

ANNUAL REPORT 2023

LFV Annual Report Contents

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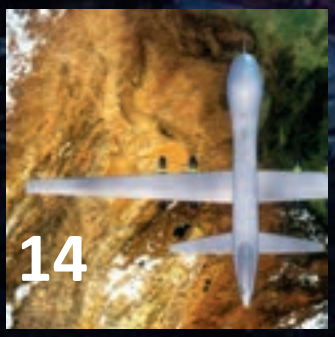
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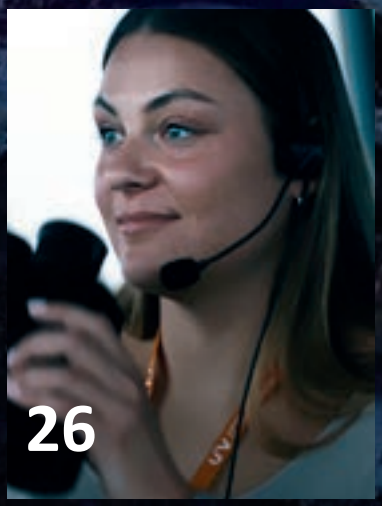
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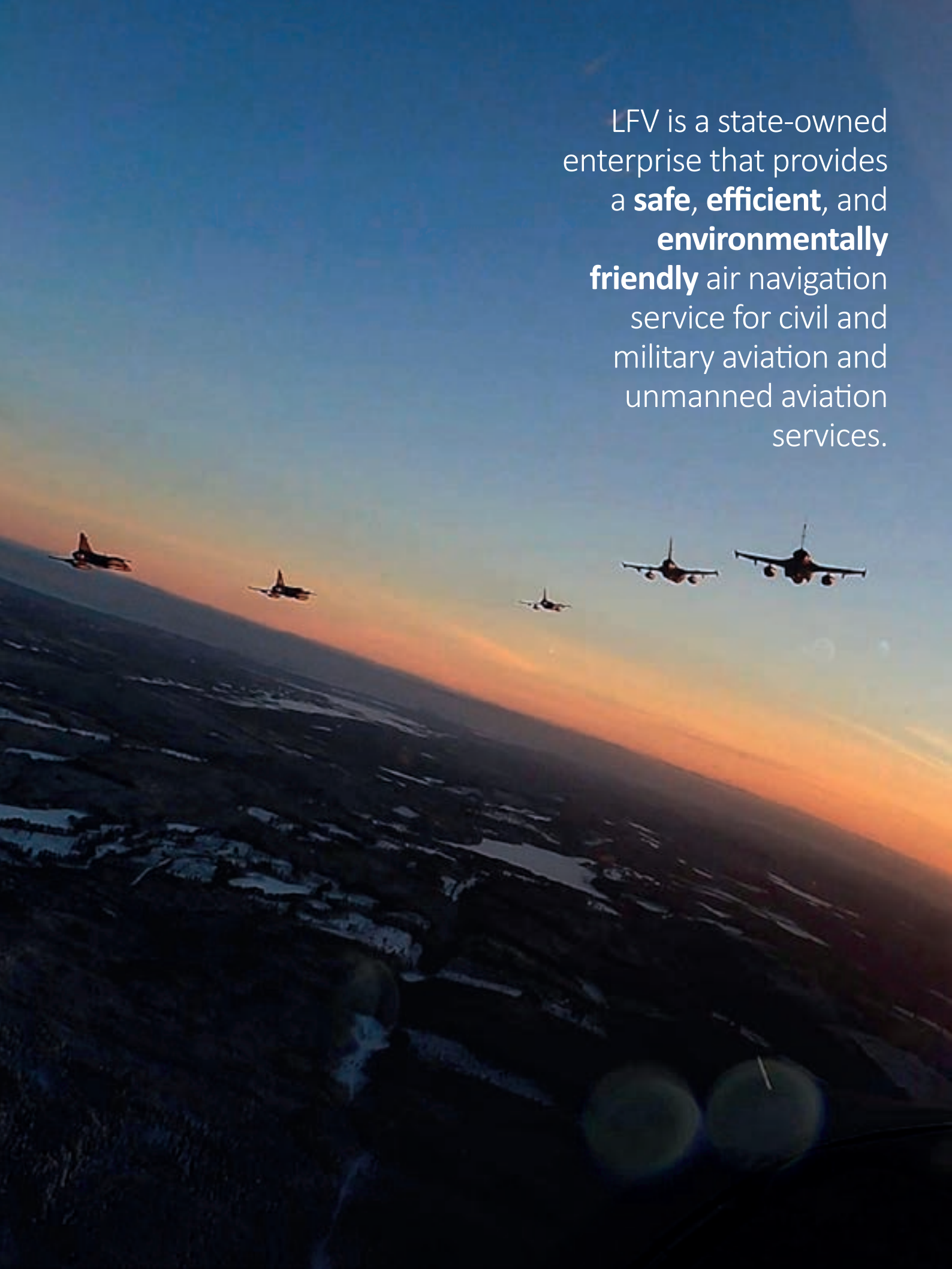
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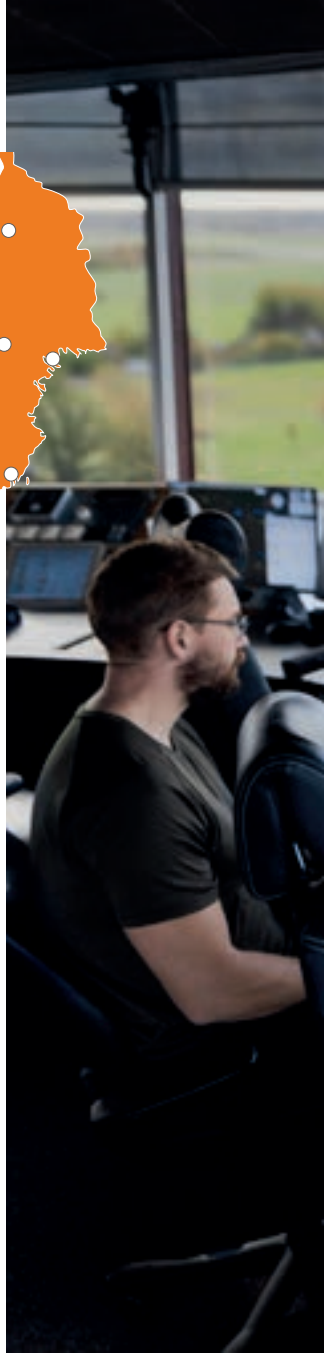


