



Annual Report 2022



DFS Deutsche Flugsicherung

The business year 2022

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Report of the Supervisory Board

Type and scope of review and consultation

In the business year 2022, the Supervisory Board performed its functions as prescribed by law and the Articles of Association. It regularly advised and monitored the Executive Board and was involved in decisions of fundamental importance to the company.

In fulfilling its tasks, the Supervisory Board was supported by the audit committee, the committee for the commercial business, the personnel committee and the project committee. The committees thoroughly discussed the resolutions to be adopted and prepared recommendations for the decisions to be taken at the plenary meetings.

In the business year 2022, there were several changes to the composition of the Supervisory Board. Ms Andrea Wächter and Mr Armin Havenith left the Supervisory Board and were succeeded by Mr Günter Achatz and Mr Gero von Fritschen. The Supervisory Board would like to thank the departing members for their dedicated work and the responsibility they assumed.

The Executive Board – which after a short interim phase has been complete again since November when Ms Andrea Wächter took office as Chief Human Resources Officer and Labour Director – reported to the Supervisory Board properly, regularly, promptly and comprehensively on the course of business and all important strategic and operational decisions. The Supervisory Board was also provided with ad hoc information on important issues. The financial situation and especially the liquidity situation continued to be reported on a monthly basis. Regular reporting was carried out in accordance with Article 90(1)(3) of the German Stock Corporation Law (AktG).

During the business year 2022, the Supervisory Board held four ordinary meetings to discuss the situation and development of the company. In addition, three extraordinary meetings were held to discuss the target agreement between the Executive Board and the Supervisory Board, the change in size of the shareholding of a company in the commercial business and questions regarding Dr Böcker's departure from the Executive Board.

The Supervisory Board specifically dealt with the following topics at its meetings in 2022:

- the 2021 annual financial statements and consolidated financial statements, the management report as well as the group management report and the audit report on the 2021 annual financial statements and consolidated financial statements
- the 2023 group economic plan, with the associated investment and financial plan
- the target agreement system at board level
- the selection and appointment of a new Chief Human Resources Officer and Labour Director
- the extension of the appointments of the Chief Operating Officer and the Chief Technology Officer
- the selection and appointment of a new auditor for the year 2023
- discussions on a sustainability concept with a focus on ecological sustainability and climate neutrality of the company
- the implementation of the iCAS project at the branches

- the IP upgrade project for the radio and radar sites, phase 2
- the renewal of VOR/DME systems project (radio navigation aids)
- the change in the shareholding in Unifly N.V. and conversion of a loan into shares in the company
- the gas procurement by DFS Energy GmbH for the years 2023 and 2024

Result of the review

The Supervisory Board notes that the company was able to successfully counter the ongoing effects of the COVID-19 pandemic as well as of the war in Ukraine. During the COVID-19 pandemic, which is coming to an end, it became particularly apparent that the company was able to provide capacity to meet the sudden surges in demand while maintaining a high level of safety and thus reliably fulfilling the sovereign task of providing air navigation services in Germany.

On the basis of the audit report prepared by the auditors Mazars GmbH & Co. KG, the Supervisory Board discussed the 2022 annual financial statements and consolidated financial statements and the associated management reports including conclusions in accordance with Article 53 of the German Budgetary Principles Act (HGrG). The audit committee met for discussions in advance. The comprehensive control and risk management system established in the company was also included in the audits. The auditors were present at the discussions. They gave an account of the key results of their report and were available to answer questions. The Supervisory Board found no exceptions to be taken against the audit reports and the auditor's conclusions. It proposed that the Shareholder Meeting approve the annual financial statements and the consolidated financial statements. The Supervisory Board reviewed the proposal of the Executive Board on the use of profits and agreed to it.

The Ukraine war posed new challenges for companies as well as for society as a whole. DFS bears a special responsibility due to civil-military integration, and this is even more true in the current situation. In this context, DFS succeeded in meeting the changed requirements of military airspace users in the short term while at the same time meeting the increasing demand from civil users. For this reason, too, the Supervisory Board would like to thank the Executive Board and in particular all staff for their commitment to mastering this challenge.

May 2023

The Supervisory Board



Antje Geese
Chairperson



Members of the Supervisory Board

Chairperson

Antje Geese

Ministerialdirigentin

Federal Ministry for Digital and Transport

Deputy Chairperson

Sabrina Leitzbach

Air traffic controller

Günter Achatz

Director Planning & Innovation

Oktay Kaya

Chairperson of the Central Staff Council

Gero von Fritschen

Colonel (G.S.)

Federal Ministry of Defence

Dr Carl-Stefan Neumann

Managing Director

Carl-Stefan Neumann Advisory & Investments GmbH

Iris Reimold

Ministerialrätin

Federal Ministry for Digital and Transport

Thorsten Ruge

Ministerialrat

Federal Ministry of Finance

Markus Siebers

Supervisor tower (in transitional retirement)

André Vöcking

ANS engineer

Jörg Waldhorst

Senior expert flight procedure design

Dr Katharina Ziolkowski

Ministerialrätin

Federal Ministry of Defence

Correct at 31 December 2022

Members of the Advisory Council

Chairperson

Oliver Luksic

Member of the German Bundestag

Parliamentary State Secretary

Dr Karsten Benz

Chairperson of the Supervisory Board

Droniq GmbH

Ingo Gerhartz

Chief of Staff, Air Force

German Air Force Command

Michael Hoppe

Chairperson

BARIG – Board of Airline

Representatives in Germany e.V.

Prof Dr Anke Kaysser-Pyzalla

Chair of the Executive Board

German Aerospace Centre (DLR)

Jürgen Lenders

Member of the German Bundestag

Susanne Menge

Member of the German Bundestag

Dr Michael Niggemann

Member of the Executive Board

Deutsche Lufthansa AG

Christian Scherer

Chief Commercial Officer and Head of

Airbus International

Airbus SE

Dr Stefan Schulte

President

German Airports Association (ADV)

Chairperson of the Executive Board

Fraport AG

Ralf Teckentrup

President

German Airline Association (BDF)

CEO of the Executive Board

Condor Flugdienst GmbH

Björn Simon

Member of the German Bundestag

Anja Troff-Schaffarzyk

Member of the German Bundestag

Correct at 31 December 2022

Combined management report of DFS Deutsche Flugsicherung GmbH for the business year 2022

The Group management report 2022 has been combined with the management report of DFS Deutsche Flugsicherung GmbH (DFS) in accordance with Section 315(5) of the German Commercial Code (HGB) in conjunction with Section 289(2) of the HGB. The financial statements of DFS, which are prepared in accordance with the provisions of the HGB, and the combined management report are published simultaneously in the electronic German Federal Gazette. Unless otherwise stated, the following information applies jointly to the DFS Group and DFS. Sections that contain information on DFS only are marked as such.

Group management report

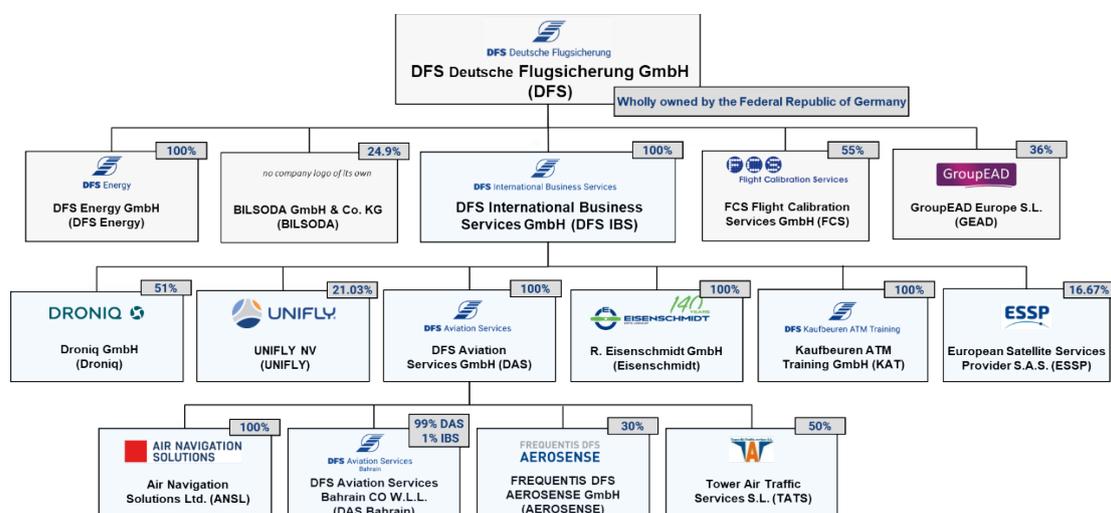
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1 Group organising principles

1.1 Structure of the Group



The DFS Group is made up of DFS as the parent company and the subsidiaries shown above. The consolidated financial statements cover eight indirect and direct investments. The results and financial position are primarily determined by the business activities of DFS. Information on the scope of consolidation can be found in Group Note 3.2.

1.2 Business activities

1.2.1 Overview

With a total of 6,070 operational and administrative staff (of which 5,612 at DFS), the DFS Group ensures the safe, orderly and expeditious handling of air traffic in Germany. It also offers additional services on the free market (the commercial business).

The DFS Group divides its business activities into two segments. One segment – the regulated business – is financed by air navigation charges, while the other segment – the commercial business – competes for business on the free market. The segment financed by air navigation charges is the main business. The commercial business comprises three "participation categories".

Regulated business – Financed by air navigation charges –

Air navigation services under Section 27c of the German Aviation Act (LuftVG) for en-route services, terminal services

- Air traffic services
- Communication services
- Navigation services
- Aeronautical information services

Commercial business – Free market –

Three participation categories

- Stable aviation business
- Competitive ATM business
- Dynamic UTM business

1.2.2 Regulated business

The regulated business – providing air navigation services – is defined by the tasks set out in Section 27c of the German Aviation Act (LuftVG). As a company entrusted to perform State functions, DFS provides air traffic services (ATS) and support services. To provide air traffic control services, DFS operates four control centres in Langen, Munich, Karlsruhe and Bremen and 15 control towers. From these locations, en-route services and approach control (APP) for lower and upper airspace as well as air traffic control services at the 15 designated international airports in Germany are provided. These services also include the aeronautical information service, air traffic flow management and airspace management. For this purpose, the company develops and operates systems for air traffic management (ATM), communication, navigation and surveillance services as well as administration.

The en-route and the terminal charges are laid down by EUROCONTROL per calendar year on the basis of a decision of the enlarged Commission in accordance with the German Ordinance on Route Charges of the Air Navigation Services (FSStrKV).

The charges for aerodrome control services are set by means of a statutory instrument of the German Federal Government (Section 1(1) FSAAKV).

1.2.3 Commercial business

The management of the Group has bundled the commercial business (see also section 3.2) in subsidiaries and investment entities primarily under the DFS International Business Services GmbH (DFS IBS) holding company to the extent legally possible and economically sensible.

The subsidiaries and investment entities support and enhance the portfolio of products and services offered by the Group on the free market. These commercial services are offered worldwide, while air navigation services are currently provided in Europe only. The commercial business is not subject to regulatory requirements (with the exception of aerodrome control services provided by DFS Aviation Services at German regional airports since September 2021). Intra-Group transactions are conducted at arm's length conditions and prices.

1.3 Legal framework and management organisation

In 1993, DFS was entrusted with the tasks of the Federal Administration of Air Navigation Services (BFS) by the Federal Republic of Germany. The Headquarters of DFS are located in Langen near Frankfurt at: Am DFS-Campus 10, Langen, Germany. The company is registered under HRB 34977 on the Commercial Register at the Local Court in Offenbach am Main.

The object of the company is the development, provision and execution of the air navigation services delegated to the company by the German Federal Ministry for Digital and Transport (BMDV). The company can also provide air navigation services in Europe as well as carry out related sideline activities in Germany and abroad.

The sole Shareholder is the Federal Republic of Germany.

The Executive Board consists of four members, responsible for the directorates operations, engineering, human resources, as well as the chairperson of the Executive Board.

The Supervisory Board of DFS comprises 12 members, six appointed by the Shareholder and six elected by employees (see Group Note 37.2 for the members of the Supervisory Board).

1.4 Strategies and objectives

1.4.1 Strategic orientation

The Group Strategy DFS 2030 describes the overarching and long-term orientation of the entire DFS Group. It contains concrete strategic goals and measures up to the year 2030, which are currently being successively implemented.

The corporate strategy DFS 2030 takes particular account of changes in the air navigation services environment, which arise, for example, due to new technologies, tougher environmental requirements and increasing competition from new market participants. In addition, the Group strategy also considers how to deal with fluctuations in the demand for air transport, such as those triggered by the COVID-19 pandemic, and the customers' demand for lower air navigation charges while maintaining the same quality.

The DFS Group meets these challenges with the aim of offering the highest quality of service with an outstanding level of safety. We will strengthen our competitiveness with innovative solutions and, together with customers and partners, shape the air transport industry of the future.



In this context, the DFS Group is focusing on three strategic priorities in its future strategic orientation: sustainability, competitiveness and innovation.

Sustainability in the DFS Group: We act in a financially profitable, socially and ecologically ambitious manner in order to fulfil our responsibility towards our stakeholders – customers, partners, employees as well as society. Our top strategic priority is securing our sustainable business success, based on our quality standards.

Against the background of increasing liberalisation of the European air navigation services market, **competitiveness** is becoming another important strategic priority.

The **capability to innovate** is a prerequisite for the priorities already outlined. Relevant innovations are needed for developments that are fit for the future and for long-term corporate success.

In addition to the sovereign mandate to provide air navigation services in Germany, the commercial business is the second mainstay of the DFS Group. To support the core business, the commercial business is to be scaled up.

Our employees are the foundation of our long-term success. The way we work with each other is driven by common values: professionalism, trust, change, passion and teamwork.

1.4.2 STEP programme

Due to the considerable revenue shortfall caused by the COVID-19 pandemic, the Executive Board launched the STEP programme. STEP is the **strategic efficiency improvement programme** of DFS and aims to ensure financial sustainability through a high level of cost discipline, efficient processes and optimal use of resources. To achieve the necessary reduction in staff costs, processes and structures must be organised more efficiently and in ways that better match future needs.

STEP is designed in phases. In the first phase, the core processes were defined. From the results of phase 2, a workshop-based bottom-up idea development involving numerous employees as well as an organisational and personnel structure analysis, findings were collected, concrete proposals for measures were developed and then evaluated. A target design was developed for the four directorates and a change concept submitted for co-determination.

In phase 3, the individual measures are being implemented depending on their start and target dates. The first successes have already been realised.

1.4.3 Financial strategy

The financial strategy of DFS promotes the financial stability of the Group and is based on the following areas:

Good to very good credit rating

Investors, business partners and employees should be able to continue to trust in the financial stability of the company and its subsidiaries. The company secures the very good investment grade rating in combination with its Shareholder (see section 2.6.3.1).

Adequate liquidity

DFS maintains its room to manoeuvre over the near term by issuing commercial paper (short-term) and using demand deposits (short-term). This will allow the company to react flexibly to changes in its environment at all times. In the medium to long term, DFS has sufficient fund assets.

Adequate capital structure and equity ratio

Measures are being taken to continuously monitor the capital structure and equity ratio. DFS will continue to maintain the equity ratio shown in 'adjusted equity' (see Group Note 30) of around 31 percent and to progress towards a fully funded status for occupational pensions in a step-by-step manner.

Low leverage

The infrastructure of the company is unencumbered and remains the property of the company. This creates a stable asset base that is in essence freely available.

Risk management system

A modern risk management system supports the planning and control of financial risks in a consistent manner (see section 6.2.2.1).

1.5 Planning and control

When managing the Group, the Executive Board differentiates between the regulated business and the commercial business as required by the provisions of the German Transparency Directive Implementation Act (TranspRLG).

Regulated business

The management of the regulated business is aligned with the regulatory environment, the strategic dimensions and objectives, the requirements of the regulated business and the organisational structure.

The achievement of these objectives and requirements is measured by means of planned/actual comparisons, which are carried out both on a regular basis (monthly, half-yearly and yearly) and ad hoc. Achievement is monitored and reported at corporate, divisional and product level. A system of financial indicators has been developed, which are primarily IFRS-based. In addition to primary costs, the operating costs indicator also includes charges and income from internal cost allocation.

Planning and control also uses non-monetary indicators, such as the analysis of the traffic forecast, in addition to financial metrics on cost-efficiency.

As regards non-monetary indicators, DFS constantly measures indicators for the key performance areas of safety, air traffic control (ATC) capacity and the environment, such as infringements of separation, punctuality indicators and horizontal flight efficiency.

Commercial business

The commercial business is materially influenced by the competitive environment in which it operates. Planning and control is carried out by setting targets for returns on sales, whereby a positive contribution to earnings at the EBIT or EBITDA level should be generated.

The operating subsidiaries and investment entities should generate a profit before tax typical for the industry. The return is to be raised in the medium term to 7.5 percent from revenue of around €150 million by 2030.

1.6 Research and development

German airspace demands a particularly high-performing air navigation service provider over the long term, as this airspace is extremely busy and complex in international comparison. Technological and operational innovations represent an important prerequisite for managing the growing cost pressure, increasing requirements as regards environmental sustainability and the continuing rise in air traffic predicted in all forecasts for the medium term. These issues must all be managed while maintaining an unrestricted safety level. Therefore, DFS has been involved in international and national research projects for many years. It concentrates on applied research which leads to new products, procedures and working methods and follows the path from invention to innovation.

As part of the DFS Group strategy 2030, DFS is pushing ahead with its innovations in a targeted manner. National activities focus on regional challenges, such as the optimisation of flight routes for overflights and the operation of busy airports, such as Frankfurt and Munich (including their arrival and departure procedures). DFS conducts real-time and fast-time simulations, tests new key technologies and subsequently develops air traffic control software and suitable simulators. DFS also participates in funding programmes of the German government and the European Union, such as the aeronautical research programme and the Single European Sky ATM Research Programme (SESAR). In both research programmes, DFS is once again managing consortium projects. The goal of the national grant funding projects, and of all other forms of national cooperation, is to work jointly with German partners from research and industry to improve the starting basis for subsequent international activities.

DFS allocated a total of approximately €63.2 million and around 308 staff posts to research and internally generated developments. The capitalisation ratio equals roughly 48.7 percent.

DFS received grant funding payments of €17.3 million in 2022 from European research framework programmes for this purpose, including from SESAR and the German aeronautical research programme. The implementation of the R&D results also takes place within the scope of the SESAR Deployment Alliance (SDA) together with air navigation service providers (ANSP), airlines and airport operators.

2 Report on economic position

In addition to the overall economic situation, political, legal and industry-specific factors have a fundamental influence on the development of air transport. While a thriving global economy boosts air transport, political tensions, the military operations associated with the war in Ukraine, natural disasters, regulatory, legal or fiscal constraints, and global disease clusters (pandemics) can shift traffic flows and have a downward effect on traffic volumes. The number of aircraft movements controlled by DFS thus has a considerable influence on the business activities of the regulated business as well as on the significant elements of commercial business.

2.1 Overall economic situation

Global growth slowed from 6.0 percent in 2021 to 3.4 percent in 2022 according to International Monetary Fund (IMF) projections. The Organisation for Economic Co-operation and Development (OECD) found that global gross domestic product (GDP) grew by around 3.1 percent year-on-year, down from 5.9 percent in 2021.

In the previous year, the IMF was still forecasting global growth of around 4.9 percent for 2022, while the OECD expected a plus of 4.5 percent in its outlook. The sharp increase in inflation, the worsening of financial fundamentals in most regions, Russia's invasion of Ukraine and the COVID-19 pandemic, which lasted well into 2022, weighed heavily on economic activity. A key factor in the slowdown in global growth was the general tightening of monetary policy, driven by the unexpectedly large overshoot of inflation targets. Stringent lockdowns relating to China's zero COVID-19 policy also impacted the Chinese and global economies, including causing supply shortages in Europe.

Numerous statistical studies have shown a correlation between economic metrics, for example GDP, and aviation industry metrics, such as passenger numbers or movements. With the outbreak of the COVID-19 pandemic, a significant decoupling of the above-mentioned variables was observed. The recovery trend in air transport, which started in the middle of 2021 and continued in 2022, can therefore largely be attributed to market-exogenous factors, such as the lifting of wide-ranging travel restrictions in continental travel. As air transport recovers, its dependence on overall economic performance increases again. This fact therefore remains the basis for sustainable demand for air transport services.

The EU economy grew by around 3.3 percent in 2022, after 5.4 percent in the previous year. Economic growth of roughly 4.3 percent had been expected for the EU. The consequences of the war in Ukraine hit the EU economy both directly and indirectly, putting it on a path of lower growth and higher inflation. The rapid rise in energy and food prices fed global inflationary pressures, reduced household purchasing power and triggered a faster monetary policy response than previously anticipated. In addition, the slowdown in growth in the United States as a result of China's strict zero-COVID policy contributed to the negative economic impact.

Rising energy prices, the war in Ukraine, supply bottlenecks in the manufacturing sector and little stimulus stemming from the global economy also had a significant negative impact on the German economy. The German economy grew significantly slower than expected in 2022. According to the German Federal Statistical Office, GDP increased by roughly 1.9 percent in 2022. The German Federal Government had expected growth of around 4.1 percent. Increased uncertainties, restricted trade relations, rising capital market interest rates and reduced real purchasing power affected investments, exports and consumption. In contrast, pandemic-related restrictions barely played any role in economic performance.

2.2 Development of business

In addition to the influence of the pandemic, which had a decisive impact in 2021, there were two other factors in 2022 that had a significant influence on the course of business: the war in Ukraine and the considerable increase in the inflation rate, fuelled by the resulting energy shortage.

Air transport recorded significant growth rates compared with the previous year. However, problems in the operations of passenger processes, triggered by the variety of service providers at the airports, clouded this rather encouraging factor perceptibly. Overall, the recovery is reflected in the fact that the level of traffic growth in the annual average of 2022 could now match the strongest month of 2021 with 80 percent of the traffic of 2019. After traffic volumes had only reached half of the pre-pandemic level in 2021, a clear recovery was seen in 2022. On an annual average, the number of controlled flights in German airspace was 80 percent of the 2019 level.

Compared with the previous year, DFS operated more than 60 percent more flights under instrument flight rules in 2022. In individual air traffic control sectors, even more traffic was controlled than in the pre-COVID-19 year 2019, up to 50 percent more at peak times. Due to the Ukraine war, military flight operations also increased in the course of 2022. They were around 15 percent above the 2021 mark overall.

DFS and Droniq launched the LUV project with a consortium in February. This funding project of Germany's Federal Ministry of Transport will develop solutions and recommendations for the best possible implementation of the ordinance on airspaces for unmanned aircraft systems by 2023.

At the end of April, the DFS Remote Tower Control (RTC) Centre in Leipzig successfully took over control of air traffic at Erfurt Weimar Airport. The following month, the contract for the establishment of an RTC centre in Lower Saxony was signed by DAS.

Together with six other European air navigation service providers, DFS is involved in the development of the EGNOS satellite navigation system through ESSP SAS (European Satellite Services Provider S.A.S.). They signed a new ten-year contract with the EU in September for the provision, operation and maintenance of EGNOS services.

In intensive cooperation between the Federal Ministry for Digital and Transport (BMDV), the Federal Ministry of Economic Affairs and Energy (BMWi), the Federal Supervisory Authority for Air Navigation Services (BAF) and the National Metrology Institute of Germany (PTB), it was possible to significantly adapt criteria for the assessment of the interference potential of wind turbines on ground-based navigation aids. This means that additional areas on land can be used for wind power generation.

At the end of the year, DFS and EUROCONTROL signed an agreement to further harmonise air navigation services in the upper airspace of Belgium, Germany, Luxembourg and the Netherlands. EUROCONTROL and DFS will thus further optimise their air traffic control services at the Maastricht and Karlsruhe control centres through technical and operational convergence.

On the second weekend in December, the Munich control centre handled large volumes of live traffic with the new iCAS system for the first time. During the night, the P2 operations room handed over to the new iCAS operations room. To allow the controllers to get used to the completely new user interface, the capacity of the Munich sectors was reduced to 50 percent. Serious delays to the air traffic system, which had been expected in advance, did not occur. All those involved (controllers, engineers from DFS and the system manufacturer, and staff from the control centre) were able to gain valuable experience. The results helped to prepare and safeguard the launch. DFS is satisfied with how the weekend went. Tests were carried out to see whether iCAS could be used to handle realistic air traffic. This was achieved.

DFS submitted a revised national performance plan to the European Commission for the years 2022-2024, which was based on a supplementary regulation due to the COVID-19 pandemic. This was approved on 14 December 2022 and will result in DFS being allowed to include the carry-over arising from 2020 and 2021 in charges as early as 2023.

2.2.1 Development of air traffic

IFR flights 2022

After traffic volumes halved in 2020 and 2021 compared with 2019 due to the pandemic, a very significant jump in traffic volumes contributed to the recovery in 2022, with en-route flights outperforming arrivals and departures. The upswing in traffic volumes was largely driven by tourist traffic in the continental sector, with low-cost airlines contributing to an above-average extent. The recovery in business travel was more hesitant.

In the second half of 2022, the growth momentum lessened off. Domestic air transport continued to grow only moderately.

In addition to the economic effects, the war in Ukraine also had a direct impact on aviation. The affected markets collapsed completely and Russian airspace could no longer be crossed for routes to East and South-east Asia. In addition, increased activities in military traffic led to restrictions on the civil side. A number of airlines cancelled flights in the second half of 2022 to stabilise their schedules. Furthermore, they raised ticket prices to cover the increased raw material and personnel costs. It must therefore be assumed that it was not possible to meet the full demand for air transport services in the course of the year.

Cargo growth remained at a high level. However, the airspace closures over Russia for German and EU carriers and the still severe COVID-19-related restrictions on important cargo markets in China depressed the total result.

IFR flights in Germany			
	2022	2021	Change
Civil flights	2,585,096	1,624,640	59.1%
Military flights	50,963	44,500	14.5%
Total	2,636,059	1,669,140	57.9%

The busiest day of 2022 was 10 June 2022, with 9,179 controlled flights.

The increase in traffic was due to a rise in overflights (+73.0%) and entries and exits (+52.8%) and was rooted in the resumption of continental services predominantly. Domestic traffic rose by only 26.3 percent year on year, however. Continued restrained intercontinental traffic and the associated low number of feeder flights were the main reasons for this development.

This is reflected in the shares of total traffic volume. The proportion of overflights as well as flights arriving in or departing from Germany increased. The share of domestic flights thus fell back to 8.0 percent.



Traffic at the airports where DFS operates

At the designated international airports in Germany, arrivals/departures increased from 962,111 last year to 1,474,929 in 2022. This represents an increase of approximately 53.3 percent and is 69.2 percent of the 2019 level of 2,132,289 arrivals and departures.

Traffic in the United Kingdom (UK)

The impact of the global pandemic on the aviation industry in the United Kingdom led to the termination of the air navigation services contract at Gatwick Airport in 2021. With effect from 8 October 2022, the service contract for air navigation services at Gatwick was terminated in accordance with the contract. The transition to the air navigation service provider National Air Traffic Services (NATS) went smoothly for airspace users. Air traffic control-related project business is handled at Edinburgh Airport and other UK airports.

Drones – integration and detection

The work of DFS to comply with the mandate on the systematic detection of unmanned aircraft systems in the vicinity of aerodromes has been put on hold due to the pending clarification of the financing of the project. An inter-ministerial working group of the Federal Ministry for Digital and Transport (BMDV) and the Federal Ministry of the Interior and Community (BMI) is to clarify by the end of the first quarter of 2023 who should bear the costs for an agreed overall system.

To further promote the safe and fair integration of unmanned aircraft systems into German airspace in line with European regulation, DFS developed and operates the digital platform for unmanned aviation (www.dipul.de) in 2021 on behalf of the BMDV. Dipul makes map-based information on no-fly zones and information around the applicable rules easily accessible online for drone operators. Thus, for the first time, the platform bundles all relevant information and rules for unmanned aviation according to the German Aviation Regulation (LuftVO) centrally on one website.

In accordance with the European U-Space regulation, which was published in April 2021, DFS, in cooperation with Droniq GmbH, implemented the European Commission's concept for a European drone traffic system at the Port of Hamburg for the first time in a U-Space sandbox (*U-Space Reallabor*). The further project steps are related to the introduction of the U-Space Regulation in Germany.

2.2.2 Principal legal and regulatory influencing factors

Reference period 3

The European Commission set the third reference period (RP3) for the period from 2020 to 2024, combined with binding European targets for the key areas of safety, capacity, cost-efficiency and the environment, as well as a financial incentive system for the key area of capacity. The basis is Regulations (EU) 2019/317 and 2020/1627.

The European Commission rejected the FABEC performance plan and approved the national performance plan for Germany instead. In 2022, the national performance plan corrected the 2020 and 2021 carry-overs.

Uncontrollable costs – costs exempt from cost-sharing

For the third reference period (RP3) from 2020 to 2024, Article 28(3) of Regulation (EU) 2019/317 also allows for the sharing of costs with airspace users for the costs that do not lie within the control of air navigation service providers. It also provides, among other things, for a sharing of costs with airspace users for unforeseen changes in the costs of new and existing investments from 2020.

European funding programme

The EU plans to provide more than €2.5 billion of grant funding for targeted investment in the air traffic management (ATM) sector through its Connecting Europe Facility (CEF) until the end of 2024. DFS participates in this programme and currently receives grant funding of a maximum of €197.9 million until the end of 2024. However, under Article 14(2)(13) of Regulation (EU) No 409/2013 (Common Projects), such grant funding counts as 'other revenue' as set out in Article 25(3a) of Regulation (EU) 2019/317 and should be used to reduce air navigation charges.

2.2.3 Forecast/actual comparison

Forecast/actual comparison 2022			
	Actual as at 31 Dec 2021	Forecast for 2022	Actual as at 31 Dec 2022
Service units	En-route services: 7.68 million Terminal services: 0.70 million	Slight increase	En-route services: 12.5 million Terminal services: 1.1 million
Revenues (total)	€1,375.3m	Not cost-covering	€1,327.7 million
Revenues: commercial business (total operating revenues and income)	€85.0m (€85.8m)	Reduced revenues	€94m (€98m)
Depreciation and amortisation	€103.1m	Slightly above previous year's level	€110.2m
Earnings (total) (incl. minority interest)	€134.7m	Losses in the low two-digit million euro range	-€31.6m
Earnings (commercial business)	-€5.8m	Losses in the mid single-digit million euro range	-€7.7m
ATC training starts (of which DFS share)	85 (72)	Continued pipeline of student ATCOs	142 (126)

More information on earnings can be found in section 2.5.

2.3 Results of operations

2.3.1 Revenues

In the business year 2022, the DFS Group generated revenues of €1,327.7 million (previous year: €1,375.3 million). Revenues were thus 3.5 percent below the previous year.

Revenues from air navigation services decreased from €1,274.5 million to €1,240.0 million. They take into account the effects from the carry-over recognised in the business year totalling €292.0 million (previous year: €670.0 million).

Within certain limits, the DFS Group is exposed to rewards and risks resulting from the development of air traffic (see section 3.1.3).

Revenues from en-route charges (€m)		
	2022	2021
Total	630.0	443.0
Compared with previous year (%)	+42.2	+19.9

These revenues were exclusively generated by DFS.

Revenues from terminal charges (€m)		
	2022	2021
Gross	249.9	95.6
Reimbursements paid	(0.8)	(0.5)
Net	249.1	95.1
Compared with previous year (net, in %)	+261.9	+23.0

The revenue listed here was generated by DFS (€228 million) and DAS (€22 million). The sharp increase was due to the regulated business and the sharp rise in the unit rate.

Revenues from government reimbursements (€m)		
	2022	2021
Military operational air traffic	38.3	35.4
Exempted flights	22.0	21.8
Total	60.3	57.2
Compared with previous year (%)	+5.4	+1.4

These revenues were exclusively generated by DFS. The exempted flights relate to en-route flights under visual flight rules.

Revenues from other air navigation services (€m)		
	2022	2021
Aeronautical publications	4.5	4.7
Flight inspection services	3.3	3.8
Other air navigation services	0.8	0.7
Total	8.6	9.2
of which commercial business	4.5	4.7
Compared with previous year (%)	-6.5	+4.5

Other revenues (€m)		
	2022	2021
Total	87.6	100.8
of which commercial business	73.1	74.1
Compared with previous year (%)	-13.1	+6.2

The Group generates other revenues primarily from air traffic control services at the German regional airports where DFS Aviation Services (DAS) operates and at London Gatwick and Edinburgh airports, from consultancy and staffing services, apron management service and training services.

2.3.2 Other operating income

Other operating income (€m)		
	2022	2021
Total	27.7	35.4
of which commercial business	2	1.1
Compared with previous year (%)	-21.8	-10.4

(Material components are shown in Group Note 6).

2.4 Principal expense categories

Employee expenses (€m)		
	2022	2021
Total	1,043.6	1,034.7
Wages and salaries	708.2	662.1
Social security costs and expenses for pensions and assistance	328.7	365.6
Costs of personnel belonging to the Federal Aviation Office (LBA)	6.7	7.1
of which commercial business*	68	63.4
Share of total expenditure (%)	79.2	80.4
Compared with previous year (%)	-1	+6.3

* This item contains allocated costs.

Other operating expenses (€m)		
	2022	2021
Total	140.7	134.9
of which commercial business*	14	12.5
Share of total expenditure (%)	10.6	10.5
Compared with previous year (%)	+4.3	-8.7

* This item contains allocated costs.

(Material components are shown in Group Note 8).

Depreciation and amortisation (€m)		
	2022	2021
Total	110.2	103.1
of which commercial business*	12	9.6
Share of total expenditure (%)	8.4	8.0
Compared with previous year (%)	+6.9	+1.1

* This item contains allocated costs.

In the business year 2022, an impairment loss of €6.8 million was recognised on the Unify investment entity.

