rental income. Contingent rents are recorded in the period in which they are generated.

For subleases, the interim lessor classifies the sub-lease as a finance or operating lease in respect of the right of use arising from the principal lease. In other words, under IFRS 16, the intermediate lessor treats the right-of-use asset as the underlying asset of the sub-lease rather than the underlying leased asset by the principal lessor.

3.8. Reparable aircraft spare parts

For the purpose of measuring reparable aircraft spare parts, the spare parts are allocated to the individual aircraft models and depreciated over the remaining useful life of the respective aircraft model, taking into account estimated residual values. Residual values and useful lives are reviewed at each reporting date. Changes in the residual values and their effects on annual depreciation charges are reflected prospectively in accordance with IAS 8, “Accounting Policies, Changes in Accounting Estimates and Errors” in the period of the change and the subsequent periods.

3.9. Inventories

Inventories are valued at the lower of acquisition or production cost and their net realisable value on the reporting date. The net realisable value is the estimated selling price in the ordinary course of business less direct selling costs and directly attributable production costs still to be incurred. If the net realisable value is lower than the carrying amount, an impairment loss is recognised.

The cost of raw materials, consumables and supplies is mainly determined at average purchase prices, which are calculated on the basis of a moving average.

In addition to direct material costs, direct labour costs and special direct costs, the production costs of unfinished and finished goods include all directly attributable production-related overheads. General administrative costs and financing costs are not capitalised, except in the case of a qualifying asset. The production costs are determined on the basis of normal production capacity.

The purchasing cost of merchandise also includes incidental costs of purchase.

3.10. Non-current assets held for sale and disposal groups

Non-current assets or disposal groups are classified as held for sale if the associated carrying amount is mainly intended to be realised by means of a sale and not from continuing use. This condition is considered to have been satisfied only if the sale is highly probable and the asset (or the disposal group) is available for immediate sale in its current condition. Management must be committed to a plan for the sale of the asset (or the disposal group) and must have initiated an active programme to locate a buyer and to implement the plan. In addition, the asset (or the disposal group) must be actively marketed at a price that is reasonable in relation to its current fair value. There must be an expectation that this will result in the recognition of a completed sale transaction within one year of such classification. Depreciation is suspended in such cases. Non-current assets (and disposal groups) classified as held for sale are measured at the lower of their original carrying amount and their fair value less costs to sell.

3.11. Financial assets

Classification and measurement

IFRS 9 contains three measurement categories: 1) amortised cost, 2) at fair value through other comprehensive income and 3) at fair value through profit or loss. The classification and measurement of financial assets (financial instruments) that are not equity instruments depends on two factors that are to be examined at the moment of acquisition (and in the case of first-time adoption of IFRS 9 on transition): the business model for the financial asset and the cash flow conditions of the instrument. A valuation at amortised cost is appropriate, provided that the cash flows of the instrument consist only of interest payments on the nominal amount and repayments (cash flow criterion) and the instrument is held with the purpose of realising the contractual cash flows ("hold" business model). If the cash flow criterion is met and the instrument is held under a business model that realises the cash flows from the instrument through holding to maturity and through sales ("hold or sell" business model), a fair value measurement is made through other comprehensive income. If the cash flow criterion is not met or for all business models other than "hold" or "hold or sell", the instrument must be measured at fair value through profit or loss.

A reclassification of a financial asset between the measurement categories of IFRS 9 requires a change in the business model for each group of instruments. Such a change is expected to be very infrequent in practice and will occur only if: 1) determined by the entity’s senior management as a result of external or internal changes, 2) the change is significant to the operations and 3) be demonstrable to external parties.

Loans, trade receivables and other receivables as well as contract assets under IFRS 15 of the ATON Group fulfil the cash flow criterion. The instruments are held in a business model that aims to realise the cash flows by holding the instruments to final maturity. For this reason, valuation continues to be carried out at amortised cost, taking into account the effective interest method.

Investments in equity instruments do not meet the cash flow criterion due to the intrinsic leverage effect of price fluctuations. These instruments are generally to be measured at fair value through profit or loss. The ATON Group will not make use of the option of measuring investments in equity instruments at fair value through other comprehensive income (FVTOCI) in the future.

Financial assets are measured at fair value upon initial recognition. All financial assets that are not classified as at fair value through profit or loss also include the transaction costs that are directly attributable to the acquisition of the asset.

All purchases and sales of financial assets at-arms-lengths are recognised at the trading day, i.e. at the date on which the Group entered into the obligation to purchase or sell the asset.

Impairment

In order to recognise changes in default risk since the initial recognition of a financial asset, the Group adjusts the expected future losses as part of risk provisioning at each reporting date. This means, that a so-called loss event that triggers impairment is not required.

IFRS 9 distinguishes between three levels when measuring expected losses. The expected future losses on a financial asset are measured on the basis of one of the following three measures:

- the "expected 12-month loss" (present value of expected credit losses resulting from possible default events within the next 12 months after the balance sheet date) - level 1;
- the total expected credit loss over the remaining life of the financial instrument (present value of expected credit losses due to all possible default events over the remaining term of the financial instrument), whereby the gross book value is still the basis for the effective interest rate - level 2;
- or the total expected credit loss over the remaining life of the instrument (present value of expected credit losses due to all possible default events over the remaining life of the financial instrument), whereby the net book value is the basis for the effective interest rate - level 3.

For trade receivables and contract assets within the scope of IFRS 15, which do not contain a significant financing component under IFRS 15, IFRS 9 provides a simplified impairment approach for measuring expected credit losses. The simplified impairment approach is, for reasons of practicability, also applicable to contracts for which it is reasonable expected according to IFRS 15, that they do not contain a significant component of financing based on a maximum duration of the contract of one year.

Due to the short duration of these financial instruments, the simplified impairment approach requires a direct recording of the expected credit losses over the entire residual term. These financial instruments are therefore directly attributable to level 2 of the impairment model (unless they are already impaired when they are issued, which would lead to an allocation to level 3).

In the case of a significant financing component for trade receivables and contract assets within the scope of IFRS 15, IFRS 9 gives the option of applying the simplified impairment approach for measuring expected credit losses. This option can also be applied to lease receivables. However, the ATON Group does not apply this option to lease receivables because the lease receivables are recognised under other receivables.

The ATON Group makes use of the option regarding the simplified impairment approach to measure the lifetime expected credit losses. For loans and other receivables, however, expected credit losses are recognised under the general 3-step model.

Increase of default risk

The loss recognition of the lifetime expected credit losses is obligatory for financial instruments whose default risk has significantly increased since initial measurement (level 2). If there are objective indications of impairment, the asset must be reclassified to level 3 and the loan loss allowance has to be adjusted accordingly.

A significant increase occurs when there is little risk of default, the debtor is highly capable of making his contractually agreed payments, and adverse changes in the economic or business environment may, in the long term, affect the debtor's ability to make contractually agreed payments. The rules also include the rebuttable presumption that the default risk has significantly increased since the instrument's access when contractual payments are overdue for more than 30 days. This rebuttable presumption is used by the ATON Group. In addition, the Group makes use of the simplification for financial assets whose default risk is considered low. It may then be assumed that for financial assets whose default risk is considered low, the default risk has not significantly increased. The ATON Group considers a low default risk to be related to financial assets whose internal or external credit rating falls into the "investment grade" category. This simplified approach applies to loans and other receivables.

In accordance with IFRS 9, a financial asset has objective evidence of impairment if one or more events have occurred that have a significant impact on the expected future cash flows of the financial asset. These include, for example, significant financial difficulties of the issuer or the debtor or a breach of contract such as a default or a delay of interest or principal payments. Based on historical experience, a loss of financial assets measured at amortised cost is assumed in the event of various circumstances such as delayed payment over a certain period of time, initiation of coercive measures, threatened insolvency or over-indebtedness, application or initiation of insolvency proceedings or failure of restructuring measures. In addition, the Group uses the rebuttable presumption for loans and other receivables that there are objective indications of impairment at the latest when the contractual payments for an instrument are outstanding for more than 90 days. For trade receivables and contract assets within the scope of IFRS 15, estimates are made on a case-by-case basis. The Group reviews at each balance sheet date whether there are any objective indications for an impairment of a trade receivable / contract asset within the scope of IFRS 15. Receivables and the associated accumulated risk allowances are only derecognised if they are classified as irrecoverable, i.e. no more cash inflows are expected. In this case, the outstanding amount of receivables is adjusted against the risk allowance.

Measurement of expected credit losses

The expected credit loss is a function of the probability of default, the loss given default and the credit exposure at the time of default. Loans and other receivables (general impairment approach) are classified by the ATON Group based on an internal rating scale. This rating scale is as follows:

ATON		S&P
Grade	**Description**	**Description**
A	Very good credit rating (investment grade)	AAA-BBB
B	Good to satisfactory credit rating (sub-investment grade)	BBB-BB
C	Credit rating below average	below BB

The default probability for each rating grade is based on the experience of an external rating agency, which is historical data enriched with forward-looking data. These are reviewed annually and, if necessary, adjusted. Based on empirical values, the loss rate in case of default for these financial instruments is calculated to be one hundred percent.

For trade receivables and contract assets within the scope of IFRS 15 (simplified impairment approach), the ATON Group calculates a default rate on the basis of historical default at each reporting date and adjusts it to expected future economic developments based on a 6-month forecast. At the time of the default, the book value is used as an approximation of the outstanding amount within the ATON Group.

The expected credit losses on loans are determined on the basis of the respective financial instrument or for the respective debtor. However, in the case of trade receivables, contract assets in the scope of IFRS 15 and other receivables, an assessment based on the individual debtor / instrument is not possible. For this reason, the expected credit losses for these instruments are determined on a collective basis. Trade receivables and contract assets in the scope of IFRS 15 are grouped for these purposes at the level of the segments, because the segments are the highest possible level at which the ATON Group's customers have common default risk characteristics. The ATON Group regularly reviews grouping and aggregation to ensure that the instruments within each group continue to share common default risk characteristics.

At each reporting date, the Group reviews whether the default risk has significantly increased since the first-time recognition or whether there is objective evidence of impairment. Affected financial assets are reclassified to the respective level of the impairment model accordingly; the valuation of the expected credit loss is also adjusted to the respective level.

Presentation of expected credit losses

Expected credit losses and their changes are reported by the Group in a separate line item in the consolidated income statement.

3.12. Financial liabilities

Classification and measurement (without impairment) – financial liabilities

Financial liabilities are classified either as financial liabilities at fair value through profit or loss or as other financial liabilities measured at amortised cost.

Financial liabilities are measured at fair value on initial recognition. The transaction costs directly attributable to the acquisition will continue to be recognised for all financial liabilities that are not subsequently measured at fair value through profit or loss. Financial guarantees issued are subsequently not measured at fair value through profit or loss but at the higher of: 1) the amount resulting from the application of the impairment requirements from IFRS 9 or 2) the amount originally recognised.

3.13. Derecognition of financial assets and financial liabilities

Financial assets

A financial asset (or a portion of a financial asset or a portion of a group of similar financial assets) is derecognised if one of the three following preconditions is met:

- The contractual rights to receive the cash flows from a financial asset have expired.
- While the Group retains the rights to receive the cash flows from a financial asset, it assumes a contractual obligation to pay the cash flows immediately to a third party under an arrangement that satisfies the conditions of IFRS 9.3.2.6 (pass-through arrangement).
- The Group has transferred its contractual rights to receive the cash flows from a financial asset and in doing so has transferred substantially all the risks and rewards associated with ownership of the financial asset or, while it has neither transferred nor retained substantially all the risks and rewards associated with ownership of the financial asset, has nevertheless transferred control over the asset.

If the Group transfers its contractual rights to the cash flows from an asset, and neither transfers nor retains substantially all the risks and rewards of ownership of the transferred asset and retains control of the transferred asset, the Group continues to recognise the transferred asset to the extent of its continuing involvement. When the continuing involvement takes the form of guaranteeing the transferred asset, the extent of the continuing involvement is the lower of the original carrying amount of the asset and the maximum amount of the consideration received that the Group could be required to repay. When the continuing involvement takes the form of a written and / or a purchased option on the transferred asset (including an option settled in cash or by a similar method), the extent of the Group's continuing involvement is the amount of the transferred asset that it may repurchase. However, in the case of a written put option (including an option settled in cash or by a similar method) on an asset that is measured at fair value, the extent of the Group's continuing involvement is limited to the lower of the fair value of the transferred asset and the exercise price of the option.

Financial liabilities

A financial liability is derecognised when the underlying obligation is discharged, cancelled or has expired. If an existing financial liability is exchanged for another financial liability of the same lender with substantially different terms or if the terms of an existing liability are substantially modified, such exchange or modification is accounted for as a derecognition of the original liability and the recognition of a new liability. It does not matter if this is due to financial difficulties of the debtor or not. The difference between the respective carrying amounts is recognised in profit or loss.

3.14. Derivative financial instruments

The Group uses derivative financial instruments such as forward exchange contracts and options in order to hedge against currency risks. These derivative financial instruments are recorded at their fair value at the date of inception of the contract and measured at their fair value in subsequent periods. Derivative financial instruments are recognised as assets if they have a positive fair value and as liabilities if their fair value is negative. Gains and losses from changes in the fair value of derivative financial instruments that do not meet the criteria for hedge accounting are recognised immediately in the income statement. The fair value of forward exchange contracts and options is calculated using recognised valuation models with reference to current market parameters.

Cash flow hedges are used to hedge the risk of fluctuations in the future cash flows associated with a recognised asset, a recognised liability or a highly probable forecast transaction. In the case of a cash flow hedge, unrealised gains and losses on the hedging instrument are initially recorded in other comprehensive income after reflecting deferred taxes, if the hedging relationships are deemed effective. They are reclassified into the income statement only when the hedged item affects profit or loss. If forecast transactions are hedged and those transactions result in the recognition of a financial asset or a financial liability in subsequent periods, the amounts recorded in equity up to that date are reclassified into profit or loss in the same period in which the asset or the liability affects profit or loss. If the transactions result in the recognition of non-financial assets or liabilities, such as the purchase of property, plant and equipment, the amounts recorded directly in equity are included in the initial carrying amount of the asset or the liability.

At the inception of a hedge, comprehensive documentation of the hedge accounting is required in accordance with the requirements of IFRS 9, which among other things describes the risk management strategy and objectives associated with the hedge. The effectiveness of the hedging relationship is measured at regular intervals and the hedging relationship adjusted if necessary.

3.15. Provisions

A provision is recognised if the Group has a present obligation (legal or constructive) as a result of a past event, an outflow of resources embodying economic benefits to settle the obligation is probable (more likely than not) and the amount of the obligation can be estimated reliably. If the Group expects reimbursement in respect of at least a portion of a provision recognised (such as in the case of an insurance policy), the reimbursement is recognised as a separate asset to the extent to which it is virtually certain that the reimbursement will be received. The expense from the recognition of the provision is reported in the income statement net of the reimbursement.

If the interest effect from discounting is material, provisions are discounted at a pre-tax interest rate which reflects the specific risks for the liability. In the event of discounting, the increase in the provision over time is recorded as a financial expense.

3.16. Employee benefits

Pension obligations

The Group has both defined benefit and defined contribution pension plans. A defined contribution plan is a pension plan under which the Group pays fixed contributions to a company (fund) which is not a part of the Group. The Group has no legal or constructive obligation to make further payments if the fund does not have sufficient assets to pay all of the employees' pension entitlements from the current and previous financial years. In contrast, defined benefit plans typically specify an amount of pension benefits that an employee will receive on retirement and which is generally dependent on one or more factors such as age, years of service and salary.

The provision recognised in the statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation (DBO) at the end of the reporting period less the fair value of the plan assets. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The measurement of the obligation in the statement of financial position is based on a number of actuarial assumptions. Assumptions are required to be made, in particular, about the long-term salary and pension trends as well as the average life expectancy. The assumptions about salary and pension trends are based on developments observed in the past, and take into account the level of interest rates and inflation in the particular country and the respective developments in the labour market. Recognised biometric bases for actuarial calculations are used to estimate the average life expectancy. The interest rate used for discounting the future payment obligations is derived from currency and term congruent high-quality corporate bonds.

Remeasurements arising from experience adjustments and changes in actuarial assumptions are recognised in other comprehensive income in equity in the period in which they arise. Past-service cost is recognised immediately in profit or loss.

Pension expenses are included in the personnel expenses with the exception of interest components which are included in the financial result.

In the case of defined contribution plans, the Group pays contributions to state or private pension insurance plans either on the basis of statutory or contractual obligations, or voluntarily. The Group has no further payment obligations once the contributions have been paid. The amounts are recorded in personnel expenses when they become due. Prepayments of contributions are recognised as assets to the extent that a right exists to a refund or a reduction in future payments.

Termination benefits

Termination benefits are paid if employment is terminated by a Group company before the employee reaches the regular retirement age or if an employee leaves the company voluntarily against a compensation payment. The Group recognises severance payments when it is demonstrably committed to terminate the employment of current employees in accordance with a detailed formal plan which cannot be withdrawn, or when it is demonstrably required to make severance payments as a result of voluntary termination of employment by employees. Payments that are due more than twelve months after the reporting date are discounted to their present value.

3.17. Revenue recognition

The relevant accounting standard IFRS 15 provides a single, principle-based, five-step model that applies to all contracts with customers. According to the five-step model, the contract with the customer must first be determined (step 1). In step 2, the independent performance obligations are to be identified in the contract. Subsequently (step 3), the transaction price is to be determined, with explicit provisions for the treatment of variable consideration, significant financing components, payments to the customer and barter transactions. After the determination of the transaction price, in step 4 the allocation of the transaction price to the individual performance obligations has to be carried out. This is based on the stand-alone selling prices of each performance obligations. Finally (step 5) the revenue can be recognised, provided the performance obligations have been met. The prerequisite for this is the transfer of the power of disposal of the goods or the service to the customer.

The following table shows the main products and services from which the ATON Group's individual business segments generate their revenues. Revenue recognition always takes place over the period of time regarding satisfying the performance obligation, if

- the customer simultaneously receives and consumes the benefits provided by the entity's performance as the entity performs, which is usually the case for services (IFRS 15.35 (a)),
- the customer gains control of the asset while it is being manufactured, typically on the client's property (IFRS 15.35 (b)) or
- the Group cannot prove any alternative use of the asset and at the same time has an enforceable right to payment at any time plus an appropriate margin to the customer (IFRS 15.35 (c)).

In all other cases, revenue is recognised at the time the customer gains control of the asset. This is usually the case when the legal title and the significant risks and rewards have passed to the customer, a payment claim against the customer exists and (in some cases) an acceptance has taken place.

In the individual segments, the revenue recognition is as follows:

Segment Engineering:

Products and services	Satisfaction of the performance obligation…			Description
	at a point in time	over a period of time		
		Criteria	Method	
Turnkey contracts		15.35(c)	Input Method	Construction of turn-key production facilities, i.e. planning, production and commissioning of fully linked production facilities. The fulfilment of these performance obligations takes place over a period of time over the respective project duration. Accordingly, revenue is recognised in accordance with the calculated percentage of completion.
contractual labour relationship		15.35(c)	Input Method	Provision of customer-specific technology solutions for various tasks in production and, to a lesser extent, the construction of transport frames for the aviation industry.
Service contracts		15.35(a)	Input Method	The transaction price usually consists of a fixed fee per unit of time.
Customer-specific construction contracts (project-business)		15.35(c)	Input Method	Provision of services and predominantly in so-called customer-specific construction contracts (project business) within the framework of contractual labour relationship. The fulfilment of the performance obligations generally takes place over the period during the duration of the project. Accordingly, revenue is recognised in accordance with the calculated percentage of completion. Characteristic of the customer-specific performance obligations is a close cooperation / coordination with the customers within the individual projects. Repurchase obligations, reimbursement obligations and similar obligations as well as guarantees associated with the performance obligation basically do not exist after final acceptance by the customer.
High-performance electric motors	x			The Group recognises revenues depending on the delivery terms after delivery to and acceptance by the customer, since at this point in time the power of disposition is regularly transferred to the customer. Payment by the customer is usually made 30 to 60 days after delivery or billing.

Segment Mining:

Products and services	Satisfaction of the performance obligation…			Description
	at a point in time	over a period of time		
		Criteria	Method	
Bundles of different services in combination with the provision of goods		15.35(a) 15.35(b)	Based on monthly invoicing since this reflects the benefits, which has been transferred to the customer.	In the case of contracts within the segment Mining, the Group generally provides a bundle of various services in combination with the provision of goods, which in its entirety constitutes one performance obligation in accordance with IFRS 15 because significant integration services are provided. The services actually provided are billed on a monthly basis so that the relief granted under IFRS 15.B16 can be claimed and that the revenues are recognised on a monthly basis in the amount of the invoice.

Segment Med Tech:

Products and services	Satisfaction of the performance obligation…			Description
	at a point in time	over a period of time		
		Criteria	Method	
X-ray machines	x			The Group recognises revenues depending on the delivery terms after delivery to the customer or when making available to the customer, since at this point in time the power of disposition is regularly transferred to the customer. Payment by the customer is usually made 30 days after delivery or billing.
Extended warranty		15.35(a)	On the basis of historical values, which represent the benefits for the customer.	The Group offers extended warranty contracts exclusively to foreign customers. The consideration paid by the customer must be paid in advance for the entire contract period. The advance payment minimises the administrative burden on the Group and ensures that customers meet their contractual obligations so that the contracts do not contain any significant financing component. Revenue recognition over the contract period is based on the benefit profile for the customer, which is based on historical data.
Industrial plasma	x			The Group realises revenues when made available to the customer, as the power of disposition is regularly transferred to the customer at this time. The contracts are customary in the industry, so that they do not contain a significant financing component.

Segment Aviation:

Products and services	Satisfaction of the performance obligation…			Description
	at a point in time	over a period of time		
		Criteria	Method	
Aircraft Management		15.35(a)	Output method	In the case of aircraft management contracts, the Group provides a bundle of services, which in its entirety constitutes one performance obligation in accordance with IFRS 15. The services actually provided are billed on a monthly basis so that the relief granted under IFRS 15.B16 can be claimed and that the revenue is realised monthly at the invoiced amount.

3.18. Contract assets / Contract liabilities

If a performance obligation has been fulfilled and a receivable has not yet arisen, a contract asset must be recognised. Contract assets are subject to the IFRS 9 impairment provisions explained in note **3.11. Financial assets**.

A contract liability is recorded when the customer pays consideration or the Group has an unconditional right to an amount of consideration (whichever is earlier) before the Group transfers the corresponding goods or services to the customer. Contract liabilities are recognised as revenue as soon as the Group fulfils its contractual obligations (i.e. as soon as it transfers control of the goods or services to the customer).

3.19. Borrowing costs

Borrowing costs that can be directly allocated to the acquisition, construction or production of a qualifying asset are capitalised as a component of the acquisition or production cost of that asset. Other borrowing costs are recognised as an expense in the period in which they are incurred, if they are not also required to be capitalised under IAS 23.

3.20. Government grants

Government grants are recognised only when there is reasonable assurance that the Group will comply with the conditions attached to the grants and that the grants will also be received.

Government grants whose most important condition is the purchase, construction or other acquisition of non-current assets are recorded as a deduction from the acquisition or production cost of the asset. Other government grants are recognised as income over the period necessary to match them with the related costs, which they are intended to compensate, on a systematic basis. Government grants received as compensation for expenses or losses already incurred or for the purpose of providing immediate financial support to the Group with no future related costs are offset against the expenses incurred in the period in which the entitlement is established.

3.21. Income taxes

The income tax expense for the period comprises current and deferred taxes.

Current taxes

The current tax expense for each entity liable to tax is derived from its taxable income. The Group's current tax liability is calculated on the basis of the applicable tax rates.

Deferred taxes

Deferred taxes are recognised for all temporary differences between the tax base of the assets and liabilities and their carrying amounts in the consolidated financial statements (balance sheet-oriented liability method). Deferred taxes are not recognised if the temporary differences arise from the initial recognition of goodwill or (except in the case of business combinations) of other assets and liabilities resulting from transactions that do not affect either taxable income or the net profit for the year.

Deferred tax assets and liabilities are generally recognised for all taxable temporary differences. When deferred tax assets exceed deferred tax liabilities, they are only recognised to the extent to which taxable income will probably be available against which the deductible temporary differences can be utilised, and where the assumption can be made that they will reverse in the foreseeable future.

Deferred tax liabilities are recognised for taxable temporary differences arising from investments in subsidiaries or associates as well as investments in joint ventures, unless the Group can control the timing of the reversal of the temporary differences and it is probable that the temporary difference will not reverse in the foreseeable future.