LFV is a state-owned enterprise that provides a **safe**, **efficient**, and **environmentally friendly** air navigation service for civil and military aviation and unmanned aviation services.

16

LFV operates air navigation services at 16 airports, from Kiruna in the north to Malmö in the south, and at four control centres.





LFV leads aviation in all situations

The LFV Group – Air Navigation Services of Sweden, known as LFV, is a state-owned enterprise that provides a safe, efficient and environmentally friendly air navigation service for civil and military aviation and unmanned aviation services. LFV shall also work to achieve Sweden's transport policy goals.

LFV is Sweden's leading provider of air traffic control for civil aviation and related services. LFV also provides air traffic control for military aviation.

In 2023, an average of about 1,600 aircraft were managed in Swedish airspace per day. LFV provides air navigation services at 16 airports in Sweden and at 4 control centres. Flight safety work is carried out at all levels within LFV to create conditions for safe flights.

LFV IN NUMBERS

3.6
... billion SEK in turnover in 2023

1,372
... employees in the group, of which 1,153 employed in the state-owned enterprise

583
... thousand air traffic movements in Swedish airspace managed by LFV



LFV IN BRIEF

Activities

LFV operates nationally and internationally in four main areas of operation:

- Air navigation service
- Total Defence and Robust Air Traffic Service
- Other commercial activities
- Research and Innovation

• 82 percent (81) of turnover are attributable to air navigation services, which include air traffic control and technical infrastructure. Air navigation services are largely financed by en route and terminal fees, which are regulated by performance plans established by the EU. The EU also decides on aviation safety, capacity, environmental and cost-efficiency goals.

• LFV receives framework funding for civil defence and Infrastructure for air navigation services. These are used for total defence measures and for investments in certain infrastructure to provide a robust air traffic service in all contingency phases. LFV also receives funding for its work on unmanned aviation.

82 %
... of turnover relates to air navigation services

The enterprise group

• The LFV Group consists of the state-owned enterprise Air Navigation Services of Sweden, the wholly owned holding company LFV Holding AB, the subsidiaries Aviseq Critical Communications AB (AVISEQ) and LFV Aviation Consulting AB and the associated company Entry Point North AB (EPN). In the annual report, the LFV Group – Air Navigation Services of Sweden, including all companies in the group, is referred to as LFV.

• The majority of LFV's operations are conducted in the state-owned enterprise. A smaller part, in particular the commercial activities, is conducted through the companies.



Certifications

To meet the requirements of different stakeholders, LFV has an integrated business management system. LFV is certified by the Swedish Transport Agency according to current EU regulations to provide air services and air traffic management services as well as training of air traffic controllers.