Impairment losses on financial assets and contract assets (€m)		
	2022	2021
Total	0.9	1.7
of which commercial business	---	0.1
Share of total expenditure (%)	0.1	0.1
Compared with previous year (%)	-47.1	+70.0

The item shows the impairment losses on financial assets and contract assets previously disclosed under other operating expenses. These are mainly specific allowances and write-offs of receivables.

Income taxes (€m)		
	2022	2021
Total	6	23
of which current income taxes	4	22
of which deferred income taxes	2	1
Compared with previous year (%)	26.09	>100.0

Effective income taxes relate to corporation taxes, including the solidarity surcharge, and German municipal trade taxes. The computation of income taxes at DFS is based on applicable tax regulations in connection with Section 31b(3)(3) of the German Aviation Act (LuftVG). For the other Group subsidiaries, the trade and corporation tax laws and regulations are of relevance. The tax ratio (tax expense/EBT) is 23.67 percent.

2.5 Group earnings

In 2022, the DFS Group generated a net loss of €31.6 million (previous year: net income of €134.7 million).

Net income / net loss (€m)		
	2022	2021
Total	-31.6	134.7
attributable to the ultimate parent company	-30.2	136.0
of which minority interest	-1.4	-1.3
of which commercial business	-7.7*	-5.8*
Compared with previous year (%)	-116.0	+243.3

* This line item includes the result component of the minority shareholder in Droniq.

The earnings contain costs of €78.3 million (previous year: €78.3 million) from the application of the imputed model for occupational pensions within the scope of the introduction of regulated charges as at 1 January 2012. In addition, they contain capitalised development costs of €31.2 million (previous year: €28.5 million) as well as grant funding of €17.1 million (previous year: €22.3 million). The effects from the carry-over totalling €292.0 million (previous year: €670.0 million) recognised in the business year had a significant positive impact on earnings.

DFS also took into account the reduced income from charges from 2018 to be offset in the charges for users in 2022.

The commercial business recorded a net loss of €7.7 million (previous year: net loss of €5.8 million).

A net loss of €1.4 million was attributable to the minority shareholder of the Droniq subsidiary (previous year: net loss of €1.3 million).

2.6 Assets and financial position

2.6.1 Capital expenditure (CAPEX)

The DFS Group invests in a targeted manner in preserving and developing the required infrastructure. Regulations and standards from ICAO, EUROCONTROL and the EU are taken into consideration. The safety of air traffic plays a decisive role when it comes to decisions on capital expenditure. Against this background, capital expenditure amounted to €89.1 million (previous year: €106.2 million) in the business year 2022.

In the business year 2022, assets under construction worth a total of €21.2 million were completed (previous year: €12.1 million).

2.6.2 Balance sheet structure

In 2022, the balance sheet total decreased by 5.4 percent over the previous year to €2,737.9 million (previous year: €2,892.7 million).

Assets

Non-current assets declined by 2.1 percent from €1,891.7 million to €1,891.7 million, while current assets decreased by 11.5 percent from €1,001.0 million to €885.8 million.

The structure of non-current assets remained almost constant overall compared with the previous year.

Within current assets, trade receivables increased by €16.6 million (+14.0%). Cash and cash equivalents also rose by around €17.0 million (+13.4%), investments in fund assets that have not been assigned decreased by around €324.8 million (-46.9%), also due to the withdrawal of €235 million. The carry-over receivable due in 2023 increased other assets by €196 million.

Equity and liabilities

Equity recovered noticeably by 254.4 percent from minus €764.4 million to plus €1,180.0 million. This is mainly due to the remeasurement of the net defined benefit liability (€1,975.6 million, OCI). In contrast to 2020 and 2021, the change in earnings from carry-over only plays a minor role.

Non-current liabilities sank by 64.7 percent from €3,277.2 million to €1,155.6 million. The main impact here was the change in the net liability from pension obligations caused by the discount rate.

Current liabilities rose by 4.1 percent from €379.8 million to €402.7 million. Current financial liabilities increased mainly due to the reclassification of the *Schuldscheindarlehen* (debenture loan) to be repaid in 2023 from non-current to current.

The structure remained basically constant.

Balance sheet indicators		
	2022	2021
Net financial indebtedness (€m)* (Financial liabilities – liquid funds)	131.8	-163.1
Leverage ratio (%) (Net financial indebtedness / balance sheet total)	4.8	-5.6
Asset intensity (%) (Non-current assets / balance sheet total)	67.6	65.4

* A minus sign means that there is overcompensation from liquid funds.

2.6.3 Liquidity

2.6.3.1 Financial management

Financial management at the Group is responsible for securing and supporting the statutory obligation of DFS and, at the same time, fostering the competitiveness of the commercial business. DFS optimises its performance through an appropriate equity and debt structure, the economical use of equity capital, an optimised use of debt and the planning and control of cash flows.

Financing is carried out primarily by drawing on the cash inflows from operating activities and on funds from a money and capital market programme.

Group Treasury plans and controls the level of cash and cash equivalents and the procurement of funds. It incorporates subsidiaries in the flow of funds by means of intra-Group liquidity offsetting (cash pool agreements). Funds are collected and centrally controlled where legally allowed and commercially sensible. The financing requirements of subsidiaries are satisfied by intra-Group settlement accounts and loans. The DFS Group pays attention to a balanced financing structure in order to effectively counter market developments (see section 6.2.2.2).

Business dealings with a select group of core banks are conducted using uniform standards and existing reciprocal cash flows are continuously improved.

The DFS Group finances its non-current liabilities congruently with *Schuldscheindarlehen* (debenture loans). Short-term liquidity is covered by means of a multi-currency commercial paper programme. This financing form was not used in the business year. The solvency of the DFS Group is supported by fund assets.

The rating agency Standard & Poor's confirmed for DFS the ratings in combination with its Shareholder for both its short- and long-term ratings (AAA/Stable/A-1+).

The average weighted interest rate of the *Schuldscheindarlehen* (debenture loans) remained at 1.013 percent at the balance sheet date.

2.7 Overall assessment on the economic situation

The development of the results and financial position was materially shaped by the war in Ukraine and the still noticeable effects of the COVID-19 pandemic. The resulting revenue shortfall was offset by withdrawals from the non-assigned fund assets and cash holdings. Based on the current legal situation, the carry-over will compensate to a large extent for the liquidity shortfalls of the business year in the following years within the framework of the risk-sharing mechanism. The losses in the plan assets were compensated for by the increased discount rate and the resulting sharp reduction in pension provisions. Other influencing factors were the legal framework, regulatory requirements, subsidies, capitalisation of development costs and the measures taken by the Executive Board on cost containment.

Despite an increase in service units (compared with the previous year), DFS generated revenues in the business year 2022 that were below the previous year's level due to the effects from carry-over recognised in the business year totalling €292.0 million (compared with €670.0 million in the previous year). Due to the increased total expenditure and the significant losses on the capital market, it recorded an overall net loss of €31.6 million (for DFS share, see also section 2.5). This was primarily influenced by the financial result and regulatory effects (carry-over as well as the imputed model for closing the deficit in occupational pensions).

3 Segment reporting

3.1 Regulated business

3.1.1 En-route services

Service units

The amount to be paid by the airspace user is calculated by multiplying the service unit by the en-route unit rate.

Service units – en-route services		
	2022	2021
Total	12,518,746	7,678,785
Compared with previous year (%)	+63.0	+13.0

The number of service units increased by around 63.0 percent in 2022 compared with the previous year, equivalent to 82.7 percent of the 2019 level. The performance plan, according to which 13,643,500 service units were expected for 2022, was thus only 91.8 percent achieved.

The number of service units thus developed slightly better than aircraft movements. In addition to tourism, the segment of visiting friends and relatives also rose again to the market level. In this market segment, predominantly medium to long-haul connections were served. The aircraft types used increased the average weight per flight. Business travel, on the other hand, showed only a below-average recovery. Short trips in particular were often substituted by other modes of transport or multimedia applications. Restrictions to intercontinental destinations, such as China, continued to prevent the full uptake of all air services.

The national unit rate for en-route services consists of the cost elements of DFS, EUROCONTROL, the Maastricht Upper Area Control Centre and national authorities such as the German Meteorological Service (DWD) or the Federal Supervisory Authority for Air Navigation Services (BAF) which are apportionable to air traffic.

The national en-route unit rate is calculated by taking the determined costs for the year in question as defined in the performance plan plus the adjustments defined in Regulation (EU) 2019/317 and dividing by the service units based on the basic forecasts of EUROCONTROL's Statistics and Forecast Service (STATFOR) for the year in question.

	2023	2022	2021
Total	72.95	62.35	66.80
DFS share	59.70	50.31	57.68
Compared with previous year (total, in %)	+17.0	-6.7	+5.0

The EU Regulation on the common charging scheme for air navigation services contains compensation mechanisms to partly offset losses in revenues as a consequence of deviations in traffic volumes as well as an inflation adjustment. In 2022, the unit rate decreased by about 6.7 percent due to a number of stabilisation measures; the proportionate unit rate of DFS decreased by 12.8 percent, with a share of the total unit rate of about 81 percent.

3.1.2 Terminal services

Service units

The amount to be paid by the airspace user is calculated by multiplying the service unit by the unit rate for terminal services.

Service units – terminal services		
	2022	2021
Total	1,067,026	704,005
Compared with previous year (%)	+51.6	+11.7

The performance plan, which envisaged a total of 1,280,000 service units for 2022, was only 83.4 percent achieved. Compared with 2019, this corresponds to a level of 71.5 percent.

The unit rate for terminal services comprises air traffic-related cost elements of DFS, national bodies such as the German Meteorological Service (DWD) and the Federal Supervisory Authority for Air Navigation Services (BAF) in keeping with the EU regulations concerning the provision of air navigation services. It is calculated by taking the determined costs for the year in question as defined in the performance plan plus the adjustments defined in Regulation (EU) 2019/317 and dividing by the service units based on the basic forecasts of EUROCONTROL's Statistics and Forecast Service (STATFOR) for the year in question.

	2023	2022	2021
Total	255.94	218.05	130.50
DFS share	250.89	213.17	126.77
Compared with previous year (total, in %)	+17.4	+67.1	+3.2

In 2022, the unit rate increased by around 67.1 percent as a result of higher carry-overs from previous periods as well as the lower traffic forecast as a result of the travel restrictions. The proportional unit rate took a share of the total unit rate of about 98 percent.

3.1.3 Results of operations

Results of operations (€m)		
	2022	2021
Total operating revenues and income	1,290.2	1,353.1
Total expenses	-1,211.3	-1,194.9
EBIT	78.9	158.2
Financial result	-94.8	6.5
EBT	-15.9	164.7
Income taxes	-8.0	-24.2
Net loss/income	-23.9	140.5
of which DFS	-23.9	140.5
of which minority interest	---	---

More information on segment reporting can be found in Group Note 26.

For the Control Centre division (since 2012) and the Tower division (since 2015), the regulatory situation has split the risks and rewards resulting from the differences between planned and actual traffic volume between airspace users and DFS. If defined thresholds are exceeded, DFS is authorised and obliged to return or demand any over- or under-recoveries (carry-over).

Risk/reward transfer from deviation in traffic volume		
Deviation in traffic volume (v)	DFS share	User share
$v \leq 2.0\%$	100.0%	---
$2.0\% < v \leq 10.0\%$	30.0%	70.0%
$v > 10.0\%$	---	100.0%

However, due to the COVID-19 pandemic, the third reference period (RP3) was redrawn, with Regulation (EU) 2020/1627 containing special regulations on traffic risk sharing, among other things (see section 2.2.2 under "Uncontrollable costs – costs exempt from cost-sharing").

3.2 Commercial business

3.2.1 Business activities

The investment entities of commercial business are divided into three investment categories. In the stable aviation business, the focus is on the sale of aviation-related products and publications as well as the training of military air traffic control personnel. The highly competitive ATM business is dominated by air traffic control at eight German regional airports and one UK airport as well as the international consulting and project business. The focus in the dynamic UTM business is on providing support services for the operation of drones.

Stable aviation business

The data collected by the Group for aeronautical charts and publications relating to German airspace are marketed by Eisenschmidt in the B2B and B2C business, mainly via an online shop. In addition to these products, aeronautical charts for Europe, as well as further products and services for the training of pilots, are also developed, produced and distributed. The focus for the next few years will be on gaining further market share, especially the expansion for ultralights and sailplanes in Germany and Europe. Despite the decline in revenues in 2022 year on year, Eisenschmidt achieved a positive result as of the balance sheet date.

The training provided by Kaufbeuren ATM Training (KAT) for Bundeswehr military air traffic control personnel takes place using a contractually agreed simulator and teaching infrastructure, and on the basis of a comprehensive quality management system. As of the balance sheet date, KAT generated positive earnings.

Competitive ATM business

DFS Aviation Services (DAS) provides aerodrome control services at eight regional airports and one special-purpose airport in Germany. On 1 January 2023, Braunschweig Airport was added as an additional regional airport. In addition, aerodrome flight information services (AFIS) and apron management services are provided at other German airports. Following an amendment to the German Aviation Act (LuftVG), regional airports now charge their air traffic control-induced costs to DAS. DAS passes these on to the airspace users or the Federal Government accordingly.

In addition to classic air traffic control from the control tower (terminal services), DAS also offers aerodrome control services and AFIS as a remote service. The operational implementation and associated technology are offered through the joint venture AEROSENSE.

The business activities of DAS also include the distribution of radar and position data as well as flight plan data from Germany and the worldwide system engineering (maintenance) for supplied air traffic control systems. The order situation with regard to ATS systems continued to develop positively in 2022 year on year.

Furthermore, DAS offers training courses for external customers to maintain the competence of operational personnel. In addition to traditional on-site training, online courses, including online simulations, are offered. As regards AFIS services, DAS has been certified for initial training since 2022 and offers this training in Germany.

In 2022, demand for consulting services in the international air navigation services business was still subdued. A recovery is also expected here in the following years.

In the business year 2022, DAS recorded a significant year-on-year increase in revenues and net income.

Combined management report

Air Navigation Solutions Ltd. (ANSL), as a subsidiary of DAS, provides aerodrome control services at Edinburgh Airport. The seamless handover of aerodrome control services at Gatwick Airport to NATS took place in October. Despite lower revenues year on year due to the loss of Gatwick Airport, ANSL achieved a clearly positive net income.

As a subsidiary of DAS, DFS Aviation Services Bahrain CO W.L.L. (DAS Bahrain) has been providing air traffic control personnel to the Bahraini air navigation service provider since 1 January 2019. The contract with Bahrain Civil Aviation Affairs (BCAA) for the provision of personnel formally ends on 31 December 2023. The transition to the new area control centre (ACC) with a new ATM main system was successfully completed. As in previous years, DAS Bahrain ended the business year with a clearly positive result.

Dynamic UTM business

Droniq was able to achieve the planned sales and to position itself as the provider that enables professional drone flying inside and outside a U-Space. This was despite the difficult market situation, the lack of a U-Space-capable system and the fact that regulation is not yet in place in Germany. Major milestones were the U-Space sandbox project in Hamburg and the provision of technical equipment for the G7 Summit and the G7 foreign ministers' conference.

The 2022 revenues increased year on year. On the balance sheet date, due to the high expenses for the further development of Droniq and the initially gradually increasing revenues, there is a net loss for the year, which is, however, lower than planned.

3.2.2 Results of operations

Results of operations (€m)		
	2022	2021
Total operating revenues and income	97.8	85.8
Total expenses	-106.7	-93.7
EBIT	-8.9	-7.9
Financial result	-0.8	1.0
EBT	-9.7	-6.9
Income taxes	2.0	1.1
Net loss/income	-7.7	-5.8
of which DFS	-6.3	-4.5
of which minority interest	-1.4	-1.3

More information on segment reporting can be found in Group Note 26.

4 Personnel

Motivated and qualified staff are indispensable for a continuously high quality of service. This is why human resources management at DFS stresses a holistic approach from selection through attractive compensation and targeted training and development to the long-term retention of staff. Financial incentives are supported with a life-phase-oriented, family-conscious HR policy.

4.1 Employee structure

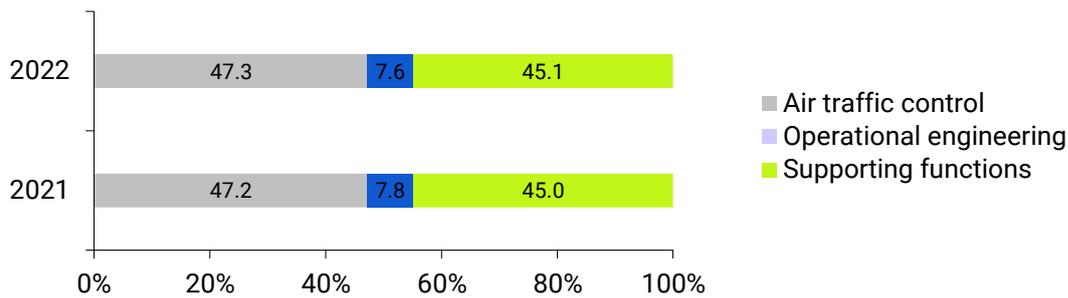
As at 31 December 2022, the DFS Group had a total of 6,070 employees. This number is made up of non-exempt staff (covered by collective agreements), exempt employees (not covered by collective agreements) and executive staff as well as assigned personnel of the Federal Aviation Office (LBA) working for DFS and soldiers released from regular service. Non-exempt employees are subject to the provisions of the company-specific collective bargaining agreements.

Executive staff and exempt employees negotiate their contracts freely on an individual basis. These employees have target agreements covering corporate goals and their area of expertise. The degree of fulfilment of these agreements determines the variable salary components.

The assigned personnel of the Federal Aviation Office (LBA) working for DFS form another employee group. These established and non-established civil servants, who have remained in an employment relationship with the Federal Government, still fall under the Federal Civil Servants' Remuneration Regulation (*Bundesbesoldungsordnung*) and the collective agreement for the public service (*Tarifvertrag für den öffentlichen Dienst – TVöD*). The collective agreements of DFS do not apply to them. DFS bears the relevant expenses.

	2022	2021
Permanent employees (total) (of which at subsidiaries)	6,070 (458)	6,079 (495)
Salaried staff (of which at subsidiaries)	5,576 (434)	5,526 (454)
Soldiers released from regular service	112	124
Wage-earners	14	14
Technical/commercial students & apprentices (of which at subsidiaries)	102 (1)	129 (12)
Trainee air traffic controllers (of which at subsidiaries)	178 (23)	184 (29)
Personnel belonging to the Federal Aviation Office (LBA)	88	102
of which established civil servants	74	84
of which non-established employees	14	18
Compared with previous year (%)	-0.1	-1.0
Share of female employees (%)	27.3	27.4
Share of foreign employees (%)	5.3	5.4

Employees by area of duties (%)



Of the 6,070 employees of the Group, 1,087 were part-time – 623 women and 464 men. The share of part-time employees rose by 3.2 percent over the previous year, reaching 17.9 percent. The age structure of staff is well balanced, with the average age being 42.3 years. The turnover rate was 1.6 percent in 2022.

At present, 27.3 percent of employees are women. Currently, 80 of the 506 management positions in the company are held by women, representing a share of 15.8 percent.

DFS applies the German law on the equal participation of women and men in management positions in the private sector and in public service (*FührposGleichberG*) and has laid down a target for the share of female division directors of 9 percent (previously: 5%) and the share of female department heads of 19 percent (previously: 13%) in the company for the period from 1 January 2022 until 31 December 2026. As of 31 December 2022, DFS reaches 8.7 percent at division-director level and 17.6 percent at department-head level. The company is increasingly fostering in a targeted manner both family-friendly policies and equal opportunities.

Foreign employees mainly come from the United Kingdom, followed by Spain, Austria and Italy. Overall, 60 nations are represented.

4.2 Work and family

DFS is continuing to expand measures to support staff in combining work and family life and has set up HR policies aligned with the phases of life. It has been certified by the non-profit Hertie Foundation under its 'work and family audit' (*audit berufundfamilie*) since 2014. During the pandemic, one focus of HR work was on supporting employees in balancing work and family life with needs-based measures, such as by making working hours more flexible, but also with the offer of (online) seminars on mental and physical health and health maintenance.

Over the course of their whole career, staff can make use of flexible working-time models, health facilities, a company sports club, seminars and further training opportunities.

4.3 Personal staff development

DFS is aware that a large part of the future success of the company is coupled to the further development of the individual strengths and abilities of its staff.

For this reason, DFS offers a wide range of initiatives to foster professional and interdisciplinary competences, which are continuously realigned with the changed needs of employees. The willingness to learn, the exchange of experience, networking and a feedback culture all play a central role in this regard.

4.4 Training

DFS is well aware of its responsibility to society and has been offering job-starters attractive trainee and university places with a career perspective for years.

Training starts		
	2022	2021
Total	177	141
Air traffic controllers (of which at subsidiaries)	142 (16)	85 (13)
Dual courses of studies / apprenticeships (of which at subsidiaries)	35 (3)	56 10
Compared with previous year (%)	+25.5	-17.1

On 31 December 2022, a total of 414 people (including controllers in on-the-job training – OJT) were undergoing multi-year air traffic controller training in the Group, 391 of whom (including OJT controllers) were at DFS. A total of 170 people were undergoing theoretical basic training.

In addition to the training of air traffic controllers, the portfolio of training offered at DFS also encompasses dual courses of studies in IT, air navigation technology, electrical engineering, air traffic management as well as IT-related and commercial apprenticeships. The portfolio of dual courses of studies is being supplemented by a degree course in air traffic management as a combination of a bachelor's degree in business with practical air traffic controller training.

This allows DFS to meet its demand for qualified staff. As these staff are trained internally, they will, in all likelihood, take on duties within DFS on completion of their training or degree.

Collective bargaining

In addition to specific collective bargaining issues, the collaboration between the collective bargaining parties, DFS and the German air navigation services union (GdF), was characterised by ongoing COVID-19-related work in 2022.

5 Compliance

As a State-owned entity, DFS and the domestic subsidiaries where DFS is the majority shareholder are subject to the Public Corporate Governance Code (PCGK) of the Federal Government of Germany. Under this code, the Executive Board has to ensure adherence to and compliance with legal provisions and corporate guidelines. DFS introduced a compliance management system (CMS) on the basis of this code.

The CMS, together with the risk management system (RMS) and the safety and security management system, forms the three pillars of the corporate structure for risk management.

In addition to internal reporting channels, an external ombudsperson is also available to receive information from DFS employees on suspected compliance violations. This makes it possible for reports to be submitted to DFS without revealing the identity of the whistleblower.

The focus of activities in 2022 was the definition of the conditions for anchoring compliance training to raise awareness of the code of conduct and the whistleblower system, as well as the adaptation of internal structures and work documentation to the realignment of the CMS that took place in the previous year. In preparation for the requirements of the German Supply Chain Act (LkSG), which will be implemented at DFS from 2023 onwards, several sub-projects were formed with the aim of ensuring environmental and human rights due diligence in accordance with the requirements of the LkSG.

The compliance management system is constantly upgraded and expanded. Organisationally, the matter is assigned to the Institutional & Legal Affairs division. There is a direct reporting channel from the compliance officer to the Executive Board and the Supervisory Board.

6 Risk report

6.1 Risk management system

The DFS Group has a differentiated risk management system for actively dealing with financial risks that could jeopardise the going-concern status (corporate risk management). The aim is to identify, analyse, monitor and control the risks associated with business operations. In addition, DFS has set up corresponding safety and security management systems for risks relevant to infrastructure, safety and security in accordance with the requirements of Regulation (EU) 2017/373.

Corporate risk management takes account of the changes taking place in the aviation industry and the Group, advances the risk management process methodically and therefore ensures the early identification of risks and the combating of business risks.

The areas to be assessed with regard to potential effects comprise: operations (e.g. fulfilling the statutory mandate, infrastructure); finance (e.g. costs, financial markets, customers/suppliers); management (e.g. strategy, personnel, organisation) as well as the external environment (e.g. politics and legislation, disasters including pandemics, and terrorist attacks). As part of their management duties, normally each quarter, the directors of DFS divisions identify potential/existing risks, including for these issues, and are responsible for ensuring that the statements on the risk situation in their organisational units are correct. The early identification of risks also covers the applications for approval of business plans and projects.

The corporate risk management process is supported by the Risk Management Committee (RMC) for the cross-divisional and cross-process evaluation of the reported risk situations, consisting of members in executive functions and close to the corporate decision-making process. This makes it possible to recognise company-wide interrelationships and to evaluate them.

The direct and indirect subsidiaries of DFS are systematically managed and monitored by means of in-house risk management systems using evaluation thresholds adapted to the respective company. The risk management systems of the material DFS investments are based on Group guidelines. These DFS investments inform the DFS Supervisory Board about the economic situation and the course of business (including risks) of the existing shareholdings within the scope of quarterly reporting in accordance with Section 90(1) of the German Stock Corporation Act (AktG) on managing shareholdings. Advance coordination with the DFS Executive Board ensures communication up to Group management.

Only the risks to the going-concern status are included in the risk report provided to the Executive Board and the Supervisory Board. The reporting of risks to the Executive Board takes place on a quarterly basis, while the Supervisory Board is informed on a half-yearly basis.

Compliance of the risk management system is regularly audited by the Group Internal Audit.

6.2 Material risks

6.2.1 Corporate strategy risks

Corporate strategy risks arise primarily from misjudgements of external conditions and future market developments. They can lead to an inadequate alignment of corporate activities, with negative consequences for the results and financial position of the DFS Group. This is why – in particular due to the current COVID-19 pandemic as well – DFS is paying increased attention to the analysis and forecasting of air traffic, political changes and the European charging and performance scheme. The Executive Board regularly reviews its estimates in close cooperation with all relevant bodies, checks variances, discusses risks and derives necessary measures.

6.2.2 Financial risks

6.2.2.1 Principles of financial risk management

As part of its business activities, the DFS Group is exposed to numerous financial risks. The management of these risks is an integral component of the planning and implementation system. The Executive Board lays down the associated corporate policy. The objective of the corporate policy is to contain and/or mitigate existing risks. DFS Financial Management implements these targets and uses a system to manage financial risks that is tailored to the specific business of the Group. DFS continuously monitors and analyses the events on the financial markets in a critical dialogue with its core banks and the rating agency to reassess existing strategies or develop new strategies as necessary.

The value-at-risk (VaR) analysis conducted determines the currency and interest risk, which is based on a sensitivity model used for internal planning and control. Through historical simulations of statistical time series on relevant past financial market data, scenarios are extrapolated into the future and used to compute simulated changes in market values for financial instruments. The analysis shows the absolute decline which will not be exceeded with a probability of 99.00 percent when the holding period is one, ten and twenty days.

Value-at-risk metrics			
31 Dec 2022	1 day	10 days	20 days
VaR 99 (%)	0.43%	1.36%	1.92%
VaR 99 (€m)	1,812	5,732	8,092
31 Dec 2021	1 day	10 days	20 days
VaR 99 (%)	0.65%	2.07%	2.92%
VaR 99 (€m)	4,700	14,969	21,116

The presentation of the value-at-risk metrics is based on the potential risk exposure resulting from its more significant investments in the non-assigned fund assets.

6.2.2.2 Liquidity risk

The COVID-19 pandemic led to a shortfall in revenues and income from the decline in the service units for en-route and terminal services, jeopardising the economic viability of the company. DFS took various measures to improve the liquidity situation, such as strict cost-cutting. The strengthening of equity by the German Federal Government of €300 million in 2021 and the withdrawal of non-assigned fund assets of €235.0 million also support liquidity.

Daily liquidity is monitored by the Treasury unit and is managed with one-year and medium-term liquidity planning (see section 2.6.3.1).

6.2.2.3 Default risk

The operational activities in the regulated business, the commitments in the commercial business and financial instruments expose DFS to default risk and increasingly to collection and enforcement risk. That is why receivables are monitored constantly in the operating business and default risks considered by means of specific allowances. In addition, for terminal services, DFS demands security deposits from customers with relevant sales volumes when defined warning thresholds are exceeded.

For en-route control services, EUROCONTROL invoices all flights on the basis of the data transmitted by the individual Member States and supplementary information from the Network Manager. The invoices are issued based on the data known at that point in time (operator, weight, distance). In individual cases, agreements are reached under which third parties make partial payments of outstanding amounts for services received after consultation with the Member States and at EUROCONTROL's reasonable discretion. EUROCONTROL does not require any security to be lodged but initiates enforcement measures to collect amounts due which have not been paid within the deadlines laid down. This requires a resolution from the Member States.

DFS has no influence on the discretion applied when EUROCONTROL makes such decisions. The intergovernmental agreement entitled Multilateral Agreement relating to Route Charges dated 12 February 1981 (BGBl. 1984 II p. 109) at European level prevents it from demanding security deposits to limit imminent defaults for en-route services. Notwithstanding these restrictions, the regulatory authority currently rejects the inclusion of these collection, default and enforcement risks as uncontrollable costs. The maximum default risk is reflected in the carrying amounts of the financial assets recognised on the balance sheet.

6.2.2.4 Rating risk

The business and performance of DFS are monitored by an external rating agency and the German Bundesbank (eligibility of the debt instruments of DFS). Negative analyses and the downgrading of the ratings could make the take-up of external financing more difficult and negatively influence the conditions for such financing and lead to higher interest rates.

6.2.2.5 Interest rate risk

The Group is exposed to interest rate risk from financing, financial assets as well as from the measurement of obligations under occupational pensions. The effective management of the interest rate risk is ensured through the use of derivative financial instruments with term and volume congruence between the underlying transaction and the hedge. Variances in the present value of the pension obligations for changes in parameters of +/- 0.5 percentage points are shown in the sensitivity analysis in the Group Notes (see Group Note 22).

6.2.2.6 Currency risk

The DFS Group is exposed to transaction risks as part of cross-border procurement transactions. The majority of foreign currency purchases/liabilities results from suppliers invoicing in US dollars (USD/\$). The total volume amounted to approximately \$1.0 million in the reporting period (previous year: \$1.1 million). Other currencies are only of minor importance.

Currency risks from financial transactions (foreign bonds, commercial paper) are hedged immediately on conclusion of the transaction.

6.2.3 Performance-related and IT risks

DFS and its subsidiaries give top priority to the safety of air traffic. For the provision of air navigation services, they therefore set up safety and security management systems in accordance with the requirements of Regulation (EU) 2017/373. In addition, air navigation services are categorised as critical infrastructure under German law (*BSI-Kritisverordnung*) in accordance with Section 27c of the German Aviation Act (LuftVG). To meet the requirements of this ordinance and to minimise the risks of cyber-attacks, DFS has established a security operation centre, which is continuously being optimised and upgraded. The risk management system of DFS and its subsidiaries has incorporated ATM-related systems and applications as well as administrative systems and applications.

A variety of measures are taken at the level of planning, implementing and operating of the infrastructure of DFS and its subsidiaries to minimise the probability of downtime of the operational infrastructure, which would endanger the safety of air traffic and impact business performance. Where necessary for the provision of air navigation services and other business processes, detailed risk analyses are carried out, taking into account the protection objectives of confidentiality, integrity and availability, to ensure the implementation of safeguarding measures commensurate with the risk.

6.2.4 Staff-related risks

The commitment and abilities of its staff are crucial for the DFS Group to maintain safety in German airspace and to ensure an efficient level of performance.

The environment for DFS has changed noticeably in the last few years through the introduction of economic regulation and increasing technological change. The Human Resources division is therefore called upon to support staff in exploiting the opportunities presented.

Against the background of the predicted decline in the labour force participation rate in Germany, demographic change and the increasing competition among companies for highly qualified staff and executives constitute a further risk that should not be underestimated. The internal demographic characteristics also present a risk as regards a balanced age structure and the long-term maintenance of professional skills.

Human Resources has set up a strategic HR and development programme as well as HR marketing and recruiting measures targeted at developing the workforce further and recruiting qualified professionals externally to meet needs.

The DFS pandemic team was active again throughout 2022. The primary objective was to protect DFS employees against infection with coronavirus and to maintain the provision of services in the operational and technical domains. With comprehensive measures (including working from home and strict hygiene rules on site), DFS has achieved this goal so far. Therefore, DFS and all its investment entities have succeeded in keeping the rate of potentially infected employees very low. To date, there have been no negative COVID-19-related effects on air traffic caused by DFS. All services under Section 27c of the German Aviation Act (LuftVG) could be reliably maintained.

6.2.5 Insured risks

The insurance cover of DFS encompasses common insurable risks of DFS and its subsidiaries. It particularly includes compensation for the loss or damage of material assets and the resulting interruption of operations minus the usually agreed deductible.

It should be kept in mind when assessing the insured risks that DFS mainly performs sovereign functions on behalf of the Federal Republic of Germany in keeping with Article 87d of the German Basic Law (*Grundgesetz*) in conjunction with Sections 31b and 31d of the German Aviation Act (LuftVG). As a consequence, the Federal Republic of Germany is liable for claims brought by third parties for damages in line with the principles of State liability.

6.2.6 Overall assessment of the risk situation

With the exception of cyber risks, the Executive Board currently discerns no additional risks – occurring individually or as a group – that would pose a threat to the going-concern status of the company.

The topic of cyber-attacks has also moved more into the public eye in recent years. According to an analysis by the German Information Security Agency (BSI), the threat level in the cyber space is higher than ever. Ransomware attacks remain the main threat to businesses.

7 Outlook

7.1 Development of the economic environment and effects on air transport

The pandemic-related travel restrictions of the past years should no longer play a significant role in future traffic growth (with a few exceptions in the intercontinental sector). Therefore, DFS expects the recovery of air transport to continue over the next few years.

However, the development is not the same in all segments. Business travel in particular is expected to settle at a new normal level that is well below pre-pandemic levels. In the short term, it remains to be seen whether flight cancellations due to staff shortages in aviation can be avoided.

The war in Ukraine has led to the collapse of some markets and is fuelling risks for global economic growth. High energy costs are driving up inflation and thus ticket prices. To counteract inflation, the European Central Bank raised key interest rates. Tight monetary policy with higher real interest rates, persistently high energy prices and weak growth in real household incomes are likely to weaken economic growth.