Deferred tax assets and liabilities are calculated on the basis of the tax rates (and the tax laws) expected to be applicable at the date when the liability is settled or the asset is realised. The measurement of deferred tax assets and liabilities reflects the tax consequences that would arise from the manner in which the Group expects at the reporting date to settle the liability or to realise the asset. Deferred tax assets and liabilities are offset if there is a legally enforceable right to set off current tax assets against current tax liabilities, and if they relate to income taxes levied by the same tax authority and the Group intends to settle its current tax assets and liabilities on a net basis. Additionally, deferred tax assets for tax losses carried forward are recognised, if their use in following periods is expected to reduce tax payments.

In addition, deferred tax assets are recognised for the carry forward of unused tax losses or unused tax credits to the extent that it is probable that future taxable profit will be available against which the unused tax losses and unused tax credits can be utilised.

Current and deferred taxes for the period

Current and deferred taxes are recorded as income or expenses unless they relate to items recognised directly in equity. In this event, the tax is also recorded directly in equity. In addition, tax effects are not recognised in the income statement if they result from the initial recognition of a business combination. In the case of a business combination, the tax effect is reflected in the calculation of the goodwill or in the determination of the excess of the acquirer's share of the fair value of the identifiable assets, liabilities and contingent liabilities of the business acquired over the cost of the business combination.

4. Estimates and assumptions

In preparing the consolidated financial statements, assumptions and estimates are made to a certain extent that affect the amount and presentation of the assets and liabilities recognised, the income and expenses and the contingent liabilities for the reporting period. The premises underlying the assumptions and estimates are based on the state of knowledge available at the time in the particular case. However, the uncertainty associated with these assumptions and estimates could result in future adjustments to the carrying amount of the assets and liabilities affected.

The significant estimates listed below and the associated assumptions together with the uncertainties inherent in accounting policies adopted are central to an understanding of the risks underlying the financial reporting and the effects that those estimates, assumptions and uncertainties may have on the financial statements.

Estimates are especially required for the following assets and liabilities referred to below and the associated income and expenses.

Business combinations

The measurement of items of property, plant and equipment and intangible assets acquired as part of a business combination requires estimates to be made for determining their fair value at the acquisition date. Furthermore, the expected useful lives of the assets must be estimated. The determination of the fair values of assets and liabilities and of the useful lives of the assets is based on management assessments.

Impairment of goodwill

The Group tests goodwill for possible impairment at least once a year. The determination of the recoverable amount of a cash generating unit to which goodwill has been allocated requires estimates to be made by management. The Group generally determines these amounts using valuation techniques based on discounted cash flows. These cash flows are based on three-year forecasts derived from financial projections approved by management. The forecasts take into account past experience and are based on management's best estimate of future developments. The key assumptions underlying the determination of the discounted cash flows comprise estimated growth rates, weighted interest rates and tax rates. These assumptions can have a significant effect on the respective amounts and therefore on the extent to which goodwill is impaired.

Impairment of property, plant and equipment and intangible assets

The identification of impairments, the estimation of future cash flows and the determination of the fair values of assets or groups of assets require significant judgement by management in identifying and testing for indications of impairment, expected cash flows, appropriate discount rates, respective useful lives and any residual values.

Revenue recognition based on the performance obligations satisfied over time in accordance with IFRS 15

In some companies, in particular within the EDAG Group and the Redpath Group, revenue is recognised over the period of time for a large part of the business. In the construction projects business, revenue is often recognised over the period of time where the performance obligation is satisfied. In order to determine the stage of completion, the total project costs and revenues as well as project risks are among the most important estimates. The companies continuously review and, if necessary, adjust all estimates related to such construction contracts.

Determination of expected credit losses according to IFRS 9

The calculation of expected credit losses for loans, trade receivables, contract assets according to IFRS 15 and other receivables is subject to significant estimates and assumptions, which are explained below.

The measurement of expected credit losses on loans and other receivables is essentially based on the classification of the respective debtors in ATON-specific risk categories and the default probabilities recorded there. In a changing market and competitive environment, the estimate of a debtor's creditworthiness made at the reporting date may differ during the course of the year. The risk allowance recognised can thus be recorded too low / high. Furthermore, the probability of default represents a statistical measure, which may also require adjustments to the risk allowances.

The determination of the expected credit losses for trade receivables and contract assets in accordance with IFRS 15 is based on historical values, which are adjusted by the use of future-related information. The forward-related information has proved to be a suitable indicator for the amounts of impairments using statistical methods. However, due to strong economic upswings and downturns, the forward-looking information may lose its explanatory power and thus induce volatility in the recognition of risk allowances. In addition, material effects from the past can distort the risk allowance, which may also require a subsequent correction (please refer also to note **3.11 Financial assets**).

Pensions and other post-employment benefits

The obligation from defined benefit plans and other post-employment benefits is determined on the basis of actuarial calculations. The actuarial measurement is based on assumptions with respect to discount rates, future wage and salary increases, biometric bases and future increases in pensions.

The discount factors applied reflect the interest rates obtained at the reporting date for high-quality corporate bonds with matching currencies and maturities. As a result of the changing situation in the market and the economy and the long-term orientation of these pension plans, the underlying assumptions may differ from the actual development, which may significantly affect the obligations for pensions and other post-employment benefits.

For a sensitivity analysis showing how the present value of the defined benefit obligation would have been affected by changes in the significant actuarial assumptions, reference is made to note **29. Provisions for pensions.**

Provisions

The determination of provisions for imminent losses from onerous contracts, provisions for warranties and provisions for litigation is dependent to a considerable extent on estimates of the likelihood of a future outflow of resources, as well as on experience and the circumstances known at the reporting date. Because of the uncertainties associated with this assessment, actual losses may differ from the original estimates and therefore from the amount of the provision.

A huge portion of the business of EDAG, Redpath and their subsidiaries is conducted in the form of long-term contracts. The Group recognises a provision for imminent losses from onerous contracts if the current estimate of the total contract costs exceeds the expected revenue from the relevant contract. These estimates are subject to revision in the light of new information as the project progresses. The companies identify onerous contracts by constantly monitoring the progress of the project and updating the calculation of total contract costs.

Leases

Rights of use and obligations arising from leases are initially measured at the present value of the future lease payments. The determination of the fair value is regularly associated with estimates regarding the cash flows from the use of the leased asset and the discount rate used. To determine the present value of the minimum lease payments, the interest rate underlying the lease or, if not determinable, the incremental borrowing rate is used. The exercise of possible extension and termination options must also be assessed.

Fair value of derivative financial instruments

The fair value of financial instruments not traded on an active market is determined by applying appropriate valuation techniques from a variety of methods. The underlying assumptions are largely based on market conditions existing on the balance sheet date.

Deferred tax assets

Deferred tax assets are recognised to the extent that it is probable that they can be utilised. The tax benefit from the utilisation of deferred tax assets depends on the ability to generate sufficient future taxable income relating to the particular type of taxation and tax jurisdiction, taking into account any statutory restrictions relating to minimum taxation or a maximum period for which tax losses may be carried forward. The assessment of the probability that deferred tax assets will be utilisable in the future is based on a number of factors, such as past results of operations, operating business plans, or tax planning strategies. If actual results differ from these estimates or if adjustments to the estimates are necessary in future periods, this may have a negative impact on the results of operations, net assets and financial position. If there is a change in the assessment of the recoverability of deferred tax assets, the deferred tax assets are written down through profit or loss or other comprehensive income – according to their original recognition – or, respectively, impaired deferred tax assets are recognised through profit or loss or directly in equity.

Impact of the covid-19 pandemic and the Russia’s war against Ukraine

Due to always new covid-19 variants and the resulting potential global consequences of the covid-19 pandemic and due to Russia’s war against Ukraine since 24 February 2022, the estimates and judgments listed above are still subject to increased uncertainty. The actual amounts realised may differ from these estimates and judgments. Changes may have a material impact on the consolidated financial statements.

In updating these estimates and judgements, all available information concerning expected future economic developments and country-specific government measures were taken into account.

The information on the Covid-19 pandemic was included in the impairment tests for financial assets (see chapter **22. Other financial assets** and note **23. Trade and other receivables**) and for financial investments accounted for using the equity method (see note **13. Other investment result**). In addition, impairment tests were performed for cash-generating units (see note **17. Goodwill and other intangible assets**), which confirmed the recoverability of the respective underlying carrying amounts. Russia's war against Ukraine is a value-justifying event in 2022, which does not yet have an impact on the net assets, financial position and results of operations in 2021.

5. Changes in the scope of consolidation

The following changes occurred in the scope of consolidation and regarding associated companies during the reporting period:

The Joint Venture Arbeitsgemeinschaft Schacht Borth 1, Saarbrücken, was dissolved.

The Joint Venture Arbeitsgemeinschaft Wasserhaltung Reden, Dortmund, was dissolved.

EDAG Engineering Schweiz Subholding AG, Arbon / Switzerland was merged with EDAG Engineering Group AG, Arbon / Switzerland with effect from 1 January 2021. This intra-group merger had no effect on the consolidated financial statements.

AspiAir US, Inc., Wilmington / USA, was liquidated with effect from 8 April 2021.

The Arbeitsgemeinschaft Demontagekammer Ibbenbüren Schacht 1, Dortmund, was established as a joint venture on 15 April 2021. 60.0 % of the shares are held via Redpath Group.

As of 1 July 2021, ATON GmbH acquired 100.0 % of the shares in Antriebssysteme Faurndau GmbH, Göppingen. The company is fully consolidated since then. The company manufactures high-performance electric motors and is allocated to the Engineering segment. The assets and liabilities recognised as a result of the acquisition at the acquisition date of at the carrying amounts and fair values are as follows:

in EUR '000	IFRS carrying amounts at date of acquisition	Purchase price allocation	Fair values at date of acquisition
Intangible assets	22	11,573	11,595
Property, plant and equipment	4,107	-	4,107
Deferred tax assets	972	86	1,058
Non-current assets	**5,101**	**11,659**	**16,760**
Inventories	8,082	-	8,082
Trade and other receivables	2,175	-	2,175
Income tax receivables	32	-	32
Cash and cash equivalents	1,443	-	1,443
Current assets	**11,732**	**-**	**11,732**
Total assets	**16,833**	**11,659**	**28,492**
Financial liabilities	3,285	-	3,285
Trade and other liabilities	1,609	300	1,909
Deferred tax liabilities	939	3,310	4,249
Total liabilities	**5,833**	**3,610**	**9,443**
Net assets acquired	**11,000**	**8,049**	**19,049**

The following non-tax-deductible goodwill results from the acquisition of the company:

in EUR '000	2021
Fair value of the purchase price for the net assets	22,750
Net assets at book value	11,000
Difference	**11,750**
Adjustment to fair values	
Intangible Assets	11,573
Other Liabilities	-300
Deferred tax liabilities	-3,224
Goodwill	**3,701**

The purchase price and the resulting goodwill at Group level can be mainly traced to the development know-how of the employees and to expected synergies.

EUR 2,500k of the purchase price presented is dependent on the achievement of certain conditions and is expected to be due in September 2022. This present value of the obligation is reported as other liabilities, as it is assumed that the relevant conditions for the contingent purchase price payment will be met.

The costs associated with the business combination in the amount of EUR 93k, which are not directly attributable to the acquisition of the shares, are reported in the income statement under other operating expenses and in the cash flow statement under cash flow from operating activities.

In the period from 1 July 2021 to 31 December 2021, the acquired company generated revenues of EUR 8,357k and net income (before effects from the purchase price allocation) of EUR 1,212k.

Also with effect from 1 July 2021, ATON GmbH acquired 100.0 % of the shares in Krebs & Aulich GmbH, Wernigerode, which is fully consolidated since then. The company manufactures high-performance electric motors and is allocated to the Engineering segment. The assets and liabilities recognised as a result of the acquisition at the acquisition date of at the carrying amounts and fair values are as follows:

in EUR '000	IFRS carrying amounts at date of acquisition	Purchase price allocation	Fair values at date of acquisition
Intangible assets	42	4,702	4,744
Property, plant and equipment	2,375	-	2,375
Deferred tax assets	758	-	758
Non-current assets	**3,175**	**4,702**	**7,877**
Inventories	3,834	-	3,834
Trade and other receivables	1,793	-	1,793
Other financial assets	206	-	206
Cash and cash equivalents	135	-	135
Current assets	**5,968**	**-**	**5,968**
Total assets	**9,143**	**4,702**	**13,845**
Financial liabilities	3,995	-	3,995
Trade and other liabilities	2,532	-	2,532
Deferred tax liabilities	570	1,435	2,005
Total liabilities	**7,097**	**1,435**	**8,532**
Net assets acquired	**2,046**	**3,267**	**5,313**

The following non-tax-deductible goodwill results from the acquisition of the company:

in EUR '000	2021
Fair value of the purchase price for the net assets	11,000
Net assets at book value	2,046
Difference	**8,954**
Adjustment to fair values	
Intangible Assets	4,702
Deferred tax liabilities	-1,435
Goodwill	**5,687**

The purchase price and the resulting goodwill at Group level can be mainly traced to the development know-how of the employees and to expected synergies.

The costs associated with the business combination in the amount of EUR 29k, which are not directly attributable to the acquisition of the shares, are reported in the income statement under other operating expenses and in the cash flow statement under cash flow from operating activities.

In the period from 1 July 2021 to 31 December 2021, the acquired company generated revenues of EUR 5,850k and net income (before effects from the purchase price allocation) of EUR 321k.

Together with Krebs & Aulich GmbH, its 100 % owned subsidiary Krebs & Aulich Electromechanical Testing Machines (Shanghai) Co. Ltd., Shanghai / China was acquired. For reasons of materiality, this sales company is not fully consolidated but is recognised as other financial asset at fair value.

By notarised purchase agreement dated 22 July 2021, ATON GmbH acquired 10.1 % each in MD 7 Immobilien GmbH, Munich, and MD7 BV GmbH, Munich, at a purchase price of EUR 1,262k and EUR 23k, respectively.

AESA Redpath Mining S.A.C., Lima / Peru, was set up as a joint venture on 20 August 2021. The Redpath Group holds 50.0 % of the shares in this company.

With regard to the changes in the scope of consolidation in the comparative previous year's period, please refer to the previous year's consolidated financial statements published on the ATON website at www.aton.de.

6. Revenue

The breakdown of reported revenue in the reporting period is as follows:

	Business segments					Total
in EUR '000	**Engineering**	**Mining**	**Med Tech**	**Aviation**	**Holding / Consolidation**	**ATON Group**
Geographical area						
Germany	386,758	19,443	40,859	55,389	5,146	507,595
North America	45,949	252,805	66,775	1,454	-	366,983
Europe (excluding Germany)	151,734	61,524	55,470	24,467	-	293,195
Asia	112,637	135,430	29,444	2,958	-	280,469
Australia	932	165,709	1,753	-	-	168,394
Africa	10	51,238	2,438	1,255	-	54,941
South America	3,806	506	3,134	-	-	7,446
Total revenue	**701,826**	**686,655**	**199,873**	**85,523**	**5,146**	**1,679,023**
Type of revenues						
Revenue from rendering of services	689,534	683,474	17,234	85,523	-	1,475,765
Revenue from sales of goods	12,292	3,181	151,212	-	5,023	171,708
Other operating revenue	-	-	31,427	-	123	31,550
Total revenue	**701,826**	**686,655**	**199,873**	**85,523**	**5,146**	**1,679,023**
Revenue recognition						
Over a period of time	670,761	686,655	12,295	85,523	-	1,455,234
At a point in time	31,065	-	187,578	-	5,146	223,789
Total revenue	**701,826**	**686,655**	**199,873**	**85,523**	**5,146**	**1,679,023**

The breakdown of reported revenue in the previous year's period was as follows:

	Business segments					Total
in EUR '000	**Engineering**	**Mining**	**Med Tech**	**Aviation**	**Holding / Consolidation**	**ATON Group**
Geographical area						
Germany	398,266	15,578	37,146	40,377	537	491,904
North America	34,802	202,945	58,972	1,063	-	297,782
Europe (excluding Germany)	123,028	76,816	48,396	18,980	-	267,220
Asia	90,088	136,820	29,254	1,911	-	258,073
Australia	3,953	157,256	1,707	-	-	162,916
Africa	16	41,512	4,288	1,359	-	47,175
South America	3,298	7,008	1,473	-	-	11,779
Total revenue	**653,451**	**637,935**	**181,236**	**63,690**	**537**	**1,536,849**
Type of revenues						
Revenue from rendering of services	653,451	633,972	19,987	63,690	379	1,371,479
Revenue from sales of goods	-	3,963	160,765	-	30	164,758
Other operating revenue	-	-	484	-	128	612
Total revenue	**653,451**	**637,935**	**181,236**	**63,690**	**537**	**1,536,849**
Revenue recognition						
Over a period of time	606,283	637,935	13,231	63,690	-	1,321,139
At a point in time	47,168	-	168,005	-	537	215,710
Total revenue	**653,451**	**637,935**	**181,236**	**63,690**	**537**	**1,536,849**

7. Changes in inventories and own work capitalised

Changes in inventories and own work capitalised break down as follows:

in EUR '000	2021	2020
Changes in inventories of goods and services	1,881	-9,081
Own work capitalised	6,022	4,650
Changes in inventories and own work capitalised	**7,903**	**-4,431**

Changes in inventories reflect the increase / decrease in unfinished and finished goods and services calculated on the basis of the acquisition cost method.

The increase in inventories compared to the previous year results from an increase in unfinished and thus products and services not yet invoiced, particularly in the Med Tech and Engineering segment.

Own work capitalised in the reporting period mainly contains own work of the Ziehm Group amounting to EUR 5,169k (previous year: EUR 4,467k).

8. Other operating income

Other operating income comprises the following:

in EUR '000	2021	2020
Operating income		
Government grants	8,567	17,224
Monetary advantage company cars	5,043	5,015
Miscellaneous operating income	4,538	4,166
Income from insurance compensation payments	1,918	414
Income from subleases	1,729	1,528
Income from compensation	1,383	86
Rental and lease income	720	508
Income from recycling / scrap disposal	88	43
Income from catering / canteen	49	95
Income from external services and cost transfers third parties	32	921
Income from cost reimbursements	22	79
Operating income	**24,089**	**30,079**
Non-operating income		
Currency translation gains	30,332	5,263
Income from the reversal of provisions / derecognition of liabilities	6,396	3,193
Miscellaneous non-operating income	4,107	1,442
Income from the disposal and write-ups of intangible assets and property, plant and equipment	3,189	7,880
Income from hedging transactions	1,103	17
Income from other periods	193	73
Income from the disposal and write-ups of current assets	20	0
Income from the disposal / deconsolidation of consolidated companies	-	12
Non-operating income	**45,340**	**17,880**
Other operating income	**69,429**	**47,959**

The increase in other operating income is mainly due to currency translation gains (EUR 25,069k). The change results almost exclusively from the Mining segment.

The line item “government grants” mainly includes grants from public authorities. The decrease is mainly due to Redpath receiving fewer Covid government grants from the Canadian government in the financial year 2021 than in the previous year.

The increased income from insurance compensation payments results in particular from the Mining segment, while the increased income from compensation is largely attributable to the segment Engineering.

The income from the reversal of provisions has increased compared to the previous year. The increase is almost equally attributable to the Engineering and Mining segment.

The decline in income from the disposal and write-ups of intangible assets and property, plant and equipment results almost entirely from the Mining segment.

Miscellaneous operating income and miscellaneous non-operating income consist of a large number of small individual items. In the financial year 2021, miscellaneous non-operating income (EUR 4,107k) includes the loan waiver in the USA (PPP Paycheck Protection Program) in the amount of EUR 1.705k in the Med Tech segment.

9. Cost of materials

The cost of materials breaks down as follows:

in EUR '000	2021	2020
Cost of raw materials, consumables and supplies and of purchased merchandise	225,550	200,106
Cost of purchased services	128,873	122,390
Cost of materials	**354,423**	**322,496**

The cost of raw materials, consumables and supplies and of purchased merchandise allocates to the business segments as follows:

in EUR '000	2021	2020
Engineering	34,229	38,904
Mining	96,133	87,368
Med Tech	79,764	66,376
Aviation	10,268	5,939
Holding/Consolidation	5,156	1,519
Cost of raw materials, consumables and supplies and of purchased merchandise	**225,550**	**200,106**

The costs mainly relate to expenses for purchased parts, models and small parts as well as deliveries of materials for construction activities and plant construction.

The cost of purchased services can be allocated as follows:

in EUR '000	2021	2020
Engineering	55,969	40,805
Mining	23,302	45,946
Med Tech	4,100	3,617
Aviation	45,578	32,099
Holding/Consolidation	- 76	- 77
Cost of purchased services	**128,873**	**122,390**

The cost of purchased services primarily consists of costs for subcontractors and purchased inputs for the provision of services.

10. Personnel expenses

The personnel expenses are attributable to the following items:

in EUR '000	2021	2020
Wages and salaries	792,599	738,562
Expenses for social security, retirement and other employee benefit expenses	147,695	134,460
Personnel expenses	**940,294**	**873,022**

The expenses for retirement include, among other things, the expenses for defined benefit pension commitments. Due to its financial character the net interest expense of the provisions for pensions is recorded in the financial result. For the presentation of the pension commitments, please refer to note **29. Provisions for pensions**.

Personnel expenses include EUR 7,781k (previous year: EUR 14,385k) of government grants, mainly in Germany, for short-working compensation including social security contributions, which are netted within personnel expenses.

In addition, government wage subsidies of EUR 5,948k (previous year: EUR 14,017k) were granted in other countries, which are reported under other operating income.

The average number of employees in the companies included in the consolidated financial statements during the financial year, broken down by categories, is as follows in comparison to the previous year:

Number	2021	2020
Industrial workers	3,873	3,929
Salaried staff	9,905	10,259
Total employees excluding trainees	**13,778**	**14,188**
Trainees	371	428

11. Other operating expenses

Other operating expenses comprise the following:

in EUR '000	2021	2020
Operating expenses		
Administration costs	44,995	39,322
Travelling expenses	33,712	29,139
Maintenance	26,807	26,428
Legal and consulting costs, audit costs	20,341	17,468
Other expenses for leasing contracts	15,187	12,948
Selling and marketing costs	12,913	10,875
Expenses from additions to provisions	8,943	17,694
Other incidental personnel expenses	8,146	7,880
Insurances	6,789	5,034
Other taxes and levies	5,923	7,718
Education and training costs	5,469	4,890
Leasing expenses from short-term leases	5,201	5,259
Leasing expenses from low-value leases	4,172	3,687
Research and development costs	2,135	1,806
Incidental costs of monetary transactions	1,224	1,000
Incidental rental costs and cleaning expenses	1,062	962
Car expenses	918	691
Expenses from security services	479	522
Non-deductible input tax	301	235
Variable leasing expenses (not included in lease liabilities)	143	165
Expenses from cost transfers third parties	29	66
Miscellaneous operating expenses	9,124	9,423
Operating expenses	**214,013**	**203,212**
Non-operating expenses		
Currency translation losses	8,821	21,710
Expenses from the disposal of property, plant and equipment	3,265	2,247
Expense from hedging transactions	179	1,211
Miscellaneous non-operating expenses	534	303
Expenses from other periods	135	204
Expenses from the disposal of consolidated companies	0	27
Non-operating expenses	**12,934**	**25,702**
Other operating expenses	**226,947**	**228,914**

Other operating expenses fell by EUR 1,967k compared to the previous year.

In particular, expenses from currency translation and expenses from additions to provisions are below the previous year's values in the financial year 2021. On the other hand, expenses for administration costs, travelling expenses, legal and consulting costs, other expenses for leasing contracts as well as selling and marketing costs have increased.

The miscellaneous operating expenses and miscellaneous non-operating expenses comprise a large number of smaller, non-material individual items.

12. Result from investments accounted for using the equity method

The result from investments accounted for using the equity method amounts to EUR 6,696k (previous year: EUR -13,219k). For further information please refer to note **21. Investments accounted for using the equity method**.

13. Other investment result

The other investment result is composed as follows:

in EUR '000	2021	2020
Result from the write-ups / disposal of investments	70,968	47,057
Expenses from the impairment of investments	- 13,526	- 83,480
Other investment result	**57,442**	**- 36,423**

The net amount from the write-up / impairments of investments results exclusively from the valuation of the investment in Murray & Roberts Holdings Limited at the stock market price as of balance sheet date. As we, as a minority shareholder, are not provided with any multi-year planning for a valuation of the investment, e.g. according to the discounted cash flow method, the stock market price as of balance sheet date was used as the best estimate for the fair value for the valuation as of balance sheet date.

In the previous year, the valuation of the investment in Murray & Roberts Holdings Limited at the stock market price was also the reason for the other investment result.