Environment

LFV conducts long-term environmental work and works with targets linked to both direct and indirect emissions. For example, LFV contributes to reducing emissions from air traffic by designing airspace and contributing to straight flight paths for air traffic. During the year, LFV decided on a clearer focus for environmental and sustainability work, which includes an environmental plan.

Innovation

LFV's research and innovation activities mainly focus on improving the services LFV delivers. The operations are based on a number of strategic development areas: reduced environmental impact, aviation safety, flexible and scalable service delivery, and increased productivity and cost efficiency through increased use of AI and automation. Research and innovation are conducted in-house, but also within the framework of collaborations with universities, other public authorities and organisations.

Collaborations and partnerships

LFV is involved in developing European airspace through cooperation in various organisations and alliances, such as COOPANS, Borealis, and SESAR.

2023 has been another turbulent year. The serious and concerning state of the world affects us in Sweden and it affects LFV. While air traffic in most of Europe has recovered to pre-pandemic levels, we in Sweden still have a long way to go.

LFV's new direction equips us for the future

The serious world situation continues to have an impact on LFV. The war in Ukraine means closed airspaces, which leads to lower traffic volumes in Swedish airspace and which in turn has financial consequences for LFV in the form of lower revenue. It is estimated that traffic will be affected for the duration of the war. This means that we continue to see uncertainty in revenue levels and need to adjust the cost level while stepping up in some areas to meet future challenges.

Important part of total defence

In recent years, we have worked to strengthen the organisation's preparedness and security capabilities. Since LFV became a preparedness authority in autumn 2022, the work has intensified. We regularly have joint exercises with the Swedish Armed Forces and other stakeholders in total defence to strengthen cooperation and joint capabilities. In November this year, LFV conducted the largest ever total defence exercise. In addition to LFV employees, people from the Swedish Armed Forces and other authorities also participated. The aim was to test LFV's ability to deliver air navigation services to the Swedish Armed Forces and civil society during an escalating conflict in Sweden and in Sweden's proximity. The exercise provided valuable evidence that we are well equipped in our crisis and war organisation, but that there is also potential for further development.

AVISEQ and LFV - stronger together

Operation and maintenance of LFV's operational systems is an important part of the core activities to deliver an efficient, safe and environmentally friendly air navigation service. In 2020, in order for such operation and maintenance to be conducted in-house, LFV took the step of acquiring the activities currently carried out by AVISEQ. Since then, conditions have changed. The security situation means that we need to grow even closer to continue delivering on our mission in all emergency phases and to better develop our operations. This is why we have decided to combine AVISEQ's and LFV's activities in LFV, so that together we can more quickly manage changes in the world around us, both today and tomorrow. All employees and customers are welcomed to LFV and we will maintain and continue to deliver on existing contracts and seek new business. The work will start immediately and the objective is to complete the change in 2024.

The climate issue is crucial for the aviation industry

The aviation industry is facing tough challenges, not least related to the environmental and climate impact of aviation. At LFV, we need to strengthen our contribution to the transition to sustainable aviation. Climate and environmental issues are crucial for the industry and therefore environmental work is identified as one of the supporting goals for the main goal Developed air navigation services. In the context of our new reference period, RP4, we see that demands for a reduced climate footprint will increase. This will be a focus for LFV going forward.

Vision focusing on our core mission

As the world changes, we must change with it. We have therefore developed a new new direction – Destination ETT LFV (ONE LFV), which is about how we can work together to prepare for a new era. We need to evolve, maintaining a focus on security but looking to the future. Our core mission remains the same: to provide a safe, efficient and environmentally friendly air navigation service for civil and military aviation and unmanned aviation services. For this to be possible, we need a common understanding of why change is necessary and a map that points the way to the goals we in the organisation will achieve together.



Ann Persson Grivas notes that the international situation has continued to affect LFV in 2023 and will do so as long as the war in Ukraine continues.



“We need to evolve, maintaining a focus on security but looking to the future”

We have identified three main goals where we see the greatest need for development to enable us to deliver on today's and tomorrow's demands: Developed Air Navigation Service, Cost Efficiency and Productivity, and Functional Total Defence. By concentrating on just three main goals, we ensure that the activities have focus and move in the same direction. The goals create a clear direction for LFV as a whole to strive towards and help us prioritise between activities and initiatives.

We have also developed a new vision: We lead aviation, in line with the times, in all situations. The specialisation and vision focus on our core and social mission and give LFV the conditions to more quickly manage changes in the world around us. The specialisation also enables us at LFV to meet the challenges of both today and tomorrow.