The challenges facing the air transport industry are largely related to global economic growth, high fuel costs and staff shortages, and may have a dampening effect on air traffic growth. Thus, despite the recovery, the outlook for the coming years is somewhat more cautious than previously assumed.

Global growth is projected by the IMF in its World Economic Outlook to fall from an estimated 3.4 percent in 2022 to 2.9 percent in 2023, and then rise to 3.1 percent in 2024. The forecast for 2023 is thus below the average of 3.8 percent for the years 2000 to 2019. The increase in central bank interest rates to fight inflation and Russia's war in Ukraine continue to negatively impact economic activity. In its OECD Economic Outlook from November 2022, the OECD assumes growth of only 2.2 percent for 2023.

The EU is one of the most vulnerable economies due to its geographical proximity to the war in Ukraine and its strong, albeit rapidly decreasing, dependence on fossil fuel imports. For 2023, the EU therefore forecasts real GDP growth of only 0.3 percent. By 2024, the EU should have largely adapted to the external environment and expects average growth of 1.6 percent.

The leading economic research institutes largely predict a recession for the future economic development in Germany in 2023 with negative growth of 0.2 percent on average compared with the previous year. The German Federal Government, on the other hand, forecasts in its Annual Economic Report that GDP will increase slightly by 0.2 percent in 2023. The main reason it cites is the massive government stabilisation measures for private households and businesses, and their adjustments to the high energy prices and the associated reduction in gas consumption. In 2024, the economy is expected to continue to recover and grow by 1.8 percent.

The global outlook remains subject to significant risks, including the possibility of additional COVID-19 waves and financial stresses due to the high indebtedness of individual countries. It is expected that inflationary pressures will ease as the bottlenecks are resolved and that wage costs will rise only moderately.

EUROCONTROL's Statistics and Forecast Service (STATFOR) outlines in its EUROCONTROL Forecast 2022-2028, published in October 2022, traffic growth in 2023 of 15.0 percent year on year. In the following years, STATFOR expects average growth of around 3.0 percent per year, with air traffic volumes increasing more strongly in the first years and shifting to its long-term trend towards the end of the medium-term. STATFOR estimates that the 2019 level will be reached again as early as 2024.

7.2 Future development

7.2.1 Regulated business

Third reference period (2020-2024)

The third reference period (RP3) began on 1 January 2020 on the basis of the Regulation on a common charging scheme (Regulation (EU) 2019/317) and the EU targets under Commission Implementing Regulation (EU) 2019/903. The adjustment regulation (EU) 2020/1627 initiated by the European Commission due to the COVID-19 pandemic and the related traffic/revenue slump led to a revision of all five years of RP3 and thus new EU targets and the drawing up of new performance plans. The revised FABEC performance plan for RP3 has not been adopted so far due to an inconsistency in the Belgian-Luxembourg cost-efficiency contribution identified by the European Commission. In the meantime, the FABEC States have each submitted their national contributions individually to the European Commission. The national performance plan was approved by the European Commission on 14 December 2022.

Further development of the SES framework regulations

On 22 September 2020, the European Commission published its proposal for a further development of the SES Framework Regulation. Due to difficult negotiations between the European Parliament, the European Council and the European Commission in the so-called trilogue procedure, it is not expected that compromise proposals on all critical points will be adopted before the start of the preparatory work for RP4. In terms of content, the proposal focuses on shifts of competences between European institutions and Member States and not on the issues that, according to the European Commission's objectives, can actually drive digitalisation and emission reduction in the coming years.

iCAS programme

To minimise the risks associated with its introduction, and in response to the effects of the COVID-19 pandemic on the development progress, the previously pursued plan for the development and introduction of iCAS at the control centres for lower airspace, iCAS Phase II, was lengthened. Based on the current state of knowledge, the time windows for the introduction of the iCAS Phase II software at the control centres for lower airspace are set for 2023 to 2025. DFS is examining alternatives for the Karlsruhe branch.

The deadline for the introduction of Flight Object Interoperability (FO IOP) was taken out of Commission Implementing Regulation (EU) No 716/2014. The iCAS Flight Object IOP project will be suspended until the end of 2024. Until then, DFS is examining options to continue the development of Flight Object IOP within the framework of the existing iTEC cooperation.

Remote tower control (RTC)

Following the commissioning of remote tower control for Saarbrücken and Erfurt airports, the commissioning of tower control for Dresden Airport is scheduled for the end of 2023 after a further validation phase in which the RTC concept will be reviewed once again.

7.2.2 Commercial business

The management of the Group pursues a long-term strategy of value-creating expansion of the commercial business to support the core business, provided that suitable opportunities arise on the market. The commercial business offers growth potential for the DFS Group and is therefore an essential part of the Group strategy 2030.

In 2023, DFS plans to generate the largest revenue in the commercial business with the provision of aerodrome control services, the training of military air traffic controllers, and apron control. This also includes the provision of air traffic control personnel, programming services and contracts for ground situation displays at individual airports.

In air traffic control operations at the German regional airports, the project to set up a remote tower control (RTC) centre in Braunschweig is a focal point, which is intended to enable tower services at Braunschweig and Emden airports (AFIS) to be provided decoupled from location. In the area of UTM, Droniq will continue to position itself as the leading digital platform for unmanned aviation. To this end, certification as the first U-Space service provider in Germany is being sought in 2023. The company will generate planned losses in the coming year.

The DFS Executive Board forecasts negative earnings in the low single-digit million euro range in the commercial business of the DFS Group in 2023.

The support of commercial business by DFS provides relief for the regulated business (to the tune of €21.3 million) and thus for airspace users.

7.3 Results and financial position

7.3.1 Revenues and costs

The European Commission approved the national performance plan submitted by the Federal Republic of Germany in December 2022. The under-recoveries of 2020 and 2021 were recognised in one amount in the business year 2021 in profit or loss and taken into account in the calculation of charges spread over six years from the year 2023 onwards. This will increase revenues for DFS from 2023 onwards.

However, in the regulated business, it is doubtful that the pre-pandemic level will be reached in 2023 and revenues from air navigation charges are expected to remain lower than assumed in the performance plan. The forecast of EUROCONTROL's Statistics and Forecast Service (STATFOR) from October 2021, on which the performance plan is based, assumes a level of around 98 percent of the year 2019 for the revenue-relevant service units in 2023 and that the pre-pandemic level will be reached in 2024. This assessment is currently not fully shared by DFS. It also assumes a dynamic growth in traffic volumes, although it is currently expected that a return of air transport to pre-pandemic levels will not be possible until 2025 at the earliest. The resulting deviations from the targets in the reference period are subject to traffic risk sharing, as in previous reference periods.

Expenses in both the regulated business and the commercial business are primarily influenced by staff costs, including the cost of occupational pension provision. Staff costs will continue to increase due to the pipeline of new student air traffic controllers and salary increases under

collective bargaining agreements. Depending on the development of interest rates, the cost of occupational pension provision can change significantly. Within the framework of the strategic efficiency improvement programme (STEP), corresponding countermeasures are to become effective.

The business opportunities in the DFS Group arise predominantly on the free market in the commercial business.

7.3.2 Capital expenditure (CAPEX)

DFS will continue to invest primarily in capacity-expanding and productivity-enhancing air traffic control systems. These capital expenditures, as well as those on infrastructure and replacement investments, will be financed from cash flow and amortised by matched depreciation/amortisation charges.

With the projects for the replacement of the system infrastructure of the ATS systems as well as the replacement of communication, navigation and surveillance facilities, substantial replacement investments are being made. In addition, the increased inflation rates will lead to higher procurement costs for projects.

As a result, investments in 2023 are expected to be slightly above the level of 2022.

7.3.3 Liquidity

The approval of the national performance plan described above will lead to more revenues from 2023. DFS will therefore be able to ensure solvency at all times without borrowing. By making withdrawals from fund assets, DFS will repay a *Schuldscheindarlehen* (debenture loan) of €110 million in 2023.

Developments on the capital markets remain difficult to predict. In particular, the development of inflation and the associated interest rates will influence the financial strategy of DFS. While high inflation will lead to higher prices and staff costs, rising interest rates will ensure a reduction in the pension benefits obligation and the elimination of any penalty interest on demand deposits.

7.3.4 General statement and earnings forecast

In 2022, DFS took many preparatory measures to meet the challenges of 2023 and approach the year with optimism. The expected increase in air traffic volumes again poses major challenges for the provision of airspace capacity and safety. Retirements of air traffic controllers must be constantly offset by a pipeline of new staff.

The approval of the national performance plan and the associated revenues from the carry-over from 2020 and 2021 have put DFS back in a position to meet its financial obligations on its own after three years.

Cost increases due to high inflation, especially in energy and project costs, are being mitigated by consistent implementation of the efficiency programme. However, an increase in expenditure cannot be completely avoided.

Combined management report

The capital markets will continue to face major challenges in 2023, too. They are likely to remain shaped by the business cycle, monetary policy and geopolitics. After the widespread losses on both the equity and bond markets last year, DFS expects its investments to grow slightly.

Naturally, the opportunities are also accompanied by risks. The still uncertain geopolitical consequences of the war in Ukraine, the development of inflation and interest rates, the effects of the COVID-19 pandemic in China and, ultimately, weak economic growth are examples of these risks.

Overall, the Executive Board expects slightly positive earnings (EBT) in the lower double-digit million euro range for 2023 on the basis of the charges-related financial statements.

8 Notes to the separate financial statements of DFS Deutsche Flugsicherung GmbH (HGB)

The Group management report 2022 has been combined with the management report of DFS Deutsche Flugsicherung GmbH (DFS) in accordance with Section 315(5) of the German Commercial Code (HGB) in conjunction with Section 289(2) of the HGB. In substance, the presentations contained in sections 1 to 7 correspond to those of DFS. The following information relates exclusively to the separate financial statements of DFS in accordance with the HGB.

8.1 DFS organising principles

DFS, which employs 5,612 operational and administrative staff, ensures the safety of German airspace and also offers additional products and services on the free market (the commercial business).

The organising principles of DFS essentially correspond to those of the DFS Group (see section 1).

8.2 Report on economic position

8.2.1 Forecast/actual comparison

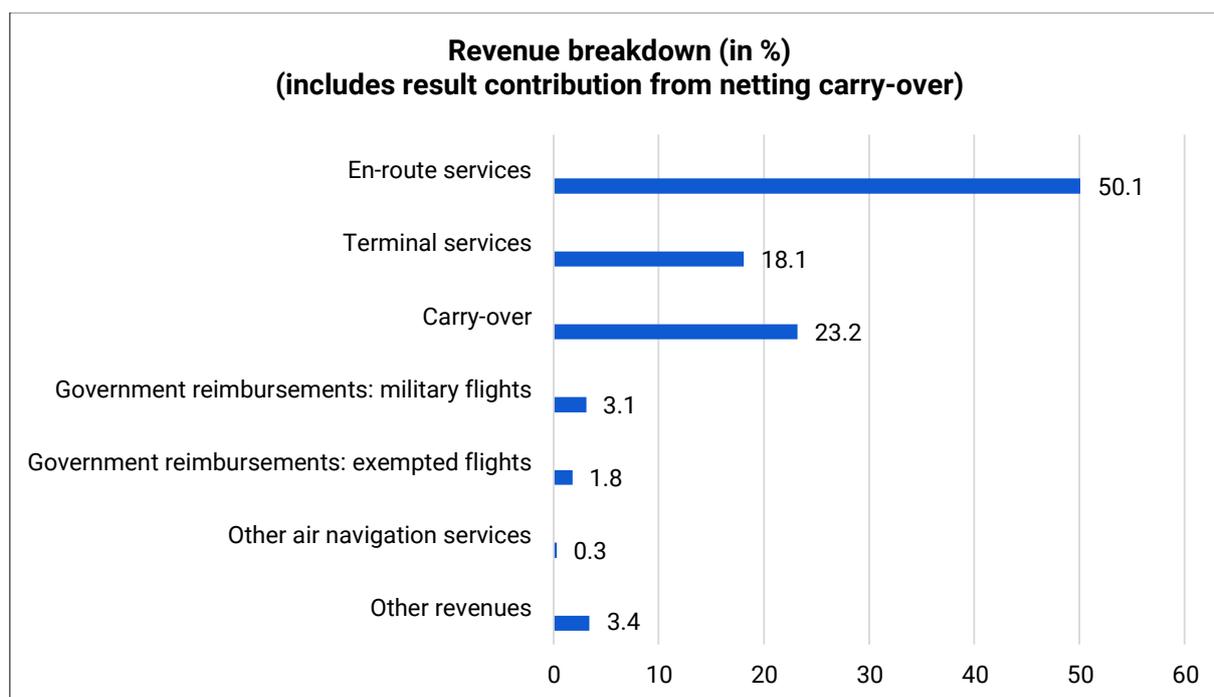
Forecast/actual comparison 2022			
	Actual as at 31 Dec 2021	Forecast for 2022	Actual as at 31 Dec 2022
Service units	En-route services: 7.68 million Terminal services: 0.70 million	Slight increase	En-route services: 12.5 million Terminal services: 1.1 million
Revenues (total)	€1,310.1m	Not cost-covering	€1,256.7m
Depreciation and amortisation	€80.8m	Slightly above previous year's level	€83.9m
Earnings (total)	-€124.3m	Losses in the mid triple-digit euro range	-€617.5m
ATC training starts	72	Continued pipeline of student ATCOs	126

More information on earnings can be found in section 8.2.5.

8.2.2 Revenues

In the business year 2022, DFS generated revenues of €1,256.7 million (previous year: €1,310.1 million), 4.1 percent lower than the previous year's level.

Revenues from air navigation services decreased from €1,264.5 million to €1,214.0 million. Overall, they take into account the effects from the carry-over of €292.0 million (previous year: €670.0 million) recognised in the business year, which resulted from the greatly reduced traffic situation and which will only be borne by the airspace users in the future through a compensation mechanism.



Within other air navigation services and other revenues, commercial services made up around 25.4 percent, generating revenues of €18.6 million (previous year: €28.2 million).

8.2.3 Other operating income

	2022	2021
Total	32.0	39.1
Compared with previous year (%)	-18.1	-1.5

(Significant components are shown in HGB Note 4.2).

8.2.4 Principal expense categories

Employee expenses (€m)	2022	2021
Total	1,290.4	1,366.0
Wages and salaries	665.4	623.0
Social security costs and expenses for pensions and assistance	618.3	736.0
Costs of personnel belonging to the Federal Aviation Office (LBA)	6.7	7.0
Share of total expenditure (%)	83.4	84.5
Compared with previous year (%)	-5.5	+15.6

The introduction of IDW RH FAB 1.021 [from the *Institut der Wirtschaftsprüfer* – Institute of Public Auditors in Germany] resulted in a one-off conversion effect of approximately €131 million for DFS Deutsche Flugsicherung GmbH.

Other operating expenses (€m)	2022	2021
Total	162.2	158.7
Share of total expenditure (%)	10.4	9.8
Compared with previous year (%)	2.2	-3.4

(Significant components are shown in HGB Note 4.5.)

Depreciation and amortisation (€m)	2022	2021
Total	83.9	80.8
Share of total expenditure (%)	5.4	5.1
Compared with previous year (%)	3.8	-6.7

8.2.5 Earnings

In the business year 2022, DFS generated a net loss of €617.5 million (previous year: net loss of €124.3 million).

Net income (+)/loss (-) (€m)	2022	2021
Total	-617.5	-124.3
Compared with previous year (%)	>-100	+73.9

The earnings contain costs of €78.3 million (previous year: €78.3 million) from the application of the imputed model for occupational pensions within the scope of the introduction of regulated charges as at 1 January 2012 and grant funding of €17.0 million (previous year: €22.0 million). The effects from the carry-over totalling €292.0 million (previous year: €670.0 million) recognised in the business year had a minor positive impact on earnings.

As a result of lower total operating revenues and income (due to air traffic volumes being below the forecast range), earnings were in the forecast loss range despite lower overall costs.

DFS also took into account the reduced income from charges from 2018 to be offset in the charges for users in 2022.

Overall, net income was clearly marked by the war in Ukraine, restrictions on air traffic due to COVID-19 and the introduction of the standard IDW RH FAB 1.021. The significant losses on the capital market further adversely impacted earnings.

8.2.6 Capital expenditure (CAPEX)

Capital expenditure amounted to €53.5 million (previous year: €70.7 million) in the business year 2022.

8.2.7 Balance sheet structure

In 2022, the balance sheet total increased by 18.7 percent over the previous year to €3,273.5 million (previous year: €2,758.5 million).

Assets

Fixed assets decreased slightly overall by 5.8 percent. The decisive factor here was mainly the level of depreciation and amortisation, which exceeded the level of capital expenditure.

Financial assets declined by 4.1 percent primarily due to a principal repayment (€2.6 million) under an existing loan contract with the subsidiary DFS Energy. Current assets declined by 24.6 percent. Cash and cash equivalents fell by around €7.1 million (-8.7%). Investments in fund assets that have not been assigned decreased by around €228.3 million (-35.1%).

Inventories and receivables from affiliated companies remained essentially constant.

In addition, DFS reported a difference on the asset side from the billing of charges of €1,270.6 million for 2022. This item primarily includes amounts to be reimbursed by airspace users in the future from the high COVID-19-related traffic deviation in 2020 and 2021, as well as the carry-over for 2022 of €292.0 million.

Furthermore, DFS showed a deficit of €709.8 million for 2022, which was not covered by equity, due to the renewed net loss for the year of €617.5 million.

Equity and liabilities

Equity currently remains uncovered, provisions increased by 38.8 percent and liabilities remained largely constant in their structure.

The net loss for the business year (€617.5 million) negatively impacted (the negative) equity.

Pension provisions (netted against related plan assets) rose by 43.9 percent, or €673.3 million. The so-called "primacy of the assets side" (*Aktivprimat*) will be used to determine pension provisions from 2022 onwards. The first-time application of IDW RH FAB 1.021 resulted in an increase in pension provisions of approximately €131 million. Another significant influencing factor was the inflation adjustment of 8.1 percent in the collective agreement relating to pensions at DFS (VersTV). Tax provisions declined from €39.1 million to €36.3 million due to the income tax-related earnings for air navigation charges, while other provisions remained largely constant.

The structure of liabilities remained basically constant. Trade payables were largely due to domestic suppliers.

The difference on the liabilities side from the billing of charges decreased by 45.1 percent due to the change in the carry-over amounts to be reimbursed in the course of the n+2 mechanism.

Net financial indebtedness amounted to minus €118.3 million as at 31 December 2022. The leverage ratio at the balance sheet date thus amounted to minus 3.6 percent. The financial result, driven primarily by pension obligations, was €355.9 million.

	2022	2021
Net financial indebtedness (€m)* (Financial liabilities – liquid funds)	118.3	-95.8
Leverage ratio (%) (Net financial indebtedness / balance sheet total)	3.6	-3.5
Asset intensity (%) (Fixed assets / balance sheet total)	17.4	21.9

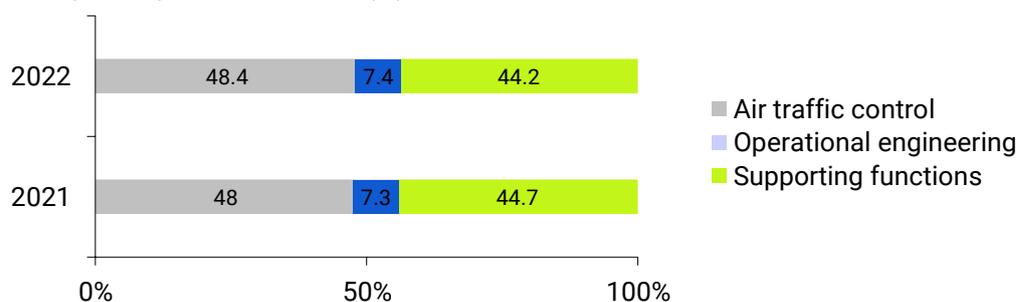
* A minus sign means that there is overcompensation from liquid funds.

8.3 Personnel

As at 31 December 2022, DFS had a total of 5,612 employees.

	2022	2021
Permanent employees (total)	5,612	5,584
Salaried staff	5,142	5,072
Soldiers released from regular service	112	124
Wage-earners	14	14
Technical/commercial students & apprentices	101	117
Trainee air traffic controllers	155	155
Personnel belonging to the Federal Aviation Office (LBA)	88	102
of which established civil servants	74	84
of which non-established employees	14	18
Compared with previous year (%)	+0.5	-1.3
Share of female employees (%)	27.3	27.5
Share of foreign employees (%)	4.1	4.3

Employees by area of duties (%)



Combined management report

Of the 5,612 employees at DFS, 986 were part-time – 587 women and 399 men. The share of part-time employees rose by 1 percent over the previous year, reaching 17.6 percent. The age structure of staff is well balanced, with the average age being 43.2 years. The turnover rate was 0.7 percent in 2022.

At present, 27.2 percent of employees are women. Currently, 70 of the 466 management positions in the company are held by women, representing a share of 15 percent.

DFS applies the German law on the equal participation of women and men in management positions in the private sector and in public service (*FührposGleichberG*) and has laid down a target for the share of female division directors of 9 percent (previously: 5%) and the share of female department heads of 19 percent (previously: 13%) in the company for the period from 1 January 2022 until 31 December 2026. As of 31 December 2022, DFS reached 8.7 percent at division-director level and 17.6 percent at department-head level. The company is increasingly fostering in a targeted manner both family-friendly policies and equal opportunities.

As at the reporting date, the majority of foreign employees come from Spain and Austria, followed by Italy and the United Kingdom. Overall, 48 nations are represented.

Training

Training starts		
	2022	2021
Total	158	118
Air traffic controllers	126	72
Dual courses of studies / apprenticeships	32	46
Compared with previous year (%)	+33.9	-16.9

On 31 December 2022, 391 people (including controllers in on-the-job training – OJT) were undergoing multi-year air traffic controller training. A total of 147 people were undergoing theoretical basic training.

8.4 Compliance

The compliance regulations of DFS correspond to those of the DFS Group (see section 5).

8.5 Risk report

The risk situation of DFS essentially corresponds to that of the DFS Group (see section 6).

8.6 Outlook

The future business development of DFS is essentially subject to the same influences and general conditions as those of the DFS Group (see section 7).

8.6.1 Capital expenditure (CAPEX)

Capital expenditure in 2023 is expected to be slightly above the 2022 level.

8.6.2 General statement and earnings forecast

The further decline in the discount rate continues to lead to high costs for occupational pensions. DFS expects to make a net loss in the three-digit million range.

The loss will not lead to a liquidity shortfall of the same amount due to the adoption of the national performance plan by the European Commission, as the carry-over (€196 million) impacts cash flow but not earnings.

In the medium term, DFS expects a significant improvement in the earnings situation due to rising interest rates.

Langen, 2 March 2023

The Executive Board

Arndt Schoenemann
Chairperson and
CEO

Andrea Wächter
Chief Human
Resources Officer &
Labour Director

Dirk Mahns
Chief Operating
Officer

Friedrich-Wilhelm Menge
Chief Technology Officer

9 Annex 1: Report on equality and equal pay

Purpose and content of the report

This report presents the measures taken by DFS Deutsche Flugsicherung GmbH (DFS) to ensure equality and equal pay between men and women.

In accordance with Section 21 of the German Act to Promote Transparency of Pay Structures (EntgTranspG) dated 30 June 2017 (BGBl. I p. 2152), DFS is obliged to prepare a "Report on equality and equal pay".

The aim of the Act is to enforce the requirement of equal pay for women and men for the same work or work of equal value.

The report contains gender-disaggregated data on the average total number of employees as well as the average number of full-time and part-time employees (statistical personnel data).

Furthermore, DFS presents measures to promote gender equality and their effects as well as measures to achieve equal pay for women and men.

DFS prepares a report every five years because it is bound by collective agreements (Section 22(1)(1) EntgTranspG). The first report was made as part of the Group management report 2017. This report covers the period 2017-2021 (Section 22(1)(2) EntgTranspG). The statistical data only refer to the year 2021 (Section 22(3) EntgTranspG).

Statistical personnel data

Average number of employees in 2021 – DFS Deutsche Flugsicherung GmbH			
People	Male	Female	Total
Full-time	3,702	953	4,655
Part-time	372	591	963
Employees	4,074	1,544	5,618

Average number of employees in 2021 – DFS Deutsche Flugsicherung GmbH			
in %	Male	Female	Total
Full-time	79.5%	20.5%	82.9%
Part-time	38.6%	61.4%	17.1%
Employees	72.5%	27.5%	100.0%

Percentage change compared with 2016 (information pursuant to Section 22(3)(2) EntgTranspG)			
in %	Male	Female	Total
Full-time	-1.5%	1.5%	-0.9%
Part-time	21.2%	2.4%	8.9%
Employees	0.2%	1.8%	0.7%

The statistical personnel data differ from the data presented in section 4 (Staff) of the DFS management report, as the report on equality and equal pay uses average figures for the year 2021, while the DFS management report is based on headcount for the year 2022 as of the reporting date.

Measures taken by DFS to promote equality between women and men, and to achieve equal pay

DFS implemented a variety of measures to promote gender equality and equal pay.

It is crucial that DFS takes the principle of equality into account and applies it in its daily work. For example, the pay provisions in the collective agreements are gender-neutral and apply equally to women and men. The same applies to the remuneration of exempt employees. Access to jobs is also designed to be non-discriminatory as there is no differentiation between women and men in the job advertising and selection process.

In addition to these general measures, DFS pursues other specific measures that serve or promote gender equality.

This includes, for instance, the cooperation with *Mentoring Hessen*, a mentoring network in which DFS staff members with a STEM background support female students in their further career steps, and ideally inspire and encourage them to follow a compatible career at DFS.

DFS also regularly participates in Girls' Day. The aim is to awake girls' interest in DFS as a possible future employer.

In addition, DFS has established further instruments to help balance work and family life within the framework of the *berufundfamilie* [workandfamily] certificate awarded by the Hertie Foundation. In this context, for example, the opportunities to work from home or on the road (known as mobile working at DFS) have been expanded. DFS has also extended its cooperation with a local day care centre, established a children's holiday programme and improved employee information on options for paid or unpaid leave as part of statutory parental leave, enhanced parental leave and care leave.

DFS also strives to increase the proportion of women in management positions. It conducted a survey to identify obstacles and possible incentives, the results of which are currently being analysed and implemented.

Beyond gender equality, DFS is committed to diversity as an essential element of its corporate culture. As early as 2008, DFS signed the *Charta der Vielfalt* [Diversity Charter] as an expression of its recognition of the individuality of every human being. External job advertisements include the sentence: "Gender doesn't matter (female/male/diverse), your passion for aviation does."

The measures listed have been welcomed by staff and have had a positive impact on equal opportunities, gender equality and cultural diversity at DFS.

Annex 2: Declaration on corporate governance pursuant to Section 289f(4) of the German Commercial Code (HGB)

The recognition, appreciation and inclusion of diversity in the corporate culture as well as gender equality are of particular importance at DFS. The German law on the equal participation of women and men in management positions in the private sector and in public service (*FührposGleichberG*), amended and supplemented by the law to supplement and amend the regulations for the equal participation of women in management positions in the private sector and the public sector, which came into force on 12 August 2021 (so-called *Zweites Führungspositionengesetz*) provides for companies such as DFS, which are subject to co-determination in accordance with the German Co-Determination Act (*MitbestG*), to set themselves targets for the gender split on the Supervisory Board, Executive Board and subordinate management levels. There is a prohibition on the situation deteriorating which must be observed and a maximum implementation period of five years must be defined.

At the beginning of 2017, the DFS Supervisory Board set targets for the proportion of women of 30 percent for the Supervisory Board and 0 percent for the Executive Board for the period from 1 January 2017 to 31 December 2021. In 2016, the DFS Executive Board had already set targets for the proportion of women at the first management level of 5 percent and at the second management level of 13 percent for the period from 1 January 2017 to 31 December 2021. As of 31 December 2021, all targets had been achieved.

Pursuant to Article 7(1)(1) of the German Co-determination Act (*MitbestG*), the DFS Supervisory Board is composed of 12 members with equal representation of the Shareholder (6 members) and employees (6 members).

At its 118th meeting on 16 December 2021, the DFS Supervisory Board set the following targets for the proportion of women on the Supervisory Board and the Executive Board for the period from 1 January 2022 to 31 December 2026 in accordance with Section 52(2) of the German Act Concerning Limited Liability Companies (*GmbHG*):

- Target for the proportion of women on the Supervisory Board: 50.0%
- Target for the proportion of women on the Executive Board: 25.0%

As at 31 December 2022, the proportion of women on the Supervisory Board was 33.3 percent (4 out of 12) and on the Executive Board it was 25.0 percent (1 out of 4). The Shareholder representatives on the Supervisory Board are delegated by the Federal Republic of Germany as the sole shareholder, while the employee representatives are elected in accordance with the provisions of the *MitbestG*. The next election of the Supervisory Board takes place in March 2023.

In September 2021, the DFS Executive Board set the targets for the proportion of women in the two management levels below the Executive Board for the period from 1 January 2022 to 31 December 2026 in accordance with Section 36 of the German Act Concerning Limited Liability Companies (*GmbHG*):

- Target for the proportion of women on the first management level: 8.3%
- Target for the proportion of women on the first management level: 19.3%

As at 31 December 2022, the proportion of women on the first management level was 8.7 percent (2 out of 23) and at the second management level 17.6 percent (18 out of 102).

DFS Deutsche Flugsicherung GmbH
Consolidated statement of comprehensive income
for the period 1 January 2022 to 31 December 2022

	Note	2022 €m	2021 €m
Continuing operations			
Revenues	5	1,328	1,376
Changes in inventory and other own work capitalised		33	28
Other operating income	6	27	35
Total operating revenues and income		1,388	1,439
Material expenses		-19	-14
Employee expenses	7	-1,044	-1,035
Other operating expenses	8	-144	-135
Earnings before interest, taxes, depreciation and amortisation (EBITDA)		181	255
Depreciation and amortisation		-110	-103
Impairment losses on financial assets and contract assets		-1	-2
Earnings before interest and taxes (EBIT)		70	150
Financial income	9	151	122
Financial expenses	9	-247	-114
Financial result	9	-96	8
Earnings before taxes (EBT)		-26	158
Income taxes	10	-6	-23
Earnings for the period (continuing operations)		-32	135
Allocation of the earnings of the period			
Shareholder of the parent company		-30	136
Earnings attributable to minority interests		-2	-1

	Note	2022 €m	2021 €m
Earnings for the period (continuing operations)		-32	135
Other comprehensive income			
Items not reclassified in profit or loss			
Remeasurement of the net defined benefit liability from the defined benefit obligation = actuarial gains (+) and losses (-) of the ongoing business year		1,976	1,063
Tax effects		0	0
Items that can be reclassified in profit or loss			
Currency differences from the conversion of foreign operations or investments		0 ¹⁾	0 ¹⁾
Tax effects		0	0
Other comprehensive income for the period		1,976	1,063
Total results for the period		1,944	1,198
Allocation of the total result			
Shareholder of the parent company		1,946	1,199
Income and expenses attributable to minority interests		-2	-1
¹⁾ Under €1 million			

DFS Deutsche Flugsicherung GmbH

Consolidated balance sheet as at 31 December 2022

	Note	2022 €m	2021 €m
Assets			
Goodwill	11	0 ²⁾	0 ²⁾
Intangible assets	12	231	230
Property, plant and equipment	13	442	459
Investment property	15	0 ²⁾	1
Financial assets accounted for using the equity method	16	1	8
Financial assets	16	8	8
Trade receivables	17	0	0 ²⁾
Other receivables and assets	19	1,156	1,169
Deferred tax assets	10	14	17
Non-current assets		1,852	1,892
Trade receivables	17	135	118
Contract assets	18	5	4
Other receivables and assets	19	227	53
Inventories		7	7
Financial assets	20	368	693
Liquid funds		144	126
Tax assets		0 ²⁾	0 ²⁾
Current assets		886	1,001
Total		2,738	2,893
²⁾ Under €1 million			

	Note	2022 €m	2021 €m
Equity and liabilities			
Subscribed capital	21	1,055	1,055
Capital reserves	21	74	74
Remeasurement reserves	21	-56	-2,032
Retained earnings	21	107	137
Share of equity attributable to Shareholder of parent company	21	1,180	-766
Minority interest	21	0 ³⁾	2
Equity	21	1,180	-764
Provisions for pensions and similar obligations	22	467	2,416
Other provisions	23	135	196
Financial liabilities	24	523	628
Trade payables		0 ³⁾	0 ³⁾
Other liabilities	25	11	18
Income tax obligations	3	19	19
Non-current liabilities		1,155	3,277
Other provisions	23	111	177
Financial liabilities	24	121	28
Trade payables		29	32
Contract liabilities	18	5	2
Other liabilities	25	120	121
Income tax obligations		17	20
Current liabilities		403	380
Total		2,738	2,893
³⁾ Under €1 million			

DFS Deutsche Flugsicherung GmbH
Consolidated statement of changes in equity
for the period 1 January 2022 to 31 December 2022

Note 21	Subscribed capital	Capital reserves	Revaluation reserves	Retained earnings	Share of equity attributable to Shareholder of parent company	Minority interest	Total
	€m	€m	€m	€m	€m	€m	€m
As at 31 Dec 2020	755	74	-3,095	1	-2,265	3	-2,262
Operating result							
Capital increase	300	0	0	0	300	0	300
Net income (+) / loss (-)	0	0	0	136	136	-1	135
Other comprehensive income							
Remeasurement of the net defined benefit liability	0	0	1,063	0	1,063	0	1,063
Currency differences from the conversion of foreign operations or investments	0	0	0 ⁴⁾	0	0 ⁴⁾	0	0 ⁴⁾
Tax effects	0	0	0	0	0	0	0
As at 31 Dec 2021	1,055	74	-2,032	137	-766	2	-764
Operating result							
Net loss (-)	0	0	0	-30	-30	-2	-32
Other comprehensive income							
Remeasurement of the net defined benefit liability	0	0	1,976	0	1,976	0	1,976
Currency differences from the conversion of foreign operations or investments	0	0	0 ⁴⁾	0	0 ⁴⁾	0	0 ⁴⁾
Tax effects	0	0	0	0	0	0	0
As at 31 Dec 2022	1,055	74	-56	107	1,180	0	1,180

⁴⁾ Under €1 million

DFS Deutsche Flugsicherung GmbH

Consolidated cash flow statement

for the period 1 January 2022 to 31 December 2022

	2022	2021
	€m	€m
Net income (+) / loss (-)	-30	136
of which dividend received	[1]	[1]
of which income taxes received (+)	[-6]	[62]
Interest	-1	-3
Depreciation and amortisation on intangible assets and property, plant and equipment	110	103
Gains (-) / losses (+) from asset disposals	0 ⁵⁾	1
Other non-cash gains (+) from fair value changes	1,976	1,063
Increase (-) in trade receivables	-17	-2
Increase (-) / decrease (+) in contract assets	-1	1
Increase (-) in other receivables and assets	-161	-590
Increase (-) in inventories	0 ⁵⁾	-1
Reduction (+) in current and deferred tax assets	3	65
Decrease (-) in provisions for pensions and similar obligations	-1,949	-1,134
Decrease (-) in other provisions	-127	-95
Decrease (-) / increase (+) in trade payables	-3	5
Decrease (-) / increase (+) in contract liabilities	3	-1
Decrease (-) / increase (+) in other liabilities	-8	7
Decrease (-) / increase (+) in tax liabilities	-3	20
Cash outflow (-) from operating activities	-208	-425
Payments (-) for investments in intangible assets and property, plant and equipment	-89	-106
Proceeds (+) from disposals of intangible assets and property, plant and equipment	1	3
Proceeds (+) from disposals of financial assets	1	1
Cash outflow (-) from investing activities	-87	-102
Equity transactions by Shareholder	0	300
Equity transaction by minority interests	-2	-1
Taking on (+) financial debt	6	3
Principal payment (-) of financial debt	-20	0
Taking on (+) lease liabilities	7	3
Principal repayment (-) of lease liabilities	-4	-4
Interest received (+)	7	10
Interest paid (-)	-6	-7
Cash outflow (-) / inflow (+) for financing activities	-12	304
Net change in cash and cash equivalents	-307	-223
Cash and cash equivalents as at 1 Jan	819	1,042
Cash and cash equivalents as at 31 Dec	512	819
⁵⁾ Under €1 million		

Notes to the consolidated financial statements 2022

1 General basis

The DFS Group is an air navigation service provider (ANSP) that operates internationally. The ultimate parent company is DFS Deutsche Flugsicherung GmbH (DFS), which has its Headquarters in 63225 Langen, Am DFS-Campus 10, Germany. The company is registered on the Commercial Register (HRB 34977) at the Local Court in Offenbach am Main, Germany, as a limited liability company (GmbH). DFS is wholly owned by the Federal Republic of Germany, represented by the Federal Ministry for Digital and Transport (BMDV).