14. Net interest expense

The net interest expense comprises the following:

in EUR '000	2021	2020
Interest income		
Interest income from credit institutions	238	1,281
Interest and similar income from related parties	3,188	2,506
Other interest income	384	300
	3,810	**4,087**
Interest expenses		
Interest expenses to credit institutions and bondholders	4,745	6,056
Interest expenses from lease agreements	4,890	5,443
Net interest expenses from defined benefit pension plans	424	498
Interest and similar expenses to related parties or shareholder	411	363
Other interest expenses	1,715	2,023
	12,185	**14,383**
Net interest result	**- 8,375**	**- 10,296**

15. Other financial result

The other financial result comprises the following:

in EUR '000	2021	2020
Other financial income		
Gains from fair value measurement	14,774	10,462
Interest and dividend income from securities	2,903	2,057
Income from sale of securities	1,682	1,014
Other financial income	216	93
	19,575	**13,626**
Other financial expenses		
Losses from fair value measurement	5,542	4,441
Losses from sale of securities	1,393	105
Other financial expenses	7	50
	6,942	**4,596**
Other financial result	**12,633**	**9,030**

Gains and losses from fair value measurement result mainly from the securities held.

16. Income taxes

The income taxes reported include taxes on income and deferred taxes.

The income taxes for the financial years 2021 and 2020 break down as follows:

in EUR '000	2021	2020
Income taxes		
Income taxes for the current year	20,407	27,860
Income taxes for previous years	- 2,157	- 2,125
Income from the reversal of provisions for income taxes	- 6	- 191
	18,244	**25,544**
Deferred taxes		
Deferred taxes from temporary differences	- 3,435	- 15,498
Deferred taxes on losses carried forward	4,469	- 3,929
	1,034	**- 19,427**
Income taxes	**19,278**	**6,117**

In December 2018, a profit and loss transfer agreement was concluded between ATON GmbH and ATON 2 GmbH. As a result, there is a tax group for income tax purposes between ATON GmbH and ATON 2 GmbH.

Unchanged to previous year, current income taxes in Germany are based on a uniform corporate income tax rate of 15.0 % plus a solidarity surcharge of 5.5 % of this amount. In addition to the corporate income tax, trade tax is levied on profits generated in Germany. Taking into consideration that trade tax cannot be deducted as an operating expense, the average trade tax rate is 15.05 %, resulting in an average composite tax rate of 30.88 %. The higher assessment rate at the domicile of the parent company leads to a higher composite tax rate of 32.98 % unchanged to prior year.

The profit generated by foreign subsidiaries is calculated based on the respective regulation of national tax law and using the country-specific tax rate. Tax rates applied by the foreign companies vary, as in previous year, between 5.5 % and 35.0 %.

The income taxes of the reporting period amounting to EUR 19,278k (previous year: EUR 6,117k) are reconciled as follows from an expected income tax expense, that would have resulted if the parent's statutory income tax rate had been applied to the earnings before income taxes (EBT):

	2021		2020	
	EUR '000	**in %**	**EUR '000**	**in %**
Earnings before income taxes (EBT)	**75,025**		**- 68,942**	
Income tax rate of the parent		32.98%		32.98%
Expected income tax expense	**24,743**		**- 22,737**	
Tax-free income and non-deductible expenses, incl. the effect of sections 8a / 8b of the KStG (corporate tax law) as well as perma-nent differences	4,237	5.65%	13,572	-19.69%
Income taxes for previous years	- 2,163	-2.88%	- 2,242	3.25%
Tax rate variances	- 13,534	-18.04%	- 3,122	4.53%
Amount of tax losses carried forward and other deferred tax as-sets not recognised or impaired	3,837	5.11%	15,452	-22.41%
Effects from the recognition of previously unused tax loss carry forwards	- 782	-1.04%	3,670	-5.32%
Non-deductible withholding taxes	3,148	4.20%	1,475	-2.14%
Other tax effects	- 208	-0.28%	49	-0.07%
Income taxes reported in the consolidated income statement	**19,278**		**6,117**	
Effective tax rate		**25.69%**		**-8.88%**

As in the previous year, the item "tax-free income and non-deductible expenses, incl. the effect of sections 8a / 8b of the KStG (corporate tax law)" mainly relates to non-taxable write-ups / impairments on shareholdings (primarily Murray & Roberts) and loans.

The tax rate variances result mainly from the Redpath Group and the Ziehm Group.

Current and deferred taxes compose as follows:

in EUR '000	**31.12.2021**	**31.12.2020**
Current income taxes in the consolidated income statement		
Income tax assets	11,234	11,046
Income tax liabilities	- 5,421	- 11,534
Provisions for income taxes	- 4,593	- 3,354
	1,220	**- 3,842**
Deferred taxes in the consolidated income statement		
Deferred tax assets	26,466	26,617
Deferred tax liabilities	- 56,396	- 49,522
	- 29,930	**- 22,905**
Income taxes in the consolidated income statement	**- 28,710**	**- 26,747**

The deferred tax assets and liabilities are attributable to the following items of the consolidated balance sheet:

in EUR '000	31.12.2021	31.12.2020
Deferred tax assets		
Intangible assets	6	78
Property, plant and equipment	401	500
Financial assets	492	166
Inventories	5,913	5,812
Receivables and other assets	8,416	13,555
Provisions for pensions	9,383	9,521
Other provisions	4,508	4,787
Other liabilities	88,938	83,049
Losses carried forward	15,396	19,372
Netting	- 106,987	- 110,223
	26,466	**26,617**
of which: non-current before netting	**25,678**	**29,637**
Deferred tax liabilities		
Intangible assets	25,459	30,475
Property, plant and equipment	81,877	76,804
Financial assets	3,404	1,945
Inventories	15	2
Receivables and other assets	37,980	39,052
Provisions for pensions	0	-
Other provisions	14,094	10,734
Other liabilities	554	733
Netting	- 106,987	- 110,223
	56,396	**49,522**
of which: non-current before netting	**110,740**	**109,224**
Deferred taxes, net	**- 29,930**	**- 22,905**

The deferred taxes changed as follows:

in EUR '000	2021	2020
Deferred taxes at the beginning of the financial year	- 22,905	- 38,271
Changes in the scope of consolidation	- 4,441	- 510
Recognised in profit or loss	- 1,034	19,427
Recognised directly in equity without income statement effect	- 510	- 283
Currency translation differences	- 1,040	- 3,268
Deferred taxes at the end of the financial year	**- 29,930**	**- 22,905**

The changes in the scope of consolidation in the current year in the amount of EUR -4,441k relate to the acquisitions of Krebs & Aulich GmbH and Antriebssysteme Faurndau GmbH.

In the previous year, the changes in the scope of consolidation amounting to EUR -510k related to the acquisition of Therenva SAS.

Deferred taxes are assessed on a regular basis. The ability to realise tax income from deferred taxes depends on the possiblity to generate taxable income in the future and to use tax losses carried forward before they expire.

Deferred tax assets are recognised only to the extent to which it is probable that taxable profit will be available against which deductible temporary differences can be utilised and where it can be assumed that they will reverse in the foreseeable future.

Deferred tax assets and liabilities are offset, if a legally enforceable right to set off current tax assets against current tax liabilities exists. In addition, tax assets and liabilities have to relate to the income taxes of the same taxable entity levied by the same tax authority.

The domestic and foreign corporate income tax losses carried forward were as follows as of the reporting dates:

in EUR '000	2021	2020
Losses carried forward (total)		
Losses carried forward expire within		
1 year	7,979	10,894
2 to 5 years	30,866	42,613
over 5 years	16,916	25,769
carried forward indefinitely	162,313	132,381
	218,074	**211,657**
Losses carried forward (not usable)		
Losses carried forward expire within		
1 year	-	486
2 to 5 years	15,077	9,157
over 5 years	14,266	23,225
carried forward indefinitely	162,313	132,381
	191,656	**165,249**
Expected use of usable tax losses carried forward		
1 year	7,979	10,408
2 to 5 years	15,789	33,456
over 5 years	2,650	2,544
	26,418	**46,408**

As of 31 December 2021, trade tax losses carried forward amount to EUR 124,789k (previous year: EUR 120,595k), on which no deferred tax assets were recognised in the amount of EUR 85,651k (previous year: EUR 82,833k).

17. Goodwill and other intangible assets

The development of goodwill and other intangible assets is as follows during the financial year:

in EUR '000	Acquired goodwill	Develop-ment costs	Other acquired intangible assets	Advance payments	Total other intangible assets
Acquisition and production cost					
As of 1 January 2021	**270,120**	26,381	263,254	2,995	**292,630**
Changes in the scope of consolidation	**9,388**	0	16,339	0	**16,339**
Additions	**0**	4,044	4,133	3,143	**11,320**
Disposals	**0**	-1,483	-2,530	0	**-4,013**
Reclassifications	**0**	0	2,344	-310	**2,034**
Reclassifications in accordance IFRS 5	**0**	0	-500	0	**-500**
Currency translation differences	**1,900**	168	1,503	0	**1,671**
As of 31 December 2021	**281,408**	**29,110**	**284,543**	**5,828**	**319,481**
Accumulated depreciation, amortisation and impairment losses					
As of 1 January 2021	**0**	15,015	170,347	0	**185,362**
Changes in the scope of consolidation	**0**	0	0	0	**0**
Depreciation, amortisation and impairment 2021	**0**	2,387	36,947	0	**39,334**
Depreciation and amortisation	**0**	2,387	36,947	0	**39,334**
Impairment	**0**	0	0	0	**0**
Disposals	**0**	-1,482	-2,387	0	**-3,869**
Reclassifications	**0**	0	216	0	**216**
Reclassifications in accordance IFRS 5	**0**	0	-500	0	**-500**
Currency translation differences	**0**	72	1,218	0	**1,290**
As of 31 December 2021	**0**	**15,992**	**205,841**	**0**	**221,833**
Carrying amounts					
As of 1 January 2021	270,120	11,366	92,907	2,995	107,268
As of 31 December 2021	281,408	13,118	78,702	5,828	97,648

The development of goodwill and other intangible assets was as follows during the previous year:

in EUR '000	Acquired goodwill	Develop-ment costs	Other acquired intangible assets	Advance payments	Total other intangible assets
Acquisition and production cost					
As of 1 January 2020	**263,270**	20,373	292,773	1,098	**314,244**
Changes in the scope of consolidation	**18,290**	18	1,832	56	**1,906**
Additions	**0**	3,805	4,570	2,380	**10,755**
Disposals	**- 6,389**	-	- 35,392	-	**- 35,392**
Reclassifications	**-**	2,446	725	- 538	**2,633**
Reclassifications in accordance IFRS 5	**-**	-	-	-	**-**
Currency translation differences	**- 5,051**	- 261	- 1,254	- 1	**- 1,516**
As of 31 December 2020	**270,120**	**26,381**	**263,254**	**2,995**	**292,630**
Accumulated depreciation, amortisation and impairment losses					
As of 1 January 2020	**6,389**	10,017	171,417	-	**181,434**
Changes in the scope of consolidation	**0**	-	0	-	**0**
Depreciation, amortisation and impairment 2020	**-**	2,704	35,423	-	**38,127**
Depreciation and amortisation	**-**	2,497	35,403	-	**37,900**
Impairment	**-**	207	20	-	**227**
Disposals	**- 6,389**	-	- 35,336	-	**- 35,336**
Reclassifications	**-**	2,439	- 120	-	**2,319**
Reclassifications in accordance IFRS 5	**-**	-	-	-	**-**
Currency translation differences	**-**	- 145	- 1,037	-	**- 1,182**
As of 31 December 2020	**0**	**15,015**	**170,347**	**-**	**185,362**
Carrying amounts					
As of 1 January 2020	256,881	10,356	121,356	1,098	132,810
As of 31 December 2020	270,120	11,366	92,907	2,995	107,268

The changes in the scope of consolidation for the acquired goodwill and other intangible assets reflect the acquisition of Antriebssysteme Faurndau GmbH and Krebs & Aulich GmbH, both with effect from 1 July 2021. In the previous year, the changes in the scope of consolidation for acquired goodwill and other intangible assets included the addition from the acquisition of Therenva SAS as of 17 July 2020.

Capitalised development costs for internally generated intangible assets relate primarily to the Med Tech segment. In addition to the capitalised development costs, research and development costs of EUR 13,613k (previous year: EUR 10,526k) were recognised as expenses.

No borrowing costs were capitalised in the financial year.

As of 31 December 2021, there are no purchase commitments for the acquisition of intangible assets (previous year: EUR 243k).

As in the previous year, there are no restrictions on ownership of intangible assets. Intangible assets do not include any assets acquired as leases.

As in the previous year, no government grants were deducted directly from the acquisition / production costs of intangible assets in the financial year 2021.

In the 2021 financial year, government grants in the amount of EUR 3,188k (previous year: EUR 3,489k) were recognised in the income statement.

The carrying amounts of the goodwill attributable to the acquired companies are allocated to the following cash-generating units:

in EUR '000	**31.12.2021**	**31.12.2020**
EDAG	166,231	165,923
Antriebssysteme Faurndau GmbH	3,701	-
Krebs & Aulich GmbH	5,687	-
Goodwill Engineering	**175,619**	**165,923**
Redpath	42,071	40,479
Goodwill Mining	**42,071**	**40,479**
Ziehm/OrthoScan	63,718	63,718
Goodwill Med Tech	**63,718**	**63,718**
Total Goodwill	**281,408**	**270,120**

The Group tests goodwill for impairment at least once a year. As of 31 December 2021, all goodwill items were subject to an impairment test conducted as described in note **3.1. Goodwill** in which the carrying amount is compared with the value in use as recoverable amount. The value in use is determined using the discounted cash flow method based on a three-year planning period. As in previous year, there is no impairment for the financial year 2021.

The increase in the Engineering segment results from the acquisitions of Antriebssysteme Faurndau GmbH, Göppingen, and Krebs & Aulich GmbH, Wernigerode, both with effect from 1 July 2021. In addition, there were minor changes from exchange rate effects at the EDAG Group.

The changes in the Mining segment result exclusively from exchange rate effects.

The basic assumptions, on which the determination of the recoverable amounts for the goodwill impairment tests are based on, are as follows:

	2021	**2020**
Planning period	3 to 5 years	3 to 5 years
Growth rate	1.00%	1.00%
Expected market return	7.50% to 7.60%	6.91% to 7.79%
Return for risk-free investments	0.10% to 1.50%	-0.09% to 1.43%
Post-tax discount rate	5.09% to 8.59%	5.02% to 8.05%

As in the previous year, due to the covid-19 pandemic, a planning period of five years was used for the goodwill impairment test in the Engineering segment for the EDAG Group, in order to be able to represent the recovery effect after the covid-19 pandemic in a sustainable fifth planning year. All other impairment tests continue to be based on a three-year planning period.

The recoverable amounts are significantly higher than the carrying amounts in all cases as of the balance sheet date and detailed sensitivity analysis are therefore not considered necessary.

18. Property, plant and equipment and investment properties

The development of property, plant and equipment is as follows in the financial year:

in EUR '000	Land, land rights and buildings, including buildings on third party land	Technical equipment and machinery	Other equipment, operating and office equipment	Advance payments for and construction in progress	Total property, plant and equipment
Acquisition and production cost					
As of 1 January 2021	307,853	453,848	133,965	7,265	**902,931**
Changes in the scope of consolidation	4,900	889	656	35	**6,480**
Additions	42,715	53,916	15,779	13,677	**126,087**
Disposals	-24,576	-23,316	-12,403	-1,019	**-61,314**
Reclassifications	387	11,698	-467	-13,652	**-2,034**
Reclassifications in accordance with IFRS 5	-1,355	0	-292	0	**-1,647**
Currency translation differences	2,453	25,520	1,248	296	**29,517**
As of 31 December 2021	**332,377**	**522,555**	**138,486**	**6,602**	**1,000,020**
Accumulated depreciation, amortisation and impairment					
As of 1 January 2021	71,499	273,746	82,858	0	**428,103**
Changes in the scope of consolidation	0	0	0	0	**0**
Depreciation, amortisation and impairment 2021	29,342	63,039	16,868	0	**109,249**
Depreciation and amortisation	28,159	62,767	16,271	0	**107,197**
Impairment	1,183	272	597	0	**2,052**
Write-up	0	-327	0	0	**-327**
Disposals	-12,474	-15,888	-11,306	0	**-39,668**
Reclassifications	0	349	-565	0	**-216**
Reclassifications in accordance with IFRS 5	-1,213	0	-230	0	**-1,443**
Currency translation differences	1,192	18,850	1,015	0	**21,057**
As of 31 December 2021	**88,346**	**339,769**	**88,640**	**0**	**516,755**
Carrying amounts					
As of 1 January 2021	236,354	180,102	51,107	7,265	474,828
As of 31 December 2021	244,031	182,786	49,846	6,602	483,265

The development of property, plant and equipment is as follows during the previous year:

in EUR '000	Land, land rights and buildings, including buildings on third party land	Technical equipment and machinery	Other equipment, operating and office equipment	Advance payments for and construction in progress	Total property, plant and equipment
Acquisition and production cost					
As of 1 January 2020	301,109	511,813	121,819	16,168	**950,909**
Changes in the scope consolidation	0	0	59	0	**59**
Additions	34,528	32,049	19,268	11,857	**97,702**
Disposals	-24,800	-60,221	-9,660	-2,431	**-97,112**
Reclassifications	480	12,561	4,575	-17,930	**-314**
Currency translation differences	-3,464	-42,354	-2,096	-399	**-48,313**
As of 31 December 2020	**307,853**	**453,848**	**133,965**	**7,265**	**902,931**
Accumulated depreciation, amortisation and impairment					
As of 1 January 2020	52,744	272,656	78,719	55	**404,174**
Changes in the scope consolidation	0	0	0	0	**0**
Depreciation, amortisation and impairment 2020	29,445	69,211	15,430	0	**114,086**
Depreciation and amortisation	27,457	68,234	15,401	0	**111,092**
Impairment	1,988	977	29	0	**2,994**
Disposals	-9,075	-43,859	-9,667	-55	**-62,656**
Reclassifications	0	1	-2	0	**-1**
Currency translation differences	-1,615	-24,263	-1,622	0	**-27,500**
As of 31 December 2020	**71,499**	**273,746**	**82,858**	**0**	**428,103**
Carrying amounts					
As of 1 January 2020	248,365	239,157	43,100	16,113	546,735
As of 31 December 2020	236,354	180,102	51,107	7,265	474,828

The increase in “land, land rights and buildings, including buildings on third-party land” from EUR 236,354k to EUR 244,031k is mainly due to additions of right-of-use assets for leases in the Engineering segment.

While the segment Mining recorded a decrease in the item "technical equipment and machinery", technical equipment and machinery increased in the Aviation segment.

The decrease in “other equipment, operating and office equipment” from EUR 51,107k to EUR 49,846k is primarily due to Engineering and Med Tech segments.

The decrease in “advance payments for and construction in progress” is mainly due to the Mining segment, while the Engineering segment recorded an increase.

In the financial year 2021, impairment losses in the amount of 1,183k were recognised on land and buildings. This relates to impairment losses on right-of-use assets resulting from vacant land in the Engineering segment.

The line item “changes in scope of consolidation” for property, plant and equipment reflects the acquisition of Antriebssysteme Faurndau GmbH and Krebs & Aulich GmbH, both with effect from 1 July 2021. In the previous year, changes in the scope of consolidation included the addition from the acquisition of Therenva SAS as of 17 July 2020.

Property, plant and equipment in the amount of EUR 34,375k (previous year: EUR 34,922k) were used as collateral for liabilities. Property, plant and equipment is subject to restrictions on ownership in the amount of EUR 34,652k (previous year: EUR 34,647k) which mainly relate to the Mining segment.

Property, plant and equipment includes assets in the amount of EUR 260,548k (previous year: EUR 251,889k) that were acquired under leases.

Purchase commitments for property, plant and equipment amount to EUR 25,367k as of 31 December 2021 (previous year: EUR 19,621k).

In the financial year 2021, no government grants were deducted directly from the acquisition and production costs of property, plant and equipment (previous year: EUR 113k).

There are no investment properties in the financial year 2021 nor in 2020.

As in the previous year, no borrowing costs were capitalised in financial year 2021.

19. The Group as lessee

The carrying amounts of right-of-use-assets capitalised under property, plant and equipment, other than sale-and-lease-back arrangements, are as follows as of 31 December 2021 and 31 December 2020:

in EUR '000	31.12.2021	31.12.2020
Land and buildings	217,848	208,240
Technical equipment and machinery	35,128	35,598
Other equipment, operating and office equipment	7,572	8,051
Total net carrying amount of right-of-use assets / of capitalised leased assets	**260,548**	**251,889**

Technical equipment and machinery of EUR 35,128k (previous year: EUR 35,598k) are mainly capitalised at Redpath Group. The lease terms vary between two and five years.

Additions to right-of-use assets amount to EUR 61,406k in the financial year (previous year: EUR 47,017k). Total cash outflow from leases amounts to EUR 76,127k in the financial year (previous year: EUR 46,563k).

The total lease expense in the financial year comprises the following:

in EUR '000	31.12.2021	31.12.2020
Land and buildings	26,437	27,221
Technical equipment and machinery	13,436	13,310
Other equipment, operating and office equipment	4,133	3,839
Depreciation charge for right-of-use assets	**44,006**	**44,370**
Interest expense from lease liabilities	4,890	5,443
Other lease expenses		
Lease expense relating to short-term leases	5,201	5,259
Lease expense relating to leases of low-value assets	4,172	3,687
Expense relating to variable lease payments (not included in the measurement of lease liabilities)	143	165
Income from subleasing right-of-use assets	- 1,729	- 1,528
Total Lease Expense	**56,683**	**57,396**

As at balance sheet date, the following future obligations exist from capitalised leasing contracts:

in EUR '000	31.12.2021	31.12.2020
Maturity		
Up to 1 year	41,748	39,134
1 to 5 years	94,017	92,848
Over 5 years	124,071	119,364
Total lease liabilities	**259,836**	**251,346**

Extension or purchase options are taken into account in accounting in accordance with IFRS 16 if it is reasonably certain that they will be exercised. In the EDAG Group, a 5-year extension option in a long-term building lease agreement with a basic term until 31 January 2023 was not considered reasonably certain due to a planned move, and was therefore not included in the measurement of the lease liability. The potential future cash outflows from the aforementioned option period amount to a total of EUR 1,000k (including incidental costs).

The optional relief granted as a result of the covid-19 pandemic to treat lease concessions from a lessor as a variable lease payment instead of an amendment to the lease agreement was not used.

The other expenses recognised and the future lease payments from leases or lease components not recognised as lease liabilities are as follows:

in EUR '000	2021	2020
Other expenses from leases	15,186	12,948
Future lease payments (maturity)		
Up to 1 year	8,532	8,905
1 to 5 years	2,905	1,794
Over 5 years	803	558
Total	**12,240**	**11,257**

The obligations from non-cancellable leasing contracts mainly include the incidental cost components of leasing contracts recognised in the income statement for which a right-of-use asset and a lease liability were recognised in accordance with IFRS 16 and for which the practical expedient under IFRS 16.15 was not applied, which were incurred particularly in the Engineering and Aviation segments.

Furthermore, the lease payments recognised as expense include rental expenses from leases of intangible assets for which the provisions of IFRS 16 are not applied.

As in the previous year, there are no significant subleases in the financial year.

20. The Group as lessor

The Group acts as lessor in operating leases, most of which relate to building premises. The contracts usually have a short term. Income from operating leases recognised in profit or loss amounts to EUR 2,449k in the financial year (previous year: EUR 2,036k). Income relating to variable lease payments that do not depend on an index or a rate amounts to EUR 417k in the financial year (previous year: EUR 28k).

The undiscounted future minimum lease payments from non-cancellable operating leases have the following maturities:

in EUR '000	2021	2020
Operating leases under IFRS 16		
Up to 1 year	1,816	1,737
Up to 2 years	963	1,182
Up to 3 years	497	648
Up to 4 years	476	165
Up to 5 years	257	144
Over 5 years	30	67
Total lease payments	**4,039**	**3,943**

Furthermore, the Group acts as lessor under a finance lease. The lease involved is a sublease of a building and property at EDAG Group. For this lease, the right of use resulting from the main rental contract was derecognised and a leasing receivable was recognised. At the Redpath Group, the existing lease agreement from the previous year for the rental of mining equipment expired on 31 December 2021. Interest income on net investment in finance leases amounts to EUR 370k in the financial year (previous year: EUR 116k). The leasing instalments received are split into a repayment and an interest portion, and carried forward using the effective interest method.