The right skills for the future

To continue delivering our core mission, we need a wide range of professionals, both in operational and administrative activities. Skills supply is important for all activities today and there is fierce competition in the labour market.

We constantly need to train new air traffic controllers. Each term, we offer around 20 places on the Entry Point North air traffic control school. We are happy to see that a record number of 839 people have applied for our air traffic controller programme this spring. There are several reasons behind this figure. The air traffic controller profession is attractive, LFV is an interesting employer and we have increased our social media presence in 2023. The impact of LFV's digital presence is significant. The future is about skills.

We will continue to ensure that we get the very best employees to develop Destination - ONE LFV together.

Ann Persson Grivas
Director-General LFV



Directors' Report LFV 2023



2023 in brief

Continued growth in air traffic but the state of the world had an impact

In 2023, aviation continued to recover from the downturn caused by the pandemic. In total, the number of aircraft movements in Swedish airspace amounted to 582 980, an increase of 7.7 percent compared to 2022, corresponding to 75 percent of the 2019 volume. Airspace closures due to the war in Ukraine affected traffic flows.

Unmanned aviation

LFV's instruction was updated in February and LFV's mission to work with the development and provision of unmanned aviation services was thereby clarified. During the year, LFV launched the Sweden U-space project, which will continue to work on this. The work is funded by appropriations.

Remote air traffic control at Umeå Airport

In February 2023, air traffic control at Umeå Airport was connected to LFV's remote air traffic control centre at Arlanda, RTC Stockholm. For a smoother transition, the service is provided for a period of time alternately from two control centres, RTC Stockholm and Umeå Airport.

Destination – ONE LFV

LFV's new specialisation, Destination – ONE LFV, was launched on 31 May 2023. During the autumn, workshops were held throughout the organisation to involve all staff, alongside a variety of communication activities. The autumn work on the business plan for 2024 was based on the new specialisation, vision, goals and strategies.

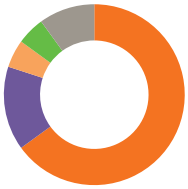
LFV proposes changes to the lower airspace

In August 2023, LFV submitted the final report on the Government's assignment to conduct a review of the lower airspace (below 2 900 metres). As part of the review, a proposal was prepared for an alternative design of the airspace structure. The proposed design creates better conditions for safe and environmentally efficient flights to Swedish airports, but also means increased access for unmanned aviation, essential air traffic and general aviation, and is a harmonisation with large parts of Europe.

Preparedness in a turbulent world

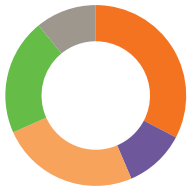
The security situation and increased terrorist threats have had a major impact on LFV's operations during the year. This development led to an increased focus on LFV's social mission as an emergency response authority. LFV worked to strengthen its ability to deliver air navigation services in all emergency situations, including through the publicly funded Robust Air Traffic Service programme, with projects in areas such as radar and radio, and IT and information security.

Breakdown of revenue
(Group, %)



- Revenue from the charging scheme, 65
- Revenue for local air traffic service, 15
- Other commercial revenue, 5
- Other revenue, 5
- Appropriations, 10

Breakdown of operating expenses
(Group, %)



- Payroll, 33
- Social security contributions, 11
- Pension costs, 25
- Other operating expenses, 21
- Depreciations and write-downs, 11



Investments

452

... million SEK

Air traffic volume

+7.7%

... compared to 2022

Total defence exercise Leoniderna strengthens capabilities

LFV is an important part of Sweden's total defence. In November, LFV conducted its largest ever total defence exercise, Leoniderna. The exercise was conducted together with the Swedish Armed Forces and other total defence authorities. Leoniderna provided useful experiences and insights that strengthen LFV's ability to continue working to further strengthen total defence capabilities.

Clearer direction for LFV's environmental and sustainability work

During the autumn, LFV decided to develop its environmental and sustainability work. Reduced energy use and reduced carbon emissions from business travel are two examples of direct environmental impact work. LFV's work on airspace modernisation affects the indirect environmental impact.

Focus on recruitment and skills

During the year, a relatively large number of recruitments were made in different areas of the organisation. Air traffic controllers were recruited and trained, and a trainee programme was implemented within the technology organisation.

AVISEQ and LFV – stronger together

In December, the Board of Directors decided to integrate the operations of the subsidiary AVISEQ with the state-owned enterprise LFV. The aim is to grow closer to continue delivering on joint missions in all emergency phases and on AVISEQ's customer contracts. The change is planned to take place in 2024.