The main business of the DFS Group is defined by the tasks set out in Section 27c of the German Aviation Act (LuftVG). Under this act, it is entrusted with providing air traffic services (a sovereign task). The Group management report contains information on the business activities and the object of the Group (see sections 1.2 and 1.3 in the Group management report).

2 Application of accounting standards

The regulations...

Regulation (EC) No 1606/2002 of the European Parliament and of the Council of 19 July 2002 on the application of international accounting standards

Regulation (EC) No 550/2004 of the European Parliament and of the Council of 10 March 2004 on the provision of air navigation services in the Single European Sky (the service provision regulation)

Regulation (EU) No 1191/2010 of 16 December 2010 amending Regulation (EC) No 1794/2006 of the Commission on the development of a common charging scheme for air navigation services

Commission Implementing Regulation (EU) 2019/317 of 11 February 2019 laying down a performance and charging scheme in the Single European Sky and repealing Commission Implementing Regulations (EU) No 390/2013 and (EU) No 391/2013

Commission Implementing Regulation (EU) 2020/1627 of 3 November 2020 on exceptional measures for the third reference period (2020-2024) of the Single European Sky performance and charging scheme due to the COVID-19 pandemic

...oblige the DFS Group to draw up its consolidated financial statements as at 31 December 2022 in line with International Financial Reporting Standards (IFRS). It applies the standards of the International Accounting Standards Board (IASB) and the interpretations of the International Financial Reporting Interpretations Committee (IFRIC) as recognised and endorsed by the European Union (EU).

These financial statements consider Regulation (EC) No 1606/2002, which is enacted in Section 315e of the German Commercial Code (HGB) by means of the Accounting Law Reform Act (BilReG) dated 4 December 2004.

These consolidated financial statements were prepared in accordance with the standards endorsed for use in the EU.

The business year of the Group corresponds to the calendar year (1 January to 31 December).

The Executive Board of DFS drew up the consolidated financial statements and approved them for submission to the Audit Committee of the Supervisory Board and the Supervisory Board on 2 March 2023. The Supervisory Board discussed the consolidated financial statements and the opinion of the Audit Committee and issued a recommendation to the Shareholder to approve the consolidated financial statements. The Shareholder may amend the consolidated financial statements released by the Executive Board. The approved consolidated financial statements will be available via the electronic

German Federal Gazette in accordance with Section 325(2a)(1) of the German Commercial Code (HGB) and on our website at www.dfs.de.

3 Consolidation

3.1 Consolidation principles

On initial consolidation of Group companies, the DFS Group measures the acquired identifiable assets, liabilities, contingent liabilities and deferred taxes at fair value at the acquisition date for business combinations (acquisition method) and compares these to the acquisition costs (purchase price allocation). The non-acquired share of the fair values of assets and liabilities is accounted for as minority interest by the Group. Acquisition-related costs are expensed in the periods in which these costs are incurred.

After the purchase price allocation, the Group recognises the remaining difference between the purchase price and the newly measured proportionate net assets as goodwill. If the value of the net assets acquired exceeds the purchase price, the difference is recognised directly in profit or loss. The DFS Group recognises the differences from acquired minority interests directly in equity after the transfer of control. The acquisition costs of foreign entities acquired are translated into euro at the respective exchange rate at the date of acquisition.

The DFS Group eliminates the revenues, income and expenses as well as the receivables and liabilities stemming from transactions between the consolidated entities against each other. In addition, it eliminates the interim results from intercompany deliveries of non-current assets and inventories.

3.2 Scope of consolidation

DFS, as the ultimate parent company, presents the consolidated financial statements including all those investments where it holds a controlling interest, joint arrangements, associated companies and those investments where it holds a non-controlling interest.

The Group includes investments where it holds a controlling interest if it has existing rights that give it the current ability to direct the relevant activities of an investee. Relevant activities are activities that significantly affect the investee's returns. Within the meaning of IFRS 10, the DFS Group controls a subsidiary when it has exposure, or rights, to variable returns from its involvement with the investee and has the ability to use its power over the investee to affect the amount of these returns due to the ability to direct the relevant activities. In the absence of any other restrictive contractual arrangements, control is generally based on the direct or indirect majority of voting rights of the Group. For structured entities, control is based on contractual arrangements and not on the majority of voting rights. Subsidiaries have to be consolidated from the time that control passes to the Group. They are deconsolidated when control is no longer exercised. Non-controlling interests in earnings and equity of investments with a controlling interest are disclosed separately in the consolidated statement of comprehensive income, the consolidated balance sheet and the consolidated statement of changes in equity.

IFRS 11 differentiates as regards stakes in joint arrangements between joint ventures and joint operations. The classification depends on the contractual rights and obligations of each investor. Joint arrangements exist when the DFS Group jointly controls activities with a third party based on a contract. For joint operations, the Group recognises its direct rights to assets, liabilities, revenues and expenses as well as its share of any assets, liabilities, revenues and expenses held or incurred jointly. Stakes in joint operations are accounted for using the equity method.

The DFS Group measures associated companies over which it exercises significant influence, but has no control or joint control, using the equity method. Significant influence is indicated when the DFS Group directly or indirectly holds between 20.00 percent and 50.00 percent of the voting rights in an investee. The annual measurement is carried out by raising or lowering the carrying amount of the investment to reflect the investor's share of the net assets.

Although the DFS Group holds more than half of the shares (55.00%), individual provisions of the articles of association as well as the rules of internal procedure for the board prevent the Group from exercising control. It therefore assigns FCS Flight Calibration Services to associated companies and measures the companies using the equity method. The Group holds 30.00 percent of the shares in FREQUENTIS DFS AEROSENSE and 21.03 percent of the shares in UNIFLY. In both cases, the Group assumes material influence and accounts for the shares under the equity method.

Taken together, the investments where there is a non-controlling interest exert only an immaterial influence on total assets, revenues and net income from a Group perspective and are not material for the representation of the results and financial position of the DFS Group. A materiality threshold of 5.00 percent was set out for this. The Group does not include them in the consolidated financial statements. These entities are recognised at their fair value or, if this cannot be reliably determined for equity instruments that are not listed, at amortised cost. They are disclosed as investments under non-current financial assets.

Companies included in the consolidated financial statements of the DFS Group					
List of shareholdings under Section 313(2)(4) German Commercial Code (HGB)					
Acronym	Company	Registered office	Percentage of shareholding	Equity	Net income
			in %	€'000	€'000
DFS	DFS Deutsche Flugsicherung GmbH	Langen, Germany	Ultimate parent company	1,179,561	-31,550
Consolidated companies (controlling interest)					
DFS IBS	DFS International Business Services GmbH	Langen, Germany	100.00	38,354	-5,709
DFS Energy	DFS Energy GmbH ⁶⁾	Langen, Germany	100.00	5,132	0
DFS Aviation Services	DFS Aviation Services GmbH ⁷⁾	Langen, Germany	100.00	11,794	0
Eisenschmidt	R. Eisenschmidt GmbH ⁷⁾	Egelsbach, Germany	100.00	168	0
KAT	Kaufbeuren ATM Training GmbH ⁷⁾	Kaufbeuren, Germany	100.00	100	0
ANSL	Air Navigation Solutions Ltd.	London, United Kingdom	100.00	£1,438 thousand	£464 thousand
DAS Bahrain	DFS AVIATION SERVICES BAHRAIN Co. W. L. L.	Manama, Bahrain	100.00	681 thousand (Bahraini dinars)	404 thousand (Bahraini dinars)
Droniq	Droniq GmbH	Frankfurt, Germany	51.00	23	-2,791
Associated companies – measurement using equity method					
FCS	FCS Flight Calibration Services GmbH ⁸⁾	Braunschweig, Germany	55.00	5,511	246
AERSENSE	FREQUENTIS DFS AERSENSE GmbH ⁸⁾	Vienna, Austria	30.00	295	23
UNIFLY	UNIFLY NV ⁸⁾	Antwerp, Belgium	21.03	1,401	-5,930
Investments (non-controlling) – measurement using cost method					
Investment through DFS Deutsche Flugsicherung GmbH:					
GroupEAD	GroupEAD Europe S. L. ⁸⁾	Madrid, Spain	36.00	1,961	409
BILSODA	BILSODA GmbH & Co. KG ⁸⁾	Pullach, Germany	24.90	2,406	41
Investment through DFS International Business Services GmbH:					
ESSP SAS	European Satellite Services Provider Société par Actions Simplifiée ⁸⁾	Toulouse, France	16.67	17,891	4,598
Investment through DFS Aviation Services GmbH:					
TATS	Tower Air Traffic Services S. L. ⁸⁾	Madrid, Spain	50.00	1,000	-3

⁶⁾ There is a profit-and-loss transfer agreement with DFS

⁷⁾ There is a profit-and-loss transfer agreement with DFS International Business Services

⁸⁾ Values as at 31 December 2021

Changes in scope of consolidation					
	As at 31 Dec 2021	Consolidation/ reconciliation	Additions	Disposals	As at 31 Dec 2022
Consolidated companies (controlling interest)	9	0	0	0	9
of which domestic	7	0	0	0	7
of which foreign	2	0	0	0	2
Associated companies – measurement using equity method	3	0	0	0	3
of which domestic	1	0	0	0	1
of which foreign	2	0	0	0	2
Investments (non-controlling) – measurement using cost method	4	0	0	0	4
of which domestic	1	0	0	0	1
of which foreign	3	0	0	0	3

3.3 Other investments

Disclosures on minority shareholders			
Droniq GmbH	Total	DFS Group	Telekom Innovation Pool GmbH
	€'000	€'000	€'000
Share capital	2,000	1,020	980
Shareholding	100.00 %	51.00 %	49.00 %
Business year	1 Jan - 31 Dec		
Accounting standards	HGB		
Income from investments (previous year)	0 (-)	0 (-)	0 (-)
Current assets	3,996	2,038	1,958
Non-current assets	314	160	154
Current liabilities	1,271	648	623
Non-current liabilities	3,016	1,538	1,478
Equity	23	12	11
Net income	-2,791	-1,423	-1,368
Revenues	891	454	437

Disclosures on associated companies				
	FCS⁹⁾	AERONSENSE⁹⁾	UNIFLY⁹⁾	
	€'000	€'000	€'000	
Total registered capital	205	35	7,330	
Shareholding	55.00 %	30.00 %	21.03 %	
Additional shareholders	SKYNAV S.A., Belgium, 25.00% AUSTRO CONTROL, Austria, 20.00%	FREQUENTIS AG, Austria, 70.00%	Five individual persons, VITO, Terra Drone, PMV, QBIC Arkiv, QBIC Feeder	
Business year	1 Jan - 31 Dec	1 Jan - 31 Dec	1 Jan - 31 Dec	
Accounting standards	HGB	Austrian Commercial Code	Belgian Commercial Code	
Income from investments (previous year)	0 (0)	0 (0)	0 (0)	
Current assets	3,188	1,463	4,457	
Non-current assets	11,672	9	2,293	
Current liabilities	1,901	1,177	1,079	
Non-current liabilities	7,448	0	4,270	
Equity	5,511	295	1,401	
Net income	246	23	-5,930	
Revenues	9,631	1,190	1,591	
Disclosures on investments (non-controlling)				
	GroupEAD⁹⁾	BILSODA⁹⁾	ESSP SAS⁹⁾	TATS⁹⁾
	€'000	€'000	€'000	€'000
Total registered capital	1,000	10	1,000	1,000
Shareholding	36.00 %	24.90 %	16.67 %	50.00 %
Additional shareholders	Entidad Pública Empresarial Aeropuertos Españoles y Navegación Aérea, Spain, 36.00%; FREQUENTIS AG, Austria, 28.00%	AD Grundstücksgesell- schaft mbH & Co. KG, Germany, 75.10% BILSODA Beteiligungs GmbH, General partner, Germany, 0.00%	ANSPs from Spain, Italy, United Kingdom and France each hold 16.67 %; Portugal and Switzerland, 8.33% each	INDRA Sistemas S.A., Spain, 50.00%
Business year	1 Jan - 31 Dec	1 Jan - 31 Dec	1 Jan - 31 Dec	1 Jan - 31 Dec
Accounting standards	Spanish Commercial Code	HGB	French Commercial Code	Spanish Commercial Code
Income from investments (previous year)	147 (231)	0 (0)	667 (667)	0 (0)
Current assets	2,779	386	37,899	1,000
Non-current assets	301	5,857	1,732	--
Current liabilities	1,119	594	20,855	--
Non-current liabilities	0	3,243	885	--
Equity	1,961	2,406	17,891	1,000
Net income	409	41	4,598	-3
Revenues	7,127	522	62,657	--

⁹⁾ Values as at 31 December 2021

4 Accounting policies

The DFS Group carries out accounting and measurement using uniform standards. The consolidated financial statements were drawn up using historical costs unless IFRS prescribed an alternative measurement method. The associated disclosure is made with the respective accounting policy.

4.1 Going concern basis of accounting

On the basis of the current corporate plan and due to the financing measures initiated, the Executive Board maintains its realistic expectation that the DFS Group will have sufficient resources to continue its business activities for at least another twelve months. Accordingly, the consolidated financial statements were prepared on a going concern basis.

The air navigation services provided by the DFS Group count as so-called critical infrastructure. The Group is therefore obliged to maintain certain fundamental functions which ensure the safe handling of air traffic (in particular during airborne emergency missions and air cargo deliveries). This rules out the option of a complete closure or suspension of business operations.

The DFS Group reported net loss of €32 million for the business year ending 31 December 2022. Liquid assets rose by €18 million, amounting to €144 million at the end of the year.

Both the lingering consequences of the COVID-19 pandemic and the war in Ukraine had a negative impact on air transport. Nevertheless, air transport recovered in the 2022 business year, reaching about 80.00 percent of the 2019 level. The DFS-Group expects a steady continuation of this recovery in air transport for the period 2023 to 2025. The Group expects a return to the pre-pandemic level in 2025 for the en-route area and in 2026 for terminal services.

DFS has non-assigned fund assets (ATCP-UI fund) with highly liquid assets. These liquid reserves (consisting of the direct capital investments as well as the receivables from credit institutions) had a carrying amount of €422 million on 31 December 2022. These assets can be used to bridge liquidity bottlenecks or to repay the *Schuldscheindarlehen* (debenture loan) maturing in 2023.

Following the approval of the revised national performance plan for 2022 to 2024 by the European Commission, DFS expects a liquidity inflow from the carry-over of approximately €184 million.

The rating agency Standard & Poor's confirmed the highest rating (AAA long term and A-1+ short term) in the 2022 business year. As a result, DFS has an excellent credit rating and is able to refinance itself on the capital market at the best conditions.

With the STEP (STrategic Efficiency improvement Programme) programme introduced by the Executive Board, DFS is pursuing the goal of ensuring the financial sustainability of the Group and generating an appropriate return through a high degree of cost discipline.

Based on these factors, the Executive Board maintains the realistic expectation that the DFS Group has adequate resources and sufficient room for manoeuvre in terms of the required liquidity.

4.2 New and amended International Financial Reporting Standards and Interpretations

Revisions to accounting policies resulting from new and revised standards and interpretations are applied retrospectively, unless otherwise regulated. The prior-year statement of comprehensive income and the opening balance sheet for the prior-year period are adjusted as if the new accounting policies had always been applied.

4.2.1 Mandatory standards and interpretations

The DFS Group used the following revised standards that were mandatory for the first time for the business year 2022. The endorsement by the European Union was made with the publication of the standard in the Official Journal of the European Union.

Standard	Title	EU endorsement	Mandatory application for financial years beginning on or after
Amendments to existing standards			
IAS 16	Property, plant and equipment	28 Jun 2021	1 Jan 2022
IAS 37	Provisions, contingent liabilities and contingent assets	28 Jun 2021	1 Jan 2022
IFRS 3	Business combinations	28 Jun 2021	1 Jan 2022
Catalogue	Improvements to International Financial Reporting Standards (2018-2020 cycle)	28 Jun 2021	1 Jan 2022

The standards that were mandatory for the first time from 1 January 2022 had no impact on the results and financial position of the Group. Thus, there was no need for retroactive adjustments.

The EU adopted amendments to IAS 16, IAS 37, IFRS 3 and the improvements for the 2018 to 2020 cycle on 28 June 2021.

The amendments to IAS 16 regulate the measurement of proceeds before intended use of an item of property, plant and equipment. Proceeds from the sale of goods (for example, product samples) produced during the period in which an item of property, plant and equipment is being prepared for its intended use have to be recognised in profit or loss with the related costs.

The amendments to the IAS 37 include clarification on the cost of fulfilling onerous contracts. In determining whether a contract is onerous or loss-making, all costs of fulfilling the contract that are directly attributable to the contract must be included. This includes costs additionally incurred as a result of the order and other costs that relate directly to the contract.

The amendments to standard IFRS 3 concern a reference to the revised conceptual framework. The rules for accounting for business combinations were not changed in terms of content.

4.2.2 Voluntary standards and interpretations

The IASB published the following revised standards. The standards have already been incorporated into European law as part of the endorsement procedure. They become effective from the point in time given and early application is permitted.

The Group is currently examining the impact of the amended standards on the Group's results and financial position. However, it assumes that there will be no significant impact. The DFS Group applies the standards when they become effective and early voluntary application will not be availed of.

Standard	Title	EU endorsement	Mandatory application for financial years beginning on or after
New standard			
IFRS 17	Insurance contracts, including changes	19 Nov 2021	1 Jan 2023
Amendments to existing standards			
IAS 1	Presentation of financial statements (disclosure of accounting policies)	2 Mar 2022	1 Jan 2023
IAS 8	Accounting policies, changes in accounting estimates and errors (definition of accounting estimates)	2 Mar 2022	1 Jan 2023
IAS 12	Income taxes (deferred taxes in connection with the initial recognition of an asset or liability)	11 Aug 2022	1 Jan 2023
IFRS 17	Insurance contracts (first-time application of IFRS 17 and IFRS 19 - comparative information)	8 Sep 2022	1 Jan 2023

4.2.3 Published, though not yet mandatory, standards and interpretations

The IASB has issued the following standards which are not yet mandatory. Before these can be applied, they have to be recognised and endorsed by the EU. They become effective from the point of time given.

The Group is currently examining the possible impact on the consolidated financial statements. The DFS Group does not avail itself of the right of early application of new or amended standards.

Standard	Title	Anticipated impact	Mandatory application for financial years beginning on or after
Amendments to existing standards and interpretations			
IAS 1	Presentation of the financial statements (classification of liabilities as current or non-current)	No material impact	1 Jan 2024
IAS 1	Presentation of the financial statements (classification of debt with covenants)	No material impact	1 Jan 2024
IFRS 16	Leasing (lease liabilities in a sale and leaseback)	No material impact	1 Jan 2024

4.3 Use of estimates and discretionary decisions

At the balance sheet date, the DFS Group makes annual forecasts of future developments for accounting and measurement purposes. The comprehensive set of assumptions, estimates as well as judgements and discretionary decisions made may have a considerable influence on the representation of the results and financial position of the DFS Group. They are based on historical experience and expectations about the occurrence of future events which appear commercially reasonable in the given circumstances. The Group continuously verifies its estimates and forecasts. If external conditions develop differently than expected, the actual amounts may vary from the estimates. Any variances from the actual circumstances are recognised in profit or loss when they occur. The discretionary decisions on assumptions concerning the future and other key sources of estimation uncertainty at the balance sheet date which have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next business year are described in the respective accounting policies.

In addition to the impairment tests for individual assets, an impairment test was carried out at the level of the cash-generating unit due to the existence of a triggering event for one business unit. The updated business plans formed the basis for this. These assume discernible liquidity bottlenecks and a business environment that is only slowly growing in the coming years. The result was an impairment loss of around seven million euro being recognised on the investment in UNIFLY.

4.4 Changes in significant accounting policies

Until the balance sheet date (31 December 2021), DFS classified the pension benefits to soldiers released from regular service as defined contribution plans. The benefits promised by DFS corresponded to the benefits from the reinsurance policy.

With the amendment of the collective agreement for soldiers (SVersTV) in March 2022, a minimum guarantee was introduced, whereby the pension benefits are now to be classified as defined benefit. The benefits promised by DFS to soldiers differ from the reimbursements from the reinsurance policy. The congruently reinsured portion of the settlement amount is recognised in the amount of the asset value of the reinsurance policy. The excess is recognised in accordance with the general accepted accounting principles. This asset does not qualify as plan assets and is therefore not netted against the obligation. Employee expenses of €0.44 million were recognised at the time of conversion. DFS expects that in the following years, the payments not reimbursed by the reinsurance policy will add up to about €1.10 million.

4.5 Items in the statement of comprehensive income

4.5.1 Revenues

The DFS Group recognises revenues if it satisfies its performance obligations through the transfer of the contracted goods and contracted services to the customer. Assets are deemed to have been transferred when the customers have obtained control over the goods or services either at a point in time or over time. Revenue is recognised over time if the customer obtains control or receives the benefits as the asset is created or provided, or the asset created does not have an alternative use and there is an enforceable right to payment for performance.

The amount to be recognised is based on the transaction price which can be allocated to the performance obligation. The transaction price can have fixed and/or variable elements and is the consideration to which the DFS Group expects to be entitled in exchange for the transfer of the contracted goods and services to the customer. In the case of multiple performance obligations, the Group allocates the transaction price to the performance obligations in the contract by reference to their relative standalone selling prices. The standalone selling prices are estimated at contract inception on the basis of observable prices of promised products and services supplied under similar circumstances and to similar customers. If the period between the transfer of the goods or services and the payment date exceeds twelve months and the customer or the DFS Group have a significant benefit from the financing, the consideration is adjusted by the time value of money.

The DFS Group determines the level of revenue for revenues recognised over time and fixed-price contracts based on the degree of progress. The Group determines the degree of progress using input methods and uses the cost-to-cost method, by which the costs incurred are compared to the total estimated costs required to satisfy the performance obligation. To determine performance progress, estimates are required of the material influencing factors, such as the overall costs incurred, contract income or contract risks. The expert departments responsible constantly review all the estimates and make any necessary adjustments. The resulting increase or decrease in the estimated revenues and costs are recognised by the Group in the period in which the correction becomes known.

4.5.2 Impairments

At each balance sheet date, the DFS Group uses the general approach to recognise a risk provision for expected credit losses either on the basis of a 12-month expected credit loss or a lifetime expected credit loss. The general approach has to be applied to financial assets which are either measured at amortised cost or at fair value through other comprehensive income (debt instruments). The expected credit losses are determined from the probability-weighted estimates of the present value of the defaults and are to be discounted at the effective interest rate for financial assets.

Measurement stages of the general approach	
Stage 1	12-month expected credit losses
	To be used for all financial assets whose credit quality has not significantly deteriorated since initial recognition. 12-month expected credit losses are the expected credit losses that result from default events that are possible within 12 months.
Stages 2/3	Lifetime expected credit losses
	These stages are to be used if there has been a significant increase in credit risk for individual financial instruments or for a group of same. Lifetime expected credit losses result from all possible default events over the expected lifetime.

The Group assumes that the credit risk of a financial asset has increased significantly or there is objective evidence of impairment if the debtor has significant financial difficulties, there is a possibility of payments being in default or arrears or the assets of the debtor are subject to insolvency proceedings. If there is such evidence on initial recognition, these assets are allocated to stage 3 from the beginning. The DFS Group views the assets measured at amortised cost or at fair value through other comprehensive income as having a low credit risk as it considers the risk of non-performance to be low and the debtor is always in a position to meet its contractual payment obligations at short notice.

Under the simplified approach, the DFS Group recognises a loss allowance based on lifetime expected credit losses both on initial recognition and at each reporting date. The Group uses this approach for trade receivables, contract assets and lease receivables. The determination is based on the analyses of the age structure and due dates, information on insolvencies or the use of a provision matrix based on historically observed default rates. As further security, the Group demands security deposits from customers with relevant sales volumes when defined warning thresholds are exceeded. The Group recognises the allowances for doubtful accounts in a separate allowance account. Such allowances are reversed through the income statement should the reasons for the impairment no longer apply in subsequent periods. The Group views a receivable as being in default if, in its reasonable opinion, it will no longer be paid and the debtor is unlikely to be able to settle its credit obligations in full.

All other assets (goodwill; intangible assets; property, plant and equipment; and investment property; financial assets) are reviewed on each balance sheet date to see if there are indications for an impairment under IAS 36. This involves comparing the carrying amount with the recoverable amount of the asset.

An impairment loss is recognised for the amount by which the recoverable amount exceeds the carrying amount of the asset. The recoverable amount is the higher of the net realisable value and the value in use. The net realisable value is equal to the fair value less costs to sell. Value in use is the present value of the future cash flows expected to be derived from the continuing use of an asset. The Group

calculates the present value with a discount rate before tax that reflects market conditions, calculated using the estimated zero-coupon curves of the German Bundesbank (the Svensson method is used). No risk premium in accordance with IAS 36.55(b) is used, as the assets are not exposed to any special risks. If a recoverable amount cannot be determined for an individual asset, the Group brings together the assets into cash-generating units, the smallest identifiable group of assets.

If, at a later date, the reasons for impairments made in previous years no longer apply, either in full or in part, the impairment loss is reversed accordingly. The reversal is limited to the carrying amount which would have applied if the impairments from the past were excluded and it is recognised in the income statement. A reversal of impaired goodwill is not permitted.

4.5.3 Operating expenses

Operating expenses are recognised in the income statement when the service is used or at the time the expenses are incurred.

4.5.4 Interest income and expenses

Interest income and expenses are recognised on an accrual basis using the effective interest rate method.

4.6 Items in the balance sheet

4.6.1 Goodwill

The DFS Group recognises goodwill from business combinations in accordance with IFRS 3 as an asset at cost at the acquisition date. Cost is the difference between the purchase price for the shares and the proportionate net assets acquired. The net assets are the difference between the fair values of the identifiable assets acquired and the liabilities assumed as well as the contingent liabilities. Acquisition-related costs are expensed.

There is no scheduled amortisation for goodwill. Goodwill is reviewed at every balance sheet date to determine if there are indications of impairment. Impairment testing involves comparing the carrying amount with the recoverable amount of the asset. The tests are conducted at the level of the cash-generating unit. The recoverable amount is determined using recognised discounted cash flow methods. If the recoverable amount is lower than the carrying amount, an impairment loss is recognised down to the recoverable amount in accordance with IAS 36. Once goodwill has been impaired, it is not permitted to reverse the impairment in subsequent periods.

4.6.2 Intangible assets

Assets acquired for valuable consideration are capitalised at cost when it is probable that the asset will generate future economic benefits for the company and the costs can be measured reliably.

Intangible assets that arose from own development activities are capitalised at cost. This presupposes that future economic benefits will be generated from the products. Production costs comprise all direct costs and an appropriate share of development-related overhead. Borrowing costs are capitalised as part of production costs in accordance with the requirements of IAS 23. Impairment tests are carried out on internally generated intangible assets to determine the present value of expected future cash flows if there are objective indications of impairment. The Group evaluates current requirements due to changing market conditions as well as the progress of new intangible assets that are already in the development process.

Prepayments are measured at cost. The prepayments are allocated to the respective intangible assets at the time of commissioning and written off over their useful life.

Intangible assets have a limited useful life. They are written off on a straight-line basis from the beginning of use as follows:

Intangible assets	Useful life
Concessions, industrial and similar property rights and assets as well as licences in such rights and assets	3 to 8 years
Internally generated intangible assets	8 years
Prepayments	Only after commissioning

Research expenses and associated government grants are recognised in profit or loss. Grants from airports, other air navigation service providers or the Paul Ehrlich Institute are deducted from cost. EU grant funding from the Connecting Europe Facility (CEF) programme is recognised as accruals and recorded in profit or loss over the useful lives of the underlying intangible assets.

4.6.3 Property, plant and equipment

Tangible assets acquired for valuable consideration are capitalised at cost when it is probable that the asset will generate future economic benefits for the company and the costs can be measured reliably.

Costs include the purchase price as well as all directly attributable costs required to bring the asset to the site and get it into the working condition as intended by management.

The DFS Group divides property, plant and equipment (in particular buildings) into the material economic components and reports them separately. Costs for the replacement of components and general overhaul are capitalised separately.

Production costs for internally generated property, plant and equipment comprise all direct production costs (prime costs), an appropriate share of manufacturing overhead as well as the borrowing costs that are directly attributable up to the time of completion in accordance with IAS 23.

Government grants are deducted from the carrying amount of the grant-funded asset. Grants from airports, other air navigation service providers or the Paul Ehrlich Institute are deducted from cost. EU grants from the CEF programme are recognised as accruals and recorded in profit or loss over the useful lives of the underlying property, plant and equipment.

All assets (except for land) have a limited useful life and are written off on a straight-line basis from the beginning of use. The DFS Group estimates the useful lives of property, plant and equipment based on their probable usability. As an orientation, it uses the official tax depreciation table (*AfA-Tabelle*) for general purpose assets (see letter from the German Federal Ministry of Finance (BMF) dated 15 December 2000 in the Federal Tax Gazette (*Bundessteuerblatt*) I 2000, p. 1,532). Adjustments are made, as necessary, based on historical experience.

Property, plant and equipment	Useful life
Building – Structure	40 years
Building – Façade	25 to 30 years
Building – Interior finishing	25 years
Building – Heating, ventilation, water	15 years
Building – Electronics	15 years
Outside facilities	5 to 19 years
Technical equipment	3 to 20 years
Operating and office equipment	3 to 15 years

Costs for repairs and ongoing maintenance of property, plant and equipment that have not led to an extension or material improvement are recognised under other operating expenses in the income statement.

When property, plant and equipment are sold, decommissioned or scrapped, any gains or losses from the difference between the net disposal proceeds and the amortised cost are recognised in other operating income or expenses.

4.6.4 Financial assets accounted for using the equity method

The DFS Group recognises associated companies at cost at the acquisition date using the equity method. In subsequent periods, the carrying amount is adjusted to account for the associated changes in equity in profit or loss, or in other comprehensive income. The dividends received from associated companies are accounted for by lowering the carrying amount of the investment. If there are indications for an impairment of investments, the lower recoverable amount is used for the carrying amount as required by the regulations of IAS 36.

4.6.5 Leases

As a lessee, the DFS Group measures the rights of use granted to it for leased assets at cost on initial recognition on the commencement date. These are calculated as the present value of future lease payments. Subsequently, the rights of use are measured using the cost method and amortised on a straight-line basis over the shorter of the useful life and the expected term of the lease agreement. If there is a remeasurement of the lease liabilities, the rights of use are adjusted accordingly. Rights of use are reviewed at every balance sheet date to determine if there are indications of impairment under IAS 36.