The due dates of the leasing receivables as of 31 December 2021 and 2020 are as follows:

in EUR '000	2021	2020
Up to 1 year	240	5,162
Up to 2 years	60	240
Up to 3 years	-	60
Up to 4 years	-	-
Up to 5 years	-	-
Over 5 years	-	-
Total undiscounted minimum lease payments	**300**	**5,462**
Unearned finance income	- 9	- 28
Net investment in the lease	**291**	**5,434**

21. Investments accounted for using the equity method

The Group has investments in joint ventures and associates. The carrying amount of investments accounted for using the equity method is as follows:

in EUR '000	31.12.2021	31.12.2020
Investments accounted for using the equity method		
Associates	172,062	103,671
Joint Ventures	30,859	25,352
	202,921	**129,023**

The amounts recognised in the consolidated income statement are as follows:

in EUR '000	2021	2020
Result from investments accounted for using the equity method		
Associates	1,669	-16,064
Joint Ventures	5,027	2,845
	6,696	**-13,219**

The share in Murray & Roberts Holdings Limited, Bedfordview, South Africa, which is listed in South Africa remained unchanged at 43.8 % and is accounted for using the equity method in the present consolidated financial statements. The Group operates worldwide in the field of engineering, construction and underground mining services. The range of services covers the areas of oil & gas, underground mining and energy & water. The company has a financial year that deviates from the calendar year, which lasts from 1 July to 30 June, but also publishes interim financial statements as of 31 December. The following tables present the values for the period from 1 January through 31 December 2021.

The respective 50.0 % interest in the joint venture Konrad Versatzaufbereitung Los 1, Dortmund, and the joint venture Schacht Konrad 2, Dortmund, are also accounted for using the equity method. These joint ventures are strategic partnerships for the Group between Deilmann-Haniel GmbH, Dortmund, and Thyssen Schachtbau GmbH. Schacht Konrad 2 offers access to the former iron ore mine in Salzgitter, which is currently being converted. As part of the joint venture Konrad Versatzaufbereitung Los 1 mine areas are opened and expanded. In addition to the retrofitting of the shafts and the excavation of the storage chambers, the so-called auxiliary pit areas for the required infrastructure regarding the emplacement operations are also being built or extended.

The 49.0 % interest in EDAG Werkzeug + Karosserie GmbH, Fulda, is also accounted for as an associated company using the equity method.

The 33.0 % interest in the joint venture Innui-Inuit Redpath Limited Partnership, North Bay, Canada, is also accounted for using the equity method. Innu-Inuit Redpath LP is a strategic partnership for the Group between Redpath Group, Innu Development LP and NGC Nunasiavut Inc.

The 33.0 % interest in the joint venture TRL Mining Construction LP, Regina, Canada, is also accounted for using the equity method. TRL Mining Construction LP is a strategic partnership for the Group between Redpath Group, Thyssen Mining Inc. and Ledcor Group and was established in 2018 for the Jansen Potash Project Saskatchewan, Canada.

Summarised financial information for the most significant investments accounted for using the equity method as of 31 December 2021 are presented in the following tables.

The summarised balance sheet is as follows:

in EUR '000				
Company	**Murray & Roberts Holdings Limited**		**Joint Venture Konrad Versatzaufbereitung Los 1**	
Nature of the relationship	Associate		Joint Venture	
	31.12.2021	**31.12.2020**	**31.12.2021**	**31.12.2020**
Interest held in %	43.8	43.8	50.0	50.0
Current				
Cash and cash equivalents	222,671	187,550	2,078	297
Other current assets (excluding cash)	500,706	463,325	53,722	43,871
Total current assets	**723,377**	**650,875**	**55,800**	**44,168**
Financial liabilities (excluding trade and other payables, provisions and tax liabilities)	-120,858	-121,297	0	0
Other liabilities (including trade and other payables, provisions and tax liabilities)	-676,318	-569,141	-50,642	-41,029
Total current liabilities	**-797,176**	**-690,438**	**-50,642**	**-41,029**
Non-current				
Assets	**448,664**	**389,582**	**0**	**104**
Financial liabilities (excluding trade and other payables, provisions and tax liabilities)	-49,938	-51,437	0	0
Other liabilities (including trade and other payables, provisions and tax liabilities)	-14,173	-16,036	0	0
Total non-current liabilities	**-64,111**	**-67,473**	**0**	**0**
Net assets	**310,754**	**282,546**	**5,158**	**3,243**

in EUR '000				
Company	**Joint Venture Schacht Konrad 2**		**EDAG Werkzeug + Karosserie GmbH**	
Nature of the relationship	Joint Venture		Associate	
	31.12.2021	**31.12.2020**	**31.12.2021**	**31.12.2020**
Interest held in %	50.0	50.0	49.0	49.0
Current				
Cash and cash equivalents	560	650	6,303	2,400
Other current assets (excluding cash)	24,120	21,139	16,032	19,852
Total current assets	**24,680**	**21,789**	**22,335**	**22,252**
Financial liabilities (excluding trade and other payables, provisions and tax liabilities)	0	0	-1,132	-2,361
Other liabilities (including trade and other payables, provisions and tax liabilities)	-9,563	-9,102	-7,175	-8,478
Total current liabilities	**-9,563**	**-9,102**	**-8,307**	**-10,839**
Non-current				
Assets	**0**	**0**	**10,018**	**11,463**
Financial liabilities (excluding trade and other payables, provisions and tax liabilities)	0	0	-589	-784
Other liabilities (including trade and other payables, provisions and tax liabilities)	0	0	-1,509	-1,410
Total non-current liabilities	**0**	**0**	**-2,098**	**-2,194**
Net assets	**15,117**	**12,687**	**21,948**	**20,682**

in EUR '000				
Company	**Innu-Inuit Redpath Limited Partnership**		**TRL Mining Construction LP**	
Nature of the relationship	Joint Venture		Joint Venture	
	31.12.2021	**31.12.2020**	**31.12.2021**	**31.12.2020**
Interest held in %	33.0	33.0	33.0	33.0
Current				
Cash and cash equivalents	7	6	18,446	8,488
Other current assets (excluding cash)	6,059	15,855	9,942	21,203
Total current assets	**6,066**	**15,861**	**28,388**	**29,691**
Financial liabilities (excluding trade and other payables, provisions and tax liabilities)	0	0	0	0
Other liabilities (including trade and other payables, provisions and tax liabilities)	-1,715	-12,890	-16,183	-16,665
Total current liabilities	**-1,715**	**-12,890**	**-16,183**	**-16,665**
Non-current				
Assets	**0**	**0**	**0**	**0**
Financial liabilities (excluding trade and other payables, provisions and tax liabilities)	0	0	0	0
Other liabilities (including trade and other payables, provisions and tax liabilities)	0	0	0	0
Total non-current liabilities	**0**	**0**	**0**	**0**
Net assets	**4,351**	**2,971**	**12,205**	**13,026**

The summarised statement of comprehensive income is as follows:

in EUR '000				
Company	**Murray & Roberts Holdings Limited**		**Joint Venture Konrad Versatzaufbereitung Los 1**	
Nature of the relationship	Associate		Joint Venture	
	2021	**2020**	**2021**	**2020**
Interest held in %	43.8	43.8	50.0	50.0
Revenue	2,567,834	1,110,442	7,677	6,038
Depreciation and amortisation	-100,420	-47,747	-7	-214
Interest income	0	0	0	0
Interest expense	-23,574	-12,310	0	0
Profit (+) or loss (-) from continuing operations	**1,545**	**-29,096**	**1,925**	**1,050**
Income tax expense (-) / income (+)	-19,512	-4,956	0	0
Profit (+) or loss (-) after tax from continuing operations	**-17,967**	**-34,052**	**1,925**	**1,050**
Profit (+) or loss (-) after tax from discontinuing operations	-9,670	-2,558	0	0
Other comprehensive income	43,716	15,187	0	0
Total comprehensive income	**16,079**	**-21,423**	**1,925**	**1,050**
Dividends received	0	0	0	0

in EUR '000				
Company	**Joint Venture Schacht Konrad 2**		**EDAG Werkzeug + Karosserie GmbH**	
Nature of the relationship	Joint Venture		Associate	
	2021	**2020**	**2021**	**2020**
Interest held in %	50.0	50.0	49.0	49.0
Revenue	16,247	14,219	41,532	36,387
Depreciation and amortisation	-425	0	-2,065	-1,978
Interest income	0	0	0	0
Interest expense	0	0	-120	-48
Profit (+) or loss (-) from continuing operations	**2,473**	**2,455**	**1,887**	**109**
Income tax expense (-) / income (+)	0	0	-640	0
Profit (+) or loss (-) after tax from continuing operations	**2,473**	**2,455**	**1,247**	**109**
Profit (+) or loss (-) after tax from discontinuing operations	0	0	0	0
Other comprehensive income	0	0	19	-39
Total comprehensive income	**2,473**	**2,455**	**1,266**	**70**
Dividends received	0	0	0	0

in EUR '000				
Company	**Innu-Inuit Redpath Limited Partnership**		**TRL Mining Construction LP**	
Nature of the relationship	Joint Venture		Joint Venture	
	2021	**2020**	**2021**	**2020**
Interest held in %	33.0	33.0	33.0	33.0
Revenue	41,107	34,553	91,633	88,552
Depreciation and amortisation	0	0	0	0
Interest income	0	26	135	126
Interest expense	0	0	0	0
Profit (+) or loss (-) from continuing operations	**2,887**	**1,904**	**5,221**	**4,061**
Income tax expense (-) / income (+)	0	0	0	0
Profit (+) or loss (-) after tax from continuing operations	**2,887**	**1,904**	**5,221**	**4,061**
Profit (+) or loss (-) after tax from discontinuing operations	0	0	0	0
Other comprehensive income	0	0	0	0
Total comprehensive income	**2,887**	**1,904**	**5,221**	**4,061**
Dividends received	0	392	0	0

There are no commitments and contingent liabilities relating to the investments accounted for using the equity method.

The information presented above reflects the amounts presented in the financial statements of the investments accounted for using the equity method (and not ATON 2 GmbH's share).

The reconciliation of the summarised financial information related to the carrying amount of the investments accounted for using the equity method is presented in the following table:

in EUR '000								
Company	**Murray & Roberts Holdings Limited**		**Joint Venture Konrad Versatzauf-bereitung Los 1**		**Joint Venture Schacht Konrad 2**		**EDAG Werkzeug + Karosserie GmbH**	
	2021	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**
Net assets as of 1 January	279,836	493,976	3,243	2,178	12,687	10,175	20,682	20,612
Additions	0	0	0	0	0	0	0	0
Profit (+) / loss (-) for the period	-27,637	-36,610	1,925	1,050	2,473	2,455	1,247	109
Other comprehensive income	43,716	15,187	0	0	0	0	19	-39
Increase in capital	0	0	0	0	0	0	0	0
Adjustments / Disposals	0	0	0	0	0	0	0	0
Dividends received	0	0	0	0	0	0	0	0
Currency translation differences	-75,643	-192,717	-10	15	-43	57	0	0
Net assets as of 31 December	**220,272**	**279,836**	**5,158**	**3,243**	**15,117**	**12,687**	**21,948**	**20,682**
Interest held in %	43.8	43.8	50.0	50.0	50.0	50.0	49.0	49.0
Interest in investments accounted for using the equity method	96,501	122,596	2,579	1,622	7,559	6,343	10,755	10,134
Allocated hidden reserves/burden as a result of the PPA	0	0	0	0	0	0	0	0
Impairment	57,442	-36,423	0	0	0	0	0	0
Goodwill	0	0	0	0	0	0	7,364	7,364
Carrying amount	**153,943**	**86,173**	**2,579**	**1,622**	**7,559**	**6,343**	**18,119**	**17,498**
Investments accounted for using the equity method	153,943	86,173	2,579	1,622	7,559	6,343	18,119	17,498
Receivables (+) / liabilities (-) to investments accounted for using the equity method	0	0	-2,481	-1,806	-7,872	-6,199	-63	594

in EUR '000								
Company	**Innu-Inuit Redpath Limited Partnership**		**TRL Mining Construction LP**		**Other investments accounted for using the equity method**		**Total**	
	2021	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**
Net assets as of 1 January	2,960	1,400	14,324	8,586	30,229	11,728	363,961	548,655
Additions	0	0	0	1,308	5,136	3,644	5,136	4,952
Profit (+) / loss (-) for the period	2,887	1,904	5,221	4,061	-107	-2,221	-13,991	-29,252
Other comprehensive income	0	0	0	0	0	0	43,735	15,148
Increase in capital	0	0	0	1,982	3,778	17,928	3,778	19,910
Adjustments / Disposals	-1,533	0	-10,220	0	-47	0	-11,800	0
Dividends received	0	-1,188	0	0	0	-114	0	-1,302
Currency translation differences	9	844	2,796	-1,613	-71	-736	-72,962	-194,150
Net assets as of 31 December	**4,323**	**2,960**	**12,121**	**14,324**	**38,918**	**30,229**	**317,857**	**363,961**
Interest held in %	33.0	33.0	33.0	33.0	25.0 resp. 33.3 resp. 45.7 resp. 49.0 resp. 50.0	25.2 resp. 33.3 resp. 49.0 resp. 50.0	25.2 resp. 33.0 resp. 33.3 resp. 43.8 resp. 45.7 resp. 49.0 resp. 50.0	25.2 resp. 33.0 resp. 33.3 resp. 43.8 resp. 49.0 resp. 50.0
Interest in investments accounted for using the equity method	1,427	977	4,000	4,727	15,294	11,683	138,115	158,082
Allocated hidden reserves/burden as a result of the PPA	0	0	0	0	0	0	0	0
Impairment	0	0	0	0	0	0	57,442	-36,423
Goodwill	0	0	0	0	0	0	7,364	7,364
Carrying amount	**1,427**	**977**	**4,000**	**4,727**	**15,294**	**11,683**	**202,921**	**129,023**
Investments accounted for using the equity method	1,427	977	4,000	4,727	15,294	11,683	202,921	129,023
Receivables (+) / liabilities (-) to investments accounted for using the equity method	0	0	0	0	1,808	3,744	-8,608	-3,667

For investments accounted for using the equity method, intercompany profits and losses are eliminated on a pro-rata basis in general.

22. Other financial assets

Other financial assets break down as follows:

in EUR '000	31.12.2021			31.12.2020		
	Remaining maturity			Remaining maturity		
	> 1 year	< 1 year	Total	> 1 year	< 1 year	Total
Non-consolidated investments in affiliated companies	587	-	587	438	-	438
Loans	48,506	82,622	131,128	46,546	77,883	124,429
Other investments	1,289	-	1,289	0	-	0
Securities measured at fair value through profit and loss	51,147	81,436	132,583	29,385	63,459	92,844
Fair values of derivative financial instruments	-	2	2	-	-	-
Other financial assets	**101,529**	**164,060**	**265,589**	**76,369**	**141,342**	**217,711**

The non-consolidated investments in affiliated companies and other investments are measured at fair value through profit and loss.

In the financial year 2021, loans includes a loan to shareholders (before risk allowance) in the amount of EUR 9,000k (previous year: EUR 0k).

Securities, which are measured at fair value through profit and loss, include mainly managed portfolios of equity positions and European corporate bonds and assets managed by the Royal Bank of Canada Investment Management (UK) Limited, as well as convertible loans to OneFiber Interconnect Germany GmbH and Grey Orange International Inc.

Cash flow hedges are generally used to hedge against foreign currency risks from future sale or procurement transactions. Options and future contracts regarding foreign currencies serve as hedging instruments. Fair value changes of hedging instruments relating to the effective portion are recognised in other comprehensive income until the underlying transaction is realised. The ineffective portion of the fair value changes is recognised in the income statement.

When the hedged item is realised, the fair value changes in the hedging instrument recognised under other comprehensive income are reclassified to the income statement. The recognised fair value of the hedging instruments used for cash flow hedges amounts to EUR 0k as at the balance sheet date (previous year: EUR 0k).

The development of risk allowance for loans during financial year 2021 is as follows:

in EUR '000	Bucket 1	Bucket 2	Bucket 3	Total
As of 01 January 2021	**-319**	**0**	**0**	**-319**
Transfer to Bucket 1	0	0	0	**0**
Transfer to Bucket 2	0	0	0	**0**
Transfer to Bucket 3	0	0	0	**0**
Additions	-96	0	-36,205	**-36,301**
Disposal due to settlement / Consumption	26	0	0	**26**
Reversal / Write-up	117	0	0	**117**
Change in the scope of consolidation	0	0	0	**0**
Currency translation differences and other changes	0	0	0	**0**
As of 31 December 2021	**-272**	**0**	**-36,205**	**-36,477**

The development of the gross book value of loans during financial year 2021 is as follows:

in EUR '000	Bucket 1	Bucket 2	Bucket 3	Total
As of 01 January 2021	**81,539**	**0**	**43,209**	**124,748**
Transfer to Bucket 1	0	0	0	**0**
Transfer to Bucket 2	0	0	0	**0**
Transfer to Bucket 3	0	0	0	**0**
Additions	157,479	0	0	**157,479**
Disposal due to settlement / Consumption	-114,678	0	0	**-114,678**
Change in the scope of consolidation	56	0	0	**56**
Currency translation differences and other changes	0	0	0	**0**
As of 31 December 2021	**124,396**	**0**	**43,209**	**167,605**

The net loans of EUR 131,128k (previous year: EUR 124,429k) were not overdue as of the reporting date and will be repaid as planned. There was no significant change in the gross book values, which would have led to a change in risk allowance. As of the balance sheet date, individual risk allowances on loans only existed for a subordinated loan to a related party. No individual risk allowances were necessary in the previous year’s period. The net increase in loans results from granting a new loan to the shareholders and scheduled and unscheduled repayments of loans at the same time.

The development of risk allowance for loans as of 31 December 2020 is as follows:

in EUR '000	Bucket 1	Bucket 2	Bucket 3	Total
As of 01 January 2020	**-88**	**0**	**0**	**-88**
Transfer to Bucket 1	0	0	0	**0**
Transfer to Bucket 2	0	0	0	**0**
Transfer to Bucket 3	0	0	0	**0**
Additions	-251	0	0	**-251**
Disposal due to settlement / Consumption	16	0	0	**16**
Reversal / Write-up	4	0	0	**4**
Change in the scope of consolidation	0	0	0	**0**
Currency translation differences and other changes	0	0	0	**0**
As of 31 December 2020	**-319**	**0**	**0**	**-319**

The development of the gross book value for loans as of 31 December 2020 is as follows:

in EUR '000	Bucket 1	Bucket 2	Bucket 3	Total
As of 01 January 2020	**44,604**	**0**	**44,440**	**89,044**
Transfer to Bucket 1	0	0	0	**0**
Transfer to Bucket 2	0	0	0	**0**
Transfer to Bucket 3	0	0	0	**0**
Additions	116,684	0	0	**116,684**
Disposal due to settlement / Consumption	-79,747	0	-1,231	**-80,978**
Change in the scope of consolidation	0	0	0	**0**
Currency translation differences and other changes	-2	0	0	**-2**
As of 31 December 2020	**81,539**	**0**	**43,209**	**124,748**

23. Trade and other receivables

in EUR '000	31.12.2021		31.12.2020	
	current	non-current	current	non-current
Trade receivables	309,367	81	234,765	140
Other receivables (financial instruments)	9,719	6,109	10,289	5,571
Other receivables (non-financial instruments)	33,237	86	29,287	97
Carrying amount (net)	**352,323**	**6,276**	**274,341**	**5,808**

Risk allowances for receivables from goods and services developed as follows during financial year 2021:

in EUR '000	Bucket 2	Bucket 3	Total
As of 01 January 2021	**-26,720**	**-4,157**	**-30,877**
Transfer to Bucket 2	0	0	**0**
Transfer to Bucket 3	21,449	-21,449	**0**
Additions	-93	-3,190	**-3,283**
Disposal due to settlement / Consumption	0	1,195	**1,195**
Reversal / Write-up	194	170	**364**
Change in the scope of consolidation	-36	-8	**-44**
Reclassification under IFRS 5	0	0	**0**
Currency translation differences and other changes	-296	-86	**-382**
As of 31 December 2021	**-5,502**	**-27,525**	**-33,027**

The gross book values of trade receivables developed as follows during financial year 2021:

in EUR '000	Bucket 2	Bucket 3	Total
As of 01 January 2021	**259,355**	**6,427**	**265,782**
Transfer to Bucket 2	0	0	**0**
Transfer to Bucket 3	-21,920	21,920	**0**
Additions	960,732	2,354	**963,086**
Disposal due to settlement / Consumption	-812,621	-2,317	**-814,938**
Change in the scope of consolidation	-70,773	8	**-70,765**
Reclassification under IFRS 5	0	0	**0**
Currency translation differences and other changes	-813	123	**-690**
As of 31 December 2021	**313,960**	**28,515**	**342,475**

The increase in the risk allowances in bucket 3 is attributable to the Engineering segment and results from the default of a major customer.

Beyond this, there were no significant changes in gross book values that would have led to a change in expected credit losses.

Risk allowances for receivables from goods and services developed as follows during financial year 2020:

in EUR '000	Bucket 2	Bucket 3	Total
As of 01 January 2020	**-5,897**	**-5,581**	**-11,478**
Transfer to Bucket 2	0	0	**0**
Transfer to Bucket 3	0	0	**0**
Additions	-25,574	-1,338	**-26,912**
Disposal due to settlement / Consumption	0	1,707	**1,707**
Reversal / Write-up	5,589	1,075	**6,664**
Change in the scope of consolidation	0	-102	**-102**
Reclassification under IFRS 5	0	0	**0**
Currency translation differences and other changes	-838	82	**-756**
As of 31 December 2020	**-26,720**	**-4,157**	**-30,877**

The gross book values of trade receivables developed as follows during financial year 2020:

in EUR '000	Bucket 2	Bucket 3	Total
As of 01 January 2020	**325,018**	**7,159**	**332,177**
Transfer to Bucket 2	-15	0	**-15**
Transfer to Bucket 3	-429	444	**15**
Additions	815,432	1,614	**817,046**
Disposal due to settlement / Consumption	-765,444	-2,845	**-768,289**
Change in the scope of consolidation	-111,669	102	**-111,567**
Reclassification under IFRS 5	0	0	**0**
Currency translation differences and other changes	-3,538	-47	**-3,585**
As of 31 December 2020	**259,355**	**6,427**	**265,782**

Other receivables break down as follows:

in EUR '000	31.12.2021	31.12.2020
Current		
financial instruments		
Creditors with debit balances	254	294
Other receivables	9,478	11,287
Allowances (Buckets 1-3)	- 13	- 1,292
	9,719	**10,289**
No financial instruments		
Value added tax receivables	9,747	7,483
Receivables from employees	1,390	1,524
Other tax receivables	306	423
Other receivables	23,116	21,115
Allowances	- 1,322	- 1,258
	33,237	**29,287**
	42,956	**39,576**
Non-current		
financial instruments		
Other receivables	**6,118**	**6,583**
Allowances (Buckets 1-3)	- 9	- 1,012
	6,109	**5,571**
No financial instruments		
Other receivables	86	97
Allowances	-	-
	86	**97**
	6,195	**5,668**
Other receivables	**49,151**	**45,244**

Risk allowances for other receivables (financial instruments) developed as follows during financial year 2021:

in EUR '000	Bucket 1	Bucket 2	Bucket 3	Total
As of 01 January 2021	**-1,301**	**0**	**-1,003**	**-2,304**
Transfer to Bucket 1	0	0	0	**0**
Transfer to Bucket 2	0	0	0	**0**
Transfer to Bucket 3	0	0	0	**0**
Additions	-18	0	0	**-18**
Disposal due to settlement / Consumption	1	0	1,000	**1,001**
Reversal / Write-up	1,369	0	0	**1,369**
Change in the scope of consolidation	0	0	0	**0**
Currency translation differences and other changes	-70	0	0	**-70**
As of 31 December 2021	**-19**	**0**	**-3**	**-22**

The gross carrying amounts of other receivables (financial instruments) developed as follows during financial year 2021:

in EUR '000	Bucket 1	Bucket 2	Bucket 3	Total
As of 01 January 2021	**15,748**	**0**	**2,416**	**18,164**
Transfer to Bucket 1	0	0	0	**0**
Transfer to Bucket 2	0	0	0	**0**
Transfer to Bucket 3	0	0	0	**0**
Additions	27,446	0	1,412	**28,858**
Disposal due to settlement / Consumption	-29,975	0	-1,000	**-30,975**
Change in the scope of consolidation	3	0	0	**3**
Currency translation differences and other changes	-200	0	0	**-200**
As of 31 December 2021	**13,022**	**0**	**2,828**	**15,850**

There were no significant changes in gross book values that would have led to a change in expected credit losses.