Profit/loss for the year

Profit/loss after financial items was SEK 52 million and comprehensive income after actuarial revaluation of the pension liability was SEK –6 million. It is better than expected. This is mainly explained by higher aviation revenue due to revenue adjustments in the so-called charging scheme due to the inflation adjustment of revenue and settlements related to previous years.

Continued high rate of investment

Investments for the year totalled SEK 452 million. New investments were mainly made in measures to increase the robustness of the air traffic service, but also for the maintenance of existing systems and programmes.

Goal attainment according to the performance plan

LFV largely met the capacity targets in the Swedish performance plan, but weather-related delays meant that the performance target was not reached for Terminal Stockholm-Arlanda. Most of the aviation safety targets were met for the period.

Work before the next reference period

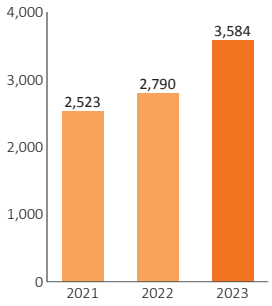
In 2023, LFV was guided by the reference period 3 (RP3) of the charging scheme. The process and work on the next reference period, RP4, started during the year. An initial cost estimate was submitted to the Swedish Transport Agency in April. The outlook for coming years is uncertain in many ways. The work will continue in 2024.

Significant events after the end of the financial year

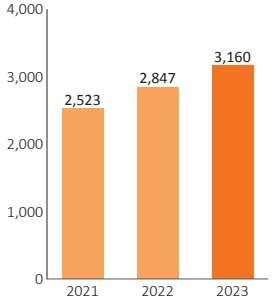
The IT attack on the service provider Tietoevry in January affected LFV's accounting system. As a security measure, LFV closed down the connection to the supplier's computer system. Measures were taken immediately and business continuity plans of the relevant units were activated. According to the analyses carried out so far, the incident did not have any significant direct effects on current operations or financial consequences. Further impact assessments are ongoing.

No other significant events have occurred after the end of the financial year that will have an impact on the result and position for the financial year ending 31 December 2023 or other information in the annual report.

Revenue
(Group, SEK million)

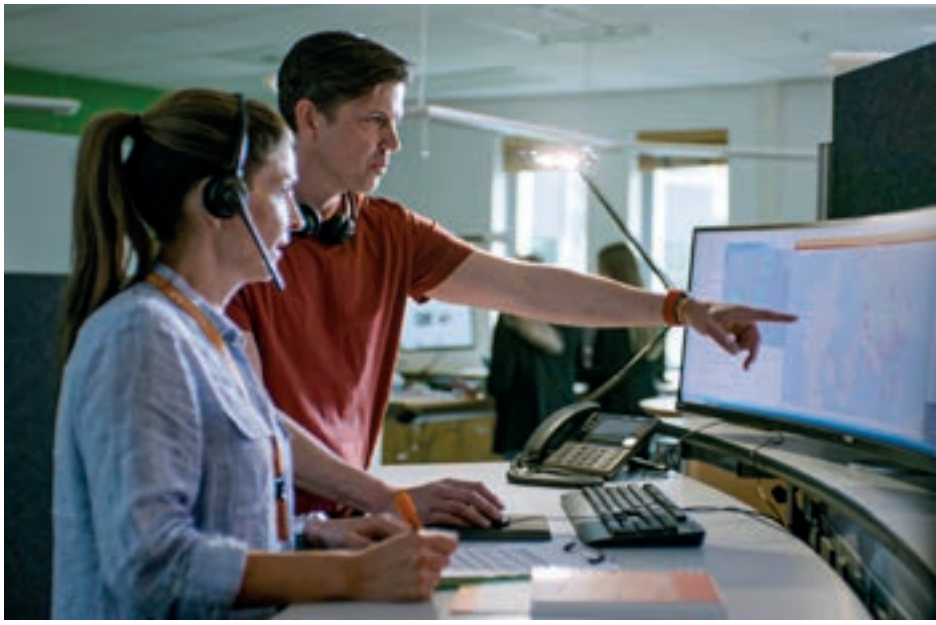


Costs
(Group, SEK million)



Restrictions and changes in travel patterns cause slow recovery

Air traffic increased by 7.7 percent in 2023, to 75 percent of 2019 air movements. The war in Ukraine led to restrictions on air traffic in the Ukraine, Russia, and Belarus airspace, which strongly affected overflight traffic between Western Europe and East Asia. The number of aircraft movements in Swedish airspace totalled 582,980.



The aviation industry is international and its development is driven by globalisation, economic growth, and demographic development. Geopolitical tensions, weaker macroeconomic development, and the need for climate adaptation may hamper the industry's development. This development led to an increased focus on LFV's social mission.