As a lessee, the Group determines the lease liabilities on initial recognition on the commencement date from the present value of the lease payments not yet made at that date. These payments primarily comprise fixed and variable payments, expected residual value payments and exercise payments for purchase options. The lease payments are discounted at an incremental borrowing rate. This discount rate is based on the yields on debt securities outstanding issued by residents, public debt securities and listed Federal securities corresponding to their remaining term as published by the German Bundesbank. An internal company credit risk premium of 0.25 percent is added. On subsequent measurement, the lease liabilities are increased by the interest expense passed through the income statement and reduced by the principal repayment portion, which does not pass through the income statement. Each lease payment is divided into principal repayment and financing expenses. If there are changes in the lease payments (due to index-linked charges, changes in the term of the lease or reassessments of contractual options, for example), the DFS Group remeasures the lease liabilities. Adjustments to the new carrying amounts are generally made without going through profit and loss by making corresponding corrections to the capitalised rights of use.

As a lessee, the Group shows the rights of use under "Property, plant and equipment" and the lease liabilities under "Financial liabilities". The rights of use and associated depreciation, as well as lease liabilities and corresponding interest expenses, are presented in a separate item in the Notes.

Lease transactions where the DFS Group, as lessor, transfers basically all the risks and rewards of ownership of a leased asset to the lessee are treated as finance leases. At the beginning of the lease, the group derecognises the leased asset. At the same time, as lessor, it recognises a lease receivable in the amount of the net investment in the lease on the commencement date. The net investment comprises the present value of the lease payments, the present value of the expected residual value at the end of the lease and the initial direct costs. Subsequently, finance income is recognised over the lease term as a constant periodic rate of return on the net investment. The lease payments received reduce the lease receivable.

All other lease agreements where the Group is a lessor are treated as operating leases. The lease instalments received and the depreciation of the leased asset are recognised in the income statement on a straight-line basis over the term of the lease.

The DFS Group makes use of simplifications and waives the application of IFRS 16 for short-term leases and for leases where the underlying asset is of minor value. The Group follows the prevailing expert opinion and has adopted a threshold of five thousand euro. The lease payments for these transactions continue to be recognised in the income statement on a straight-line basis over the term of the lease. In addition, the Group generally separates leasing and non-leasing components and recognises the latter in the income statement.

The DFS Group applied IFRS 16 retrospectively, but decided not to adjust the prior-year figures. Until 1 January 2019, the Group valued the rental and lease agreements in accordance with IAS 17 and assessed them as regards their accounting treatment (finance leases through the balance sheet and operating leases through the income statement).

4.6.6 Investment property

Property and buildings that the DFS Group does not use operationally and are exclusively held either for rental income or capital gains are classified as investment property. The amortised cost is used for measurement. Buildings are depreciated using the straight-line method.

4.6.7 Financial instruments – Financial assets

The DFS Group determines the classification and measurement of financial assets based on the business model by which the portfolio of financial assets is managed and on the characteristics of the contractual terms of the cash flows.

- Category: Amortised cost

The Group classifies financial assets under this category when the objective is to hold the assets to maturity and collect the contractual cash flows. The cash flows occur at fixed points in time and represent exclusively repayments of principal and interest on the outstanding principal amount. Initial recognition occurs at fair value at the time of settlement (plus direct transaction costs). Receivables denominated in a foreign currency are translated using the rate at the reporting date and recognised in the income statement. Subsequently, the assets are carried at amortised cost using the effective interest rate method. Due to the predominantly short-term nature of trade receivables, other receivables and assets as well as liquid funds, the carrying amounts at the balance sheet date do not differ significantly from their fair values. The Group therefore assumes that these assets can be sold for at least their carrying amounts in the short term and sets their fair values at the same level. Interest income and exchange rate gains and losses are presented in the financial result. Gains and losses from impairments, derecognitions and modifications are recognised in the operating result.

- Category: Debt instruments at fair value through other comprehensive income

For debt instruments in this category, the Group's objective is either to hold the asset to maturity and collect the contractual cash flows, or to sell. The cash flows occur at fixed points in time and represent exclusively repayments of principal and interest on the outstanding principal amount. At the time of settlement, initial recognition occurs at fair value (plus direct transaction costs). Subsequently, the DFS Group measures the financial assets at fair value through other comprehensive income, with changes to the carrying amount being booked in other comprehensive income. On disposal, accumulated other comprehensive income is reclassified to profit or loss. Interest income and exchange rate gains and losses calculated using the effective interest rate method are recognised directly in the financial result, while impairment losses are recognised in a separate item in the operating result.

- Category: Equity instruments at fair value through other comprehensive income

For investments in equity instruments, the Group's objective is also either to hold these to maturity and collect the contractual cash flows, or to sell. The cash flows occur at fixed points in time and represent exclusively repayments of principal and interest on the outstanding capital amount. On initial recognition of an equity investment that is not held for trading, the Group may irrevocably elect to measure it at fair value through other comprehensive income. This choice is made on a case-by-case basis for each investment. Initial recognition occurs at fair value (plus direct transaction costs). Subsequently, the investment is measured at fair value. The Group recognises all changes to the fair value directly in other comprehensive income. On derecognition of the investment, there is no reclassification of the cumulative other comprehensive income in the operating result. Dividends are considered in the financial result.

- **Category: Assets at fair value through profit or loss**

The DFS Group recognises all financial assets at fair value through profit or loss (excluding transaction costs) on initial recognition as long as they are not measured at amortised cost or at fair value through other comprehensive income. Subsequently, these assets are measured at fair value through profit or loss. All net gains and losses are recognised directly in other comprehensive income. Interest and dividend income are considered in the financial result.

Derivatives also belong to this category unless they qualify as hedging instruments. The DFS Group exclusively employs effective derivatives to hedge existing and future interest rate and currency risks under a hedging policy defined by the Executive Board and monitored by the Treasury department. While interest rate swaps are used to manage interest risk, cross-currency interest rate swaps hedge both interest rate risk and currency risk from financing in foreign currencies.

A reclassification is only carried out if the business model objective for the financial assets is changed.

The Group recognises expected credit losses under IFRS 9. The impairment method depends on whether there is a significant rise in the credit risk. The simplified approach is used for trade receivables, contract assets and lease receivables.

The Group derecognises financial assets as soon as the contractual right to the cash flows expires or the asset is transferred as part of a qualified transfer.

4.6.8 Fair value

The fair value of financial instruments is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (exit price). The fair value is measured based on the assumptions that knowledgeable market participants who are independent of each other and who are willing and able to enter into a transaction would make while acting in their economic best interest. Fair value is a market-based measurement, not an entity-specific measurement.

The fair value measurement assumes that the transaction is made in the principal market for the asset or liability. In the absence of such a market, the most advantageous market is to be used. This is the market that would maximise the amount that would be received to sell an asset or minimise the amount that would be paid to transfer a liability, taking into consideration transport and transaction costs. However, fair value measurements are not adjusted for transaction costs.

The DFS Group uses valuation techniques to determine fair value that are appropriate under the given circumstances and for which sufficient data are available. The techniques maximise the use of relevant observable inputs and minimise the use of unobservable inputs.

Inputs

Level 1

Directly observable inputs

Observable (unadjusted) quoted prices in accessible active markets for identical assets or liabilities.

Level 2

Indirectly observable inputs

Inputs that are observable for assets or liabilities either directly or indirectly.

- a) Quoted prices for similar assets or liabilities in active markets.
- b) Quoted prices for identical or similar assets or liabilities in markets that are not active.
- c) Inputs other than quoted market prices that are observable.
- d) Market-corroborated inputs (values derived from market data using statistical methods).

Level 3

Unobservable inputs

Entity's own assumptions on the behaviour of a typical market participant.

The DFS Group undertakes reclassifications within the hierarchy at the end of the business year in which the changes took place.

Valuation techniques

Market approach

This approach derives market multiples from a set of identical or comparable assets (matrix pricing).

Cost approach

This approach is based on the amount required to replace the service capacity of an asset (the current replacement cost).

Income approach

This method discounts future cash flows to a current amount (present value techniques, option pricing models, residual income method).

Further information on the determination of the fair value can be found in Notes 15 and 28.

4.6.9 Trade receivables

Initial recognition occurs at fair value at the time of settlement (plus direct transaction costs). The transaction price is the consideration to which the DFS Group expects to be entitled in exchange for the transfer of the contracted goods and services to the customer. Subsequently, trade receivables are measured at amortised cost using the effective interest rate method taking impairments into consideration. Due to their predominantly short-term nature, the carrying amounts at the balance sheet date do not differ significantly from their fair values. The DFS Group therefore assumes that trade receivables can be sold for at least their carrying amounts in the short term and sets the fair value at the same level.

Trade receivables denominated in a foreign currency are translated using the rate at the reporting date and recognised in the income statement.

The DFS Group does not pledge any of the receivables as loan collateral or as security for other liabilities.

4.6.10 Contractual net values

Contract assets relate to a right that the Group has to consideration in exchange for goods or services that, at the balance sheet date, have been transferred but not invoiced for contracts over time.

The Group capitalises the additional costs for obtaining contracts with a customer as an asset when it can assume that the costs will be recovered. The costs of fulfilling contracts are also capitalised under certain conditions.

Contract liabilities relate to customer payments already made (security deposits of airspace users) where the DFS Group still has to provide the contracted good or service. The DFS Group presents amounts received or that will be received that are expected to be refunded to the customer (expected volume discounts or product returns) as refund liabilities. This is based on empirical values relating to return percentages and periods.

4.6.11 Other receivables and assets

Initial recognition occurs at fair value at the time of settlement (plus direct transaction costs). The transaction price is the consideration to which the DFS Group expects to be entitled in exchange for the transfer of the contracted goods and services to the customer. Subsequently, other receivables and assets are measured at amortised cost using the effective interest rate method taking impairments into consideration. Due to their predominantly short-term nature, the carrying amounts at the balance sheet date do not differ significantly from their fair values. The DFS Group therefore assumes that the receivables can be sold for at least their carrying amounts in the short term and sets the fair value at the same level.

Other receivables and assets in foreign currencies are measured at the reporting date and recognised in the income statement.

The DFS Group does not pledge any of the receivables as loan collateral or as security for other liabilities.

4.6.12 Deferred taxes

IAS 12 regulates the treatment of deferred taxes using the liability method. Deferred tax assets and liabilities are recognised by the DFS Group for all temporary differences between the tax base of assets and liabilities and their carrying amounts in the Group balance sheet according to IFRS as well as for consolidation adjustments recognised in profit or loss. The differences are limited to those items whose changes influence taxable earnings.

Issues related to the calculation of charges are excluded (see Section 31b(3)(3) of the German Aviation Act (LuftVG)).

Deferred tax assets are also recognised for future claims to tax reductions resulting from tax loss carryforwards. Deferred tax assets for all deductible temporary differences and for tax loss carryforwards are only recognised to the extent that there are future taxable profits which either the temporary differences or unused taxable losses can offset.

The computation of deferred taxes is based on the existing or applicable income tax rates in each country at the date of valuation. The income tax rate of 29.80 percent (previous year: 29.80%) is made up of a corporate income tax of 15.00 percent, a solidarity surcharge of 5.50 percent and a weighted average German municipal trade tax multiplier rate of 400.00 percent on a tax rate (*Steuermessbetrag*) of 3.50 percent. The effect of changes in tax rates on deferred tax assets and liabilities is reflected in the income tax expense for the period in which the law was changed.

Deferred tax assets and liabilities are netted if permitted under law and the receivables and payables are against the same tax authority.

Deferred tax assets and liabilities are not discounted.

4.6.13 Liquid funds

Liquid funds include cash, cash accounts as well as short-term money market investments and certificates of deposit at credit institutions. Initial recognition occurs at fair value at the time of settlement (plus direct transaction costs). Subsequently, liquid funds are measured at amortised cost. Due to the predominantly short-term nature of cash and cash equivalents, they are only subject to immaterial changes in value. The Group therefore sets the fair values at the same level as the carrying amounts.

Liquid funds in foreign currencies are converted at the closing rate.

4.6.14 Inventories

Inventories are carried at cost based on the weighted average method or at production cost.

Production costs comprise direct production costs (especially direct materials and direct labour) as well as an appropriate share of the necessary material and manufacturing overhead. Administrative expenses and costs of employee assistance programmes are included to the extent they can be allocated to production. Financing costs are not recognised as part of production costs.

Subsequent measurement occurs at the lower of deemed cost and net realisable value. Inventory risks resulting from the duration of storage or impaired usability led to write-downs upon determination of the net realisable value. If the reasons for a write-down no longer apply, the write-down is reversed. Lower values at the reporting date due to lower prices on sales and purchase markets were taken into account.

4.6.15 Other comprehensive income

This item relates to changes recognised directly in equity, provided they are not based on capital transactions with the Shareholder. This includes remeasurement components of the net defined benefit liability, unrealised gains and losses from the fair valuation of available-for-sale financial assets, measurement differences from currency translation and the associated tax effects. In equity, these items are disclosed under revaluation reserves.

4.6.16 Provisions for pensions and similar obligations

Defined benefit plans are measured in accordance with IAS 19 using the projected unit credit method on the basis of actuarial reports at the balance sheet date. This requires, in particular, assumptions to be made about long-term salary trends and average life expectancy, which are made at the beginning of the business year. The premises on salary trends are based on applicable collective agreements and historical trends and take into account country-specific interest and inflation levels. Biometric data serve as the basis for the estimates of average life expectancy (mortality tables taken from Heubeck-Richttafeln 2018 G).

The discount rate is an actuarial assumption and is set at the beginning of each business year. The rate used to discount pension obligations is determined by reference to market yields at the end of the reporting period on high-quality fixed-rate corporate and treasury bonds with good creditworthiness and an average rating of AA using the standardised approach. The DFS Group used bonds that are measured in euro. The term of the corporate bonds corresponds to the term of the obligation. With the help of the interest rate, the Group calculates the net interest result, for which the net pension obligation or net defined benefit liability is multiplied by the interest rate. The net pension obligation results from the deduction of plan assets with their fair value from the gross pension obligation and is therefore a net amount. In the event of an asset surplus (i.e. a net defined benefit asset), a corresponding procedure is applied. The interest rate for the expected return on plan assets therefore corresponds to the discount rate. Before offsetting, the DFS Group reports the net interest result in the financial result under financial income and financial expenses.

Remeasurements of the net defined benefit liability are recognised directly in equity in other comprehensive income. This includes in particular the actuarial gains and losses resulting from changes in expectations as regards the estimates made at the beginning of the year compared with the actual development during the business year. In addition, a portion of the actual return on plan assets at the end of the year in excess of the expected return on plan assets at the beginning of the year is recognised directly in equity. The remeasurements recognised in equity cannot be recognised in profit or loss in the following periods.

The service cost is made up of the current and past service costs. The latter reflects the change in pension obligations as a consequence of plan adjustments and plan curtailments. It is recognised directly in profit or loss when incurred in the statement of comprehensive income and reported under employee expenses.

Plan assets invested to cover fund-financed defined benefit obligations are measured at fair value using published market prices. If such market prices are not available, the fair values are determined using standard market valuation approaches and generally accessible data (such as yield curves). Asset surpluses to be recognised are reported as other receivables.

No provisions are recognised for defined contribution plans. The level of contributions at the DFS Group is dependent on the income relevant to pension calculations. The payments for defined contribution plans are expensed when due and reported as part of employee expenses.

4.6.17 Other provisions

The DFS Group recognises other provisions for past events that result in present obligations to third parties. These provisions must be capable of being estimated reliably and must lead to an outflow of resources with economic benefits in the future with a probability of at least 50.00 percent. The provisions are recognised with the settlement amount, which represents the highest probability of occurrence based on best estimates and under consideration of all discernible risks. In addition, the measurement of other provisions requires judgements on estimated costs, expected cash flows and their maturities. The provisions relate primarily to contracts, collective agreements, legal provisions or other obligations. They are recognised based on financial and actuarial calculations or historical experience using prudent commercial judgement. The premises underlying other provisions are reviewed annually and adjusted to current circumstances as necessary.

The DFS Group expects the majority of the other provisions to fall due in the next one to five years. Some of the individual provisions may involve a time period up to 2041. Therefore, uncertainties remain as to the timing and concrete amount of the expenses. Nevertheless, the Group expects to utilise the full amount of the provisions (100.00%) and expects that the outflow of economic benefits will equal the amount set aside in the provisions.

Provisions for obligations which in all probability will not lead to a reduction in assets in the subsequent year are discounted at prevailing market rates and carried at the present value of the expected outflow of resources, provided the interest effect is material. The discount rates are based on the yields on debt securities outstanding issued by residents, public debt securities and listed Federal securities corresponding to their remaining term as published by the German Bundesbank. In addition to these yields, a company-internal risk premium of 0.25 percent is added. The discount rates for non-current provisions are adjusted to the development of interest rates in the business year.

If a change in an estimate results in a reduction of the obligation, then the provision is reversed proportionally and the income reported under other operating income.

4.6.18 Financial instruments – Financial liabilities

Financial liabilities generally give rise to a claim for repayment in cash or in the form of another financial asset.

- Category: Liabilities at fair value through profit or loss

The DFS Group recognises derivative financial instruments with negative market values and financial liabilities at fair value on initial recognition if they are held for trading with the intention of sale in the short term. Subsequently, financial debt is measured at fair value. All gains and losses are directly included in the operating result and interest expenses in the financial result.

- Category: Amortised cost

The category contains all financial liabilities which cannot be allocated to another category. Initial recognition occurs at fair value (plus direct transaction costs). Subsequently, the DFS Group measures financial liabilities at amortised cost using the effective interest rate method. Interest income and exchange rate gains and losses are presented in the financial result. Gains and losses from derecognitions are recognised in the operating result.

For financial liabilities with maturities up to one year, the carrying amounts at the balance sheet date do not differ significantly from their fair values. If the maturity is longer than one year, the fair value is calculated by discounting the settlement value at a risk-free rate using the effective interest rate method.

The Group derecognises financial liabilities when they are discharged or when the contractual obligations are met, cancelled or they expire.

Liabilities denominated in a foreign currency are converted using the rate at the reporting date.

The DFS Group did not receive collateral for the financial assets nor did it provide collateral for the financial liabilities. Trade payables are regularly secured by means of reservation of title clauses until payment is made in full.

4.7 Currency translation

The DFS Group presents its consolidated financial statements in the reporting currency euro. Unless otherwise stated, all amounts are given in millions of euro (€'000m) and rounded using the common method.

The Group translates foreign currency transactions into the functional currency of the individual unit using the rate prevailing at the date of the transaction. After initial recognition, foreign currency fluctuations for monetary items (liquid funds, receivables, liabilities) are recorded in profit or loss and non-monetary items (intangible assets; property, plant and equipment; inventories) are carried at historical cost using the exchange rate at the date of the transaction.

At the balance sheet date, there were no trade receivables in foreign currencies (previous year: none). Trade payables in foreign currencies amounted to €147 thousand (previous year: €68 thousand) at the balance sheet date. Due to the minimal impact on the results (less than €1 thousand), there was no currency valuation.

The DFS Group translates the financial statements of foreign subsidiaries (as well as the hidden reserves and obligations identified in purchase price allocations) using the concept of a functional currency under IAS 21. The current rate method (mean exchange rate at the balance sheet date) is used to translate assets, liabilities, contingent liabilities and other financial obligations. The translation of items for the income statement, however, uses a rate that approximates the exchange rate at the date of the transaction (average exchange rate). The exchange difference from the translation of equity and the differences from the translation into the presentation currency are recognised directly in other comprehensive income by the DFS Group.

Currencies	ISO code	Standard conversion Mean exchange rate 31 Dec 2022	EMU conversion Asked price 31 Dec 2022	Standard conversion Mean exchange rate 31 Dec 2021	EMU conversion Asked price 31 Dec 2021
US dollar	USD (\$)	1.0666	1.0696	1.1326	1.1356
Pound sterling	GBP (£)	0.8869	0.8889	0.8403	0.8423
Bahraini dinar	BHD	0.4025	0.4155	0.4268	0.4398
Peruvian sol	PEN	4.1145	4.3600	--	--
Swiss franc	CHF	0.9847	0.9867	1.0331	1.0351
Singapore dollar (S\$)	SGD	1.4300	1.4500	1.5279	1.5479

Notes to the statement of comprehensive income

5 Revenues

	2022	2021
	€m	€m
Revenues from air navigation services	1,240	1,275
Other revenues	88	101
	1,328	1,376

Breakdown of revenues from contracts with customers			
	Regulated business	Commercial business	Total
	€m	€m	€m
31 Dec 2022			
Revenues from contracts with customers	1,234	94	1,328
Time point of revenue recognition			
Recognised at a specific point in time	1,232	90	1,322
Recognised over a period of time	2	4	6
31 Dec 2021			
Revenues from contracts with customers	1,291	85	1,376
Time point of revenue recognition			
Recognised at a specific point in time	1,289	83	1,372
Recognised over a period of time	2	2	4

Transaction price assigned to performance obligations not (or only partially) satisfied at the year end		
	2022	2021
	€m	€m
Outstanding transaction price	17	16
of which expected to be recognised as revenue in 2023 (2022)	15	11
of which expected to be recognised as revenue in 2024 (2023)	2	5
of which expected to be recognised as revenue in 2025 (2024)	0 ¹⁰⁾	0 ¹⁰⁾
of which expected to be recognised as revenue in 2026 (2025)	0 ¹⁰⁾	0 ¹⁰⁾
of which expected to be recognised as revenue in 2027 (2026)	0 ¹⁰⁾	0 ¹⁰⁾
¹⁰⁾ Under €1 million		

Type of service	Type and time of satisfying the performance obligation and material payment conditions	Revenue recognition under IFRS 15
Air navigation services	<p>The air navigation services and the directly associated support activities are derived from the sovereign task under Section 27c of the German Aviation Act (LuftVG). Airspace users obtain control in the accounting sense of the air navigation services as soon as they enter the airspace controlled by DFS and make use of the associated services.</p> <p>For terminal services, the Group issues statutory notifications of charges (<i>Gebührenbescheide</i>) to airspace users three times per month, for short cycles. The notifications are immediately due in full within five days of the due date. However, the Group grants airspace users a period of one month to appeal against notifications.</p> <p>For en-route services, the invoices are issued by EUROCONTROL in arrears in the middle of the subsequent month. The notifications are due within 30 days. Airspace users are granted a period of one month to appeal.</p> <p>In addition, the DFS Group provides air navigation services on the free market at regional airports in Germany.</p>	Revenue is recognised when the airspace users make use of the air navigation services.
Production and service contracts	<p>In the commercial business, the Group markets air navigation services and air traffic control systems that are often offered in combination with hardware and software, consultancy, training as well as analysis, simulation and project management activities worldwide. Therefore, these contracts contain several performance components. The DFS Group views the contracts as one performance obligation each as it is responsible for the complete project management and has contractually promised to provide the goods or services to the customer. The development, installation and maintenance of the customer-specific air traffic control software can only be carried out by the Group.</p> <p>Some of the projects extend over a longer period of time. Some customers make advance payments. The final invoice is issued on acceptance and the associated transfer of control to the customer. The production and service contracts do not contain a significant financing component as the customary 30-day payment period for invoices and advance payments has been agreed.</p>	<p>The revenues from consultancy services are recognised in the period in which the services are rendered.</p> <p>For fixed-price contracts and the recognition of revenue over time, the amount is calculated using the cost-to-cost method. The degree of progress is determined by comparing the costs incurred to the total estimated costs required to satisfy the performance obligation. Estimates of revenues, costs and contract progress are corrected when conditions change. The resulting increase or decrease in the estimated revenues and costs are recognised by the Group in the period in which the correction becomes known. Fixed-price contracts have a payment plan with fixed deadlines and amounts. If the services rendered exceed the payment amount, the Group recognises a contract asset, or a contract liability in the opposite case. Advance payments received are presented as contract liabilities.</p> <p>The costs are expensed as they occur.</p>

6 Other operating income

	2022	2021
	€m	€m
R&D project funding by the European Commission and German Federal and <i>Länder</i> ministries recognised in the income statement	17	22
Income from QTE transaction	1	3
Remaining	9	10
	27	35

7 Employee expenses¹¹⁾

	2022	2021
	€m	€m
Wages and salaries ¹²⁾	708	662
Expenses for IFRS pensions	252	289
Social security costs and expenses for assistance	77	77
Cost of personnel belonging to the Federal Aviation Office (LBA)	7	7
	1,044	1,035

¹¹⁾ In addition to the usual outlays for wages, salaries and social security expenses for DFS personnel, this item also includes the costs charged by the Federal Aviation Office (LBA) for personnel belonging to the LBA.

¹²⁾ See Note 37.1 for the remuneration of the Executive Board

Average annual number of employees

	2022	2021
Salaried staff	5,563	5,524
Soldiers released from regular service	120	129
Wage-earners	13	15
Technical and commercial students and apprentices	293	335
DFS Group staff	5,989	6,003
Employees covered by the collective agreement for the public service (TVöD)	16	18
Established civil servants	79	90
Personnel belonging to the Federal Aviation Office (LBA), Directorate Air Navigation Services	95	108
	6,084	6,111

8 Other operating expenses

	2022	2021
	€m	€m
Spare parts and maintenance ¹³⁾	57	54
Costs of external personnel	16	14
Occupancy costs	19	15
Other employee expenses	8	8
Telecommunication	8	8
Consultancy costs	6	7
Expenses from QTE transaction (exchange rate losses)	0	3
Remaining	30	26
	144	135
¹³⁾ Thereof impairments of inventories in TEUR	55	11

9 Financial result

	2022	2021
	€m	€m
Gains from the financial assets of the investment entity	105	98
Income from fund assets to finance retirement obligations	45	21
Interest income from QTE transaction	0	1
Income from investments	1	1
Interest income of the investments accounted for using the equity method	0 ¹⁴⁾	0 ¹⁴⁾
Other interest income	0 ¹⁴⁾	1
Financial income	151	122
Expenses from the financial assets of the investment entity	-170	-68
Expenses from discounting provisions	-71	-41
Other interest expense	-6	-5
Interest expense from QTE transaction	0	0 ¹⁴⁾
Interest expense from operating taxes	0 ¹⁴⁾	0 ¹⁴⁾
Financial expenses	-247	-114
Financial result	-96	8
¹⁴⁾ Under €1 million		

Additional disclosures on the financial result

	2022	2021
	€m	€m
Interest result from financial instruments determined using the effective interest rate method not classified in the category "At fair value through profit or loss"	5	5
Interest income from impaired financial assets	0 ¹⁴⁾	0 ¹⁴⁾
Losses recognised directly in equity (-) / gains (+) from the measurement of financial assets	0	0

10 Income taxes

	2022	2021
	€m	€m
Current income taxes	4	22
Deferred income taxes	2	1
	6	23

Effective income taxes relate to corporation taxes, including the solidarity surcharge, and German municipal trade taxes. The computation of income taxes at DFS is based on applicable tax regulations in connection with Section 31b(3)(3) of the German Aviation Act (LuftVG). For the other Group subsidiaries, the trade and corporation tax laws and regulations are of relevance.

In addition to the tax liabilities from the current business year, possible estimated additional tax demands are also included to the extent that they might result from the current tax audit.

DFS owes taxes as the dominant enterprise for the dependent enterprise DFS Energy. Therefore, the deferred taxes of the dependent enterprise are reflected in the dominant enterprise. The spin-off of the energy plant, which is assigned to the areas relevant to air navigation charges, into DFS Energy led to a continuation of the tax measurement for this legal entity. Therefore, in determining taxes, the special situation as regards air navigation charges at DFS is also taken into consideration at DFS Energy. This does not lead to taxable temporary differences in value between the IFRS and the tax accounts.

In the Group, the tax groups are DFS, DFS International Business Services (DFS IBS) and Air Navigation Solutions (ANSL). DFS IBS is the dominant enterprise for the dependent enterprises DFS Aviation Services, R. Eisenschmidt and Kaufbeuren ATM Training, and therefore owes the taxes. Hence, the deferred taxes of the subordinated companies are reflected in the dominant enterprise (DFS IBS). The sum of the results of the two groups and ANSL differ from the consolidated Group result as the expenses and income among the individual Group companies are eliminated in a different manner than that used for the groups for tax purposes.

Reconciliation from expected to effective income tax expense		
	2022	2021
	€m	€m
Net income before income taxes	-26	158
Expected tax rate (in %)	29.83	29.83
Expected income tax expense	0	47
Tax expense not relating to the period under review	0	0 ¹⁵⁾
Reduction in the tax base under Section 31b German Aviation Act (LuftVG)	4	6
Correction due to loss carryforward / minimum taxation	0 ¹⁵⁾	-32
Deferred tax expenses (+) / income (-)	2	1
Effective income tax expense (+)	6	22
Effective tax rate (in %)	-23.68	13.54

¹⁵⁾ Under €1 million

Deferred taxes by balance sheet item

	Deferred tax assets		Deferred tax liabilities	
	2022 €m	2021 €m	2022 €m	2021 €m
Intangible assets	0	0	39	33
Property, plant and equipment	1	0 ¹⁶⁾	4	3
Financial assets	6	2	3	23
Receivables and other assets	1	1	379	330
Provisions for pensions and similar obligations	437	1,093	0	0
Other provisions	19	20	0 ¹⁶⁾	1
Liabilities	9	9	1	1
	473	1,125	426	391
Impact of Section 31b LuftVG				
Intangible assets	0	0	-39	-33
Property, plant and equipment	-1	0	-4	-2
Financial assets	0	0	-2	-23
Receivables and other assets	0 ¹⁶⁾	0	-379	-329
Provisions for pensions and similar obligations	-426	-1,065	0	0
Other provisions	-18	-20	0 ¹⁶⁾	-1
Liabilities	-6	-4	-1	-1
	-451	-1,089	-425	-389
Other allowances	-7	-18	0	0
Netting	-1	-2	1	2
Air Navigation Solutions	0	0	0	0
KAT	0 ¹⁶⁾	0 ¹⁶⁾	0	0
DFS Aviation Services	0 ¹⁶⁾	1	0	0
	14	17	0	0
¹⁶⁾ Under €1 million				

The DFS Group does not recognise any deferred tax assets for tax loss carryforwards as there is no potential to offset them in the foreseeable future. In addition, there are no issues which result in deferred tax assets not being recognised.

Notes to the balance sheet

11 Goodwill

	Cost					As at 31 Dec
	As at 1 Jan	Additions	Disposals	Transfers	As at 31 Dec	
2022	€'000	€'000	€'000	€'000	€'000	€'000
R. Eisenschmidt GmbH	80	0	0	0	0	80
	80	0	0	0	0	80
2021	€'000	€'000	€'000	€'000	€'000	€'000
R. Eisenschmidt GmbH	80	0	0	0	0	80
	80	0	0	0	0	80

	Amortisation					Carrying amount
	As at 1 Jan	Additions	Disposals	Transfers	As at 31 Dec	As at 31 Dec
2022	€'000	€'000	€'000	€'000	€'000	€'000
R. Eisenschmidt GmbH	0	0	0	0	0	80
	0	0	0	0	0	80
2021	€'000	€'000	€'000	€'000	€'000	€'000
R. Eisenschmidt GmbH	0	0	0	0	0	80
	0	0	0	0	0	80

The goodwill from the acquisition of R. Eisenschmidt GmbH results from the difference between the purchase price and the fair value of the net assets at the acquisition date.

The regular impairment tests of goodwill showed no indications that an impairment loss under IAS 36 had to be recognised.

12 Intangible assets

	Cost				As at 31 Dec
	As at 1 Jan	Additions	Disposals	Transfers	
2022	€'000	€'000	€'000	€'000	€'000
Concessions, rights and licences	736,229	5,561	-554	11,019	752,255
Internally generated intangible assets	172,031	31,417	0	0	203,448
Assets under construction (AUC)	19,562	2,053	0	-10,533	11,082
	927,822	39,031	-554	486	966,785
2021	€'000	€'000	€'000	€'000	€'000
Concessions, rights and licences	699,705	6,373	-64	30,215	736,229
Internally generated intangible assets	142,620	29,411	0	0	172,031
Assets under construction (AUC)	40,814	8,910	0	-30,162	19,562
	883,139	44,694	-64	53	927,822

	Amortisation						Carrying amount
	As at 1 Jan	Additions	Disposals	Transfers	Currency differences	As at 31 Dec	As at 31 Dec
2022	€'000	€'000	€'000	€'000	€'000	€'000	€'000
Concessions, rights and licences	631,874	27,225	-285	0	-3	658,811	93,444
Internally generated intangible assets	66,417	10,757	0	0	0	77,174	126,274
Assets under construction (AUC)	0	0	0	0	0	0	11,082
	698,291	37,982	-285	0	-3	735,985	230,800
2021	€'000	€'000	€'000	€'000	€'000	€'000	€'000
Concessions, rights and licences	608,560	23,365	-52	0	1	631,874	104,355
Internally generated intangible assets	58,657	7,760	0	0	0	66,417	105,614
Assets under construction (AUC)	0	0	0	0	0	0	19,562
	667,217	31,125	-52	0	1	698,291	229,531

The result from carrying out impairment tests led to an impairment of less than one million euro for internally generated intangible assets. Beyond that, there were no further indications of a need to impair as required by IAS 36.

Intangible assets for which there is a contractual obligation to accept but which have not yet come under the economic power of disposition of the DFS Group are shown in Note 31.2.

The DFS Group has not assigned any intangible assets nor pledged them as collateral. It freely controls these assets.