Risk allowances for other receivables (financial instruments) developed as follows during financial year 2020:

in EUR '000	Bucket 1	Bucket 2	Bucket 3	Total
As of 01 January 2020	**-27**	**0**	**-1,012**	**-1,039**
Transfer to Bucket 1	0	0	0	**0**
Transfer to Bucket 2	0	0	0	**0**
Transfer to Bucket 3	0	0	0	**0**
Additions	-1,328	0	0	**-1,328**
Disposal due to settlement / Consumption	1	0	0	**1**
Reversal / Write-up	24	0	9	**33**
Change in the scope of consolidation	0	0	0	**0**
Currency translation differences and other changes	29	0	0	**29**
As of 31 December 2020	**-1,301**	**0**	**-1,003**	**-2,304**

The gross carrying amounts of other receivables (financial instruments) developed as follows during financial year 2020:

in EUR '000	Bucket 1	Bucket 2	Bucket 3	Total
As of 01 January 2021	**20,110**	**0**	**1,054**	**21,164**
Transfer to Bucket 1	0	0	0	**0**
Transfer to Bucket 2	0	0	0	**0**
Transfer to Bucket 3	0	0	0	**0**
Additions	19,087	0	1,362	**20,449**
Disposal due to settlement / Consumption	-23,162	0	0	**-23,162**
Change in the scope of consolidation	0	0	0	**0**
Currency translation differences and other changes	-287	0	0	**-287**
As of 31 December 2020	**15,748**	**0**	**2,416**	**18,164**

24. Contract Assets and Liabilities

The contractual assets and liabilities are composed as follows:

in EUR '000	31.12.2021	31.12.2020
Contract assets	**68,092**	**58,387**
Engineering	64,732	51,319
Mining	3,253	6,943
Med Tech	107	125
Aviation	0	0
Contract liabilities	**156,635**	**136,316**
Engineering	147,276	125,402
Mining	0	4,284
Med Tech	9,359	6,630
Aviation	0	0

Risk allowances for contract assets developed as follows during financial year 2021:

in EUR '000	Bucket 2	Bucket 3	Total
As of 01 January 2021	**-36**	**0**	**-36**
Transfer to Bucket 2	0	0	**0**
Transfer to Bucket 3	0	0	**0**
Additions	-222	-41,533	**-41,755**
Disposal due to settlement / Consumption	0	0	**0**
Reversal / Write-up	2	0	**2**
Change in the scope of consolidation	0	0	**0**
Currency translation differences and other changes	-1	-1,064	**-1,065**
As of 31 December 2021	**-257**	**-42,597**	**-42,854**

The gross carrying amount of contract assets developed as follows during financial year 2021:

in EUR '000	Bucket 2	Bucket 3	Total
As of 01 January 2021	**58,423**	**0**	**58,423**
Transfer to Bucket 2	0	0	**0**
Transfer to Bucket 3	0	0	**0**
Additions	82,167	43,762	**125,929**
Disposal due to settlement / Consumption	-74,714	**0**	**-74,714**
Change in the scope of consolidation	0	0	**0**
Currency translation differences and other changes	-9	1,317	**1,308**
As of 31 December 2021	**65,867**	**45,079**	**110,946**

The increase in the gross carrying amount and the risk allowance for contract assets in the financial year 2021 is primarily due to the Slavkaliy project at Redpath Group.

Risk allowances for contract assets developed as follows during the financial year 2020:

in EUR '000	Bucket 2	Bucket 3	Total
As of 01 January 2020	**-45**	**0**	**-45**
Transfer to Bucket 2	0	0	**0**
Transfer to Bucket 3	0	0	**0**
Additions	-27	0	**-27**
Disposal due to settlement / Consumption	0	0	**0**
Reversal / Write-up	36	0	**36**
Change in the scope of consolidation	0	0	**0**
Currency translation differences and other changes	0	0	**0**
As of 31 December 2020	**-36**	**0**	**-36**

The gross carrying amount of contract assets developed as follows during financial year 2020:

in EUR '000	Bucket 2	Bucket 3	Total
As of 01 January 2020	**92,180**	**0**	**92,180**
Transfer to Bucket 2	0	0	**0**
Transfer to Bucket 3	0	0	**0**
Additions	76,625	0	**76,625**
Disposal due to settlement / Consumption	-106,899	**0**	**-106,899**
Change in the scope of consolidation	0	0	**0**
Currency translation differences and other changes	-3,483	0	**-3,483**
As of 31 December 2020	**58,423**	**0**	**58,423**

Revenue recognised in the reporting period from performance obligations satisfied (or partially satisfied) in previous periods is as follows:

in EUR '000	31.12.2021	31.12.2020
Revenue recognised in the reporting period from performance obligations satisfied (or partially satisfied) in previous periods	0	0

For some Group entities, revenue recognised in the reporting period from performance obligations satisfied (or partially satisfied) in previous periods may not be reported separately because changes in the transaction price typically also result in changes in the scope of the projects in the current reporting period. Therefore, it is not possible to determine the scope of changes in the transaction price without adjusting the scope of performance obligations.

Contract assets exist in the Engineering, Mining and Med Tech segments and reflect the claim for a consideration for the complete performance of the contractual services. Receivables are recognised when the right to receive a consideration becomes unconditional. In this case, the Group receives advance payments from customers, which are netted with the contract assets or recognised as contract liabilities. As soon as the contractual services are rendered, revenue is recognised.

The following table presents the significant changes in the contract assets and liabilities:

in EUR '000	2021		2020	
	Contract Assets	Contract Liabilities	Contract Assets	Contract Liabilities
Contract asset / Contract liability at the beginning of the reporting period	**58,387**	**-136,316**	**92,135**	**-107,098**
Revenue recognised in the reporting period that was included in the contract liability balance at the beginning of period	0	104,846	0	110,885
Reclassification of contract assets at the beginning of period to accounts receivable (due to invoicing)	-8,711	0	-70,823	0
Increase of contract liability / Decrease of contract assets due to payments received, with exception of amounts that have been recognised as revenue during the period	-53,518	-124,621	-57,481	-140,094
Increase due to change in measure of progress (which have still not resulted in accounts receivable)	114,564	0	86,390	0
Net changes in allowances / impairment for contract assets	-41,310	0	-8	0
Changes due to business combinations	-284	52	0	0
Reclassifications between contract assets and contract liabilities since the net amount of contract asset and payments received is changing the sign (+/-)	0	0	11,649	0
Currency translation difference for contract assets / liabilities	-1,036	-596	-3,475	426
other significant changes in contract balances	0	0	0	-435
Contract asset / Contract liability at the end of the reporting period	**68,092**	**-156,635**	**58,387**	**-136,316**

The transaction price allocated to the outstanding performance obligations as of 31 December 2021 is as follows:

in EUR '000	up to 1 year	1 - 5 years	> 5 years	Total
	152,083	4,492	60	156,635

The transaction price allocated to the outstanding performance obligations as of 31 December 2020 was as follows:

in EUR '000	up to 1 year	1 - 5 years	> 5 years	Total
	132,575	3,684	57	136,316

As revenue for satisfied performance obligation is recognised in the Mining segment in accordance with IFRS 15.B16, use is made of the practical expedient in IFRS 15.121 (b) and therefore no disclosure is made for the open transaction price for unsatisfied performance obligations as required by IFRS 15.120.

In the financial year 2021, as in previous year, there are no incremental costs of obtaining a contract with a customer or costs to fulfil a contract, which should be capitalised.

25. Inventories

The carrying amount of inventories amounting to EUR 111,619k (previous year: EUR 101,952k) breaks down as follows:

in EUR '000	31.12.2021	31.12.2020
Raw materials, consumables and supplies	27,711	22,886
Unfinished goods, work in progress	9,899	4,598
Finished goods	15,478	13,064
Merchandises	49,147	52,887
Advance payments	9,384	8,517
Inventories	**111,619**	**101,952**

Inventories are written down to the net realisable value if lower than the acquisition or production costs. The carrying amount of inventories measured at net realisable value amounts to EUR 11,030k (previous year: EUR 16,187k). Total write-downs amounted to EUR 12,922k (previous year: EUR 12,662k). As in the previous year, the impairment losses were fully recognised in cost of materials.

As in the previous year, no inventories were pledged as collateral for liabilities.

26. Cash and cash equivalents

in EUR '000	31.12.2021	31.12.2020
Cash and bank balances	529,101	667,964
Other cash equivalents	10	11
Cash in transit	-11	1,798
Cash and cash equivalents	**529,100**	**669,773**

With regard to the development of cash and cash equivalents, please refer to the consolidated statement of cash flows. As of 31 December 2021, the Group cannot freely dispose of a portion amounting to EUR 283k (previous year: EUR 330k).

27. Assets held for sale / liabilities associated with assets held for sale

As of 31 December 2021 the following assets and liabilities are classified as assets held for sale / liabilities associated with assets held for sale in the **Engineering** segment (fair value hierarchy measurement level 1):

in EUR '000	31.12.2021
Trade and other receivables	275
Inventories	87
Contract assets	261
Cash and cash equivalents	539
Assets held for disposal	**1,162**

in EUR '000	31.12.2021
Financial liabilities	852
Trade and other payables	412
Contract liabilities	52
Liabilities associated with assets held for disposal	**1,316**

On 15 December 2021, the contract for the sale of the wholly owned subsidiary EDAG Production Solutions CZ S.R.O. was signed. The sale became effective in the new year with the end of 31 January 2022 (loss of control). The sale resulted from changes in the general market situation and the transformation process in the EDAG Group's industry, which led to a reduction in the OEMs' model range. To date, this has had a direct impact on the number of planned production plants and thus on the market volume. The consequence has been production stops and postponements and an accompanying massive deterioration in price levels. The measurement of the respective assets and liabilities at fair value resulted in an impairment loss of EUR 227k.

In the other segments, there are no assets / liabilities held for sale in accordance with IFRS 5 as of 31 December 2021.

As of 31 December 2020, there were no assets held for sale or liabilities associated with assets held for sale in accordance with IFRS 5 in none of the segments.

28. Equity

Details of the development of equity between 1 January and 31 December 2021 and the previous period are presented in the Group's statement of changes in equity.

Subscribed capital

The subscribed capital of EUR 265,025k (previous year: EUR 415,025k) corresponds to the equity of the parent company. As of 31 December 2021, the share capital of EUR 265,025k is fully paid in.

Capital reserve

Other reserves

Other reserves include the revenue reserves and profit or loss of previous years attributable to shareholders (profit or loss carried forward), the current net profit or loss attributable to shareholders, reserves from the transition from HGB (German GAAP) to IFRS, reserves from the transition to IFRS 9, IFRS 15 and IFRS 16 and total other comprehensive income.

Other comprehensive income contains the effects of currency translation differences, effects from remeasurements of defined benefit plans and the effective portions of changes from cash flow hedges. The currency translation differences include the differences from translating the currencies of financial statements of foreign subsidiaries, which are recognised directly in equity.

In 2021 no distributions were made to the shareholders of ATON 2 GmbH. In the current financial year, EUR 0k were distributed to non-controlling interests at the level of subsidiaries (previous year: EUR 0k).

in EUR '000	31.12.2021	31.12.2020
Retained earnings including profit or loss		
Revenue reserves and profit (+) or loss (-) carried forward	1,014,737	1,066,589
Profit attributable to the owners	59,835	-58,444
Reserve from the transition to IFRS / from application of IFRS 9, 15 and 16	147	147
	1,074,719	**1,008,292**
Other comprehensive income		
Currency translation differences	-21,426	-24,728
Remeasurements of defined benefit plans	-5,403	-6,074
	-26,829	**-30,802**
Other reserves	**1,047,890**	**977,490**

Non-controlling interests

The non-controlling interests are attributable to the following companies:

in EUR '000	31.12.2021	31.12.2020
EDAG subgroup	21,912	23,279
Redpath subgroup (previous year: ATM subgroup)	-14,323	-5,292
Total non-controlling interests	**7,589**	**17,987**

As of balance sheet date, non-controlling interests in the EDAG subgroup result from the fact that the ATON Group only holds 74.66 % (previous year: 74.66 %) of the shares in EDAG Engineering Group AG, Arbon, Switzerland as parent company of the subgroup.

As in the previous year, the non-controlling interests relating to the Redpath subgroup are not material, so that accordingly no information is presented for subsidiaries' balance sheet, income statement and cash flow statement with non-controlling interests.

The following table presents information regarding the material, non-controlling interests in the EDAG Group (after effects from the purchase price allocation):

in EUR '000	31.12.2021	31.12.2020
Percentage of non-controlling interests	**25.3**	**25.3**
Non-current assets	334,785	359,730
Current assets	369,401	303,808
Non-current liabilities	-327,959	-332,745
Current liabilities	-290,311	-239,475
Net assets	**85,916**	**91,318**
Net assets corresponding to non-controlling interests	**21,771**	**23,140**
Revenue	687,343	653,319
Profit or loss for the period	-7,552	-39,266
Other comprehensive income, net of income taxes	2,159	-2,621
Total comprehensive income to non-controlling interest	**-5,393**	**-41,887**
Profit or loss for the period corresponding to non-controlling interests	-1,914	-10,152
Other comprehensive income (net of taxes) corresponding to non-controlling interests	547	-664
Cash flow from operating activities	23,594	150,109
Cash flow from investing activities	-18,366	-15,488
Cash flow from financing activities	-10,555	-47,174
Foreign exchange effects / IFRS reallocations	126	-1,773
Net increase of cash and cash equivalents	**-5,201**	**85,674**

The development of the non-controlling interests in equity is shown in the table below:

in EUR '000	2021	2020
As of 1 January	**17,987**	**31,286**
Changes in equity recognised directly in equity		
Change in non-controlling interest due to step acquisition	-	3,589
Change in non-controlling interest due to disposal of interests to non-controlling interests	- 6,876	-
Remeasurement of defined benefit plans	285	- 45
Currency translation differences from translation of financial statements of foreign subsidiaries	281	- 228
	- 6,310	**3,316**
Changes in equity recognised in profit or loss	- 4,088	- 16,615
As of 31 December	**7,589**	**17,987**

The decrease in non-controlling interests in 2021 results from the Redpath subgroup and is caused by the following two transactions: In the first step, a capital increase took place at Redpath Mining (S.A.) (Pty.) Ltd, South Africa, on 23 November 2021, in which only Redpath participated as majority shareholder. As a result, Redpath's shareholding increased from previously 74.0 % to 80.0 % and the percentage share of non-controlling interests decreased consequently. In a second step, shares in Redpath Mining (S.A.) (Pty.) Ltd. were sold to a new non-controlling interest on 14 December 2021. As a result, the interest held by Redpath decreased to 53.9 % and as a consequence the non-controlling interests increased. This capital increase and the subsequent sale of shares to the non-controlling shareholder also affected Redpath Zambia Limited, Zambia, 99.0 % of which is held by Redpath Mining (S.A.) (Pty.) Ltd.. Overall, these transactions and the percentage increase in non-controlling interests reduced non-controlling interests by EUR 6,876k, as the underlying net assets of the subsidiaries are negative.

In the previous year, ATON Group increased its share in the EDAG Group from 72.12 % to 74.66 %. Due to this additional acquisition of further shares in the EDAG Group, minority interests decreased by EUR 3,208k. In addition, the Redpath Group acquired the outstanding 30.0 % in Redpath Rig Resources JV Limited, Kitwe, Zambia, in the previous year. This reduced the negative equity attributable to minority interests by EUR 6,797k and thus increased overall the equity attributable to minority interests. As a result, this led to an increase in non-controlling interests of EUR 3,589k in the previous year.

In 2021, the changes in equity recognised through profit or loss regarding non-controlling interests is attributable to the Redpath Group in the of EUR -2,175k and to the EDAG Group in the amount of EUR -1,913k.

29. Provisions for pensions

The Group has company pension schemes in the form of defined contribution plans and defined benefit plans.

Defined contribution exist in the form of retirement, disability and survivor's benefits. The employer contributions paid to the statutory pension insurance scheme in Germany should be treated as such defined contribution plans. Payments to defined contribution plans in the Group predominantly refer to contributions to the statutory pension insuranc in Germany. Apart form the payment of contributions, the Group has no further payment obligations. In the reporting period, current contributions of EUR 55,114k (previous year: EUR 51,822k) were paid. Other long-term employee benefits according to IAS 19.153 amount to EUR 808k in 2021 (previous year: EUR 820k).

The defined benefit plan involves both direct pension commitments and indirect pension commitments made through VKE Versorgungskasse EDAG-Firmengruppe e.V. (VKE) for companies in the EDAG Group. The direct pension commitments guarantee life-long pension payments. The obligations partly take the form of fixed commitments and partly of commitments, which depend on years of service and salary. Commitments are made for old-age, disability and survivor's benefits.

The purpose of VKE – a group support fund – is to serve as a social institution of EDAG and its affiliated companies wishing to have their company retirement pension schemes managed by VKE. The sponsors (members using VKE to handle their company retirement pension schemes) are the following companies:

- EDAG Engineering GmbH, Wiesbaden
- EDAG Production Solutions GmbH & Co. KG, Fulda

The exclusive and unalterable purpose of VKE is to manage the support fund which grants to beneficiaries voluntary, one-time, repeated or recurring benefits according to the benefit plan of VKE when they need support, become disabled or incapable to work and during old age. Beneficiaries can be employees and / or former employees of the funding companies as well as their close relatives (spouses and children) and / or surviving dependants. Members of the funding companies are also persons with whom the funding companies are, or have been, in an employment-type relationship. For employees recruited on or after 1 June 2006, there are no pension commitments.

The employees entitled to benefits receive retirement and survivor's benefits in the form of a lump sum payment in accordance with the provisions of the applicable pension plan. The benefits are financed through an external fund, whereby the fund assets are reinvested in the funding companies in the form of loans.

In addition, there are also defined benefit commitments to a lesser extent at Deilmann-Haniel Mining Systems GmbH, Dortmund. Beneficiaries are employees who are not insured under the miners' pension insurance scheme and employees covered by collective bargaining agreements who joined the company until 30 June 1995.

Pension commitments in Germany are governed by the provisions of the German Company Pensions Act. Due to the legally prescribed pension adjustment obligation, pension commitments are subject to inflation risk. Furthermore, there is the risk that, due to changes in life expectancy, invalidity probabilities and mortality probabilities, the actual payment obligations may be different from what was expected at the time of the commitment.

In Switzerland, the Group's company pension scheme is being handled by BVG Sammelstiftung Swiss Life. Assets are invested jointly for all accounts in a collective fund. All biometric risks (disability, death and longevity) as well as the investment and interest rate risk are reinsured by Swiss Life.

In Italy, benefits are paid upon termination of the employment (Trattamento di Fine Rapporto [TFR]). Every employee is entitled to benefits in such cases. For every year of service, provisions for severance payments have to be recognised based on the total annual remuneration divided by 13.5. Hence, the employer pays a part (0.5 % of the salary) to the Italian National Social Security Institute or to an external pensions fund during the year. This amount is subtracted from the provisions for severance payments. On 31 December of each year, the accumulated provision of the previous year is revalued using an index prescribed by law (1.5 % plus 75 % of the increase in the consumer price index for families of workers and employees based on the last 12 months).

In India, according to the Compensation Act from 1972 ("gratuity act"), post-employment benefits are paid to employees provided that they have served at least 4.5 years. The payment is based on the monthly base salary divided by 26 days multiplied by 15 days for each completed year, with six completed months being considered as one year.

Employees in Mexico also have a settlement claim. A payment in the amount of 12 days per service year is granted. In addition, in the event of unfair dismissal of employees who have reached retirement age, compensation must be paid for the service years worked. The compensation amounts to three months' salaries.

In addition, in Indonesia there are other post-employment benefit plans in accordance with Indonesian law that apply to all employed Indonesian nationals. The obligation is to pay a severance pay upon termination of employment. The benefit amount varies for each individual employee depending on length of service and other factors such as age and position.

The pension obligations and the obligations from other postretirement benefit plans are determined on the basis of actuarial reports, which are requested annually. The benefit amount is determined using the duration of employment as well as the future estimated salary and pension trends.

The provisions for pensions recognised in the statement of financial position is as follows:

in EUR '000	2021	2020
Present value of funded obligations	49,958	50,292
Fair value of plan assets	- 20,560	- 21,835
Deficit of funded plans	**29,398**	**28,457**
Present value of unfunded obligations	21,423	21,618
Total deficit of defined benefit pension plans	**50,821**	**50,075**
Provisions for pensions as of 31 December	**50,821**	**50,075**

The provisions for pensions developed as follows:

in EUR '000	2021	2020
Provisions for pensions as of 1 January	50,075	50,188
Current service cost	2,355	2,395
Past service cost	-241	360
Net interest cost (+) / income (-)	424	498
Remeasurements	-1,449	816
from changes in demographic assumptions	80	-1,321
from changes in financial assumptions	-1,334	2,184
from experience gains (-) / losses (+)	-195	-47
Currency translation differences	461	-496
Employer contributions	-124	-127
Benefit payments	-910	-3,569
thereof from settlements	0	0
Administration cost	10	10
Reclassification in accordance IFRS 5	0	0
Provisions for pensions as of 31 December	**50,821**	**50,075**

The present value of the defined benefit obligation developed as follows:

in EUR '000	2021	2020
Present value of the defined benefit obligation as of 1 January	71,910	73,064
Current service cost	2,355	2,395
Past service cost	-241	360
Interest cost	593	700
Remeasurements of defined benefit plans		
from changes in demographic assumptions	80	-1,321
from changes in financial assumptions	-1,567	2,224
from experience gains (-) / losses (+)	-195	-47
Currency translation differences	554	-485
Contributions by plan participants	124	127
Benefit payments	-2,242	-5,117
thereof from settlements	0	0
Administration cost	10	10
Reclassification in accordance IFRS 5	0	0
Present value of the defined benefit obligation as of 31 December	**71,381**	**71,910**

The fair value of plan assets developed as follows:

in EUR '000	2021	2020
Fair value of plan assets as of 1 January	21,835	22,876
Interest income	169	202
Gains (+) / losses (-) from settlements	-220	0
Return on (-) / loss from (-) plan assets excluding amounts included in interest income	-233	40
Currency translation differences	93	11
Employer contributions	124	127
Contributions by plan participants	124	127
Benefit payments	-1,332	-1,548
thereof payments from settlements	0	0
Reclassification in accordance with IFRS 5	0	0
Fair value of plan assets as of 31 December	**20,560**	**21,835**

The fair value of the plan assets is allocated to the individual asset categories as follows:

in EUR '000	2021	in %	2020	in %
Debt instruments (Germany)	18,414	90%	632	3%
thereof investments in employer company or related parties	18,414		632	
Asset values of reinsurance cover pension trust (Germany)	0	0%	212	1%
thereof without a quoted market price in an active market	0		212	
Collective foundation (Switzerland)	2,146	10%	1,968	9%
thereof without a quoted market price in an active market	2,146		1,968	
Cash and cash equivalents	0	0%	19,023	87%
Plan assets as of 31 December	**20,560**	**100%**	**21,835**	**13%**

Neither as of 31 December 2021 nor as of 31 December 2020, the asset ceiling for plan assets to be recorded does apply.

The calculation of the present value of the defined benefit obligation is based on the following significant actuarial assumptions:

	2021	2020
Average discount rate		
Germany	0.94%	0.83%
India	6.95%	6.55%
Indonesia	6.75%	6.45%
Italy	1.06%	0.97%
Mexico	7.00%	7.00%
Switzerland	0.20%	0.20%
Biometric accounting bases		
Germany	Richttafeln 2018 G	Richttafeln 2018 G
India	IALM 2012 - 14	IALM 2012 - 14
Indonesia	TMI 4 (2019)	TMI 4 (2019)
Italy	RG 48	RG 48
Mexico	ENOE 2010 - INEGI	ENOE 2010 - INEGI
Switzerland	BVG 2020 GT	BVG 2015 GT

The following sensitivity analyses shows what the present value of the defined benefit obligation would be if the main actuarial assumptions were increased or decreased:

in EUR'000		2021	in %	2020	in %
Average discount rate	+ 0,50 %	67,116	-5.97	62,628	-12.91
	- 0,50 %	75,460	5.71	68,726	-4.43
Average life expectancy	+ 1 year	71,567	0.26	64,974	-9.65
	- 1 year	70,730	-0.91	63,979	-11.03

The sensitivities were determined analogously to the scope of obligations. One assumption was changed while holding all other assumptions and the valuation method unchanged. If several assumptions change at the same time, the total effect does not have to correspond to the sum of the individual effects. In addition, the effects of the individual changes in assumptions are not linear. The assumptions on salary and pension trends do not have a material impact on the present value of the defined benefit obligation. Hence, no sensitivities were stated for these assumptions.

For the financial year 2022, the Group expects contributions to defined benefit pension plans in the total amount of EUR 2,494k (previous year: EUR 4,617k).

The weighted average duration of the defined benefit obligation of ATON’s defined benefit plans is 12 years as of 31 December 2021 (previous year: 12 years).