Developments in Sweden

In Sweden, the recovery of air traffic after the pandemic has been slow. In 2023, airspace movements in civil aviation were still 25 percent lower than 2019 volume, before the pandemic.

In Swedish airspace, the total number of civil airspace movements during the year amounted to 582,980 movements. This is an increase of 7.7 percent compared to 2022. The overflight traffic, without take-off or landing in Sweden, constitutes the largest part of the total traffic volume. This part of air traffic was most affected by restrictions related to the war in Ukraine. Accumulated over the year, the overflight traffic amounted to 73 percent of the 2019 traffic. Compared with 2022 traffic, the outcome was +7 percent. International traffic increased by 11 percent and domestic traffic by 3 percent in 2023 compared to 2022.

LFV's revenue consists mainly of the fee, the en route charge, which airlines pay to use the airspace. The charge is determined by a combination of the aircraft's weight factor, the distance flown and the so-called unit rate. The unit rate is a distribution of the total Swedish cost base for air navigation services over a forecast traffic volume measured in so-called service units. Other authorities, air navigation service providers, and Swedish airports are also funded by en route charges. The changed traffic flows meant that the aircraft flying through Swedish airspace did not weigh as much as when aircraft to and from Asia pass through Swedish airspace. This meant that air traffic measured in service units was negatively affected. Compared to 2019, service units were at a level of 70 percent.

Airline industry development

The airline industry is undergoing structural changes. In Sweden, both SAS and BRA are undergoing reorganisations and in Europe a number of major acquisitions and restructurings are underway. The demand for air travel changed in nature. Remote work and digital meetings reduced the need for business travel. The climate issue reduced the demand for air travel, especially for short domestic journeys. In addition, higher inflation, interest rate hikes, and weaker growth dampen demand in the short term.

LFV estimates that the demand for air travel to and from East Asia, the Middle East and other emerging regions will continue to grow in the longer term. This will increase flight volumes in Swedish airspace, if and when airspace restrictions due to the war in Ukraine are lifted.

Demand for short domestic travel as well as business travel has decreased. The latter as a result of digital meetings. However, travel to and from international growth regions is predicted to continue to increase.

Breakdown modes of transport (%)



Climate and environmental issues are becoming increasingly important. The climate transition will affect all sectors of society and is crucial for the long-term development of the aviation industry.

Unmanned aviation is growing at an increasingly rapid pace. Drones can be of great benefit to society, both economically and environmentally, for example in transport. They can also be important for police and emergency services.

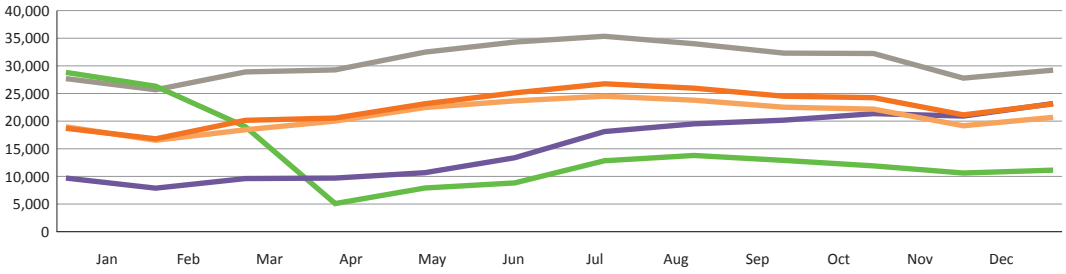
In the longer term, increasing activities in space and neighbouring airspace are also expected, which may affect LFV's operations.

Long-term trend

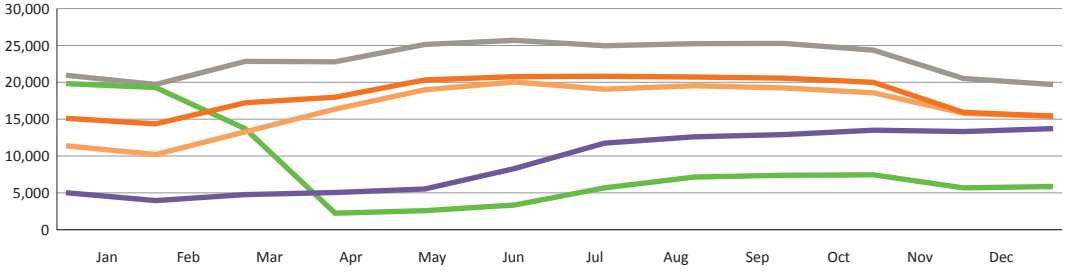
LFV's traffic forecast indicates a continued lengthy recovery, where it will take until after 2030 before the number of airspace movements returns to the same levels as before the pandemic. If the airspace restrictions linked to the war in Ukraine are lifted, there will instead be faster and stronger long-term growth, primarily driven by overflight traffic. Other uncertain factors that can have a significant impact on air traffic include geopolitical developments, the ability of aviation to manage the climate transition, macroeconomic development, and structural changes in the aviation market.