Individual material intangible assets			
	Carrying amount	Remaining useful life	Share of total carrying amount
31 Dec 2022	€'000	in years	in percent
iCAS software	121,113	2-8	52.48
P1/ATCAS software including release	9,081	2-3	3.93
Software S-ATM Robusto Step 1	2,524	8	1.09
Total carrying amount of intangible assets	230,800		100.00

Research and development costs		
	31 Dec 2022	31 Dec 2021
	€'000	€'000
Expenses for research and development	63,249	57,391
- of which research costs recognised in the income statement	32,465	28,903
- of which capitalised additions in assets under construction	30,784	28,488
Total capitalised borrowing costs on development costs as at 31 Dec	634	923
Development costs in assets under construction as at 31 December	53,802	55,943
Scheduled depreciation of development costs based on the degree of completion notified	10,219	7,587
Impairment of development costs under IAS 36	539	172

Capitalisation of borrowing costs for intangible assets		
	31 Dec 2022	31 Dec 2021
Borrowing costs in €'000	770	1,492
Capitalisation rate in %	1.01	1.59

13 Property, plant and equipment

	Cost					As at 31 Dec €'000
	As at 1 Jan €'000	Additions €'000	Disposals €'000	Transfers €'000	Currency differences €'000	
	€'000	€'000	€'000	€'000	€'000	
2022						
Land and buildings	714,153	7,533	-870	1,370	0	722,186
Technical equipment (plant) and machinery	1,089,479	30,546	-28,267	15,612	0	1,107,370
Operating and office equipment	93,420	3,635	-2,735	39	0	94,359
Assets under construction (AUC)	23,723	8,327	0	-17,507	0	14,543
	1,920,775	50,041	-31,872	-486	0	1,938,458
2021						
Land and buildings	700,477	7,785	-4,563	10,454	0	714,153
Technical equipment (plant) and machinery	1,080,667	30,202	-24,422	3,032	0	1,089,479
Operating and office equipment	89,907	5,241	-1,809	81	0	93,420
Assets under construction (AUC)	19,323	18,020	0	-13,620	0	23,723
	1,890,374	61,248	-30,794	-53	0	1,920,775

	Depreciation						Carrying amount
	As at 1 Jan €'000	Additions €'000	Disposals €'000	Transfers €'000	Currency differences €'000	As at 31 Dec €'000	As at 31 Dec €'000
	€'000	€'000	€'000	€'000	€'000	€'000	€'000
2022							
Land and buildings	469,601	17,169	-787	0	-3	485,980	236,206
Technical equipment (plant) and machinery	915,541	42,249	-26,606	-1	0	931,183	176,187
Operating and office equipment	76,353	6,021	-2,582	1	-33	79,760	14,599
Assets under construction (AUC)	0	0	0	0	0	0	14,543
	1,461,495	65,439	-29,975	0	-36	1,496,923	441,535
2021							
Land and buildings	455,877	17,752	-4,035	0	7	469,601	244,552
Technical equipment (plant) and machinery	893,645	42,967	-21,082	0	11	915,541	173,938
Operating and office equipment	71,764	6,233	-1,677	0	33	76,353	17,067
Assets under construction (AUC)	0	0	0	0	0	0	23,723
	1,421,286	66,952	-26,794	0	51	1,461,495	459,280

Capitalisation of borrowing costs for property, plant and equipment		
	31 Dec 2022	31 Dec 2021
Borrowing costs in €'000	74	211
Capitalisation rate in %	1.01	1.59

Property, plant and equipment for which there is a contractual obligation to accept but which do not yet come under the economic power of disposition of the Group are shown in Note 31.2.

The DFS Group has not assigned any property, plant and equipment nor pledged them as collateral. It freely controls these assets.

The regular impairment tests of property, plant and equipment showed no indications that an impairment loss under IAS 36 had to be recognised.

Compensation of €17 thousand (previous year: €8 thousand) for third parties for property, plant and equipment that was impaired, irrecoverably lost or decommissioned was recognised in the income statement.

14 Leases

The leases entered into by the DFS Group as lessee only have a supporting function for business operations. They mainly relate to the rental of land, office space and vehicles for selected employees.

	Disclosures on rights of use				
			Cost		
	As at 1 Jan	Additions	Disposals	Transfers	As at 31 Dec
2022	€'000	€'000	€'000	€'000	€'000
Buildings	14,288	6,038	-303	0	20,023
Vehicles	3,429	600	-121	0	3,908
	17,717	6,638	-424	0	23,931
2021	€'000	€'000	€'000	€'000	€'000
Buildings	13,726	1,323	-761	0	14,288
Vehicles	1,504	2,214	-289	0	3,429
	15,230	3,537	-1,050	0	17,717

	Depreciation					As at 31 Dec	Carrying amount As at 31 Dec
	As at 1 Jan	Additions	Disposals	Transfers	Currency differences		
	€'000	€'000	€'000	€'000	€'000	€'000	€'000
2022							
Buildings	5,333	1,699	-222	0	-2	6,808	13,215
Vehicles	1,741	1,656	-105	0	0	3,292	616
	7,074	3,355	-327	0	-2	10,100	13,831
2021							
Buildings	3,830	1,864	-361	0	0	5,333	8,955
Vehicles	462	1,523	-244	0	0	1,741	1,688
	4,292	3,387	-605	0	0	7,074	10,643

Disclosures on lease liabilities

	31 Dec 2022	31 Dec 2021
	€'000	€'000
As at 1 Jan	21,318	22,062
Increase due to index adjustments	161	742
Additions	6,468	2,751
Disposals	-272	-468
Principal repayments	-3,715	-3,930
Interest expense	160	160
Currency translation	3	1
As at 31 Dec	24,123	21,318

Aged list of lease liabilities

	Up to 1 year	2 to 5 years	More than 5 years	Total
	€'000	€'000	€'000	€'000
31 Dec 2022				
Undiscounted lease liabilities	3,120	8,039	14,671	25,830
Discounted lease liabilities	2,959	7,555	13,609	24,123
Interest component	161	484	1,062	1,707
31 Dec 2021				
Undiscounted lease liabilities	3,478	5,137	14,428	23,043
Discounted lease liabilities	3,339	4,600	13,379	21,318
Interest component	139	537	1,049	1,725

Aged list of expected payments for short-term leases and leases on low-value assets				
	Up to 1 year	2 to 5 years	More than 5 years	Total
31 Dec 2022	€'000	€'000	€'000	€'000
Non-discounted lease payments	2,879	631	863	4,373
31 Dec 2021	€'000	€'000	€'000	€'000
Non-discounted lease payments	2,092	1,685	986	4,763

Amounts for leases recognised in the statement of comprehensive income		
	2022	2021
	€'000	€'000
Depreciation	3,355	3,376
Interest expense	160	160
Expenses for short-term leases	241	205
Expenses for leases on low-value assets	3,299	2,821

Total cash outflows for leases recognised in the cash flow statement		
	2022	2021
	€'000	€'000
Payments for short-term leases and leases on low-value assets	3,540	3,026
Taking on lease liabilities	6,629	3,493
Disposals and currency translation from lease liabilities	269	467
Principal repayment of lease liabilities	3,715	3,930
Interest expense	160	160

The DFS Group also acts as lessor. In this context, it leases air traffic control systems, areas and land, and provides connections and air navigation services data. The Group classified the property with a heritable building right (*Erbbaurechtsgrundstück*) in Braunschweig as "Investment property". Additional information can be found in Note 15.

In the case of all other lettings, provisions or transfers of use, essentially all risks and rewards associated with the economic ownership remain with the DFS Group. Options were not transferred to the respective lessees. The Group classified these leases as operating leases and recognised the corresponding income in the income statement.

Amounts for operating leases recognised in the statement of comprehensive income		
	2022	2021
	€'000	€'000
Leasing income from operating leases	3,972	4,293

Breakdown between owned and leased property, plant and equipment for operating leases		
	2022	2021
Buildings	€'000	€'000
Owned property, plant and equipment	236,201	244,552
Leased property, plant and equipment (property with a heritable building right, <i>Erbbaurechtsgrundstück</i> , in Berlin)	0 ¹⁷⁾	0 ¹⁷⁾
	236,201	244,552

¹⁷⁾ Under €1 thousand

15 Investment property

	Cost				As at 31 Dec
	As at 1 Jan	Additions	Disposals	Transfers	
2022	€'000	€'000	€'000	€'000	€'000
Property in Braunschweig	1,210	0	0	0	1,210
	1,210	0	0	0	1,210
2021	€'000	€'000	€'000	€'000	€'000
Property in Braunschweig	1,210	0	0	0	1,210
	1,210	0	0	0	1,210

	Depreciation					Carrying amount
	As at 1 Jan	Additions	Disposals	Transfers	As at 31 Dec	As at 31 Dec
2022	€'000	€'000	€'000	€'000	€'000	€'000
Property in Braunschweig	608	31	0	0	639	571
	608	31	0	0	639	571
2021	€'000	€'000	€'000	€'000	€'000	€'000
Property in Braunschweig	578	30	0	0	608	602
	578	30	0	0	608	602

The DFS Group rents a building, including the land, in Braunschweig, Germany, to FCS Flight Calibration Services, which uses this land for its own operational purposes.

The DFS Group is not contractually obliged to conduct repairs, maintenance or improvements. However, it is authorised to make material changes to the premises and the rental object as well as necessary repairs and maintenance without the approval of FCS Flight Calibration Services. There are no other contractual obligations or restraints on disposition.

Expenses and income recognised in the statement of comprehensive income		
	2022	2021
	€'000	€'000
Rental income	122	122
Depreciation	30	30
Repairs	0	0

The property is depreciated over the useful life of 40 years using the straight-line method. The land reference value for the district in question is currently €130.00 per square metre, whereas the 2017 appraisal was still based on a value of €110.00 per square metre. There were no indications of a need to impair as required by IAS 36. In the opinion of the DFS Group, the results of the appraisal dated 10 October 2017 are still usable and demonstrate the recoverability of the carrying amounts.

Appraisal on the value of the property		
Date of appraisal	10 October 2017	3 December 2012
Date to which appraisal applies	1 October 2017	1 December 2012
Procedure	DCF method	DCF method
Market value / fair value	€815 thousand	€980 thousand
Property yield (<i>Liegenschaftszinssatz</i>) of the city of Braunschweig	5.60%	7.60%
Initial discount rate	7.50%	8.25%

The fair value of investment property is determined by an external independent property valuer who possesses the relevant professional qualification and up-to-date experience with the location and type of property to be valued.

Valuation technique

Discounted cash flow (DCF) method: The calculation of the fair value is based on current rental rates considering various factors such as the land reference value, property yield, other operating expenses, risk of default on rents, remaining useful life of the building, maintenance risk as well as current property developments.

Unobservable inputs

Discount rate, risk of default on rents, other operating expenses

Level

3

Relationship between inputs and fair value

The estimated fair value would increase if

- the risk-adjusted discount rate was lower
- the risk of default on rents was lower
- other operating costs were lower

16 Financial assets

	Cost					As at 31 Dec
	As at	Additions	Disposals	Transfers	Remea- surement	
	1 Jan					
2022	€'000	€'000	€'000	€'000	€'000	€'000
Financial assets accounted for using the equity method	14,462	17	0	300	0	14,779
Investments	2,547	0	-56	0	0	2,491
Loans to associated companies	5,898	0	-628	-300	0	4,970
	22,907	17	-684	0	0	22,240
2021	€'000	€'000	€'000	€'000	€'000	€'000
Financial assets accounted for using the equity method	14,462	0	0	0	0	14,462
Investments	2,604	0	-57	0	0	2,547
Loans to associated companies	6,501	300	-903	0	0	5,898
	23,567	300	-960	0	0	22,907

The loan to UNIFLY was converted early in the business year to contributions in the form of shares. The amount of the contribution is made up of the loan amount and the interest accrued until 31 July 2022. The transaction was reported under transfers in the fixed asset schedule presented above.

	Impairments					Carrying amount As at 31 Dec
	As at	Additions	Disposals	Transfers	As at	
	1 Jan				31 Dec	
2022	€'000	€'000	€'000	€'000	€'000	€'000
Financial assets accounted for using the equity method	6,545	6,772	0	0	13,317	1,462
Investments	0	0	0	0	0	2,491
Loans to associated companies	0	0	0	0	0	4,970
	6,545	6,772	0	0	13,317	8,923
2021	€'000	€'000	€'000	€'000	€'000	€'000
Financial assets accounted for using the equity method	1,579	4,966	0	0	6,545	7,917
Investments	0	0	0	0	0	2,547
Loans to associated companies	0	0	0	0	0	5,898
	1,579	4,966	0	0	6,545	16,362

The result of carrying out an impairment test led to an impairment of around seven million euro in the carrying amount of the investment in UNIFLY. Beyond that, there were no further indications of a need to impair as required by IAS 36.

Associated companies accounted for using the equity method		
	31 Dec 2022	31 Dec 2021
	€'000	€'000
As at 1 Jan	7,917	12,883
Additions	17	0
Transfers	300	0
Impairments	-6,772	-4,966
Proportionate net income	0	0
Dividends received	0	0
As at 31 Dec	1,462	7,917

Investments					
	GroupEAD	BILSODA	ESSP SAS	TATS	Total
	€'000	€'000	€'000	€'000	€'000
Shareholding in %	36.00	24.90	16.67	50.00	
Share capital	360	0	167	500	1,027
Liable capital (<i>Hafteinlagen</i>)	0	2	0	0	2
Other contributions	0	1,462	0	0	1,462
As at 31 Dec 2022	360	1,464	167	500	2,491

Loans to associated companies					
	Terms	Nominal value	Nominal interest rate	31 Dec 2022	31 Dec 2021
		€'000	in %	€'000	€'000
FCS					
Loan: Hawker Beechcraft Super King Air FL-626 D-CFME	2009-2025	4,300	5.25	1,059	1,381
Loan: Hawker Beechcraft Super King Air FL-1156	2018-2033	5,560	2.10	3,911	4,217
UNIFLY					
Loan	2021-2024	300	5.00	0	300
		10,160		4,970	5,898

17 Trade receivables

Due dates of trade receivables				
	Up to 1 year	2 to 5 years	More than 5 years	Total
	€m	€m	€m	€m
2022	135	0	0	135
2021	118	0 ¹⁸⁾	0	118

¹⁸⁾ Under €1 million

Aged list		
	31 Dec 2022	31 Dec 2021
	€m	€m
Carrying amount	135	118
of which not impaired and		
- not yet overdue	122	112
- up to 30 days overdue	6	3
- 31 to 60 days overdue	4	1
- 61 to 180 days overdue	2	1
- more than 180 days overdue	1	1
of which impaired	0	0

Trade receivables were written down to the amount that could be recovered as soon as information on the insolvency of customers was available. There are no indications that the debtors whose receivables were overdue will not be able to fulfil their obligations.

Development of allowances		
	31 Dec 2022	31 Dec 2021
	€m	€m
As at 1 Jan	15	14
Additions	1	2
Utilisation	0	0
Reversal	-1	-1
As at 31 Dec	15	15

Expenses (-) and income (+) recognised in the statement of comprehensive income		
	2022	2021
	€m	€m
Derecognition and write-off of receivables	-1	-1
Additions to specific allowances	-1	-2
Income from reversal of specific allowances	1	1
Income from receipt of derecognised receivables and from other derecognitions	0 ¹⁸⁾	0 ¹⁸⁾

18 Contractual net values

Contract assets	31 Dec 2022		31 Dec 2021	
	Total	Remaining term more than 1 year	Total	Remaining term more than 1 year
	€m	€m	€m	€m
Consulting services and service contracts	4	0	3	0
Costs to fulfil a contract	1	0	0	0
Software developments	0	0	0 ¹⁹⁾	0
Miscellaneous	0 ¹⁹⁾	0	1	0
	5	0	4	0
¹⁹⁾ Under €1 million				

The costs to fulfil contracts are the capitalised costs for the provision of apron control at Lima Airport by the Group company DAS.

Revenues and costs from contracts with customers	2022	2021
	€m	€m
Contract revenue recognised	12	8
Depreciation, amortisation and impairments	0 ¹⁹⁾	0
Costs incurred	-8	-6
Capitalised costs	0	0
Profit earned for ongoing projects	4	2

Development of contract liabilities	2022	2021
	€m	€m
As at 1 Jan	2	3
Additions	23	7
Revenues recognised in the business year that were included under contract liabilities at the beginning of the period	-1	-1
Revenues recognised in the business year that were not included under contract liabilities at the beginning of the period	-19	-7
As at 31 Dec	5	2

Contract liabilities result from security deposits of airspace users for air navigation services and customer advance payments for air traffic control systems and further services.

19 Other receivables and assets

	31 Dec 2022		31 Dec 2021	
	Total	Remaining term more than 1 year	Total	Remaining term more than 1 year
	€m	€m	€m	€m
Under-recovery/carry-over	1,271	1,075	1,102	1,102
Receivables from EU grant funding	50	50	48	48
Receivables from employees ²⁰⁾	10	6	24	12
Receivables from Shareholder	5	0	0	0
QTE transaction	0	0	21	0
Trusteeship (<i>Treuhandverein</i>)	8	0 ²¹⁾	8	0
Capitalised value	25	25	7	7
Interest receivables	0 ²¹⁾	0	1	0
Remaining	14	0 ²¹⁾	11	0
	1,383	1,156	1,222	1,169

²⁰⁾ The receivables from employees result from the corona collective agreement and include the shortfall in working hours built up in the corona time account during the business year.

²¹⁾ Under €1 million

Aged list

	31 Dec 2022	31 Dec 2021
	€m	€m
Carrying amount	1,383	1,222
of which not impaired and		
- not yet overdue	1,383	1,222
- up to 30 days overdue	0	0
- 31 to 60 days overdue	0	0
- 61 to 180 days overdue	0	0
- more than 180 days overdue	0	0
of which impaired	0	0

The qualified technological equipment (QTE) transaction was terminated in line with the contract at the beginning of 2022.

20 Financial assets

	31 Dec 2022	31 Dec 2021
	€m	€m
Securities (at fair value through profit or loss)	360	692
Derivatives (at fair value through profit or loss)	8	1
	368	693

The DFS Group invested in a fund (legal name: ATCP-UI-FONDS) through an investment entity whose sole shareholder is DFS. Management decided to hold the financial assets for trading to actively realise cash flows from the purchase and sale of assets. The capital investments relate primarily to securities, which the Group measured at fair value through profit or loss. There are active markets with published market prices. The capital investments made were distributed in the consolidated financial statements over the corresponding financial assets and liabilities.

The Group's overall investment goal is to reduce the risk of loss on a yearly basis compared with the strategic asset allocation while earning a return consistent with the allocation over the market cycle. The DFS Group expects an annual return on the whole portfolio of 2.60 percent on average over the investment horizon of three to five years.

The DFS Group defined asset allocation bands for the minimum and maximum acceptable exposure for each asset class: cash, government bonds, corporate bonds and equities.

The Group also classified various risk categories:

- Market risk (beta risk) is defined as the loss in value from the change in value of the asset class.
- Hedge error is defined as the loss resulting if the benchmark assigned to the asset class cannot be replicated exactly.
- Tracking error is the risk that there might be a divergence between the behaviour of the underlying portfolio and the behaviour of the benchmark.

The risk manager reviews these risks constantly. The exposures are adjusted at least once a month as needed and managed using derivatives, futures or options.

21 Equity

	31 Dec 2022	31 Dec 2021
	€m	€m
Subscribed capital	1,055	1,055
Capital reserve	74	74
Remeasurement reserves	-56	-2,032
Retained earnings	107	137
Equity attributable to Shareholder of parent company	1,180	-766
Minority interest	0 ²²⁾	2
	1,180	-764

²²⁾ Under €1 million

The registered capital of the DFS Group amounts to €1,055,287,500.00. There are 10,552,875 shares with a nominal value of €100.00 each held by the sole Shareholder, the Federal Republic of Germany, represented by the Federal Ministry for Digital and Transport (BMDV). The shares may not be sold or encumbered. Additional shareholders may not be admitted.

The capital reserves consist of other payments of the Shareholder (Section 272(2)(4) German Commercial Code, HGB) and serve to strengthen the share capital.

Other reserves are used for changes recognised directly in equity that are not based on capital transactions with the Shareholder.

By resolution no. 183 dated 10 May 2022, the shareholder meeting adopted the consolidated financial statements and the annual financial statements as at 31 December 2021 and resolved not to distribute a dividend to the Shareholder.

22 Provisions for pensions and similar obligations

Provisions for pensions are recognised exclusively for defined benefit plans for active and former employees.

The level of detail presented in the numbers reported in the following is based on the collective agreements and individual contracts relevant to the DFS Group:

Acronym	Contents
VersTV (Pensions) ²³⁾	This collective agreement relates to the pensions for the staff employed at the DFS Group.
ÜVersTV (Transitional payments)	This collective agreement relates to the transitional payments for air traffic controllers and flight data assistants employed at the DFS Group.
KTV (Insurance)	This collective agreement covers the health and long-term care insurance for the staff employed at the DFS Group.
Other	The accessory obligations for death grants, the deferred compensation scheme for pensions (old) and benefits for soldiers are grouped under "Miscellaneous".

²³⁾ In Note 22.6, the defined benefit obligations under the VersTV are further split between final salary benefits and benefits linked to average career earnings.

22.1 Pension plans

There are various forms of pension provision available to the employees of the DFS Group, which are largely governed by collective agreements.

Under the collective agreement covering pensions (VersTV), employees who began employment at the company by 31 December 2004 receive old-age, disability and surviving dependant's benefits (defined benefit plans) linked to the respective final salary of the employee (Plan A). However, employees who entered service after 1 January 2005 receive benefits under the collective agreement covering pensions which are linked to average career earnings (Plan B). Thereafter, a pension component is calculated annually depending on the respective income. Thus, the retirement benefit is calculated from the sum of the annual components.

Air traffic controllers and flight data assistants receive a transitional retirement benefit linked to their final salary (ÜVersTV). This is to cover the period from the end of their active duty at DFS until they can draw the retirement pension from the statutory pension scheme.

With the amendment of the collective agreement for soldiers (SVersTV) in March 2022, a minimum guarantee was introduced, whereby the pension benefits are now to be classified as defined benefit. The benefits promised by DFS to soldiers differ from the reimbursements from the reinsurance policy. The measurement is carried out as a securities-linked pension commitment with the maximum of the fair value of the asset value of the reinsurance and the settlement amount of the guaranteed minimum benefit. The congruently reinsured portion of this settlement amount is recognised in the amount of the asset value of the reinsurance policy. The excess portion of the benefits is determined in accordance with the general accepted accounting principles for pension obligations.

DFS pays an increased employer contribution for health insurance for the employees who were previously employed as established civil servants with the former Federal Administration of Air Navigation Services (BFS) and the Federal Aviation Office (LBA). This is regulated in the collective agreement relating to health and long-term care insurance (KTV).

The DFS Group pays death grants to qualifying next of kin of active employees. The grants are equal to the previous remuneration and are paid for two and half months from the month following the month in which the employee passed away.

In addition, there are individual contractual benefits approved in 2005 which are based on the salary conversion model for exempt employees. The amount of the pension capital underlying the benefit is based on the converted salary with a return of 6.00 percent.

The plan assets comprise a matched reinsurance contract and a special fund with DFS. The development of the plan assets is made up of the disbursements and income of both assets as well as the payments of DFS into the special fund (PEGASUS-UI-FONDS). The previous financing of pension obligations in the form of insurance-like reinsurance solution is gradually being phased out and will in future only be refinanced using a fund solution. For this purpose, the DFS Group transferred the fund (PEGASUS-UI-FONDS) from the insurance consortium to the *Treuhandverein* (trusteeship). In the future, the DFS Group will cover claims from the still existing reinsurance policies and plan assets. The plan assets can be allocated to the obligations from the collective agreement relating to pensions and the transitional retirement. After its assignment, the PEGASUS-UI-FONDS serves to finance the pension obligations, while the ATCP-UI-FONDS was separated out for the long-term financing of the Group.

In addition to defined benefit benefits, the DFS Group also grants defined contribution benefits.

There were no changes, curtailments or settlements to the pension plans in the business year.

22.2 Actuarial assumptions

In %	31 Dec 2022	31 Dec 2021
Discount rate	3.70	1.20
Projected return on plan assets	3.70	1.20
Salary trend (including career trend)	2.50	2.50
Projected increase in benefits ²⁴⁾	1.25 to 2.00	1.25 to 2.00

²⁴⁾ 1.25 percent for the guaranteed adjustment for staff with benefits under VersTV 2009.
2.00 percent for staff with benefits under VersTV 1993 (static reference)

22.3 Sensitivity analysis

The sensitivity analysis takes into account the respective change of one individual assumption compared to the reference value, which is made up of the sum of the individual present values of the pension obligations from the VersTV (Pensions), ÜVersTV (Transitional payments) and KTV (Insurance). The remaining parameters of the original calculations remain unchanged. This ensures that potential correlation effects are excluded.

		Impact on the defined benefit obligations	
		€m	In %
Changes to the actuarial assumptions			
Present value of defined benefit obligations at 31 Dec 2022		4,006	
Discount rate	Increase by 0.50 percentage points	-304	-7.58
	Decrease by 0.50 percentage points	348	8.68
Salary trend	Increase by 0.50 percentage points	131	3.28
	Decrease by 0.50 percentage points	-122	-3.06
Present value of defined benefit obligations at 31 Dec 2021		6,121	
Discount rate	Increase by 0.50 percentage points	-614	-10.04
	Decrease by 0.50 percentage points	726	11.86
Salary trend	Increase by 0.50 percentage points	245	4.01
	Decrease by 0.50 percentage points	-228	-3.72

The VersTV dated 21 August 2009 sets out a fixed annual adjustment of 1.25 percent. This means there is no sensitivity calculation for the pension progression.

For a specific group of people, the adjustment logic is in line with VersTV 2005. This collective agreement has an adjustment of 2.00 percent per year as well as, if necessary, a lagging correction for inflation that follows a three-year rhythm. As this represents an immaterial portion of the overall obligation, the DFS Group does not conduct a sensitivity calculation for the pension progression.

22.4 Risks

The pension obligations and the plan assets are subject to fluctuations over time. The reasons for these fluctuations and the associated risks arise from the usual actuarial risks and the financial risks in connection with the plan assets.

22.4.1 Demographic risks

As a large part of the defined benefit obligations are paid for the whole life and also include survivor's pensions, earlier entitlement and longer periods of benefit payment can lead to higher pension obligations, expenses and higher retirement benefits than expected.

22.4.2 Market price risks

The amount of the net obligation from occupational pensions is exposed to interest rate risk and is particularly influenced by the discount rate. The rate is determined by reference to market yields at the reporting date on high-quality fixed-rate corporate and treasury bonds. The global increase in key interest rates led to a rebound of the interest rate level. The higher interest rates led to a significant decrease in the volume of obligations. The market values of the plan assets also benefited in principle from the higher interest rate level, although the tense global economic situation led to a decline in the business year.

The investment form chosen by DFS Aviation Services (DAS) for the transitional retirement obligations offers a balanced mix of risk and return. The insurance contracts have a guaranteed rate of 2.25 percent for old contracts and 0.90 percent for new contracts, including the grant of a terminal bonus.

22.4.3 Liquidity risks

The daily liquidity of the DFS Group is monitored by the Treasury department and is managed with the help of short-term (< year) and medium-term liquidity plans.

22.4.4 Inflation risks

The Group distinguishes in its pension plans between benefits that are based on the respective final salary of the employee and benefits based on the career average plan. The pension component is directly tied to the respective income. A rise in salaries tied to inflation leads to a direct rise in the pension obligations.

22.5 Duration and expected pension and contribution payments

Expected due date of undiscounted payments	Up to	2 to 5	6 to 15
	1 year	years	years
	€m	€m	€m
Estimated pension payments ²⁵⁾	159	714	2,013
- of which reinsured with the insurance consortium	149	676	1,934
Expected employer contributions to plan assets	210	969	2,163

²⁵⁾ From the H²B detailed forecast 2022 to 2037 dated 30 June 2022.

The weighted duration of the pension obligations amounts to 16.8 years (previous year: 22.1 years) as at 31 December 2022.

22.6 Defined benefit obligations

	VersTV (Pensions)	ÜVersTV (Transitional payments)	KTV (Insurance)	Other	Total
31 Dec 2022	€m	€m	€m	€m	€m
As at 31 Jan 2022	4,500	1,444	178	4	6,126
Additions	0	0	0	18	18
Current service cost	157	66	1	1	225
Interest expense	53	17	2	1	73
Retirement benefits paid	-65	-63	-9	-2	-139
Acquisitions of businesses	0	0	0	0	0
Actuarial gains (-)	-1,899	-332	-43	-1	-2,275
- of which changed parameters	-1,968	-378	-42	-1	-2,389
- of which experience-based adjustments	69	46	-1	0 ²⁶⁾	114
Present value of defined benefit obligations	2,746	1,132	129	21	4,028
- of which benefits based on final salary					
Retirement payments	2,270				
One-time payments	90				
- of which benefits based on career average plan					
Retirement payments	386				
One-time payments	0 ²⁶⁾				
31 Dec 2021	€m	€m	€m	€m	€m
As at 1 Jan 2021	5,067	1,498	196	5	6,766
Current service cost	196	73	1	0 ²⁶⁾	270
Interest expense	30	9	1	0 ²⁶⁾	40
Retirement benefits paid	-60	-58	-8	-1	-127
Acquisitions of businesses	0	0 ²⁶⁾	0	0	0 ²⁶⁾
Actuarial gains (-)	-733	-78	-12	0 ²⁶⁾	-823
- of which changed parameters	-756	-116	-15	0 ²⁶⁾	-887
- of which experience-based adjustments	23	38	3	0 ²⁶⁾	64
Present value of defined benefit obligations	4,500	1,444	178	4	6,126
- of which benefits based on final salary					
Retirement payments	3,537				
One-time payments	91				
- of which benefits based on career average plan					
Retirement payments	872				
One-time payments	0				

²⁶⁾ Under €1 million

22.7 Plan assets

	31 Dec 2022	31 Dec 2021
	€m	€m
As at 1 Jan	3,710	3,216
Projected return on plan assets	44	19
Employer contributions and payments	206	326
Retirement benefits paid	-95	-91
Actuarial losses (-) and gains (+)	-304	240
Market values of plan assets	3,561	3,710
Actual expenses (-) and income (+) from plan assets	-260	259

Composition of plan assets

	31 Dec 2022	31 Dec 2021
	€m	€m
Capital investment in the general cover fund of the insurer	1,264	1,335
Capital investment in PEGASUS-UI-FONDS	2,297	2,375
Market value of plan assets	3,561	3,710

22.8 Net defined benefit liability

	Fund assets	VersTV (Pensions)	ÜVersTV (Transitional payments)	KTV (Insurance)	Other	Total
2022	€m	€m	€m	€m	€m	€m
As at 1 Jan	-3,694	4,500	1,444	162	4	2,416
Additions	0	0	0	0	18	18
Expenses in income statement	-44	210	83	3	2	254
Retirement benefits paid	95	-65	-63	-9	-2	-44
Employer contributions	-206	0	0	0	0	-206
Remeasurement of the net liability in equity = actuarial gains (-) and losses (+) of the ongoing business year	304	-1,899	-332	-43	-1	-1,971
Transfers	0	0	0	0	0	0
As at 31 Dec	-3,545	2,746	1,132	113	21	467
2021	€m	€m	€m	€m	€m	€m
As at 1 Jan	-3,199	5,067	1,498	179	5	3,550
Expenses in income statement	-19	226	82	2	0 ²⁷⁾	291
Retirement benefits paid	90	-60	-58	-7	-1	-36
Employer contributions	-326	0	0	0	0	-326
Remeasurement of the net liability in equity = actuarial gains (-) and losses (+) of the ongoing business year	-240	-733	-78	-12	0 ²⁷⁾	-1,063
Transfers	0	0	0 ²⁷⁾	0	0	0 ²⁷⁾
As at 31 Dec	-3,694	4,500	1,444	162	4	2,416

²⁷⁾ Under €1 million

22.9 Balance sheet amounts

	Fund assets	VersTV (Pensions)	ÜVersTV (Transitional payments)	KTV (Insurance)	Other	Total
31 Dec 2022	€m	€m	€m	€m	€m	€m
Present value of defined benefit obligations	0	2,746	1,132	129	21	4,028
Fair value of plan assets	-3,545	0	0	-16	0	-3,561
Funding status obligation (+) and asset (-)	-3,545	2,746	1,132	113	21	467
Amount not recognised as assets	0	0	0	0	0	0
Net amount of debt items (+) and asset items (-) in the balance sheet	-3,545	2,746	1,132	113	21	467
31 Dec 2021	€m	€m	€m	€m	€m	€m
Present value of defined benefit obligations	0	4,500	1,444	178	4	6,126
Fair value of plan assets	-3,694	0	0	-16	0	-3,710
Funding status obligation (+) and asset (-)	-3,694	4,500	1,444	162	4	2,416
Amount not recognised as assets	0	0	0	0	0	0
Net amount of debt items (+) and asset items (-) in the balance sheet	-3,694	4,500	1,444	162	4	2,416

22.10 Expenses (+) and income (-) recognised in the statement of comprehensive income

	Fund assets	VersTV (Pensions)	ÜVersTV (Transitional payments)	KTV (Insurance)	Other	Total
31 Dec 2022	€m	€m	€m	€m	€m	€m
Interest expense	0	53	17	2	1	73
Projected return on plan assets	-44	0	0	0	0	-44
Net interest expense	-44	53	17	2	1	29
Current service cost	0	157	66	1	1	225
Income statement expenses (+) or income (-)	-44	210	83	3	2	254
Past service cost						0 ²⁸⁾
Interest income from capitalised value						0 ²⁸⁾
Contributions to the German mutual insurance association						3
Payments to defined contribution plans						40
- of which contributions to pension insurance						38
						297
31 Dec 2021	€m	€m	€m	€m	€m	€m
Interest expense	0	30	9	1	0 ²⁸⁾	40
Projected return on plan assets	-19	0	0	0 ²⁸⁾	0	-19
Net interest expense	-19	30	9	1	0 ²⁸⁾	21
Current service cost	0	196	73	1	0 ²⁸⁾	270
Income statement expenses (+) or income (-)	-19	226	82	2	0 ²⁸⁾	291
Reversal of the provision for past service cost						-6
Interest income from capitalised value						0 ²⁸⁾
Contributions to the German mutual insurance association						1
Payments to defined contribution plans						41
- of which contributions to pension insurance						38
						327
²⁸⁾ Under €1 million						

23 Other provisions

	As at 01/01/2022	Utilisation	Reversal	Discounting	Additions	As at 31 Dec 2022	Remaining term more than 1 year
	€m	€m	€m	€m	€m	€m	€m
Over-recovery of charges ²⁹⁾	275	-131	-19	0	26	151	56
Personnel ³⁰⁾	70	-14	-2	3	13	70	62
Re-conversion of buildings	15	0 ³²⁾	0 ³²⁾	-4	0 ³²⁾	11	11
Preserving records	9	-1	0 ³²⁾	-1	0	7	6
Other ³¹⁾	4	-2	-1		6	7	0
	373	-148	-22	-2	45	246	135

²⁹⁾ For the calculation method in the regulated procedure for determining charges, see section 3.1 in the Group management report.