30. Provisions for income taxes and other provisions

Provisions for income taxes and other provisions developed as follows:

in EUR '000	Income taxes	Personnel	Warran-ties	Rework	Onerous contracts	Litigation risks	Other	Total other provisi-ons
As of 1 January 2021	**3,355**	**11,605**	**3,993**	**137**	**3,358**	**1,401**	**14,631**	**35,125**
thereof: current	**3,287**	8,078	3,309	137	3,357	1,401	12,701	**28,983**
Changes in the scope of consolidation	**259**	15	131	-	11	-	66	**223**
Currency translation differences	**2**	41	41	4	67	8	116	**277**
Additions	**2,837**	11,411	1,779	114	5,243	5	2,326	**20,878**
Consumption	**- 1,854**	- 3,809	- 502	- 25	- 30	- 356	- 6,736	**- 11,458**
Reversal	**- 6**	- 1,452	- 1,119	- 8	- 1,583	- 219	- 1,619	**- 6,000**
Interest effect	**-**	19	0	-	-	-	- 3	**16**
Other changes	**-**	-	- 300	-	300	-	-	**-**
As of 31 December 2021	**4,593**	**17,830**	**4,023**	**222**	**7,366**	**839**	**8,781**	**39,061**
thereof: current	**4,447**	13,947	3,274	222	7,366	839	6,750	**32,398**

in EUR '000	Income taxes	Personnel	Warran-ties	Rework	Onerous contracts	Litigation risks	Other	Total other provisi-ons
As of 1 January 2020	**8,114**	**6,058**	**2,322**	**234**	**5,276**	**1,222**	**9,733**	**24,845**
thereof: current	**8,067**	2,737	1,737	234	5,276	1,222	7,646	**18,852**
Changes in the scope of consolidation	**0**	-49	-7	0	-75	0	0	**-131**
Currency translation differences	**-30**	-301	-5	0	5	-70	-186	**-557**
Additions	**950**	7,724	3,340	18	996	332	13,015	**25,425**
Consumption	**-5,489**	-1,621	-535	-96	-2,713	0	-6,628	**-11,593**
Reversal	**-191**	-220	-1,122	-19	-131	0	-1,398	**-2,890**
Interest effect	**0**	14	0	0	0	0	12	**26**
Other changes	**0**	0	0	0	0	-83	83	**0**
As of 31 December 2020	**3,354**	**11,605**	**3,993**	**137**	**3,358**	**1,401**	**14,631**	**35,125**
thereof: current	**3,286**	8,078	3,309	137	3,357	1,401	12,701	**28,983**

The provisions for income taxes include provisions for current income taxes and provisions for taxes to be paid as a result of tax audits.

Personnel provisions include, in particular, provisions for severance payments of EUR 7,040k (previous year: EUR 6,806k) and provisions for service anniversaries of EUR 2,675k (previous year: EUR 2,423k).

The provisions for warranties cover statutory and contractual warranty obligations as well as goodwill payments. The provisions are recognised on the basis of the products sold or the projects completed, whereby the period, on which the calculation is based, is determined depending on the product, service or industry. The measurement is made on the basis of past experience for repairs and complaints.

Provisions for rework are obligations arising subsequently from product sales or invoiced projects.

Provisions for onerous contracts are recognised for expected contract-related losses from development and construction contracts or sales and rental contracts.

The provisions for litigation risks result from currently pending or future proceedings whose results cannot be predicted with certainty. The measurement is made on the basis of individual assessments of the most likely result.

The provisions for archiving costs as part of the other provisions amount to EUR 229k in the financial year (previous year: EUR 408k).

31. Financial liabilities

Financial liabilities break down as follows:

in EUR '000	31.12.2021 Total	31.12.2021 Remaining maturities < 1 year	> 1 year < 5 years	> 5 years	31.12.2020 Total	31.12.2020 Remaining maturities < 1 year	> 1 year < 5 years	> 5 years
Liabilities to banks	206,349	47,814	155,610	2,925	182,164	53,525	124,836	3,803
thereof from current accounts	1,004	1,004	-	0	2,201	2,201	-	0
thereof from loans	205,345	46,810	155,610	2,925	179,963	51,324	124,836	3,803
Loan liabilities	34,966	34,966	0	0	106,882	982	105,900	0
thereof to shareholders	15,560	15,560	0	0	105,500	0	105,500	0
thereof to related parties	18,414	18,414	0	0	632	232	400	0
thereof to investments accounted for using the equity method	992	992	0	0	750	750	0	0
Lease liabilities	259,836	41,748	94,017	124,071	251,346	39,134	92,848	119,364
Liabilities from derivative financial instruments	363	363	0	0	720	720	0	0
Total	**501,514**	**124,891**	**249,627**	**126,996**	**541,112**	**94,361**	**323,584**	**123,167**

With regard to lease liabilities, please refer to note **19. The Group as lessee**.

The table below shows the future undiscounted cash flows of financial liabilities as of 31 December 2021 that have an impact on the future liquidity status of the ATON Group:

in EUR '000	Carrying amount	Cash flow in 2022 Fixed interest rate	Cash flow in 2022 Variable interest rate	Cash flow in 2022 Repayment	Cash flow in 2023-2025 Fixed interest rate	Cash flow in 2023-2025 Variable interest rate	Cash flow in 2023-2025 Repayment	Cash flow in 2026 and beyond Fixed interest rate	Cash flow in 2026 and beyond Variable interest rate	Cash flow in 2026 and beyond Repayment	No fixed repayment
Liabilities to banks	206,349	1,273	339	47,814	1,251	319	81,510	1,221	246	44,108	32,917
Lease liabilities	259,836	6,847	0	44,803	20,791	0	103,615	25,042	0	111,418	0
Loan liabilities to shareholders, related parties and associates	33,974	122	0	15,560	0	0	0	0	0	0	18,414
Loan liabilities to investments accounted for using the equity method	992	0	0	992	0	0	0	0	0	0	0
Liabilities from derivative financial instruments	363	0	0	363	0	0	0	0	0	0	0
Trade payables	82,162	0	0	82,160	0	0	2	0	0	0	0
Contract Liabilities	156,635	0	0	152,083	0	0	4,492	0	0	54	6
Other liabilities (financial instruments)	29,491	219	0	9,640	0	0	19,851	0	0	0	0
Total	**769,802**	**8,461**	**339**	**353,415**	**22,042**	**319**	**209,470**	**26,263**	**246**	**155,580**	**51,337**

The following table shows the figures as of 31 December 2020. Here, too, the future undiscounted cash flows of financial liabilities are disclosed:

		Cash flow in 2021			Cash flow in 2022-2024			Cash flow in 2025 and beyond			
in EUR'000	**Carrying amount**	**Fixed interest rate**	**Variable interest rate**	**Repay-ment**	**Fixed interest rate**	**Variable interest rate**	**Repay-ment**	**Fixed interest rate**	**Variable interest rate**	**Repay-ment**	**No fixed repay-ment**
Liabilities to banks	182,164	1,289	2,791	51,361	3,409	884	2,693	335	-	128,110	-
Lease liabilities	251,346	9,740	-	18,646	831	-	16,438	14,590	-	216,262	-
Loan liabilities to sharehol-ders, related parties and associates	106,132	1,785	-	232	-	-	105,900	-	-	-	-
Loan liabilities to investments accounted for using the equity method	750	-	-	750	-	-	-	-	-	-	-
Liabilities from derivative fi-nancial instruments	720	-	-	720	-	-	-	-	-	-	-
Trade payables	66,876	-	-	64,151	-	-	6	-	-	-	2,719
Contract Liabilities	136,316	-	-	129,645	-	-	1,650	-	-	32	4,989
Other liabilities (financial in-struments)	21,294	237	-	3,198	-	-	16,494	-	-	-	1,602
Total	**765,598**	**13,051**	**2,791**	**268,703**	**4,240**	**884**	**143,181**	**14,925**	**-**	**344,404**	**9,310**

32. Trade and other payables

in EUR '000	31.12.2021 Total	31.12.2021 Remaining maturities < 1 year	> 1 year < 5 years	> 5 years	31.12.2020 Total	31.12.2020 Remaining maturities < 1 year	> 1 year < 5 years	> 5 years
Trade payables								
to third parties	81,768	81,766	2	-	66,862	66,856	6	-
to related parties	87	87	-	-	-	-	-	-
to affiliated companies	307	307	-	-	14	14	-	-
	82,162	**82,160**	**2**	**-**	**66,876**	**66,870**	**6**	**-**
Other liabilities								
Other liabilities (financial instruments)								
to associates	16,184	-	16,184	-	11,282	-	11,282	-
from business combinations	7,712	4,045	3,667	-	6,480	1,268	5,212	-
from other liabilities (financial instruments)	5,595	5,595	-	-	3,532	3,532	-	-
	29,491	**9,640**	**19,851**	**-**	**21,294**	**4,800**	**16,494**	**-**
Other liabilities (no financial instruments)								
payments received on account of orders	11,600	9,237	2,363	-	8,737	6,374	2,363	-
to employees	69,145	69,145	-	-	57,144	57,144	-	-
from social security contributions	5,657	5,657	-	-	3,742	3,659	83	-
from value added tax and other taxes	28,074	28,074	-	-	26,245	26,245	-	-
from deferred income	569	569	-	-	1,520	1,520	-	-
from other liabilities (no financial instruments)	1,173	1,173	-	-	832	832	-	-
	116,218	**113,855**	**2,363**	**-**	**98,220**	**95,774**	**2,446**	**-**
Total	**227,871**	**205,655**	**22,216**	**-**	**186,390**	**167,444**	**18,946**	**-**

Other liabilities to employees primarily include liabilities from claims of bonus agreements, current salary payments, untaken leave and overtime credits.

Liabilities from social security contributions relate, in particular, to contributions still to be paid to social security institutions.

Aside from this, other liabilities include a large number of individually immaterial items.

33. Notes to the consolidated statement of cash flows

The statement of cash flows shows how the cash and cash equivalents of the ATON Group changed in the course of the reporting period as a result of cash inflows and cash outflows. Only the effects of changes in the scope of consolidation are disclosed separately in the cash flow from investing activities, all other changes are disclosed on a net basis in the individual line items of the cash flow from operating activities and financing activities.

The cash and cash equivalents reported in the consolidated statement of cash flows comprise cash, cheques and bank balances.

Cash flow from operating activities

Income before interest, dividends and income taxes includes earnings before income taxes (EUR 75,025k; previous year's period: EUR -68,942k) adjusted by the net amount of interest expense, interest income and dividend income (EUR 6,044k; previous year's period: EUR 8,722k).

In the reporting period, the cash flow from operating activities amounts to EUR 137,031k (previous year's period: EUR 235,592k), which is EUR 98,561k lower than in the same period of the previous year. Although the gross cash flow of EUR 237,686k is EUR 87,969k above the previous year, the net change in other assets and liabilities with a deterioration of EUR 70,709k in the reporting period had a negative effect on the development of the cash flow from operating activities (previous year's period: improvement of EUR 118,308k). On the other hand, interest paid were EUR 2,078k lower than in previous year's period. Income taxes paid amounting to EUR 21,985k are also EUR 1,859k lower than in the previous year's period.

Cash flow from investing activities

The cash outflow from investing activities amounts to EUR 158,228k (previous year's period: cash inflow of EUR 79,022k). The increase in net cash outflow is due, on the one hand, to the increase in net investments in financial assets and associated companies in the amount of EUR 61,866k, which is mainly due to additional loans granted to related parties and the net acquisition of securities. On the other hand, net investments in property, plant and equipment and intangible assets of EUR 66,151k and were also made in the reporting period, which is EUR 29,085k above the previous year's level. In addition, there were payments for the acquisition of consolidated subsidiaries in the amount of EUR 29,672k in the reporting period (previous year's period: EUR 12,194k).

Cash flow from financing activities

In the reporting period, the cash outflow from financing activities amounts to EUR 106,096k (previous year's period: EUR 162,751k). The cash flow from financing activities is mainly attributable to the net repayments of loans to shareholders amounting to EUR 98,940k (previous year's period: EUR 42,503k) as well as the net repayment of bank loans and lease liabilities amounting to EUR 7,156k (previous year's period: EUR 115,368k). There were no payments for the acquisition of non-controlling interest in the reporting period (previous year's period: EUR 4,880k).

Reconciliation of the change in financial liabilities to the consolidated statement of cash flows

The following table shows the change in financial liabilities presented in the cash flow from financing activities in the financial year 2021:

in EUR '000	Balance as of 1 January 2021	Cash flows	non-cash changes				Balance as of 31.12.2021
			Additions and disposals (non-cash)	Currency translation differences	Changes in fair value	Reclassifications / restatements	
Current liabilities to banks, from bonds and other current financial liabilities	55,227	55,810	- 1,062	2,052	782	-29,666	**83,143**
Non-current liabilities to banks, from bonds and other non-current financial liabilities	234,539	- 107,953	1,485	686	801	28,977	**158,535**
Current lease liabilities	39,134	- 49,965	23,918	853	4,443	23,365	**41,748**
Non-current lease liabilities	212,212	- 1,460	28,891	1,550	447	-23,552	**218,088**
Total	**541,112**	**- 103,568**	**53,232**	**5,141**	**6,473**	**-876**	**501,514**

The cash flow from financing activities also includes payments from loans granted to the shareholders in the amount of EUR 9,000k under payments to shareholders. This value must be taken into account when reconciling the change in financial liabilities with the cash flow from financing activities.

The non-cash additions and disposals for liabilities to banks, from bonds and other financial liabilities mainly include movements from changes in the scope of consolidation. In addition, non-cash movements in lease liabilities are also presented as non-cash additions and disposals. In the financial year the column reclassifications / restatements includes the reclassifications of liabilities in connection with the assets held for sale in accordance with IFRS 5.

The following table show the change in financial liabilities presented in the cash flow from financing activities in the financial year 2020:

in EUR '000	Balance as of 1 January 2020	Cash flows	non-cash changes				Balance as of 31.12.2020
			Additions and disposals (non-cash)	Currency translation differences	Changes in fair value	Reclassifications / restatements	
Current liabilities to banks, from bonds and other current financial liabilities	132,350	- 44,245	543	- 7,379	403	-26,445	55,227
Non-current liabilities to banks, from bonds and other non-current financial liabilities	126,300	80,821	1,402	- 429	-	26,445	234,539
Current lease liabilities	45,021	- 51,384	37,544	- 787	4,858	3,882	39,134
Non-current lease liabilities	224,361	- 590	- 6,297	- 1,932	552	-3,882	212,212
Total	**528,032**	**- 15,398**	**33,192**	**- 10,527**	**5,813**	**0**	**541,112**

The non-cash additions and disposals for liabilities to banks, from bonds and other financial liabilities mainly include movements from changes in the scope of consolidation. In addition, non-cash movements in lease liabilities are also presented as non-cash additions and disposals.

34. Contingent liabilities and other financial obligations

Contingent liabilities

No provisions are made for contingent liabilities, because at the reporting date it is deemed unlikely that the risk would materialise.

in EUR '000	31.12.2021	of which to affiliated companies	31.12.2020	of which to affiliated companies
Liabilities from guarantees, bill and cheque guarantees	10,847	-	11,023	-
Contingent liabilities from the granting of security for third-party liabilities	28,726	-	0	-
Other contingent liabilities	26,676	-	23,819	-
Contingent liabilities	**66,249**	**0**	**34,842**	**0**

As of 31 December 2021, liabilities from guarantees, bill and cheque guarantees result mainly from the Mining segment.

The contingent liabilities from the granting of security for third-party liabilities as of 31 December 2021 relate to a guarantee facility provided by ATON GmbH to a related company, which is used in the amount of EUR 28,726k as of the balance sheet date. Due to the insolvency of a subsidiary of this related company, a utilization in the amount of EUR 22,094k is expected. This risk of utilisation was taken into account in the assessment of the recoverability of the subordinated loans held to this related party and resulted in an impairment of the loan (see note **22. Other financial assets**, development of risk allowance).

Other contingent liabilities exclusively comprise performance guarantees in the Mining segment (EUR 26,676k, previous year: EUR 23,819k).

Other financial obligations

In addition to provisions, liabilities and contingent liabilities, there are other financial obligations, which break down as follows:

in EUR '000	31.12.2021	31.12.2020
Obligations from non-cancellable leases	12,240	11,257
Purchase commitments and other purchase obligations	47,295	28,133
Miscellaneous other obligations	2,342	6,374
Other financial obligations	**61,877**	**45,764**

In case of fixed-term contracts, the expenses incurred for during the entire term are taken into account. In the case of unlimited contracts, the expenses for the following 12 months are included in the valuation.

The change in obligations from non-cancellable leases, which are not accounted for as a right-of-use asset and a lease liability in accordance with IFRS 16, results on the one hand from an increase in the Engineering segment and, on the other hand, from a decrease in obligations in the Mining segment.

The increase in obligations from purchase commitments and other purchase obligations is primarily due to the Mining segment.

The decrease in miscellaneous other obligations results almost entirely from the Med Tech segment.

35. Financial instrument disclosures

Carrying amounts, valuations and fair values of financial instruments by measurement category

Financial instruments are initially measured at fair value. Financial instruments not measured at fair value primarily include cash equivalents, trade receivables, contract assets, trade payables, contract liabilities, and other financial liabilities, bank overdrafts and non-current loans.

In the case of cash equivalents and bank overdrafts, the carrying amount approximately corresponds to the fair value because of the short maturities of these financial instruments. For receivables and payables that are subject to normal trade credit terms, the carrying amount is likewise very close to the fair value. The same applies to contract assets and contract liabilities.

The fair value of the non-current loans is based on current borrowing interest rates with matching maturity and credit rating standards. The fair value of financial liabilities largely corresponds to the carrying amount, because the agreed interest rate is regularly adjusted to the market level. For fixed-rate items, the carrying amount is at least very close to the fair value, which results by discounting with term-adequate interest rates, because the interest rate principally corresponds to the current market rates.

The fair values of assets and liabilities from derivative financial instruments are determined on the basis of market terms and conditions at the reporting date. Recognised valuation models are used for the determination. For foreign exchange futures, the fair value is based on the expected discounted future cash flows. Options are measured using valuation models on the basis of market values.

The following table shows the fair values and carrying amounts of the financial assets and financial liabilities included in the respective line items of the balance sheet as of 31 December 2021 according to IFRS 9:

in EUR '000	Carrying amount under IFRS 9						Fair Value
	Assets				Liabilities		
	Fair value through profit or loss	Amortised cost	Fair value through other comprehensive income	Fair Value through OCI Option	Fair value through profit or loss	Amortised cost	
Cash and cash equivalents		529,100					529,100
Financial assets at amortized cost							
Loans		131,128					131,128
Trade receivables		309,448					309,448
Other receivables (financial instruments)		15,828					15,828
Financial assets at fair value through profit and loss							
Securities	132,583						132,583
Futures	2						2
Non-consolidated investments in affiliated companies / Other investments	1,876			0			1,876
Financial liabilities at amortized cost							
Trade payables						82,163	82,163
Liabilities to banks						206,349	206,831
Other interest-bearing liabilities						34,966	34,966
Other liabilities (financial instruments)						29,491	29,491
Lease liabilities						259,836	259,836
Financial liabilities at fair value through profit and loss							
Foreign exchange futures					362		362
Currency options					-		-

The following table shows the fair values and carrying amounts of the financial assets and financial liabilities included in the respective line items of the balance sheet as of 31 December 2020 according to IFRS 9:

in EUR '000	Carrying amount under IFRS 9						Fair Value
	Assets				Liabilities		
	Fair value through profit or loss	Amortised cost	Fair value through other comprehensive income	Fair Value through OCI Option	Fair value through profit or loss	Amortised cost	
Cash and cash equivalents		669,773					669,773
Financial assets at amortized cost							
Loans		124,429					124,429
Trade receivables		234,905					234,905
Other receivables (financial instruments)		15,860					15,860
Financial assets at fair value through profit and loss							
Securities	92,844						92,844
Futures	-						-
Non-consolidated investments in affiliated companies / Other investments	438			-			438
Financial liabilities at amortized cost							
Trade payables						66,876	66,876
Liabilities to banks						182,164	185,055
Other interest-bearing liabilities						106,882	106,882
Other liabilities (financial instruments)						21,294	21,294
Lease liabilities						251,346	251,346
Financial liabilities at fair value through profit and loss							
Foreign exchange futures					720		720
Currency options					-		-

If circumstances occur that require a different classification, the reclassification is made on a quarterly basis.

The following table shows the gross and net amounts of the other derivative financial assets and other derivative financial liabilities as of 31 December 2021:

in EUR '000	Gross amounts reported in the balance sheet	Gross amounts offset in the balance sheet	Net amounts reported in the balance sheet	Amounts not offset in the balance sheet	Total net amount
Other financial assets					
Derivative financial assets	0	0	2	0	2
Other financial liabilities					
Derivative financial liabilities	363	0	363	0	363

The following table shows the gross and net amounts of the other financial assets and other financial liabilities as of 31 December 2020:

in EUR '000	Gross amounts reported in the balance sheet	Gross amounts offset in the balance sheet	Net amounts reported in the balance sheet	Amounts not offset in the balance sheet	Total net amount
Other financial assets					
Derivative financial assets	0	0	0	0	0
Other financial liabilities					
Derivative financial liabilities	720	0	720	0	720

Determination of the fair value of financial instruments

In the tables below, the fair values of financial instruments are allocated to the levels in accordance with the requirements of IFRS 7. The fair value measurement of a financial instrument is allocated in its entirety to the level fwhose factor is material for determining the fair value. In level 1, the fair value of financial instruments is mainly determined by using quoted prices in active markets for identical financial assets or liabilities. The market is considered to be active if quoted prices are readily and regularly available from an exchange, a trader, broker, industry association, pricing service or a supervisory authority and those prices reflect current recurring market transactions conducted at arm's length principle. Level 2 fair value is determined principally using valuation techniques based on observable market data for similar financial assets or liabilities. The fair value is thus determined on the basis of the results of a valuation method that relies as much as possible on market data and as little as possible on company-specific data. Fair value measurements of level 3 are mainly based on unobservable market data. In 2021 and 2020, the ATON Group determined fair values of financial instruments based on level 1 and level 2. The fair value measurement of level 3 was not used in 2021 or 2020.

The table below shows the classification of the assets and liabilities measured at fair value as of 31 December 2021:

in EUR '000	Level 1	Level 2	Level 3	Total
Assets				
Non-consolidated investments in affiliated companies		587		587
Other investments	1,289			1,289
Securities measured at fair value through profit and loss (FVTPL)	132,583			132,583
Foreign exchange futures		2		2
Liabilities				
Foreign exchange futures		362		362
Currency options		-		-

In the reporting period 2021 , as in the previous reporting period, there were no transfers between level 1 and level 2 of the fair value hierarchy for assets and liabilities that whose fair value is measured on a recurring basis.

The instruments in level 1 mainly include commercial papers for short-term investment, managed securities portfolios and individual equity investments.

The forward exchange futures and currency options allocated to level 2 relate to derivative financial instruments, which are not included in hedge accounting.

The table below shows the classification of the assets and liabilities measured at fair value as of 31 December 2020:

in EUR '000	Level 1	Level 2	Level 3	Total
Assets				
Non-consolidated investments in affiliated companies		438		438
Other investments	0			0
Securities measured at fair value through profit and loss (FVTPL)	92,844			92,844
Foreign exchange futures		-		-
Liabilities				
Foreign exchange futures		720		720
Currency options		-		-

Net gains or losses by measurement category

The Group recognises interest on financial instruments and the other components of net gains or losses in the financial result.

All expenses and income from expected credit losses in accordance with IFRS 9 are reported separately in the income statement.

Net gains or losses from financial assets and liabilities at fair value through profit or loss include, in addition to the results from changes in fair value, interest expenses or income from these financial instruments and income from equity investments, as well as realised gains from the disposal of these investments. The interest result from financial liabilities measured at amortised cost mainly includes interest expenses from financial liabilities. It also includes interest expenses and interest income from the compounding and discounting of trade payables.