Unmanned aviation is growing fast

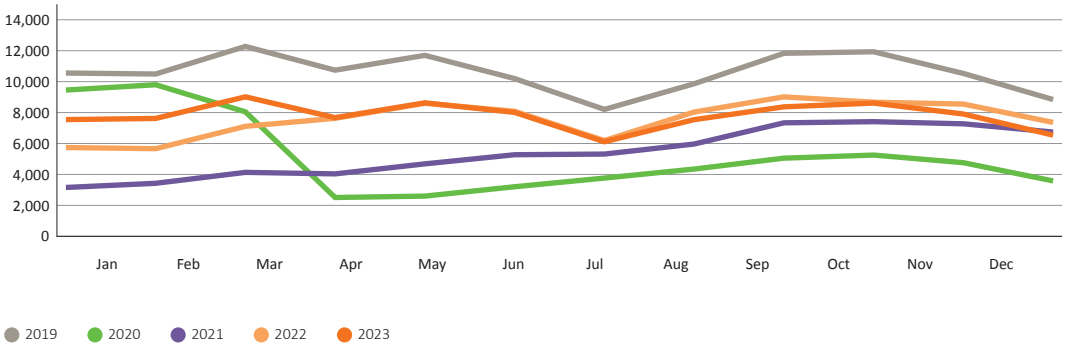
Number of overflights IFR movements 2019–2023



Number of international IFR movements 2019–2023



Number of domestic IFR movements 2019–2023



IFR = Instrument Flight Rules, which basically corresponds to civil commercial flights.

LFV has an important role for aviation in Sweden

A safe, efficient, and environmentally friendly air navigation service is a prerequisite for a well-functioning aviation infrastructure, which in turn contributes to meeting the transport policy goals.

According to the instructions for the Air Navigation Services of Sweden, LFV shall work to achieve the transport policy goals. These goals identify the political priorities of national transport policy. The goals are a starting point for government measures in the transport area, for example how the authorities should prioritise among different wishes and needs when carrying out their tasks.

Both nationally and globally, aviation is of great importance to the ability of businesses and citizens to transport passengers and goods. Especially for smaller towns that are geographically remote, air transport helps to ensure fast and efficient communications. LFV plays a crucial role in a well-functioning aviation infrastructure.

The functional objective is about creating access to travel and transport. LFV contributes to this by providing a safe, efficient and environmentally friendly air navigation service throughout the country. This is done by LFV delivering many of its services around the clock, all year round to airspace users throughout Sweden, but also, for example, according to agreed opening hours at airports. Many of LFV's services are conditions for the access aviation provides within the country.

The consideration objective is about safety, environment and health. LFV's aviation safety work creates conditions for a flight to be carried out safely. LFV offers air navigation services with the greatest possible environmental consideration.

In its daily operational activities, LFV contributes to reducing the environmental impact of aviation by optimising flight routes and traffic flows. A basic prerequisite for this work is a comprehensive and nationwide technical infrastructure that enables communication, navigation and monitoring. LFV owns and manages a large number of such facilities and ensures a very high level of operational reliability. LFV also plays an active role in the ongoing work to develop the European air navigation service.



Activities are governed by rules, laws and regulations

LFV's operations are governed and regulated by a large number of complex regulatory frameworks, both national and international.

A state-owned enterprise

LFV is one of Sweden's three state-owned enterprises and comes under the Ministry of Rural Affairs and Infrastructure. The state-owned enterprises are governed by the same regulatory framework that apply to administrative authorities in general, but with a number of exceptions and additions.

As a contracting entity, LFV is subject to national procurement rules and the EU acquis on competition and state aid.

LFV conducts business activities in the form of a limited company in the state-owned enterprise group, where the activities are regulated by company law regulations together with the rules that exist for their respective operations.

Regulatory framework for air navigation services

LFV's operations in the field of air navigation services are governed by global guidelines and EU regulatory frameworks as well as national laws, ordinances and regulations.

According to Regulation (EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the Single European Sky, the application of the regulation shall not affect the sovereignty of Member States over their airspace. It shall also be without prejudice to the requirements of the Member States relating to public policy, security or defence matters. However, other airspace issues than the aforementioned are within the EU's decision mandate.