³⁰⁾ The obligations comprise provisions for early retirement, partial retirement, anniversary payments and recuperation cures (treatments) for air traffic controllers. Actuarial reports are the basis for the early retirement, partial retirement and anniversary obligations.

³¹⁾ For expected losses from market price changes in gas procurement, the DFS Group recognised a provision for impending losses.

³²⁾ Under €1 million

Due dates of future non-discounted settlement values

	2023	2024	2025	2026	2027	From 2028
	€m	€m	€m	€m	€m	€m
Over-recovery of charges	94	15	32	9	0	1
Personnel	9	8	5	3	1	44
Re-conversion of buildings	0 ³¹⁾	0 ³¹⁾	0	0	0 ³¹⁾	11
Preserving records	1	1	1	1	1	2
Miscellaneous	7	0	0	0	0	0
	111	24	38	13	2	58

Discount rates (in %) distributed over the respective remaining terms in years

	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7
2022	2.79	2.93	2.88	2.84	2.82	2.85
2021	-0.41	-0.35	-0.24	-0.17	-0.11	-0.12
	7 to 8	8 to 9	9 to 10	10 to 15	15 to 30	
2022	2.84	2.81	2.86	2.78	2.75	
2021	-0.02	0.03	0.04	0.01	0.24	

Effects of the changes to the discount rate					
	Computation with the interest rate as at 31 Dec 2022		Computation with the interest rate as at 31 Dec 2021		Effects
	€m		€m		€m
Discounted provisions	46		53		-7
Interest income (+) / expenses (-)	6		0 ³³⁾		+6
³³⁾ Under €1 million					

24 Financial liabilities

	31 Dec 2022		31 Dec 2021	
	Total	Remaining term more than 1 year	Total	Remaining term more than 1 year
	€m		€m	
<i>Schuldscheindarlehen</i> (debenture loan)	610	500	610	610
Lease liabilities	25	21	21	18
QTE transaction	0	0	21	0
Derivative financial instruments	0 ³³⁾	0	3	0
Loan	2	2	0	0
Financial debt from the capital investments of the investment entity	7	0	1	0
	644	523	656	628

<i>Schuldscheindarlehen</i> (debenture loan)				
Terms	Nominal value	Nominal interest rate	31 Dec 2022	31 Dec 2021
	€m		€m	
2013 to 2023	110	2.31%	110	110
2020 to 2025	86	0.50%	86	86
2020 to 2027	78	0.65%	78	78
2020 to 2030	249	0.85%	249	249
2020 to 2025	14	0.50%	14	14
2020 to 2027	53	0.65%	53	53
2020 to 2030	20	0.85%	20	20
	610		610	610

The qualified technological equipment (QTE) transaction was terminated contractually at the beginning of 2022.

25 Other liabilities

	31 Dec 2022	31 Dec 2022	31 Dec 2021	31 Dec 2021
	Total	Remaining term more than 1 year	Total	Remaining term more than 1 year
	€m	€m	€m	€m
Staff costs	57	0	59	0
Amounts owed to tax authorities	18	0	16	0
Outstanding invoices	14	0	12	0
Amounts owed to Shareholder	0	0	5	0
Interest payable	3	0	4	0
Remaining	39	11	43	18
	131	11	139	18

Offsetting of financial assets and liabilities

	Financial assets (+)	Financial liabilities (-)	Assets (+) and liabilities (-) as reported on the balance sheet
31 Dec 2022	€m	€m	€m
Shareholder	7	-2	5
Associated companies			
FCS	0 ³⁴⁾	-1	-1
AEROSENSE	0	-1	-1
UNIFLY	0 ³⁴⁾	-0 ³⁴⁾	-0 ³⁴⁾
Investments			
GroupEAD	0	-0 ³⁴⁾	-0 ³⁴⁾
31 Dec 2021	€m	€m	€m
Shareholder	3	-8	-5
Associated companies			
FCS	0 ³⁴⁾	-1	-1
AEROSENSE	0 ³⁴⁾	0	0 ³⁴⁾
UNIFLY	0 ³⁴⁾	0	0 ³⁴⁾
Investments			
GroupEAD	0 ³⁴⁾	0	0 ³⁴⁾

³⁴⁾ Under €1 million

The fair values of the offset financial assets and liabilities correspond to their carrying amounts.

Additional disclosures

26 Segment reporting

Segment reporting is based on the internal management and reporting systems. Commercial management and reporting have been based on cost unit accounting since the start of economic regulation. This enhances the transparency as well as the planning and control of the individual divisions.

Within the scope of segment reporting, the Executive Board as the chief operating decision-maker allocates company funds and assesses the performance of the operating segments. The operating result (operating EBIT) is an important performance indicator for the DFS Group.

Regulated business

The main business of the DFS Group (see section 1.2 in the Group management report) is the provision of air navigation services and the directly associated support activities. The DFS Group defines these activities as the 'regulated business'. This is divided into the Control Centre and Tower divisions.

Commercial business

The commercial business comprises all Group activities that are not allocated to the regulated business. The focus is on products and services offered internationally on the free market, namely air navigation services, consultancy services, the sale of air traffic control systems, as well as analysis, simulation and project management activities, and the sale of publications and energy. DFS International Business Services bundles the commercial business and ensures its successive expansion through its investments where it holds a controlling interest directly or indirectly, namely DFS Aviation Services, Air Navigation Solutions, R. Eisenschmidt, Kaufbeuren ATM Training and Droniq.

The determination of segment data is based on the following premises:

- The assets and liabilities of DFS Energy are included as part of the operating assets in the cost-base for determining charges. Consequently, in the reconciliation to the Group results, the expenses and income of DFS Energy are disclosed separately.
- Financial indicators (IFRS and HGB) are used for the planning and control of the commercial business.

Information on business segments by cost type			
	Regulated business	Commercial business	Group earnings
2022	€m	€m	€m
Revenues	1,234	94	1,328
Changes in inventory and other own work capitalised	31	2	33
Other operating income	25	2	27
Total operating revenues and income	1,290	98	1,388
Material expenses	-6	-13	-19
Employee expenses	-976	-68	-1,044
Other operating expenses	-130	-14	-144
Depreciation, amortisation and impairments	-99	-12	-111
Total costs	-1,211	-107	-1,318
Earnings before interest and taxes (EBIT)	79	-9	70
Financial income	150	1	151
Of which interest income of the investments accounted for using the equity method	[0]	[0 ³⁵⁾]	[0 ³⁵⁾]
Financial expenses	-245	-2	-247
Financial result	-95	-1	-96
Profit (loss) before income taxes	-16	-10	-26
Income taxes	-8	2	-6
Earnings for the period (continuing operations)	-24	-8	-32
Shareholder of the parent company	-24	-6	-30
Earnings attributable to minority interests	0	-2	-2
³⁵⁾ Under €1 million			

Information on business segments by cost type			
	Regulated business	Commercial business	Group earnings
2021	€m	€m	€m
Revenues	1,291	85	1,376
Changes in inventory and other own work capitalised	28	0	28
Other operating income	34	1	35
Total operating revenues and income	1,353	86	1,439
Material expenses	-6	-8	-14
Employee expenses	-972	-63	-1,035
Other operating expenses	-122	-13	-135
Depreciation, amortisation and impairments	-95	-10	-105
Total costs	-1,195	-94	-1,289
Earnings before interest and taxes (EBIT)	158	-8	150
Financial income	121	1	122
Of which interest income of the investments accounted for using the equity method	[0]	[0 ³⁶⁾]	[0 ³⁶⁾]
Financial expenses	-114	0 ³⁶⁾	-114
Financial result	7	1	8
Profit (loss) before income taxes	165	-7	158
Income taxes	-24	1	-23
Earnings for the period (continuing operations)	141	-6	135
Shareholder of the parent company	141	-5	136
Earnings attributable to minority interests	0	-1	-1
³⁶⁾ Under €1 million			

Reconciliation from charges-related result before interest and taxes to IFRS Group earnings before interest and taxes		
	31 Dec 2022	31 Dec 2021
	€m	€m
Products financed by charges	103	223
Commercial business	-1	-1
Other products financed by charges and other products	2	3
Charges-related earnings before interest and taxes (EBIT)	104	225
Occupational pensions from a charges-related perspective	238	190
Occupational pensions under IFRS	-232	-272
Change in equity relevant to charges (closing deficit)	-31	13
Minority interest	-5	-4
Consolidation/reconciliation	-4	-2
Group earnings before interest and taxes under IFRS	70	150

Information on important external customers in the regulated business				
	2022	2022	2021	2021
	€m	In %	€m	In %
DFS total revenues ³⁷⁾	937	100.00	607	100.00
Deutsche Lufthansa	140	14.97	68	11.28
Ryanair	64	6.79	36	5.96
Federal Ministry of Defence	54	5.73	49	8.15
Eurowings	48	5.13	24	4.01
Turkish Airlines	30	3.17	20	3.22
Federal Ministry for Digital and Transport (BMDV)	28	2.99	28	4.54
KLM Royal Dutch Airlines	25	2.64	22	3.55
Wizz Air Hungary	24	2.55	15	2.48
Emirates	22	2.35	13	2.12
EAT Leipzig	21	2.26	19	3.08

³⁷⁾ Comprising terminal and en-route revenues as well as revenues from military operational air traffic

The deviation from the revenue from air navigation services (see Note 5) relates to the carry-over.

27 Cash flow statement

The cash flow statement shows the change in liquid funds between two balance sheet dates to show the movements in cash and cash equivalents for the DFS Group. Cash inflows and outflows are divided into operating, investing and financing activities and only show cash flows from continuing operations. There are no discontinued operations.

Cash inflow from operating activities was calculated using the indirect method by adjusting net income for changes in inventory, receivables, other assets and borrowings as well as depreciation and amortisation and other non-cash income and expenses. The cash flows from income taxes relate to all three of the above areas of activity. However, owing to the disproportionate time that would be involved in assigning the cash flows from income taxes to the individual activities, for the purpose of the cash flow statement they are allocated to operating activities.

The DFS Group does not present the cash flows from operating activities according to the direct method (IAS 7.19).

Cash outflows from investing and financing activities are presented using the direct method.

28 Financial instruments

Financial assets by measurement category						
	Carrying amount	Amortised cost	Assets at fair value through profit or loss	Equity instruments at fair value through other comprehensive income	Fair value	Level
31 Dec 2022	€m	€m	€m	€m	€m	
Financial assets at fair value						
Financial assets	368		368		368	2
Investments	4			4	4	3
Financial assets not at fair value						
Loans	5	5			5	3
Trade receivables	135	135			135	3
Under-recovery	1,271	1,271			1,271	3
Receivables from EU grant funding	50	50			50	3
Capitalised value	25	25			25	2
Trusteeship (Treuhandverein)	8	8			8	2
Receivables from Shareholder	5	5			5	2
Interest receivables	0 ³⁸⁾	0 ³⁸⁾			0 ³⁸⁾	2
Liquid funds	144	144			144	2
Other financial assets – Level 3	0 ³⁸⁾	0 ³⁸⁾			0 ³⁸⁾	3
	2,015	1,643	368	4	2,015	

³⁸⁾ Under €1 million

Financial assets by measurement category						
	Carrying amount	Amortised cost	Assets at fair value through profit or loss	Equity instruments at fair value through other comprehensive income	Fair value	Level
31 Dec 2021	€m	€m	€m	€m	€m	
Financial assets at fair value						
Financial assets	693		693		693	2
Investments	10			10	10	3
Financial assets not at fair value						
Loans	6	6			6	3
Trade receivables	118	118			118	3
Under-recovery	1,102	1,102			1,102	3
Receivables from EU grant funding	48	48			48	3
QTE transaction	21	21			21	2
Trusteeship (Treuhandverein)	8	8			8	2
Capitalised value	7	7			7	2
Interest receivables	1	1			1	2
Liquid funds	126	126			126	2
Other financial assets – Level 3	2	2			2	3
	2,142	1,439	693	10	2,142	

Valuation technique

Cost approach: For loans to investments, the DFS Group assumes they can be sold for at least their carrying amounts in the short term and sets their fair values at the same level. The fair values of the investments can be calculated reliably and backed up with financial calculations. The Group values the stake in FCS Flight Calibration Services using the equity method, with the total carrying amount reflecting the proportionate changes in equity.

Due to the predominantly short-term nature of trade receivables, other receivables and assets as well as of liquid funds, the carrying amounts at the balance sheet date do not differ significantly from their fair values. The Group therefore assumes that these assets can be sold for at least their carrying amounts in the short term and sets their fair values at the same level.

Market approach: The fair values of securities and financial assets are determined completely or partially using recognised valuation models or the valuations of third parties based on the market conditions prevailing at the balance sheet date (interest and exchange rates) using external sources or market prices. In determining the fair value of derivatives, compensating effects from the primary transaction (pending business or anticipated transactions) are excluded.

Present value method: The fair value of the QTE transaction is determined based on discounting future expected cash flows.

Unobservable inputs

Discount rate, nominal value of investments as well as other receivables and assets

Observable inputs

Security prices, market interest rates

Relationship between inputs and fair value

The estimated fair value would increase if

- the risk-adjusted discount rate was lower
- the nominal values were higher
- the security prices were higher
- the market interest rates were higher

Reconciliation of the fair values of level 2 and 3

	Level 2	Level 3	Level 2	Level 3
	31 Dec 2022	31 Dec 2022	31 Dec 2021	31 Dec 2021
	€m	€m	€m	€m
As at 1 Jan	856	1,286	1,076	711
Ongoing gains (+) and losses (-)	-65	-2	29	-2
Gains (+) and losses (-) recognised in other comprehensive income	0	0	0	0
Additions (+) and disposals (-)	-241	181	-249	577
Transfers in and out of levels	0	0	0	0
As at 31 Dec	550	1,465	856	1,286

Financial liabilities by measurement category					
	Carrying amount	Amortised cost	Liabilities at fair value through profit or loss	Fair value	Level
31 Dec 2022	€m	€m	€m	€m	
Financial liabilities at fair value					
Derivative financial instruments	0 ³⁹⁾		0 ³⁹⁾	0 ³⁹⁾	2
Financial liabilities not at fair value					
<i>Schuldscheindarlehen</i> (debenture loan)	610	610		547	2
Finance lease liabilities	25	25		25	3
Financial debt from the capital investments of the investment entity	7	7		7	2
Loan	2	2		2	2
Trade payables	29	29		29	3
Outstanding invoices	14	14		14	3
Interest payable	3	3		3	2
Other financial liabilities – Level 3	6	6		6	3
	696	696	0³⁹⁾	633	
31 Dec 2021	€m	€m	€m	€m	
Financial liabilities at fair value					
Derivative financial instruments	3		3	3	2
Financial liabilities not at fair value					
<i>Schuldscheindarlehen</i> (debenture loan)	610	610		635	2
Finance lease liabilities	21	21		21	3
QTE transaction	21	21		21	2
Financial debt from the capital investments of the investment entity	1	1		1	2
Trade payables	32	32		32	3
Outstanding invoices	12	12		12	3
Amounts owed to Shareholder	5	5		5	3
Interest payable	4	4		4	2
Other financial liabilities – Level 3	5	5		5	3
	714	711	3	739	

³⁹⁾ Under €1 million

Valuation technique

Cost approach: Due to the predominantly short-term nature of trade payables and other liabilities, the carrying amounts at the balance sheet date do not differ significantly from their fair values. The DFS Group assumes that the fair values of these liabilities are at least equal to the settlement value from a current obligation.

Market approach: The fair values of debenture loans and financial debt are determined completely or partially using recognised valuation models or the valuations of third parties based on the market conditions prevailing at the balance sheet date (interest and exchange rates) using external sources or market prices. In determining the fair value of derivatives, compensating effects from the primary transaction (pending business or anticipated transactions) are excluded. The fair value of the bonds is determined using market listings on public markets.

Present value method: The fair value of finance leases and the QTE transaction is determined by discounting future expected cash flows using prevailing market interest rates.

Unobservable inputs

Discount rate, settlement value of other liabilities and liabilities

Observable inputs

Exchange prices, exchange rates, market interest rates

Relationship between inputs and fair value

The estimated fair value would increase if

- the risk-adjusted discount rate was lower
- the settlement values were higher
- the exchange prices were higher
- the exchange rates were higher
- the market interest rates were higher

Reconciliation of the fair values of level 2 and 3

	Level 2	Level 3	Level 2	Level 3
	31 Dec 2022	31 Dec 2022	31 Dec 2021	31 Dec 2021
	€m	€m	€m	€m
As at 1 Jan	664	75	687	68
Ongoing gains (+) and losses (-)	0 ⁴⁰⁾	0 ⁴⁰⁾	0 ⁴⁰⁾	0 ⁴⁰⁾
Gains (+) and losses (-) recognised in other comprehensive income	0	0	0	0
Additions (+) and disposals (-)	-105	-1	-23	7
Transfers in and out of levels	0	0	0	0
As at 31 Dec	559	74	664	75

⁴⁰⁾ Under €1 million

Net results of financial instruments by measurement category				
	Amortised cost	Financial assets At fair value through profit or loss	At fair value through other comprehensive income	Financial liabilities Amortised cost
	€m	€m	€m	€m
31 Dec 2022				
Income (+) from investments			1	
Gains (+) from foreign currency translation	1	9		
Losses (-) from remeasurement	-11	-71		
Expenses (-) from impairments	-2			
Interest income (+)	2	6		
Interest expense (-)	0 ⁴¹⁾	0 ⁴¹⁾		-6
Other financial expenses (-)	-1	-1		0 ⁴¹⁾
Gains (+) and losses (-)	-11	-57	1	-6
Recognised directly in other comprehensive income	0	0	0	0
31 Dec 2021				
Income (+) from investments			1	
Gains (+) from foreign currency translation	1	16		
Gains (+) from remeasurement	0 ⁴¹⁾	4		
Expenses (-) from impairments	-3			
Interest income (+)	1	9		
Interest expense (-)	0 ⁴¹⁾	0 ⁴¹⁾		-7
Other financial expenses (-)	-2	-1		0 ⁴¹⁾
Gains (+) and losses (-)	-3	28	1	-7
Recognised directly in other comprehensive income	0	0	0	0
⁴¹⁾ Under €1 million				

29 Financial risks

Financial risks arise in the form of liquidity risks, default risks and market price risks. The DFS Group provides disclosures in the Group management report in section 6.2.2 on the required qualitative disclosures under IFRS 7 about the type and means by which risks from financial instruments arise as well as the procedures for the management of these risks. The objective is to avoid new, and minimise existing, risks. The Group continuously monitors and analyses the events on the financial markets in a critical dialogue with its core banks and the rating agency to reassess existing strategies and develop new strategies.

29.1 Liquidity risks

Liquidity risk describes the risk that the DFS Group may not be in the position to settle its financial liabilities as contractually required through the delivery of cash or other financial assets. The Group's objective in managing liquidity is to ensure that, under both normal and adverse conditions, sufficient cash and cash equivalents are available to meet payment obligations as they fall due without incurring unacceptable losses or damaging the reputation of the Group.

The DFS Group aims to maintain a level of cash and cash equivalents that exceeds the expected cash outflows from financial liabilities over the next 90 days. At the end of the business year, the Group had cash and cash equivalents of €144 million and investments in the ATCP-UI-FONDS of €360 million which are readily turned into liquid funds, which it can use to service short-term financial liabilities. The DFS Group also regularly monitors the expected cash inflows from trade receivables together with the expected cash outflows from trade payables over the next 90 days.

The Standard & Poor's rating remains unchanged with a rating of AAA (long term) and A-1+ (short term). Accordingly, the DFS Group assumes that, if necessary, it will be able to obtain additional financing from existing lenders at market interest rates comparable to those of loans already taken out.

Maturities of undiscounted principal and interest payments from financial liabilities					
	Up to 3 months	4 to 12 months	2 to 5 years	More than 5 years	Total
31 Dec 2022	€m	€m	€m	€m	€m
Non-derivative financial liabilities					
<i>Schuldscheindarlehen</i> (debenture loan)	110	0	231	269	610
Interest	3	4	14	11	32
Finance lease liabilities	4	0	0	21	25
Financial debt from the capital investments of the investment entity	7	0	0	0	7
Loan	0	0	2	0	2
Trade payables	28	0 ⁴²⁾	1	0	29
Other liabilities	23	0	0	0	23
Derivative financial liabilities					
Derivatives	0 ⁴²⁾	0	0	0	0 ⁴²⁾
	175	4	248	301	728
31 Dec 2021	€m	€m	€m	€m	€m
Non-derivative financial liabilities					
<i>Schuldscheindarlehen</i> (debenture loan)	0	0	210	400	610
Interest	2	4	17	15	38
Finance lease liabilities	3	0	0	18	21
QTE transaction	21	0	0	0	21
Financial debt from the capital investments of the investment entity	1	0	0	0	1
Trade payables	31	1	0 ⁴²⁾	0	32
Other liabilities	26	0	0	0	26
Derivative financial liabilities					
Derivatives	3	0	0	0	3
	87	5	227	433	752

⁴²⁾ Under €1 million

29.2 Default risks

The DFS Group is exposed to default risks from financial receivables that result from the possible default on the obligations of a party to a contract. The maximum value equals the positive fair value or market value of the financial instrument.

Default risk by category	31 Dec 2022	31 Dec 2021
	€m	€m
Amortised cost	1,643	1,439
At fair value through profit or loss	368	693
At fair value through other comprehensive income	4	10
	2,015	2,142

With the exception of trade receivables, there are no financial assets that were overdue or impaired. Trade receivables are continuously monitored and are written down as necessary to the amount that could be recovered as soon as information on the insolvency of customers became available. The Group demands security deposits from customers with relevant sales volumes when defined warning thresholds are exceeded. In addition, there are no indications that the debtors whose receivables are overdue will not be able to fulfil their obligations.

As regards financial investing, the Group only enters into transactions with counterparties who either have a long-term rating of at least A+ (Standard & Poor's) or A1 (Moody's), short-term A-2 (Standard & Poor's) or P-2 (Moody's), or a correspondingly high creditworthiness or other form of collateral.

Business dealings with a select group of core banks are conducted using uniform standards and existing reciprocal cash flows are continuously improved.

29.3 Market risks

Market risk is defined as the risk that the fair values or future cash flows of a primary or derivative financial instrument change due to fluctuations in market prices (interest rate risk and currency risk). Interest rate risk arises primarily when refinancing with variable rates. Currency risks result from exchange rate fluctuations for transactions in foreign currencies.

Interest rate risk results mainly from the sensitivity of financial instruments. Liquidity is ensured by means of the money market and capital market programme with short maturities and fixed and variable interest rates as well as from non-assigned fund assets. The use of derivative financial instruments, such as interest rate swaps and cross-currency interest rate swaps, secures fixed interest rates and thus limits interest rate risk. The changes in interest rates therefore have no material impact on the result or equity. Speculative transactions with derivative instruments where there is no underlying transaction are forbidden.

The obligation and plan assets for DFS Group occupational pensions are exposed to interest rate risk. The discount rate for pensions and similar obligations is based on the market yields for high-quality fixed-rate corporate bonds.

Interest rate risk for financial liabilities			
	31 Dec 2022		31 Dec 2021
	€m		€m
Fixed-rate <i>Schuldscheindarlehen</i> (debenture loan)	610		610
Fixed-rate loan	2		0
	612		610

Foreign exchange risks that impact the balance sheet arise due to monetary items that are not in the functional currency. As the primary monetary financial instruments are held mainly in the functional currency or primarily converted into the functional currency by means of derivatives, changes in exchange rates therefore have no material impact on the result or equity.

For the following liabilities in foreign currencies, neither derivative financial instruments were concluded nor planned hedging transactions carried out due to the insignificant amount.

Net risk by currency				
	31 Dec 2022		31 Dec 2021	
	Nominal value	Value at reporting date	Nominal value	Value at reporting date
	\$'000	€'000	\$'000	€'000
Primary transactions	149	140	127	112
	PEN'000	€'000	PEN'000	€'000
Primary transactions	18	4	0	0
	CHF'000	€'000	CHF'000	€'000
Primary transactions	3	3	0	0
	DKK'000	€'000	DKK'000	€'000
Primary transactions	1	0 ⁴³⁾	0	0
	S\$'000	€'000	S\$'000	€'000
Primary transactions	0 ⁴³⁾	0 ⁴³⁾	0 ⁴³⁾	0 ⁴³⁾
	£'000	€'000	£'000	€'000
Primary transactions	0 ⁴³⁾	0 ⁴³⁾	56	66
⁴³⁾ Under S\$1 thousand / €1 thousand / £1 thousand				

The value-at-risk analysis conducted determines the currency and interest risk, which is based on a sensitivity model used for internal planning and control. Through historical simulations of statistical time series on relevant past financial market data, scenarios are extrapolated into the future and used to compute simulated changes in market values for financial instruments. The analysis shows the absolute decline which will not be exceeded with a probability of 99.00 percent when the holding period is one, ten and twenty days.

The DFS Group bases the presentation of its value-at-risk figures on the potential risk impact resulting from its much more significant investments in the ATCP-UI-FUND.

Value-at-risk metrics				
31 Dec 2022		1 day	10 days	20 days
VaR 99 (%)		0.43 %	1.36 %	1.92 %
VaR 99 (€m)		1,812	5,732	8,092
31 Dec 2021		1 day	10 days	20 days
VaR 99 (%)		0.65 %	2.07 %	2.92 %
VaR 99 (€m)		4,700	14,969	21,116

30 Capital management

As regards commercial considerations, the capital of the Group is managed first of all from a charges-related/regulatory perspective. This perspective takes additional elements into account when contrasted with the accounting principles under IFRS:

- Consideration of the catch-up effects from the conversion to IFRS not included in the financial statements
- Inclusion of the model to finance occupational pensions approved by the regulatory authority
- Law on the Implementation of the Mutual Assistance Directive as well as on the Change to Tax Regulations (*Amtshilferichtlinie-Umsetzungsgesetz*)
- Integration of DFS Energy
- Integration of the commercial business
- Consideration of uncontrollable costs

The integration of the commercial business improves the quality of the information about intra-Group relationships and allows a transparent separation between the regulated and commercial business. The commercial business should make an above-average contribution to net income as its profits are not subject to regulation.

The DFS Group bases its planning and control on the regulatory requirements of the European Commission. The 'regulated' perspective includes the future flow of charges approved by the supervisory authorities and delivers a clear picture of the capital structure, debts and cash flows. Assets and liabilities that are subject in full or in part to economic regulation are transferred to a regulatory asset base, i.e. an accounting of the results and financial position from the perspective of economic regulation.

This view of the DFS Group is supported by the supplement to Section 31b(3) of the German Aviation Act (LuftVG). This regulation obliges the Group to determine its taxes based on the charges-related result.

Reconciliation from balance sheet equity to regulated equity capital		
	31 Dec 2022	31 Dec 2021
	€m	€m
Group equity recognised on the balance sheet	1,180	-764
Deferred taxes on this amount	1	-4
Occupational pensions from a charges-related perspective	-623	1,709
Change in equity relevant to charges (closing deficit)	1,118	719
Consolidation/reconciliation	-6	-11
Regulated equity	1,670	1,649
Metrics based on regulated equity		
Equity ratio	51.74 %	31.08 %
Return on equity	-1.89 %	8.17 %
Net loss/income	-32	135
EBIT	70	150
Borrowings	1,558	3,657
Debt ratio	48.26 %	68.92 %
Return on total assets	-0.98 %	2.54 %
Leverage ratio ⁴⁴⁾	4.08 %	-3.07 %
Liquid funds	144	126
Financial assets	368	693
Non-current financial liabilities	523	628
of which QTE transaction	[0]	[0]
Current financial liabilities	121	28
of which QTE transaction	[0]	[21]
Net financial liabilities (-) / assets (+)	-132	163

⁴⁴⁾ If the sign is negative, there is overcompensation by liquid funds.

The DFS Group pursues a conservative investment and debt policy geared towards flexibility with a balanced investment and financing portfolio. The aims of capital management are to maintain operational effectiveness, maintain financial liquidity and, in connection with this, to build up or stabilise equity. Measures to achieve these aims are the optimisation of the capital structure, equity measures and the long-term reduction of debt. The DFS-Group coordinates its capital requirements and the raising of capital in such a way that the requirements for income, liquidity, security and independence are taken into account.

The DFS Group currently covers its short-term financing requirements through fixed-interest *Schuldscheindarlehen* (SSD, debenture loan). In the process, its creditworthiness is regularly reviewed by the Standard & Poor's rating agency.

Ratings	Long-term	Short-term	Outlook
Standard & Poor's	AAA	A-1+	Stable

31 Contingent liabilities and other financial obligations

31.1 Contingent liabilities

Maturities of sureties					
	Up to 1 year	2 to 5 years	More than 5 years	Indefinite term	Total
	€m	€m	€m	€m	€m
2022	1	1	0	1	3
2021	1	0 ⁴⁵⁾	0	2	3

⁴⁵⁾ Under €1 million

No provisions were recognised for the obligations shown because the risk of use was deemed to have a low probability. There are no uncertainties as regards the amount or maturity of the contingent liabilities.

Sureties relate to guarantees for prepayments, warranties, contract fulfilment and tender guarantees for simulation, radar data and air navigation facilities. At the end of the business year, there were no obligations for the issuance or endorsement of guarantees covering bills of exchange and cheques.

31.2 Other financial obligations

Due dates of other financial obligations					
	Up to 1 year	2 to 5 years	More than 5 years		Total
	€m	€m	€m		€m
31 Dec 2022					
Intercompany credit lines to associated companies	1	0	0		1
of which taken up	0	0	0		0
Capital expenditure commitments for					
- intangible assets	14	18	0		32
- property, plant and equipment	22	26	57		105
- material costs	108	51	6		165
- rental, leasing, tenancy	3	1	1		5
Bank guarantee	0	10	0		10
	148	106	64		318

Due dates of other financial obligations				
	Up to 1 year	2 to 5 years	More than 5 years	Total
31 Dec 2021	€m	€m	€m	€m
Intercompany credit lines to associated companies	1	0	0	1
of which taken up	0	0	0	0
Capital expenditure commitments for				
- intangible assets	16	7	0	23
- property, plant and equipment	23	5	2	30
- material costs	54	60	0 ⁴⁶⁾	114
- rental, leasing, tenancy	2	2	1	5
Bank guarantee	0	10	0	10
	96	84	3	183
⁴⁶⁾ Under €1 million				

No provisions were recognised for the obligations shown because the risk of use was deemed to have a low probability. No uncertainties exist as regards the amount or maturity of the other financial obligations.

To cover liquidity needs, the associated company was granted an intercompany credit line which can be taken up daily as part of the cash pool. By doing so, the Group optimises its conditions for cash investments and loans and exploits the advantages of a central, systematic financial planning.

Capital expenditure obligations relate to the contractual obligations for the purchase of intangible assets as well as property, plant and equipment.

32 Contingent assets

There are two separate abstract acknowledgements of debt (*abstrakte Schuldanerkenntnisse* – a standard German law acknowledgement of a borrower's indebtedness) between DFS and FCS:

Effective from	29 September 2008 / 6 October 2008, respectively	21 August 2018 / 24 September 2018, respectively
Collateral	Registration of a charge	Registration of a charge
Legal basis	Section 1 LuftFzgG (Law on Rights regarding Aircraft – Gesetz über Rechte an Luftfahrzeugen)	Section 1 LuftFzgG (Law on Rights regarding Aircraft – Gesetz über Rechte an Luftfahrzeugen)
Beneficiary	DFS	DFS
Object	Hawker Beechcraft Super King Air	Hawker Beechcraft Super King Air
Serial number	FL-626 D-CFME	FL-1156 D-CFMF
Local Court	Braunschweig	Braunschweig
Registration	16 September 2009	29 October 2019
Basis	Loan agreement dated September 2008 / October 2008	Loan agreement dated August 2018 / September 2018
Parties to the contract	DFS IBS and FCS	DFS IBS and FCS
Loan	The loan of €4.30 million for the aeroplane FL-626 D-CFME with a term until 31 December 2025 was fully taken up.	The loan of €5.56 million for the aeroplane FL-1156 with a term until 31 December 2033 was fully taken up.
Miscellaneous	The loan is collateralised over its entire maturity by an abstract acknowledgement of debt in favour of DFS by means of a liability of €6.00 million.	The loan is collateralised over its entire maturity by an abstract acknowledgement of debt in favour of DFS by means of a liability of €5.56 million.

33 Post-balance-sheet-date events

- In February 2023, the complaint against the tax office in Langen was decided in favour of DFS with regard to the wage tax treatment of recuperation cures. DFS expects to receive a refund of taxes paid amounting to approximately €10.60 million.

The DFS Group saw no additional post-balance-sheet-date events of material importance, whether individually or as a group, which impact the results and financial position of the Group.

34 Independent auditor's fees

Total fees of the auditor under Section 314(1)(9) of the German Commercial Code (HGB)

	31 Dec 2022 €'000	31 Dec 2021 €'000
Audit of the annual financial statements	161	168
Other assurance services	49	36
Tax advice	0	0
Other services	19	0
	229	204

35 Service concession arrangements

Under Section 27c of the German Aviation Act (LuftVG), the DFS Group is obliged to perform its sovereign tasks (see section 1.2 and 1.3 in the Group management report). The details of these tasks are regulated by an indefinite framework agreement with the Federal Republic of Germany.

The law and the framework agreement authorise the Group as the current entrusted air navigation service provider to require the airport operators under Section 27d of the German Aviation Act (LuftVG) to:

- establish and maintain the necessary facilities and take the necessary structural measures in these facilities; make the necessary facilities available and allow cables to be laid, connected and maintained on the premises.
- enable the air navigation services personnel to use the infrastructure at aerodromes.
- ensure that the buildings and rooms made available by the aerodrome operator are provided with power, thermal energy, heating and air-conditioning as well as perform other utility services and ensure that waste disposal services are rendered.