The net gains or losses by measurement category according to IFRS 9 are as follows in the financial year 2021:

in EUR '000	From interest and dividends	From subsequent measurement			From disposal	Net gain or loss 2021
		Fair value	Currency translation	Allowances		
Financial assets measured at amortised costs	1,394	-	1,261	- 39,397	-	- 36,742
Financial assets at fair value through profit and loss	2,680	10,136	20,187	- 40,068	289	- 6,776
Financial liabilities measured at amortised costs	- 3,563	-	- 238	-	-	- 3,801
Financial liabilities at fair value through profit and loss	- 832	7	315	-	-	- 510
Net gain / loss	**-321**	**10,143**	**21,525**	**-79,465**	**289**	**-47,829**

The net gains or losses by measurement category according to IFRS 9 are as follows in the financial year 2020:

in EUR '000	From interest and dividends	From subsequent measurement			From disposal	Net gain or loss 2020
		Fair value	Currency translation	Allowances		
Financial assets measured at amortised costs	- 296	-	- 14,055	- 16,767	-	- 31,118
Financial assets at fair value through profit and loss	1,374	4,969	386	0	909	7,638
Financial liabilities measured at amortised costs	- 3,033	-	- 2,859	-	-	- 5,892
Financial liabilities at fair value through profit and loss	- 422	- 143	- 17	-	-	- 582
Net gain / loss	**-2,377**	**4,826**	**-16,545**	**-16,767**	**909**	**-29,954**

Net interest income/expense

The total interest income and expense recognised in the financial result for financial assets and financial liabilities not classified as at fair value through profit or loss are as follows:

in EUR '000	2021	2020
Interest income	3,405	3,793
Interest expense	- 5,576	- 7,123
Net interest expense	**- 2,171**	**- 3,330**

36. Objectives and methods of financial risk management

Risk management principles

The main financial instruments used by the Group – except derivative financial instruments – comprise bank loans and overdrafts, finance leases and trade payables. The main purpose of these financial instruments is to finance the Group's operating activities. Besides, the Group has different financial assets, such as securities, trade receivables, cash and short-term deposits, which result directly from its operating activities.

With regard to its assets, liabilities and planned transactions, the Group is subject to various market risks, in particular risks from changes in exchange rates and interest rates, as well as liquidity and credit risks. The aim of financial risk management is to limit these market risks specifically by continuously taking operational and financial measures. For this purpose, selected derivative and non-derivative hedging instruments are used. In general, risks are hedged only if they may have an impact on the Group's cash flows. In particular, foreign exchange futures and currency options are used as derivative financial instruments to hedge against foreign currency risks arising from the Group companies' operating activities.

The financial policy is defined by the Group's management board on an annual basis. The implementation of the financial policy and the ongoing risk management are the responsibility of the subgroups and single entities. In order to monitor financial policy, the Group's management board is informed of the scope and amount of current risk exposure in regular quarterly meetings or in the event of significant changes. In addition, certain transactions whose nature and scope exceed the normal course of business are subject to the prior approval of the Group's management board.

Risks from exchange rate fluctuations are limited by predominantly local sourcing of materials for the manufacturing and assembly process in the respective countries.

Credit risk

As a result of their operating activities and certain financing activities, the Group companies of ATON are exposed to default risk. A creditworthiness and default risk exists if a business partner cannot meet its obligations in a transaction with non-derivative or derivative financial instruments and asset losses are caused as a result. As part of their operations, the Group companies only enter into transactions with third parties who are rated as creditworthy. Creditworthiness checks are performed for new customers. In the case of existing customer relationships, regular analysis of payment behaviour is carried out. In addition, an analysis and classification of borrowers in the Group's internal rating takes place at each reporting date:

	ATON	S&P
Credit risk rating grades	**Description**	**Description**
A	Very good credit rating (investment grade)	AAA-BBB
B	Good to satisfactory credit rating (sub-investment grade)	BBB-BB
C	Credit rating below average	below BB

The following overview presents the gross book values of loans, trade receivables and other receivables per defined credit risk rating class as of 31 December 2021:

Credit risk rating grades	Bucket 1	Bucket 2	Bucket 3	Total
A	137,399	310,345	28,508	476,252
B	18	0	46,043	46,061
C	0	3,617	0	3,617

The following overview presents the gross book values of loans, trade receivables and other receivables per defined credit risk rating class as of 31 December 2020:

Credit risk rating grades	Bucket 1	Bucket 2	Bucket 3	Total
A	95,990	255,841	7,428	359,259
B	1,297	0	44,624	45,921
C	0	3,514	0	3,514

In addition, orders and receivables are secured by letters of credit from major banks amounting to EUR 354k as of 31 December 2021 (previous year: EUR 1,673k). Most of the Group companies have business relationships with large-scale customers (especially international OEMs). The resulting risk is considered low, because these customers have high credit ratings and in addition there are no material dependencies. The end customer business in the form of private customers is of minor importance to the Group.

In the operating business, receivables are monitored on an ongoing, decentralised basis, so that the Group is not exposed to any material credit risk. The trade and other receivables in the amount of EUR 358,599k (previous year: EUR 280,149k), contract assets in the amount of EUR 68,092k (previous year: EUR 58,387k) as well as other financial assets in the amount of EUR 265,589k (previous year: EUR 217,711k) reported in assets represent the maximum credit risk.

The maturity structure, the applied default rate on trade receivables and on contract assets in accordance with IFRS 15 as at the current balance sheet date, which are not individually impaired (bucket 3), is shown below per segment and reconciles in each case from the gross book values to the net book value:

Valuation adjustments for trade receivables – Engineering as of 31 December 2021:

Overdue in days	not overdue	< 30	30 - 60	61 - 90	91 - 180	181 - 360	> 360	Total
Loss rate	0.41%	4.47%	5.21%	4.70%	0.33%	0.26%	32.18%	
Gross book value net of payments received on account in kEUR	86,544	12,872	2,381	724	18,886	12,371	1,302	**135,080**
Expected credit loss over lifetime	-352	-576	-124	-34	-63	-32	-419	**-1,600**
Net book value after valuation adjustment in kEUR	**86,192**	**12,296**	**2,257**	**690**	**18,823**	**12,339**	**883**	**133,480**

Valuation adjustments for trade receivables – Mining as of 31 December 2021:

Overdue in days	not overdue	< 30	30 - 60	61 - 90	91 - 180	181 - 360	> 360	Total
Loss rate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	99.07%	
Gross book value net of payments received on account in kEUR	95,111	19,243	388	30	1,644	316	3,652	**120,384**
Expected credit loss over lifetime	0	0	0	0	0	0	-3,618	**-3,618**
Net book value after valuation adjustment in kEUR	**95,111**	**19,243**	**388**	**30**	**1,644**	**316**	**34**	**116,766**

Valuation adjustments for trade receivables – Med Tech as of 31 December 2021:

Overdue in days	not overdue	< 30	30 - 60	61 - 90	91 - 180	181 - 360	> 360	Total
Loss rate	0.12%	0.32%	0.43%	0.54%	0.76%	2.13%	10.85%	
Gross book value net of payments received on account in kEUR	30,948	5,632	1,387	2,050	5,810	2,209	691	**48,727**
Expected credit loss over lifetime	-36	-18	-6	-11	-44	-47	-75	**-237**
Net book value after valuation adjustment in kEUR	**30,912**	**5,614**	**1,381**	**2,039**	**5,766**	**2,162**	**616**	**48,490**

Valuation adjustments for trade receivables – Aviation as of 31 December 2021:

Overdue in days	not overdue	< 30	30 - 60	61 - 90	91 - 180	181 - 360	> 360	Total
Loss rate	0.08%	0.45%	1.35%	2.76%	4.71%	26.76%	0.00%	
Gross book value net of payments received on account in kEUR	7,484	662	742	181	85	71	0	**9,225**
Expected credit loss over lifetime	-6	-3	-10	-5	-4	-19	0	**-47**
Net book value after valuation adjustment in kEUR	**7,478**	**659**	**732**	**176**	**81**	**52**	**0**	**9,178**

Valuation adjustments for contract assets – Engineering as of 31 December 2021:

Overdue in days	not overdue
Loss rate	0.39%
Gross book value net of payments received on account in kEUR	64,988
Expected credit loss over lifetime	-256
Net book value after valuation adjustment in kEUR	**64,732**

Valuation adjustments for contract assets – Mining as of 31 December 2021:

Overdue in days	not overdue
Loss rate	92.91%
Gross book value net of payments received on account in kEUR	45,851
Expected credit loss over lifetime	-42,598
Net book value after valuation adjustment in kEUR	**3,253**

Valuation adjustments for contract assets – Med Tech as of 31 December 2021:

Overdue in days	not overdue
Loss rate	0.00%
Gross book value net of payments received on account in kEUR	107
Expected credit loss over lifetime	0
Net book value after valuation adjustment in kEUR	**107**

Valuation adjustments for contract assets – Aviation as of 31 December 2021:

Overdue in days	not overdue
Loss rate	0.00%
Gross book value net of payments received on account in kEUR	0
Expected credit loss over lifetime	0
Net book value after valuation adjustment in kEUR	**0**

The following picture emerged as of the previous year's reporting date:

Valuation adjustments for trade receivables – Engineering as of 31 December 2020:

Overdue in days	not overdue	< 30	30 - 60	61 - 90	91 - 180	181 - 360	> 360	Total
Loss rate	0.07%	2.73%	2.80%	2.81%	20.05%	26.29%	91.31%	
Gross book value net of payments received on account in kEUR	50,193	16,316	4,393	569	838	677	24,118	**97,104**
Expected credit loss over lifetime	-33	-445	-123	-16	-168	-178	-22,023	**-22,986**
Net book value after valuation adjustment in kEUR	**50,160**	**15,871**	**4,270**	**553**	**670**	**499**	**2,095**	**74,118**

Valuation adjustments for trade receivables – Mining as of 31 December 2020:

Overdue in days	not overdue	< 30	30 - 60	61 - 90	91 - 180	181 - 360	> 360	Total
Loss rate	0.03%	0.31%	1.37%	1.76%	15.49%	0.00%	100.00%	
Gross book value net of payments received on account in kEUR	93,803	5,134	582	227	839	0	3,331	**103,916**
Expected credit loss over lifetime	-26	-16	-8	-4	-130	0	-3,331	**-3,515**
Net book value after valuation adjustment in kEUR	**93,777**	**5,118**	**574**	**223**	**709**	**0**	**0**	**100,401**

Valuation adjustments for trade receivables – Med Tech as of 31 December 2020:

Overdue in days	not overdue	< 30	30 - 60	61 - 90	91 - 180	181 - 360	> 360	Total
Loss rate	0.11%	0.29%	0.38%	0.51%	0.72%	2.09%	7.80%	
Gross book value net of payments received on account in kEUR	37,788	4,480	2,350	1,760	3,191	527	1,398	**51,494**
Expected credit loss over lifetime	-41	-13	-9	-9	-23	-11	-109	**-215**
Net book value after valuation adjustment in kEUR	**37,747**	**4,467**	**2,341**	**1,751**	**3,168**	**516**	**1,289**	**51,279**

Valuation adjustments for trade receivables – Aviation as of 31 December 2020:

Overdue in days	not overdue	< 30	30 - 60	61 - 90	91 - 180	181 - 360	> 360	Total
Loss rate	0.02%	0.00%	0.29%	0.84%	0.00%	33.33%	0.00%	
Gross book value net of payments received on account in kEUR	4,759	466	342	239	6	6	0	**5,818**
Expected credit loss over lifetime	-1	0	-1	-2	0	-2	0	**-6**
Net book value after valuation adjustment in kEUR	**4,758**	**466**	**341**	**237**	**6**	**4**	**0**	**5,812**

Valuation adjustments for contract assets – Engineering as of 31 December 2020:

Overdue in days	not overdue
Loss rate	0.07%
Gross book value net of payments received on account in kEUR	51,352
Expected credit loss over lifetime	-34
Net book value after valuation adjustment in kEUR	**51,318**

Valuation adjustments for contract assets – Mining as of 31 December 2020:

Overdue in days	not overdue
Loss rate	0.03%
Gross book value net of payments received on account in kEUR	6,945
Expected credit loss over lifetime	-2
Net book value after valuation adjustment in kEUR	**6,943**

Valuation adjustments for contract assets – Med Tech as of 31 December 2020:

Overdue in days	not overdue
Loss rate	0.00%
Gross book value net of payments received on account in kEUR	126
Expected credit loss over lifetime	0
Net book value after valuation adjustment in kEUR	**126**

Valuation adjustments for contract assets – Aviation as of 31 December 2020:

Overdue in days	not overdue
Loss rate	0.00%
Gross book value net of payments received on account in kEUR	0
Expected credit loss over lifetime	0
Net book value after valuation adjustment in kEUR	**0**

A detailed presentation of trade receivables and expected credit losses for the Holding / Consolidation segment is omitted for reasons of materiality.

Default risk for financial instruments outside of the impairment requirements of IFRS 9

For securities, the book value of the securities represents the maximum default risk. Forward exchange transactions, that are not included in hedge accounting, are economically opposed to underlying transactions. Here, too, the book value as of balance sheet date best reflects the maximum default risk.

Risk of changes in interest rates

The Group’s financing is secured to a certain extent through external bank financing. The ATON Group is therefore generally exposed to fluctuations in market interest rates. Fluctuations in interest rates primarily concern liabilities to banks. The latter include current account overdrafts as well as variable-rate loans and are therefore directly affected by changes in interest rates. These changes affect future cash flows. In our opinion, there is no material risk from fluctuations in market interest rates.

The table below shows the sensitivity of the Group's consolidated earnings before income taxes to a reasonably possible change in interest rates. All other variables remain unchanged.

The impact on equity includes the impact on both OCI and profit after tax:

in EUR '000	Change in interest rate in basis points	Impact on profit after tax	Impact on equity
2021	+ 100	- 335	- 335
	./. 100	335	335
2020	+ 100	- 342	- 342
	./. 100	342	342

Foreign currency risk

Foreign currency risks result from investments, financing transactions and operating activities. Significant foreign currency risks are hedged to the extent that they affect the Group's cash flows. Foreign currency risks that do not affect the Group's cash flows (i.e. risks resulting from the mere translation of the assets and liabilities of foreign entities into the Group's reporting currency) are generally not hedged.

Foreign currency risks regularly relate to receivables and liabilities denominated in currencies other than the local currencies of the ATON Group companies or those that will arise in the normal course of business. The Group is exposed to material foreign exchange risks mainly because of the development of the US dollar and the Canadian dollar.

As of the reporting date, the Group was not exposed to any material risks from investment transactions denominated in foreign currency.

The Group companies settle most of their operating activities in their respective functional currencies. For this reason, the Group's foreign currency risk from current operating activities is considered to be low. However, some Group companies are exposed to foreign currency risks in connection with planned payments not denominated in their functional currency. In some cases, derivative financial instruments (foreign exchange futures and currency options) are used to minimise the risk of changes in exchange rates. These financial instruments are only used to hedge existing or expected foreign currency risks.

As of 31 December 2021, material receivables and payables exist only in US dollars, Canadian dollars, Australian dollars and South African rand. As part of a sensitivity analysis, the non-derivative and derivative financial instruments existing at the end of the reporting period were measured in a hypothetical scenario. The effects of a 10 % increase / decrease in a currency per currency relation on the profit after taxes and on equity as of 31 December 2021 and 31 December 2020 are as follows:

in EUR '000	change in %	EUR/CAD	EUR/AUD	EUR/ZAR	EUR/USD
2021	10	4,173	- 234	216	167
	./. 10	- 3,414	77	- 177	- 137
2020	10	1,420	287	105	1,683
	./. 10	- 1,162	- 88	- 86	- 1,377

As of the balance sheet date, for the currency risks in Canadian dollars, partly opposing hedging transactions with different maturities and different hedging rates have been concluded, for which no presentation according to hedge accounting is made. A 10 % increase of the Canadian dollar against the Euro would have an effect of EUR 4,213k (previous year: EUR 4,766k), and a 10 % decrease would have an effect of EUR -3,008k (previous year: EUR -3,919k).

In addition, as of the balance sheet date, there are translation risks mainly resulting from the currency translation of Canadian dollar balances (as functional currency of Redpath Group) into the ATON Group's reporting currency Euro. These only affect equity (other comprehensive income) and amount to EUR -13,528k (previous year: EUR -10,003k) in the case of a +10 % increase of the Canadian dollar against the Euro and EUR 11,068k (previous year: EUR 8,184k) in the case of a -10 % decrease of the Canadian dollar against the Euro.

Relevant risk variables are generally all non-functional currencies in which the Group enters into financial instruments.

The currency sensitivity analysis are based on the following assumptions: Significant non-derivative financial instruments (cash and cash equivalents, receivables, interest-bearing liabilities, liabilities from leases, non-interest-bearing liabilities) are either directly denominated in the functional currency or, in significant cases, are transferred into the functional currency by using derivatives.

Equity instruments held are non-monetary and therefore not exposed to foreign currency risk as defined by IFRS 7.

Liquidity risk

Ensuring permanent solvency is basically the responsibility and control of the respective management of the subgroups and single entities. The centrally defined goal of the Group is to ensure that financial requirements are continuously covered by using current account overdrafts, loans and leases. Central monitoring of the liquidity of the individual Group companies is performed by weekly reports to the parent company ATON 2 GmbH. The information provided is presented to the Group's management board on a weekly basis for risk management purposes. Based on the current and expected business situation, the liquidity risk is considered to be low. Nevertheless, liquidity continues to be ensured through medium-term and long-term credit lines. In general, attention is paid to sufficient free credit lines. The financing of upcoming investments is ensured in good time through appropriate measures.

Please refer to note **31. Financial liabilities** for the liquidity analysis.

Covenant Risk

Financing contracts with banks often include covenants that are based on predefined financial ratios. Essentially, the covenants are equity ratios and debt rations and, in some cases, interest coverage ratios. The obligations from the credit clauses are subject to a permanent review with regard to the current financial situation of the companies, among other things, which can be used to identify risks at an early stage. In the financial year 2021, the covenant conditions (also at the level of the subsidiaries) were fully complied with.

Other price risks

As part of the disclosure of market risks, IFRS 7 also requires information on how hypothetical changes in risk variablesaffect the prices of financial instruments. In particular, stock exchange prices or indices can be considered as risk variables.

in EUR '000	Change in prices in basis points	Impact on profit after tax	Impact on equity
2021	+ 100	1,326	1,326
	./. 100	- 1,326	- 1,326
2020	+ 100	928	928
	./. 100	- 928	- 928

There were no significant risk concentrations in the ATON Group as of the reporting date 2021.

Capital management / control

The main objective of the Group’s capital management is to ensure that the Group’s ability to repay debt and its financial strength, and thus a corresponding credit rating and equity ratio, are maintained in the future.

The Group manages its capital structure and makes adjustments taking into account changes in the economic environment.

Capital management is primarily with the help of a dynamic debt ratio (I and II), which corresponds to the ratio of first- and second-degree of net financial liabilities to EBITDA. The debt ratio I to be monitored by the management board should not exceed 4 and the debt ratio II should not be higher than 10.

In the reporting period, as in the previous year, the dynamic debt ratios I and II remained within the specified ranges:

in EUR '000	2021	2020
EBITDA	155,212	134,179
Liabilities to banks	206,349	182,164
Leasing liabilities	259,836	251,346
Other financial liabilities	1,355	1,471
	467,540	**434,981**
Cash and cash equivalents	529,100	669,773
First-degree net financial assets (-) / net financial liabilities (+)	**- 61,560**	**- 234,792**
Liabilities to shareholders/related parties	33,974	106,132
Investments in securities that can be liquidated at short notice	132,583	92,844
Second-degree net financial assets (-) / net financial liabilities (+)	**- 160,169**	**- 221,504**
Dynamic debt ratio I	**-**	**-**
Dynamic debt ratio II	**-**	**-**

Effect of hedging relationships

The Group partially hedges currency risks by forming hedging relationships (hedge accounting). Hedge accounting reflects the hedging strategies outlined above for currency risk. Currency hedging is usually only carried out for longer-term and larger projects in foreign currency.

Insofar as such hedging relationships are accounted for as cash flow hedges, the effectiveness of the hedging relationship is assessed using the hypothetical derivative method. This involves modelling a derivative for the underlying transaction that exactly corresponds to its payment profile. Changes in the value of this hypothetical derivative are compared with the changes in the value of the hedging transaction. A separate hedging transaction is concluded for each hedged cash flow. Since the payment characteristics of the hypothetical derivative and the hedging derivative are opposite, fluctuations in value offset each other exactly.

Neither on the reporting date nor on the previous year's reporting date does the Group have hedging instruments that are included in cash flow hedges and are therefore presented under hedge accounting. Consequently, as in the previous year, there were effects from hedge accounting in the consolidated income statement or in the consolidated statement of comprehensive income.

37. Segment Reporting

The management board is the main decision maker of the Group. Management has determined the operating segments for purposes of resource allocation and performance assessment. The management board defines the activities from a product perspective with the Engineering, Mining, Med Tech and Aviation segments.

The range of services offered in the **Engineering segment** cover, in particular, the areas of engineering and plant construction for the automotive industry, along with other sectors of the mobility industry. In addition, high-performance electric motors are manufactured to customer requirements. Furthermore, this segment develops and offers new high-tech solutions for innovative products, primarily through the application of metallic layers to almost all kind of surfaces.

The **Mining segment** offers mining and shaft-sinking services and products worldwide.

The **Med Tech segment** provides on the one hand solutions for the healthcare market in the fields of surgery and diagnostics, specialising in X-ray diagnostics, and on the other hand products for the pharmaceuticals industry and hospitals. In addition, activities have been started in the business field aimed at developing inhalation therapies have been launched in this business segment.

The **Aviation segment** comprises business aviation and charter flights.

The 33.34 % investment in OneFiber Interconnect Germany GmbH via ATON Digital Services GmbH is currently still presented in the Holding / Consolidation segment, as the business is still ramped up.

The management board assesses the performance of the operating segments with a focus on gross revenue, EBIT and EAT.

Sales between segments are carried out in accordance with standard market practices. The revenue from external parties reported to the management board is measured in a manner consistent with that in the income statement.

The non-operating result contains the result from disposal of consolidated subsidiaries, from disposal of fixed assets, income and expenses from foreign currency translation, income from the reversal of provisions as well as other income and expenses from previous years.

The following table presents information for the Group's segments:

	Engineering		Mining		Med Tech	
in EUR '000	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**
External revenue (net)	701,551	653,318	686,655	637,935	199,873	181,236
Internal revenue (net)	275	133	-	0	-	-
Revenue	**701,826**	**653,451**	**686,655**	**637,935**	**199,873**	**181,236**
Changes in inventories and own work capitalised	1,060	-2,984	0	- 406	6,721	-1,041
Gross revenue	**702,886**	**650,467**	**686,655**	**637,529**	**206,594**	**180,195**
Non-operating result	4,875	2,512	22,424	1,645	4,174	-1,722
Impairment losses / reversal of impairment losses on financial assets	2,140	21,372	39,988	- 819	676	972
EBITDA	**68,605**	**24,735**	**90,611**	**100,849**	**38,764**	**28,058**
Depreciation and amortisation	71,541	70,624	61,911	67,005	10,061	8,919
Impairment losses	1,888	2,574	165	647	-	-
EBIT	**-4,824**	**-48,463**	**28,535**	**33,197**	**28,703**	**19,139**
Financial result	-5,934	-6,065	66,927	-52,999	-798	-713
thereof interest income	182	245	384	278	11	14
thereof interest expense	-6,310	-6,307	-4,262	-6,387	-824	-699
thereof result from at equity investments	305	53	8,306	-12,295	-	-
EBT	**-10,758**	**-54,528**	**95,462**	**-19,802**	**27,905**	**18,426**
Income taxes	-3,724	-15,221	13,643	14,813	8,123	6,130
EAT	**-7,034**	**-39,307**	**81,819**	**-34,615**	**19,782**	**12,296**
EAT attributable to non-control-ling interest	-1,913	-10,152	-2,175	-6,463	-	-
EAT attributable to owners of the parent	**-5,121**	**-29,155**	**83,994**	**-28,152**	**19,782**	**12,296**

	Engineering		Mining		Med Tech	
in EUR '000	**31.12.2021**	**31.12.2020**	**31.12.2021**	**31.12.2020**	**31.12.2021**	**31.12.2020**
Segment assets	749,733	664,106	666,908	581,363	258,160	252,408
Segment liabilities	636,256	572,218	213,853	207,064	82,334	99,606

	Aviation		Holding/Consolidation		ATON Group	
in EUR '000	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**
External revenue (net)	85,504	63,672	5,440	688	1,679,023	1,536,849
Internal revenue (net)	19	18	- 294	- 151	-	-
Revenue	**85,523**	**63,690**	**5,146**	**537**	**1,679,023**	**1,536,849**
Changes in inventories and own work capitalised	-	-	122	-	7,903	-4,431
Gross revenue	**85,523**	**63,690**	**5,268**	**537**	**1,686,926**	**1,532,418**
Non-operating result	389	-59	543	-10,199	32,405	-7,823
Impairment losses / reversal of impairment losses on financial assets	408	185	36,266	55	79,478	21,765
EBITDA	**3,262**	**2,068**	**-46,030**	**-21,531**	**155,212**	**134,179**
Depreciation and amortisation	2,456	2,001	561	443	146,530	148,992
Impairment losses	-	-	-	-	2,053	3,221
EBIT	**806**	**67**	**-46,591**	**-21,974**	**6,629**	**-18,034**
Financial result	-1,374	-899	9,575	9,768	68,396	-50,908
thereof interest income	174	181	3,060	3,369	3,811	4,087
thereof interest expense	-374	-532	-415	-459	-12,185	-14,384
thereof result from at equity investments	- 676	- 355	- 1,239	- 622	6,696	-13,219
EBT	**-568**	**-832**	**-37,016**	**-12,206**	**75,025**	**-68,942**
Income taxes	-118	-247	1,354	642	19,278	6,117
EAT	**-450**	**-585**	**-38,370**	**-12,848**	**55,747**	**-75,059**
EAT attributable to non-controlling interest	-	-	-	-	-4,088	-16,615
EAT attributable to owners of the parent	**-450**	**-585**	**-38,370**	**-12,848**	**59,835**	**-58,444**

	Aviation		Holding/Consolidation		ATON Group	
in TEUR	**31.12.2021**	**31.12.2020**	**31.12.2021**	**31.12.2020**	**31.12.2021**	**31.12.2020**
Segment assets	57,744	38,535	704,943	810,874	2,437,488	2,347,286
Segment liabilities	35,365	32,958	75,820	101,582	1,043,628	1,013,428

Due to the diversification of the ATON Group, there are no significant dependencies from individual customers.