In return, the Group reimburses the airport operators for these costs.

Under Section 31b(1) of the German Aviation Act (LuftVG), the DFS Group alone is entrusted with the performance of the services outlined in Section 27c(2)(1)(1) LuftVG (supplemented by the German Ordinance on Terminal Charges of the Air Navigation Services (FSAAKV)). If another air navigation service provider is entrusted with the services outlined in Section 27c(2)(1)(2)-(5) LuftVG, the legal and contractual rights and obligations would transfer to this air navigation service provider.

Charges levied are the main source of revenues at the DFS Group and they should cover the planned costs.

35.1 Control Centre division

Since 1 January 2012, the European Commission has regulated en-route services by means of a performance scheme for air navigation services and network functions. It has laid down performance targets and alert thresholds for the whole European Union for the areas of safety, environment, capacity and cost-efficiency for one reference period. Each reference period comprises five years. To gather experience in the introductory phase, the first reference period was limited to three years (2012-2014).

The national supervisory authority, the Federal Supervisory Authority for Air Navigation Services (BAF), then draws up a performance plan at the national or functional airspace block level that is aligned with the performance targets of the European Union. Upon proposal of the national supervisory authorities, Member States adopt their performance plans and communicate them to the Commission. The Commission evaluates the performance plans and suggests, or takes, corrective measures.

With the start of economic regulation, the business risk for the DFS Group has risen. The cost risks that arise within a reference period impact the profits of the Group directly. However, the traffic risk is spread between the Group and the airspace users. Section 3.1 in the Group management report contains information on the split of risks stemming from variances in traffic volume.

The variances are determined by the Federal Supervisory Authority for Air Navigation Services (BAF) and reported to the European Commission and EUROCONTROL. EUROCONTROL checks the differences and submits the adjustments to the representatives of the Member States in the Enlarged Committee for Route Charges. This Committee prepares the adjusted unit rates for en-route services after consultation with the airspace users. These are submitted to the enlarged Commission for final approval.

The Federal Ministry for Digital and Transport (BMDV) publishes the unit rate for en-route services in the Federal Law Gazette on the basis of the German Ordinance on Route Charges of the Air Navigation Services (FSStrKV) and taking into consideration the EU Regulations on a common charging scheme for air navigation services.

35.2 Tower division

Since 2015, terminal services have also been subject to a regime of economic regulation. The Federal Ministry for Digital and Transport (BMDV) lays down a unit rate each year on the basis of the German Ordinance on Terminal Charges of the Air Navigation Services (FSAAKV) and taking into consideration the EU Regulations on a common charging scheme for air navigation services.

To this end, the DFS Group sends the national supervisory authority, the Federal Supervisory Authority for Air Navigation Services (BAF), a preliminary cost estimate for the coming year. The cost estimate is based on the costs of the last business year and the estimates of the cost development in the current and following business year. The unit rate is calculated from the quotient between the planned costs and the planned traffic volume.

With effect from 1 September 2021, the German Aviation Act (LuftVG) was amended and DFS Aviation Services (DAS) has been charging airspace users since that date (Section 31b(3) LuftVG). Air navigation services costs not covered by revenues from air navigation charges are covered by an injection of funds by the Federal Government. The profit margin is set at 6.30 percent of the costs incurred by regulation.

36 Related party disclosures

36.1 Related parties – entities

In the normal course of business, services are also rendered to related entities. Group companies also render services to the DFS Group. Within the Group, there are some billing agreements with reciprocal service provision charged as cost allocations. These extensive delivery and service relationships are conducted at market prices or using the cost-plus method and are no different from the business relationships with other companies.

During consolidation, the DFS Group eliminates the balances and transactions between the ultimate parent company and the consolidated subsidiaries (related parties). These are not disclosed in the Notes.

The DFS Group maintains business relations with the sole controlling Shareholder, the Federal Republic of Germany, and with other companies controlled by it as part of the entrusted sovereign functions for air navigation services. These transactions are conducted at arm's length and are no different from the delivery and service relationships with other companies. DFS avails itself of the exemption in IAS 24.25 and does not disclose information on outstanding balances and transactions with government-related entities.

The DFS Group aims to exert material influence on the Single European Sky (SES) initiative of the European Commission as part of its strategic orientation. To this end, the Group has been an active member of the SESAR Joint Undertaking (SJU) since June 2009, along with other leading organisations. This initiative developed and updated the requirements on air traffic management networks, the most suitable technologies and procedures. Since 2014, the SESAR development process has moved to the long-term phase of technical implementation and the setting up of air traffic management (ATM) procedures (deployment management). As part of a cross-industry partnership, the DFS Group won the contract to plan, coordinate and implement a comprehensive modernisation of European airspace within the scope of the deployment management for the time period 2014 to 2020. The task is financed out of the European funding programme, where a total of roughly €3 billion is earmarked for deployment management. The Group is thus able to influence the introduction of new technologies and benefits from considerable funding, as well as from the avoidance of incorrect cost allocation and flawed capital expenditures.

Income (+) and expenses (-)	Shareholder	Associated companies	Investments
	€m	€m	€m
2022			
Revenues	78	0 ⁴⁷⁾	0 ⁴⁷⁾
Purchased services		-4	
Employee expenses	-7		
Other operating expenses		-4	0 ⁴⁷⁾
Interest income		0 ⁴⁷⁾	
Income from investments			1
2021	€'000	€'000	€'000
Revenues	74	0 ⁴⁷⁾	0 ⁴⁷⁾
Purchased services		-4	
Employee expenses	-7		
Other operating expenses		-3	0 ⁴⁷⁾
Interest income		0 ⁴⁷⁾	
Income from investments			1
⁴⁷⁾ Under €1 million			

Outstanding balances	Shareholder	Associated companies	Investments
	€m	€m	€m
2022			
Financial assets		6	2
Other assets	7	0 ⁴⁸⁾	
Other liabilities	-2	-2	0 ⁴⁸⁾
2021	€'000	€'000	€'000
Financial assets		14	2
Other assets	3	0 ⁴⁸⁾	0 ⁴⁸⁾
Other liabilities	-8	-1	0
⁴⁸⁾ Under €1 million			

36.2 Related parties – persons

Related parties (persons) cover primarily the Executive Board, Level 1 managers, the Supervisory Board and their family members. There were no material or, in their form or character, atypical reportable transactions between the DFS Group and people in key positions of management and their close families that go beyond existing employment, service or purchasing relationships and their contractual compensation. The following contains disclosures on the emoluments of the Executive Board and the Supervisory Board.

37 Organs of the parent company

37.1 Executive Board

Arndt Schoenemann
Chairman and Chief Executive Officer

Dr Kerstin Böcker
Chief Human Resources Officer & Labour Director
(until 1 June 2022)

Andrea Wächter
Chief Human Resources Officer & Labour Director
(since 1 November 2022)

Dirk Mahns
Chief Operating Officer

Friedrich-Wilhelm Menge
Chief Technology Officer

See section 1.3 in the Group management report for the distribution of responsibilities of the Executive Board.

Payments due in the short term for members of the Executive Board			
	Fixed components (including benefits in kind)	Performance-related components	Total emoluments
2022	€'000	€'000	€'000
Arndt Schoenemann (Chairman)	351	78	429
Andrea Wächter (since 1 November 2022)	43	0	43
Dirk Mahns	269	131	400
Friedrich-Wilhelm Menge	248	120	368
Former Managing Directors	278	120	398
	1,189	449	1,638
2021	€'000	€'000	€'000
Arndt Schoenemann (Chairman)	264	0	264
Dr Kerstin Böcker	272	35	307
Dirk Mahns	267	87	354
Friedrich-Wilhelm Menge	249	78	327
Former Managing Directors	0	208	208
	1,052	408	1,460

Post-employment benefits			
	Pension benefits	Pension payments	Expenses for pension benefits earned in the current year⁴⁹⁾
2022	€'000	€'000	€'000
Arndt Schoenemann (Chairman)	162	0	166
Andrea Wächter (since 1 November 2022)	1,325	0	0
Dirk Mahns	1,298	0	250
Friedrich-Wilhelm Menge	364	0	238
Former Managing Directors	16,512	1,116	414
	19,661	1,116	1,068
2021	€'000	€'000	€'000
Arndt Schoenemann (Chairman)	110	0	0
Dr Kerstin Böcker	203	0	166
Dirk Mahns	2,073	0	249
Friedrich-Wilhelm Menge	428	0	251
Former Managing Directors	22,547	1,115	147
	25,361	1,115	813

⁴⁹⁾ Service cost and interest cost

The DFS Group granted no advance payments or loans to members of the Executive Board or to former Managing Directors. Benefits to former members of the Executive Board on the occasion of termination of employment amount to €0.44 million. In addition, it paid no remuneration from consultancy or service contracts. There were no other long-term benefits due or share-based compensation.

37.2 Supervisory Board

Shareholder representatives

Antje Geese

Chairperson of the Supervisory Board
Ministerialdirektorin
 Federal Ministry for Digital and Transport (BMDV)

Carmen von Bornstaedt-Radbruch

Ministerialrätin (retired)
 Federal Ministry of Defence
 (until 8 February 2022)

Gero von Fritschen

Colonel (G.S.)
 Federal Ministry of Defence
 (since 1 September 2022)

Armin Havenith

Colonel (G.S.)
 Federal Ministry of Defence
 (until 31 August 2022)

Dr Carl-Stefan Neumann

Managing Director
 Carl-Stefan Neumann Advisory & Investments GmbH

Iris Reimold

Ministerialrätin
 Federal Ministry for Digital and Transport (BMDV)

Thorsten Ruge

Ministerialrat
 Federal Ministry of Finance

Dr Katharina Ziolkowski

Ministerialrätin
 Federal Ministry of Defence
 (since 9 February 2022)

Staff representatives

Sabrina Leitzbach

Deputy Chairperson of the Supervisory Board
 Air traffic controller (control centre)

Günter Achatz

Director Planning and Innovation
 (since 1 July 2022)

Oktay Kaya

Chairperson of the Central Staff Council
 Air traffic controller (tower)

Markus Siebers

Supervisor tower (in transitional retirement)

André Vöcking

Air navigation services engineer

Andrea Wächter

Director Operations Tower
 (until 30 June 2022)

Jörg Waldhorst

Senior expert flight procedure design

In the business year, there were four scheduled ordinary meetings and three extraordinary meetings.

The remuneration of the members of the Supervisory Board is regulated by shareholder resolutions. The members of the Supervisory Board receive an annual remuneration of €4,000.00. This annual remuneration amounts to €5,000.00 for the chairpersons of the committees and the deputy chairperson of the Supervisory Board and €6,000.00 for the chairperson of the Supervisory Board.

The members of the Supervisory Board received no advances, loans or remuneration from consultancy or service contracts.

Remuneration of the Supervisory Board	31 Dec 2022 €'000	31 Dec 2021 €'000
Günter Achatz	2.00	0.00
Carmen von Bornstaedt-Radbruch	0.40	4.00
Gero von Fritschen	1.70	0.00
Antje Geese	6.20	5.44
Armin Havenith	3.50	5.18
Oktay Kaya	4.00	4.00
Sabrina Leitzbach	5.00	5.08
Dr Carl-Stefan Neumann	5.30	5.18
Iris Reimold	4.00	1.39
Torsten Ruge	4.20	2.69
Markus Siebers	4.00	4.34
André Vöcking	4.10	4.13
Andrea Wächter	2.00	4.03
Jörg Waldhorst	4.10	4.02
Dr Katharina Ziolkowski	3.80	0.00
Former members of the Supervisory Board	0.00	7.11 ⁵¹⁾
	54.30	56.59

⁵¹⁾ The payments for Dr Tamara Zieschang were made directly to the Federal Ministry for Digital and Transport (BMDV).

38 Disclosures on the Public Corporate Governance Code (PCGK)

The DFS Group is subject to the Public Corporate Governance Code of the Federation (PCGK). The Executive Board and the Supervisory Board jointly issue a compliance statement each year and publish the corporate governance report on the website of the company.

Langen, 2 March 2023

Arndt Schoenemann
Chairman and Chief
Executive Officer

Andrea Wächter
Chief Human Resources
Officer & Labour Director

Dirk Mahns
Chief Operating
Officer

Friedrich-Wilhelm Menge
Chief Technology Officer

We issue this unqualified auditor's report as follows:

Independent Auditor's Report*

To DFS Deutsche Flugsicherung GmbH, Langen

Opinions

We have audited the consolidated financial statements of DFS Deutsche Flugsicherung GmbH, Langen, and its subsidiaries (the Group), comprising the consolidated balance sheet as at 31 December 2022, the statement of comprehensive income, the consolidated statement of changes in equity and the consolidated cash flow statement for the business year from 1 January to 31 December 2022 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 DFS Deutsche Flugsicherung GmbH, Langen, which is combined with the management report of the company, for the business year from 1 January to 31 December 2022. In accordance with German legal requirements, we have not audited the content of the components of the group management report mentioned in the section "Other information" of our auditor's report.

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

- the attached consolidated financial statements comply, in all material respects, with IFRS as endorsed by the EU, the additional legal requirements of the German Commercial Code (HGB) under Section 315(e)(1) and, in compliance with these requirements, give a true and fair view of the results and financial position of the Group as at 31 December 2022 and the earnings for the business year from 1 January to 31 December 2022 and
- the attached group management report as a whole provides an appropriate view of the Group's position. This group management report is consistent in all material respects with the consolidated financial statements, complies with German legal requirements and suitably presents the opportunities and risks of future development. Our audit opinion on the group management report does not cover the content of the components of the group management report mentioned in the section "Other information".

Pursuant to Section 322(3)(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 have conducted our audit of the consolidated financial statements and the group management report in accordance with Section 317 HGB and German generally accepted standards for the audit of financial statements promulgated by the *Institut der Wirtschaftsprüfer* [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the section entitled "Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report" of our Auditor's Report. We are independent of the Group companies in accordance with the requirements of German commercial and professional law and have satisfied our other German professional responsibilities in accordance with these requirements. We believe 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.

Other information

The Executive Board and/or the Supervisory Board are responsible for the other information. The other information comprises the following components of the group management report that have not been audited as regards content:

- the group governance declaration pursuant to Sections §§ 315d HGB in conjunction with 289f(4) HGB (information on proportion of women, *Frauenquote*) as well as
- the report on equality and equal pay pursuant to Section 22(4) of the German Act to Promote Transparency of Pay Structures (EntgTranspG) (annex to the group management report).

The other information also includes the Corporate Governance Report in accordance with No. 7.1 of the German Public Corporate Governance Code of the Federation (PCGK).

The legal representatives and the Supervisory Board are jointly responsible for the Corporate Governance Report. In addition, the legal representatives are responsible for the other information.

Our audit opinions on the consolidated financial statements and the group management report do not extend to the other information and, accordingly, we do not express either an audit opinion or any other form of audit conclusion on them.

In connection with our audit, we have the responsibility to read the other information and to assess whether the other information:

- displays material discrepancies with the consolidated financial statements, with the group management report or the findings obtained during the audit.
- or otherwise appears to be materially misrepresented.

Responsibility of the Executive Board and the Supervisory Board for the consolidated financial statements and the group management report

The Executive Board is responsible for preparing consolidated financial statements that comply in all material respects with IFRS as adopted by the EU, and with the additional requirements of German law under Section 315(e)(1) HGB, as well as for ensuring that the consolidated financial statements give a true and fair view of the results and financial position of the Group while observing the German principles of proper accounting (GoB). In addition, the Executive Board is responsible for the internal controls it has deemed necessary under the German principles of proper accounting to enable the preparation of consolidated financial

statements that are free from material misstatement, whether due to fraud (i.e. fraudulent financial reporting and misappropriation of assets) or error.

In preparing the consolidated financial statements, the Executive Board is responsible for assessing the Group's ability to continue as a going concern. Furthermore, it is responsible for disclosing matters relating to the going concern status, if relevant. In addition, it is 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 Board is responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the Executive Board is responsible for the arrangements and measures (systems) it has deemed necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient, appropriate evidence for the assertions in the group management report.

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

Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report

Our objective is to obtain reasonable assurance on whether the consolidated financial statements as a whole are free from material misstatements, 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 is, in all material respects, consistent with the consolidated financial statements and the findings obtained in the audit, complies with 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 degree of assurance, but it is not a guarantee that an audit conducted in accordance with Section 317 HGB and German generally accepted standards for the audit of financial statements 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 aggregate, they could reasonably be expected to influence the economic decisions of addressees taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgement and maintain an attitude of professional scepticism during the audit. In addition:

- We identify and assess the risks of material misstatements in the consolidated financial statements and in the group management report, whether due to fraud or error, design and perform audit procedures in response 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 material misstatements resulting from fraud is higher than the risk of not detecting material misstatements resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations or the override of internal controls.
- We obtain an understanding of the internal control system relevant to the audit of the consolidated financial statements and of the arrangements and measures relevant to the audit of the group management report in order to design audit procedures that are appropriate in the given circumstances, but not for the objective of expressing an audit opinion on the effectiveness of the company's systems.
- We evaluate the appropriateness of accounting policies used by the Executive Board and the reasonableness of estimates and related disclosures made by the Executive Board.
- We draw conclusions on the appropriateness of the Executive Board's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the Auditor's Report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our audit opinion. 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.
- We evaluate the presentation, structure and contents of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in such a way that the consolidated financial statements give a true and fair view of the results and financial position of the Group while observing the German principles of proper accounting.

- We obtain sufficient appropriate audit evidence regarding the financial information of the companies 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.
- We evaluate the consistency of the group management report with the consolidated financial statements, its compliance with the law, and the view of the Group's position it provides.
- We perform audit procedures on the forward-looking information presented by the Executive Board in the group management report. On the basis of sufficient, appropriate audit evidence we evaluate, in particular, the significant assumptions used by the Executive Board as a basis for the forward-looking information, and evaluate the proper derivation of the forward-looking information from these assumptions. We do not express a separate audit opinion on the forward-looking information and on the assumptions used as a basis for such. There is a substantial, unavoidable risk that future events will differ materially from the forward-looking information.

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

Frankfurt am Main, 2 March 2023

Mazars GmbH & Co. KG
Wirtschaftsprüfungsgesellschaft
Steuerberatungsgesellschaft

Susanne Schorse
Auditor

Dr Jonas van Elten
Auditor

* Courtesy translation; see page 3

DFS Deutsche Flugsicherung GmbH

Acronyms and abbreviations

AEROSENSE	FREQUENTIS DFS AEROSENSE GmbH, Vienna, Austria
AfA	Official German Schedule for Deductions for Depreciation – <i>Absetzung für Abnutzung</i>
AFIS	Aerodrome Flight Information Service
AG	Public Limited Company – <i>Aktiengesellschaft</i>
AktG	German Stock Corporation Act – <i>Aktiengesetz</i>
AIM	Aeronautical Information Management
AIP	Aeronautical Information Publication
AIS	Aeronautical Information Service
AmtshilfeRLUmsG	German Law on the Implementation of the Mutual Assistance Directive as well as on the Change to Tax Regulations – <i>Amtshilfe richtlinie-Umsetzungsgesetz</i>
ANA	Luxembourg air navigation service provider, Findel, Luxembourg – <i>L'Administration de la Navigation Aérienne du Luxembourg</i>
ANSL	Air Navigation Solutions Limited, West Sussex, United Kingdom
ANS	Air Navigation Services
ANSP	Air Navigation Service Provider
AS	Aeronautical Solutions (former division of DFS)
ATC	Air Traffic Control
ATCAS	Air Traffic Control Automation System
ATM	Air Traffic Management
ATS	Air Traffic Services
ATZ-TV	Collective Agreement on Partial Retirement at DFS – <i>Altersteilzeit-Tarifvertrag</i>
AUC	Assets under Construction
AUSTRO CONTROL	Austrian air navigation service provider Vienna, Austria – <i>Austro Control Österreichische Gesellschaft für Zivilluftfahrt mbH</i>
BAF	Federal Supervisory Authority for Air Navigation Services, Langen, Germany – <i>Bundesaufsichtsamt für Flugsicherung</i>
BARIG	Board of Airline Representatives in Germany, Frankfurt, Germany
BDF	German Airline Association, Berlin, Germany – <i>Bundesverband der Deutschen Fluggesellschaften</i>
BDL	German Aviation Association, Berlin, Germany – <i>Bundesverband der Deutschen Luftverkehrswirtschaft</i>
BFS	Federal Administration of Air Navigation Services – <i>Bundesanstalt für Flugsicherung</i> (predecessor organisation to DFS)
BGBI	German Federal Law Gazette – <i>Bundesgesetzblatt</i>
BHD	Bahraini Dinar
BilReG	German Accounting Law Reform Act – <i>Bilanzrechtsreformgesetz</i>
BILSODA	BILSODA GmbH & Co. KG, Pullach, Germany
BMF	Federal Ministry of Finance, Berlin, Germany – <i>Bundesministerium der Finanzen</i>
BMVg	Federal Ministry of Defence, Bonn, Germany – <i>Bundesministerium der Verteidigung</i>
BMDV	Federal Ministry for Digital and Transport, Berlin, Germany – <i>Bundesministeriums für Digitales und Verkehr</i>
BMVI	Federal Ministry of Transport and Digital Infrastructure, Berlin, Germany – <i>Bundesministerium für Verkehr und digitale Infrastruktur</i>
BMWi	Federal Ministry for Economic Affairs and Energy, Berlin, Germany – <i>Bundesministerium für Wirtschaft und Energie</i>
BSI	Federal Office for Information Security, Bonn, Germany – <i>Bundesamt für Sicherheit in der Informationstechnik</i>

BSI KritisV	German Ordinance defining Critical Infrastructures pursuant to the Act on the Federal Office for Information Security – <i>Verordnung zur Bestimmung Kritischer Infrastrukturen nach dem BSI-Gesetz</i>
CEF	Connecting Europe Facility
CEO	Chief Executive Officer
CHF	Swiss Franc
CHRO	Chief Human Resources Officer
CMS	Compliance Management System
CNS	Communications, Navigation and Surveillance
Co.	Compagnie
COO	Chief Operating Officer
Corona collective agreement	Collective agreement on the demand-oriented deployment of staff during the COVID-19 pandemic for the staff employed by DFS Deutsche Flugsicherung GmbH
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
Co. W. L. L.	Company with Limited Liability
CTO	Chief Technology Officer
DAIO	Departures, Arrivals, Internals and Overflights
DANS	Dubai Air Navigation Services, Dubai, UAE
DAS	DFS Aviation Services GmbH, Langen, Germany
DAS Bahrain	DFS Aviation Services Bahrain Co. W.L.L., Manama, Bahrain
DCF	Discounted Cash Flow
de	Country Code Domain for Germany
DFS	DFS Deutsche Flugsicherung GmbH, Langen, Germany
DFS Energy	DFS Energy GmbH, Langen, Germany
DFS IBS	DFS International Business Services GmbH, Langen, Germany
DFS U-Kasse	<i>DFS Unterstützungskasse GmbH</i> , Langen, Germany (benevolent fund)
DIW	German Institute for Economic Research, Berlin, Germany – <i>Deutsches Institut für Wirtschaftsforschung</i>
DLR	German Aerospace Centre, Cologne, Germany – <i>Deutsches Zentrum für Luft- und Raumfahrt e.V.</i>
DM	Deutschmark – German Mark
DRS	Dresden International Airport
DSNA	French air navigation service provider, Paris, France – <i>Direction des Services de la Navigation Aérienne</i>
Droniq	Droniq GmbH, Frankfurt, Germany
DVOR	Doppler VHF (Very High Frequency) Omnidirectional Radio Range
DWD	German Meteorological Service, Offenbach, Germany – <i>Deutscher Wetterdienst</i>
EAD	European AIS Database
EAL	Edinburgh Airport Ltd, Edinburgh, Scotland
EANPG	European Air Navigation Planning Group
EASA	European Aviation Safety Agency, Cologne, Germany
EBIT	Earnings before Interest and Taxes
EBITDA	Earnings before Interest, Taxes, Depreciation & Amortisation
EBT	Earnings before Taxes
EC	European Community
EEG	Energy Sources Act – <i>Erneuerbare-Energien-Gesetz</i>
EGNOS	European Geostationary Navigation Overlay Service
Eisenschmidt	R. Eisenschmidt GmbH, Egelsbach, Germany
EMU	Economic and Monetary Union
eNM/S19	Enhanced NM/ANSPs Network Measures for Summer 2019
ESSP SAS	<i>European Satellite Services Provider Société par Actions Simplifiée</i> , Toulouse, France
ETV	Collective Agreement on the Grading System at DFS – <i>Eingruppierungstarifvertrag</i>

EU	European Union
EUR	Euro
EUROCONTROL	European Organisation for the Safety of Air Navigation, Brussels, Belgium
EUROSTAT	Statistical Office of the European Union, Luxembourg
e.V.	Registered Association – <i>eingetragener Verein</i>
FAB(EC)	Functional Airspace Block (Europe Central)
FCS	FCS Flight Calibration Services GmbH, Braunschweig, Germany
FIR	Flight Information Region
FMC	Flughafen Magdeburg-Cochstedt GmbH, Hecklingen, Germany
FO IOP	Flight Object Interoperability
FSAAKV	German Ordinance on Terminal Charges of the Air Navigation Services – <i>Flugsicherungs-An- und Abflug-Kostenverordnung</i>
FS-AuftragsV	German Regulation concerning the Commissioning of an Air Navigation Services Enterprise – <i>Verordnung zur Beauftragung eines Flugsicherungsunternehmens</i>
FS-DiensteVO	German Service Provision Regulation – <i>Flugsicherungsdienste-Verordnung</i>
FS-DurchführungsV	German Air Navigation Services Regulation – <i>Verordnung über die Durchführung der Flugsicherung</i>
FSStrKV	German Regulation on Route Charges – <i>Flugsicherungs-Streckenkostenverordnung</i>
FührposGleichberG	German Law on the Equal Participation of Women and Men in Management Positions in the Private Sector and in Public Service – <i>Gesetz für die gleichberechtigte Teilhabe von Frauen und Männern an Führungspositionen in der Privatwirtschaft und im öffentlichen Dienst</i>
GBP	Pound Sterling (£)
GdF	Air Navigation Services Union – <i>Gewerkschaft der Flugsicherung</i>
GDP	Gross Domestic Product
GmbH	Limited Liability Company – <i>Gesellschaft mit beschränkter Haftung</i>
GmbHG	Act concerning Limited Liability Companies – <i>Gesetz betreffend die Gesellschaften mit beschränkter Haftung</i>
GoB	German Principles of Proper Accounting – <i>Grundsätze ordnungsmäßiger Buchführung</i>
GPS	Global Positioning System
GroupEAD	GroupEAD Europe S.L., Madrid, Spain
GS2 VCS	Intercom System 2 Voice Communication System
HGB	German Commercial Code – <i>Handelsgesetzbuch</i>
HRB	Commercial Register B – <i>Handelsregister Abteilung B</i>
IAS	International Accounting Standards
IASB	International Accounting Standards Board
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
iCAS	iTEC (interoperability Through European Collaboration) Centre Automation System
ICS	Internal Control System
IDW	Institute of Public Auditors in Germany, Düsseldorf, Germany – <i>Institut der Wirtschaftsprüfer in Deutschland e.V.</i>
IDW PS	Auditing Standards (<i>Prüfungsstandards</i>) laid down by the Institute of Public Auditors in Germany (IDW)
ifo	Leibniz Institute for Economic Research at the University of Munich e.V., Munich, Germany – <i>Leibniz-Institut für Wirtschaftsforschung an der Universität München e.V.</i>
IFR	Instrument Flight Rules
IFRIC	International Financial Reporting Interpretations Committee
IFRS	International Financial Reporting Standards
IfW Kiel	Kiel Institute for the World Economy; Kiel, Germany – <i>Institut für Weltwirtschaft Kiel</i>
IMC	Instrument Meteorological Conditions
ISIS-XM	Improved Speech Integrated System

ISO	International Organisation for Standardisation
IWH	Halle Institute for Economic Research, Halle, Germany – <i>Leibniz-Institut für Wirtschaftsforschung Halle</i>
KapaTV	Collective agreement on increasing operational capacities in the air traffic control service and future initiative in operational training for staff employed in operational services at DFS Deutsche Flugsicherung GmbH
KAT	Kaufbeuren ATM Training GmbH, Kaufbeuren, Germany
KfW	<i>Kreditanstalt für Wiederaufbau</i> , Frankfurt, Germany (German government-owned development bank)
KG	Partnership – <i>Kommanditgesellschaft</i>
KPA	Key Performance Area
KTV	Collective Agreement on Health and Long-term Care Insurance at DFS – <i>Kranken- und Pflegeversicherungstarifvertrag</i>
LBA Ltd.	Federal Aviation Office, Braunschweig, Germany – <i>Luftfahrt-Bundesamt</i> Limited
LTE	Long Term Evolution – a standard for wireless broadband communication
LufABw	German Military Aviation Authority, Cologne Wahn, Germany – <i>Luftfahrtamt der Bundeswehr</i>
LuftzG	German Law on Rights regarding Aircraft – <i>Gesetz über Rechte an Luftfahrzeugen</i>
LuftVG	German Aviation Act – <i>Luftverkehrsgesetz</i>
LuftVStAbsenkV	German Ordinance on Decreasing the Air Transport Tax – <i>Luftverkehrsteuer-Absenkungsverordnung</i>
LuftVStFestV	German Law Laying Down German Air Transport Tax – <i>Luftverkehrsteuer-Festlegungsverordnung</i>
LuftVStG	German Air Transport Tax – <i>Luftverkehrsteuergesetz</i>
LZK-TV	Collective Agreement governing Long-term Time Accounts at DFS – <i>Langzeitkontentarifvertrag</i>
MaRS	Modernisation and Replacement of Surveillance Infrastructure at DFS
mFUND	Research Initiative of the German Ministry of Transport and Digital Infrastructure – <i>Modernitätsfonds</i>
MTV	Collective Framework Agreement at DFS – <i>Manteltarifvertrag</i>
MUAC	Maastricht Upper Area Control Centre, Maastricht, Netherlands
n	Represents the Current Business Year
NM	Network Manager
No.	Number
NATS	National Air Traffic Services, Whiteley, Fareham, United Kingdom (UK air navigation service provider)
NORD/LB	Landesbank of Lower Saxony and Saxony-Anhalt – <i>Norddeutsche Landesbank Girozentrale</i> , Hannover, Germany
NOTAM	Notice to Airmen
NV	<i>Naamloze Vennootschap</i> (Belgian public limited company)
OAT	Operational Air Traffic
OCI	Other Comprehensive Income
OECD	Organisation for Economic Co-operation and Development, Paris, France
OJT	On-the-Job Training
P.	Page
P1	Project 1
PCGK	German Public Corporate Governance Code – <i>Public Corporate Governance Kodex</i>
PEI	Paul Ehrlich Institute, Langen, Germany
PMV	<i>Participatiemaatschappij Vlaanderen NV</i> , Brussels, Belgium
QBIC Arkiv	QBIC Arkiv FUND NV, Ghent, Belgium
QBIC Feeder	QBIC FEEDER FUND NV, Ghent, Belgium
QTE	Qualified Technological Equipment (cross-border)
RASUM	Radio Site Upgrade and Modernisation at DFS
RMC	Risk Management Committee

RMS	Risk Management System
RP	Reference Period
RTC	Remote Tower Control
RWI	RWI-Leibniz Institute for Economic Research, Essen, Germany – <i>Leibniz-Institut für Wirtschaftsforschung e. V.</i>
S.A.	<i>Société Anonyme</i> (type of public company)
S-ATM	Sectorless Air Traffic Management
SDA	SESAR Deployment Alliance
SES	Single European Sky
SESAR	Single European Sky Air Traffic Management Research
SGD	Singapore Dollar (S\$)
SJU	SESAR Joint Undertaking
SKYNAV S.A.	SKYNAV Société Anonyme, Awans, Belgium
S. L.	<i>Sociedad de Responsabilidad Limitada</i>
SSC	Single Sky Committee
STATFOR	Statistics and Forecast Service (at EUROCONTROL)
StrukturTV	Collective Agreement on Structural Measures and Early Retirement at DFS – <i>Tarifvertrag über Strukturmaßnahmen und Vorruhestand</i>
TATS	Tower Air Traffic Services S.L., Madrid, Spain
Terra Drone	Terra Drone Corporation, Tokyo, Japan
TranspRLG	Transparency Directive Implementation Act – <i>Transparenzrichtlinie-Umsetzungsgesetz</i>
TVöD	Collective Agreement for the Public Service – <i>Tarifvertrag für den öffentlichen Dienst</i>
UAS	Unmanned Aircraft System
UIR	Upper Flight Information Region
Unify	Unify NV, Antwerp, Belgium
USD	United States Dollar (\$)
UTM	UAS Traffic Management
ÜVerSTV	Collective Agreement on Pensions and Transitional Payments at DFS – <i>Übergangsvorsorgungstarifvertrag</i>
VAFORIT	Very Advanced Flight Data Processing Operational Requirements Implementation
VaR	Value at Risk
VersTV	Collective Agreement on Pensions at DFS – <i>Versorgungstarifvertrag</i>
VFR	Visual Flight Rules
VHF	Very High Frequency
VITO	Flemish Institute for Technological Research – <i>Vlaamse Instelling Voor Technologisch Onderzoek</i> , Mol, Belgium
VMC	Visual Meteorological Conditions
VTV	Collective Agreement covering Remuneration at DFS – <i>Vergütungstarifvertrag</i>
VTV-A	Collective Agreement covering Remuneration for Apprentices at DFS – <i>Vergütungstarifvertrag der Auszubildenden</i>
WACC	Weighted Average Cost of Capital
WpHG	German Securities Trading Act – <i>Wertpapierhandelsgesetz</i>
ZTV	Collective Agreement covering Allowances at DFS – <i>Zulagentarifvertrag</i>

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