38. Auditor‘s fees

For the services provided by Deloitte GmbH Wirtschaftsprüfungsgesellschaft the following fees have been recognised as expenses:

in EUR '000	2021	2020
Audits	703	695
Other attestation services	-	32
Tax consultation services	-	10
Other services	-	30
Total	**703**	**767**

39. Related party transactions

In addition to the subsidiaries included in the consolidated financial statements, ATON 2 GmbH has direct or indirect relationships with the shareholders, non-consolidated affiliated subsidiaries, associates, joint ventures and other related parties in the course of normal business operations. These relationships are subject to disclosure requirements in accordance with IAS 24. Related parties have control or significant influence over the ATON Group or hold a key position in the management of the ATON Group. Furthermore, there are relationships between ATON Group and related entities (non-consolidated subsidiaries, entities accounted for using the equity method).

The volume of revenue and income realised by the ATON Group with related parties breaks down as follows:

in EUR ’000	31.12.2021 Revenue, other income and interest	31.12.2021 Receivables outstanding	31.12.2020 Revenue, other income and interest	31.12.2020 Receivables outstanding
Investments accounted for using the equity method	24,730	8,640	17,550	7,772
Non-consolidated subsidiaries	5,767	1,346	3,350	468
Other related parties	3,363	119,500	2,833	123,106
Shareholders	8	8,989	131	1
Total	**33,868**	**138,475**	**23,864**	**131,347**

Income with companies accounted for using the equity method and income with non-consolidated subsidiaries result primarily from service revenues and from equity accounting.

Income from other related parties essentially results from interest income.

Income with shareholders mainly results from interest income.

The receivables from other related parties mostly include loans and receivables from loans.

The receivables from shareholders mainly result from the receivables arising from a loan granted to the shareholder.

The volume of the ATON Group's expenses with related parties and outstanding liabilities breaks down as follows:

in EUR ’000	31.12.2021 Purchased merchan-dise/services, other operating expenses and interest	31.12.2021 Liabilities outstanding	31.12.2020 Purchased merchan-dise/services, other operating expenses and interest	31.12.2020 Liabilities outstanding
Investments accounted for using the equity method	17,638	17,176	102,622	12,034
Non-consolidated subsidiaries	351	307	387	14
Other related parties	99	18,501	81	632
Shareholders	324	15,560	283	105,500
Total	**18,412**	**51,544**	**103,373**	**118,180**

Expenses with companies accounted for using the equity method result primarily from the impairment of the shares in Murray & Roberts as well as the results of the investments.

Expenses with non-consolidated subsidiaries are mainly expenses for purchased services.

Expenses with shareholders consist primarily of interest expenses.

Liabilities to related parties mainly include loans.

Liabilities to shareholders relate to the shareholder loans received.

Transactions with related parties are contractually agreed and conducted at arm’s length conditions.

Transactions with the management board

The remuneration paid to the management board amounts to EUR 2,908k in the financial year (previous year: 3,458k). Besides, the members of the key management personnel received a variable additional remuneration in the amount of EUR 1,500 (previous year: EUR 1,500k).

There were no advances or loans to members of the management board, nor were there contingent liabilities or pension obligations as of the reporting date.

40. List of shareholdings

Concerning the list of shareholdings, please refer to the appendix, which is an integral part of these notes.

41. Events after the balance sheet date

On 15 February 2022, ATON GmbH contributed TEUR 450 to the capital reserve of AspiAir GmbH.

Russia is at war with Ukraine since end of 24 February 2022. The effects of this war in the Ukraine represent a non-adjusting event and therefore have no impact on the recognition and measurement of assets and liabilities as at the reporting date. Effects on profitability, cash flows and financial position in 2022 cannot be ruled out at this point time. Due to the volatile geopolitical situation, the effects cannot be quantified at present. The ATON Group has only very limited activities and therefore only insignificant assets in Russian subsidiaries.

The increased risks resulting from Russia's war against the Ukraine are described in the Risk and Opportunity Report. Among other things, the default, country and currency risks have increased. The risks from this war are continuously monitored; possible scenarios are being continuously adapted to the current geopolitical situation and analysed.

With the capital increase of EUR 5k at ecoCOAT GmbH on 7 March 2022, ATON GmbH's share has increased to 51.0 % and ATON GmbH has thus gained control over the company, so that the company is fully consolidated as of this date. In addition, based on the participation agreement, ATON GmbH has committed itself to pay EUR 1,294k into the company's free capital reserve following the capital increase. The necessary purchase price allocation for the acquired company is currently still under preparation, so that it is not yet possible to make a statement on the possible effects of the acquisition on the Group's net assets, financial position and results of operations.

By notarised purchase agreement dated 4 April 2022, ATON GmbH acquired 100.0 % of the shares in Autotest Südtirol GmbH, Italy, for a purchase price of EUR 3,117k. The required purchase price allocation for the acquired company has still to be carried out, so that it is not yet possible to make a statement on the possible effects of the acquisition on the Group's net assets, financial position and results of operations.

On 6 April 2022, Redpath Group accepted a settlement offer in connection with a project dispute with a client. As the settlement in the amount of USD 10,000k was reached with a subcontractor of the project in question, this is a non-adjusting event that will only be recognised in profit or loss in financial year 2022.

42. Responsibility statement

To the best of our knowledge, and in accordance with the applicable reporting principles, the consolidated financial statements give a true and fair view of the net assets, financial position and results of operations of the Group, and the Group management report includes a fair review of the development and performance of the business and the position of the Group, together with a description of the material opportunities and risks associated with the expected development of the Group.

Munich, 16 May 2022

ATON 2 GmbH
Management Board

[original German version signed by:]

Georg Denoke

Dr. Wolfgang Salzberger

List of shareholdings (direct and indirect) of ATON 2 GmbH

As of 31 December 2021

No.	Company	City	Country	Share in % direct	Share in % indirect	Currency	Equity as per 31 Dec 2021	Net Result 2021
I. Affiliated Companies								
1. Consolidated Companies								
a) Domestic companies								
1.	Antriebssysteme Faurndau GmbH	Göppingen	Germany		100.0	kEUR	12,212	1,212
2.	AspiAir GmbH	Gemünden	Germany		100.0	kEUR	748	- 1,056
3.	ATON Digital Services GmbH	Munich	Germany		100.0	kEUR	22,548	- 432
4.	ATON GmbH	Munich	Germany	100.0		kEUR	810,987	3,657
5.	ATON - Oldtimer GmbH	Munich	Germany		100.0	kEUR	16,886	- 308
6.	DC Aviation GmbH	Stuttgart	Germany		100.0	kEUR	22,380	- 450
7.	Deilmann-Haniel Mining Systems GmbH	Munich	Germany		100.0	kEUR	- 25,939	0
8.	EDAG aeromotive GmbH (until 6th March 2020: BFFT aeromotive GmbH)	Gaimersheim	Germany		100.0	kEUR	863	272
9.	EDAG Akademie GmbH (until 3rd February 2020: Rücker Akademie GmbH)	Wiesbaden	Germany		100.0	kEUR	213	0
10.	EDAG Engineering GmbH	Wiesbaden	Germany		100.0	kEUR	248,759	0
11.	EDAG Engineering Holding GmbH	Munich	Germany		100.0	kEUR	34,183	1,502
12.	EDAG Production Solutions GmbH & Co. KG	Fulda	Germany		100.0	kEUR	1,971	- 5,046
13.	Krebs und Aulich GmbH	Wernigerode	Germany		100.0	kEUR	2,367	321
14.	Redpath Deilmann GmbH	Dortmund	Germany		100.0	kEUR	53,120	10,385
15.	Ziehm Imaging GmbH	Nuremberg	Germany		100.0	kEUR	152,004	13,791
b) Foreign Companies								
16.	ATON Austria Holding GmbH	Going am Wilden Kaiser	Austria		100.0	kEUR	512,442	3,111
17.	CKGP/PW & Associates, Inc.	Troy	USA		100.0	kUSD	4,805	1,937
18.	Deilmann-Haniel Schachtostroj OOO	Berezniki	Russia		100.0	kCAD	2,587	3,196
19.	EDAG do Brasil Ltda.	Sao Bernardo do Campo	Brazil		100.0	kBRL	16,032	- 285
20.	EDAG Engineering and Design (Shanghai) Co. Ltd.	Shanghai	China		100.0	kCNY	47,265	2,177
21.	EDAG Engineering CZ spol. s.r.o.	Mladá Boleslav	Czech Republic		100.0	kCZK	28,141	20,032
22.	EDAG Engineering Group AG	Arbon	Switzerland		74.7	kEUR	467,056	- 2,172
23.	EDAG Engineering Ltd.	Markyate	Great Britain		100.0	kGBP	- 464	271
24.	EDAG Engineering Polska Sp.z.o.o.	Warszawa	Poland		100.0	kPLN	10,504	4,051
25.	EDAG Engineering Scandinavia AB (until 25th January 2020: EDAG Engineering AB)	Goteborg	Sweden		100.0	kSEK	16,854	4,965
26.	EDAG Engineering Schweiz GmbH	Arbon	Switzerland		100.0	kCHF	1,448	500
27.	EDAG Engineering Spain S.L. (until 11th January 2021: Rücker Lypsa, S.L.U.)	Cornellá de Llobregat	Spain		100.0	kEUR	10,858	426
28.	EDAG Holding Sdn. Bhd. Malaysia	Shah Alam	Malaysia		100.0	kMYR	2,076	642
29.	EDAG Hungary Kft.	Györ	Hungary		100.0	kEUR	3,291	1,036
30.	EDAG Inc.	Troy	USA		100.0	kUSD	9,281	373
31.	EDAG Italia S.R.L.	Torino	Italy		100.0	kEUR	2,374	558
32.	EDAG Japan Co. Ltd.	Yokohama	Japan		100.0	kJPY	34,784	- 22,217
33.	EDAG México S.A. de C.V.	Puebla	Mexico		100.0	kMXN	64,170	9,931
34.	EDAG Netherlands B.V.	Helmond	Netherlands		100.0	kEUR	1,112	298
35.	EDAG Production Solutions CZ s.r.o.	Mladá Boleslav	Czech Republic		100.0	kCZK	- 1,705	- 14,171
36.	EDAG Production Solutions India Priv. Ltd.	New Dehli	India		100.0	kINR	208,612	- 21,136
37.	EDAG SERVICIOS México S.A. de C.V.	Puebla	Mexico		100.0	kMXN	10	0
38.	EDAG Technologies India Priv. Ltd.	New Dehli	India		100.0	kINR	47,323	- 362
39.	EDAG Turkey Mühendislik Limited Şirketi	Gebze/Kocaeli	Turkey		100.0	kTRY	8,723	6,660

No.	Company	City	Country	Share in % direct	Share in % indirect	Currency	Equity as per 31 Dec 2021	Net Result 2021
b) Foreign Companies								
40.	Eroc Holdings Pty Limited	Brisbane	Australia		100.0	kCAD	4	0
41.	HRM Engineering AB	Goteborg	Sweden		100.0	kSEK	9,756	0
42.	J.S. Redpath Peru SAC	Lima	Peru		100.0	kCAD	12	0
43.	Les Entreprises Mineres Redpath Ltee.	North Bay	Canada		100.0	kCAD	79	0
44.	OOO EDAG Production Solutions RU	Kaluga	Russia		100.0	kRUB	- 3,602	0
45.	OrthoScan Inc.	Scottsdale	USA		100.0	kUSD	28,765	7,215
46.	PT Redpath Indonesia	Jakarta	Indonesia		100.0	kCAD	43,616	17,475
47.	Redpath Africa Limited	Ebene	Mauritius		100.0	kCAD	- 713	- 5,164
48.	Redpath Argentina Construcciones S.A.	San Juan	Argentina		100.0	kCAD	- 9	0
49.	Redpath (Australia) Holdings Pty Limited	Brisbane	Australia		100.0	kCAD	11,416	- 2,428
50.	Redpath Australia Coal Pty Ltd.	Brisbane	Australia		100.0	kCAD	- 114	1
51.	Redpath Australia Pty Limited	Brisbane	Australia		100.0	kCAD	34,384	7,965
52.	Redpath Canada Limited	North Bay	Canada		100.0	kCAD	120,836	34,403
53.	Redpath Chilena Construcciones Y Cia. Limitada	Santiago	Chile		100.0	kCAD	- 1,276	- 56
54.	Redpath Contract Services Pty Ltd.	Brisbane	Australia		100.0	kCAD	24,457	1,207
55.	Redpath Deilmann Belschachtostroj	Soligorsk	Belarus		99.9	kCAD	783	277
56.	Redpath Deilmann UK Limited	Birmingham	Great Britain		100.0	kCAD	0	0
57.	Redpath-Deilmann d.o.o Beograd	Belgrade	Republic of Serbia		100.0	kCAD	0	0
58.	Redpath Global Mobility Services Inc.	North Bay	Canada		100.0	kCAD	- 743	- 337
59.	Redpath Greece Private Company	Athens	Greece		100.0	kCAD	80	- 15
60.	Redpath Guatemala Construcciones S.A.	Guatemala	Guatemala		100.0	kCAD	16	0
61.	Redpath KR LLC	Bishkek	Kyrgyzstan		100.0	kCAD	0	0
62.	Redpath Mexicana Construcciones SA de CV	Mexico City	Mexico		100.0	kCAD	2	0
63.	Redpath Mining (S.A.) (Pty.) Ltd.	Johannesburg	South Africa		53.9	kCAD	- 46,193	- 10,769
64.	RGP Deilmann d.o.o. Beograd-Novi Beograd	Belgrade	Republic of Serbia		100.0	kCAD	0	0
65.	Redpath Mining Inc.	North Bay	Canada		100.0	kCAD	90,208	35,734
66.	Redpath Mongolia LLC	Ulaanbaatar	Mongolia		100.0	kCAD	8,736	3,473
67.	Redpath Philippines Inc.	Makati	Philippines		100.0	kCAD	0	0
68.	Redpath PNG Limited	Port Moresby	Papua New Guinea		100.0	kCAD	1,084	3
69.	Redpath Raiseboring Limited	North Bay	Canada		100.0	kCAD	82,162	5,872
70.	Redpath Mining Contractors Limited (until 10th June 2021: Redpath Rig Resources JV Limited)	Kitwe	Zambia		100.0	kCAD	- 27,670	3,295
71.	Redpath USA Corporation	Sparks	USA		100.0	kCAD	24,706	5,434
72.	Redpath Venezolana C.A.	El Callao	Venezuela		100.0	kCAD	0	0
73.	Redpath Zambia Limited	Lusaka	Zambia		53.9	kCAD	2,977	- 473
74.	Therenva SAS	Rennes	France		100.0	kEUR	1,992	718
75.	Triple S Insurance Company Limited	Bridgetown	Barbados		100.0	kCAD	45,598	2,510
76.	UnderAus Group Holdings Pty Limited	Brisbane	Australia		100.0	kCAD	6,497	0
77.	Ziehm Imaging Austria GmbH	Tulln	Austria		100.0	kEUR	543	242
78.	Ziehm Imaging Finnland (OY)	Porvoo	Finland		100.0	kEUR	255	69
79.	Ziehm Imaging Japan KK	Tokyo	Japan		100.0	kJPY	12,942	2,264
80.	Ziehm Medical Do Brasil	Sao Paulo	Brazil		100.0	kBRL	- 541	- 367
81.	Ziehm Medical (Shanghai) Co. Ltd.	Shanghai	China		100.0	kCNY	23,781	10,030
82.	Ziehm Imaging Sarl	Villejust	France		100.0	kEUR	350	98
83.	Ziehm Imaging Singapore Pte. Ltd. (PTE)	Singapore	Singapore		100.0	kSGD	797	140
84.	Ziehm Imaging Spain S.L.U.	Valencia	Spain		100.0	kEUR	328	94
85.	Ziehm Imaging Srl a Socio Unico (SRL)	Reggio Emilia	Italy		100.0	kEUR	2,358	734

No.	Company	City	Country	Share in % direct	Share in % indirect	Currency	Equity as per 31 Dec 2021	Net Result 2021
2. Non-Consolidated affiliates, which are measured at fair value								
a) Domestic Companies								
86.	EDAG-Beteiligung GmbH	Fulda	Germany		100.0	kEUR	40	1
87.	EDAG Production Solutions Verwaltungs GmbH	Fulda	Germany		100.0	kEUR	20	1
88.	Parkmotive GmbH	Fulda	Germany		100.0	kEUR	16	- 2
b) Foreign companies								
89.	DC Aviation Holding Ltd.	Birkirkara	Malta		99.99	kEUR	349	- 13
90.	DC Aviation Ltd.	Luqa	Malta		99.8	kEUR	196	156
91.	Distinct Crew Management Ltd.	Luqa	Malta		99.8	kEUR	34	- 1
92.	Krebs & Aulich Electromechanical Testings Machines Co. Ltd.	Shanghai	China		100.0	kCNY	- 6,544	11,024
II. Joint Ventures - Equity-method investments								
1. Consolidated Companies								
a) Domestic Companies								
93.	Arbeitsgemeinschaft BS Schachtanlage ASSE	Mühlheim an der Ruhr	Germany		50.0	kEUR	2,420	- 4
94.	Arbeitsgemeinschaft Burg Altena	Schmallenberg	Germany		50.0	kEUR	- 439	0
95.	Arbeitsgemeinschaft Konrad Versatzaufbereitung Los 1	Dortmund	Germany		50.0	kEUR	4,968	1,925
96.	Arbeitsgemeinschaft Sanierung Schacht Zielitz 1	Mühlheim an der Ruhr	Germany		50.0	kEUR	258	51
97.	Arbeitsgemeinschaft Neuhof Ellers	Dortmund	Germany		50.0	kEUR	3	0
98.	Arbeitsgemeinschaft Schacht Konrad 1	Mühlheim an der Ruhr	Germany		50.0	kEUR	7,017	860
99.	Arbeitsgemeinschaft Schacht Konrad 2	Mühlheim an der Ruhr	Germany		50.0	kEUR	14,464	2,473
100.	Arbeitsgemeinschaft Schacht Konrad Notfahreinrichtung	Dortmund	Germany		50.0	kEUR	- 10	0
101.	Arbeitsgemeinschaft Schächte Bergwerk Siegmundshall	Mühlheim an der Ruhr	Germany		50.0	kEUR	128	0
102.	Arbeitsgemeinschaft Vorbausäule Schacht Neurode	Dortmund	Germany		50.0	kEUR	- 1,020	29
	ARGE Demontagekammer Ibbenbüren Schacht 1	Dortmund	Germany		60.0	kEUR		
104.	ARGE Einrichtung Schachtförderanlage Konrad 2	Mühlheim an der Ruhr	Germany		50.0	kEUR	680	679
105.	ARGE Wasseraufbereitung Reden 4/5	Saarbrücken	Germany		33.3	kEUR	1,204	1,201
106.	ecoCOAT GmbH	Allershausen	Germany		45.7	kEUR	1,323	- 670
107.	JV Freezing Comol-5	Dortmund	Germany		60.0	kEUR	1,125	730
108.	OneFiber Interconnect Germany GmbH	St. Wendel	Germany		33.3	kEUR	957	- 3,716

No.	Company	City	Country	Share in % direct	Share in % indirect	Currency	Equity as per 31 Dec 2021	Net Result 2021
b) Foreign Companies								
109.	AESA Redpath Mining S.A.C.	Lima	Peru		50.0	kUSD	128	0
110.	Associated Mining Construction Inc.	Regina	Canada		50.0	kCAD	461	0
111.	Dayan Contract Mining LLC	Ulaanbaatar	Mongolia		49.0	kCAD	227	11
112.	DC Aviation Al Futtaim LLC	Dubai	U.A.E.		49.0	kEUR	- 7,537	309
113.	DC Aviation G-OPS S.A.S.	Paris	France		50.0	kEUR	15	0
114.	Deilmann-Haniel & Drillcon Iberia ACE	Braga	Portugal		50.0	kEUR	0	0
115.	Innu-Inuit Redpath Limited Partnership	Newfoundland	Canada		33.0	kCAD	6,263	4,281
116.	TRL Mining Construction LP	Regina	Canada		33.0	kCAD	17,567	7,740

III. Investments in associates and investment measured at fair value

1. Consolidated Companies

No.	Company	City	Country	Share in % direct	Share in % indirect	Currency	Equity as per 31 Dec 2021	Net Result 2021
a) Domestic Companies								
117.	EDAG Werkzeug + Karosserie GmbH	Fulda	Germany		49.0	kEUR	23,297	1,985
b) Foreign Companies								
118.	Murray & Roberts Holdings Ltd. *	Bedfordview	South Africa		43.8	kZAR	5,613,000	42,000
119.	Redpath Thonket Mining Services Ghana Limited	Accra	Ghana		49.0	kCAD	642	41
1. Non-Consolidated Companies								
a) Domestic Companies								
120.	MD 7 Immobilien GmbH	Munich	Germany		10.1	kEUR	984	157
121.	MD7 BV GmbH	Munich	Germany		10.1	kEUR	157	6
b) Foreign Companies								
122.	Aveng Ltd. *	Johannesburg	South Africa		2.1	kZAR	3,697,000	605,000

* Figures from the interim consolidated financial statements, as Murray & Roberts Holdings Ltd. and Aveng Ltd. have a different financial year.

The following Auditors' Report (Bestätigungsvermerk) has been issued in accordance with Section 322 German Commercial Code (Handelsgesetzbuch) on the consolidated financial statements and group management report (Konzernlagebericht) of ATON 2 GmbH as of and for the business year from 1 January to 31 December 2021.

The English version of the report is a translation of the German version of the report. The German version prevails.

INDEPENDENT AUDITOR'S REPORT

To ATON 2 GmbH, Munich

REPORT ON THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS AND OF THE GROUP MANAGEMENT REPORT

Audit Opinions

We have audited the consolidated financial statements of ATON 2 GmbH, Munich, and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at 31 December 2021**,** and the consolidated statement of comprehensive income, the consolidated statement of changes in equity and the consolidated statement of cash flows for the financial year from 1 January to 31 December 2021, and the notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of ATON 2 GmbH, Munich, for the financial year from 1 January to 31 December 2021*.*

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 International Financial Reporting Standards (IFRS) as adopted by the EU, and the additional requirements of German commercial law pursuant to Section 315e (1) German Commercial Code (HGB) and, in compliance with these requirements, give a true and fair view of the assets, liabilities and financial position of the Group as at 31 December 2021, and of its financial performance for the financial year from 1 January to 31 December 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.

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 of the group management report.

Basis for the Audit Opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Section 317 HGB and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (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 audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions on the consolidated financial statements and on the group management report.

Responsibilities of the Executive Directors for the Consolidated Financial Statements and the Group Management Report

The executive directors are responsible for the preparation of the 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, the executive directors are 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, the executive directors are 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, the executive directors are 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, the executive directors are 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.

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 audit 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 317HGB and in compliance with 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 judgement and maintain professional scepticism 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 audit 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 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 audit opinion on the effectiveness of these systems.
- evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.

- conclude on the appropriateness of the executive directors' 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 audit 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 IFRS as adopted by the EU and with 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 audit 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 audit 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 the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors 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 audit 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, 16 May 2022

Deloitte GmbH
Wirtschaftsprüfungsgesellschaft

[original German version signed by]

Signed: André Bedenbecker	Signed: Cornelia Tauber
Wirtschaftsprüfer	Wirtschaftsprüferin
[German Public Auditor]	[German Public Auditor]