LFV receives a large part of its revenue from airspace users, i.e. airlines, according to a performance and charging scheme regulated by an EU regulation. Cost bases and fees are decided through the adoption of national performance plans that provide the framework for the charging scheme for the current reference period, which is now reference period 3 (RP3).

The right to issue more detailed rules than those contained in an ordinance is called right to issue regulations. The Swedish Armed Forces have the right to issue regulations for military aviation in the areas of aeronautical information services, meteorological services, and communication, navigation, or surveillance services for military aviation. The Swedish Transport Agency has the right to issue regulations in these areas for civil aviation. LFV shall apply both regulatory frameworks.

Emergency response authority in the transport sector

LFV is an emergency response authority in the transport sector. This means that LFV has a special responsibility for crisis preparedness and contingency planning for heightened preparedness in Sweden. LFV also provides air navigation services to the Swedish Armed Forces in all emergency phases. Based on this, LFV must comply with a number of national laws, ordinances and regulations governing security protection, information security and crisis and emergency preparedness issues.

Regulatory changes in 2023

On 1 February 2023, the Government updated LFV's instruction with the task of providing information and services for unmanned aviation. The updated instruction will make it possible to fly with unmanned aircraft to a greater extent while maintaining aviation safety in the lower parts of Swedish airspace.

During the year, the EU worked on a regulatory framework on AI and cybersecurity. Once these regulatory frameworks have been adopted, they will affect LFV's operations to some extent.

Consultations

By responding to consultations, LFV is able to influence the development of new and amended rules. In 2023, LFV handled some 50 consultations on airspace and air navigation services as well as emergency preparedness, safety and unmanned aviation. The consultations ranged from requirements for equipment used in air navigation services, to strategic issues in space travel. Among other things, LFV responded to a consultation on the report on the Swedish airport system (Ds 2023:3) (Statens ansvar för det svenska flygplatssystemet). It was judged that several of the proposals in the report would have an impact on LFV's operations if they were implemented.

LFV has a special responsibility for crisis preparedness and contingency planning for heightened preparedness in Sweden

Goals – how LFV achieves results

The organisation is governed by and works towards three main goals with underlying sub- and operational goals. During the year, operations have essentially run smoothly and most goals have been reached.

Business plan 2023–2027

LFV's business plan covers a five-year period and describes objectives at an overarching level. Goals set by the Government for the activities, including the objectives and tasks set out in the annual appropriation directions, and targets in the performance plan adopted by the European Commission in reference period 3 (RP3), govern most of the goals and activities set in the plan.

The business plan describes, among other things, the three main goals and nine sub-goals set for 2023. The three main goals were Developed Air Navigation Service, Cost Efficiency and Productivity, and Functional Total Defence. The goals were transitional in nature and are intended to support the organisation in developing and dealing with future challenges. Under the main goals, there are six different sub-goals, which in turn are broken down into underlying operational objectives with associated activities. There are also three sub-goals that spanned all of LFV's activities and supported all of the main goals. These related to aviation safety, branding, and culture and employees. Each group entity had a more detailed business plan for their respective areas of responsibility based on the overall plan and supporting the overall goals. This also included planned activities to achieve the goals.

Developed air navigation services

The main goal includes sub-goals relating to the environment and innovation. LFV works on the basis of direct and indirect environmental goals. LFV endeavours to ensure that changes in the airspace proposed by LFV contribute to reduced emissions from air traffic. The indirect environmental goal has two underlying metrics. They were not reached in 2023. The goal within the framework of the charging scheme's performance plan adopted by the EU concerns straight flight paths, which LFV has had limited opportunities to influence. Restrictions in the airspace over Russia meant that the goal could not be achieved. The second metric is an annual reduction in the number of tonnes of CO2 from aviation. An airspace development project has been delayed and has not had time to take effect, which means that the metric for 2023 will not be met.

The direct environmental goals relating to emissions from personal travel and energy use for premises have been met.

Metrics are in place to further develop innovation capacity, improve long-term planning and prioritisation, and develop architecture governance and information management, etc. These have been partially achieved. During the year, initiatives were taken to review working methods and processes in order to strengthen capacity. Recruitment and a number of internal improvement activities in the project activities were carried out.

Cost efficiency and productivity

LFV shall strengthen its ability to plan, prioritise and implement development and management activities by, for example, working on improving processes and working methods for development and management. The outcome in 2023 showed partial target achievement. The metrics for implementing projects, forecasting management activities and retaining staff were met. However, the metrics for delivery capacity, long-term planning and capacity building were slightly below the target for the year.

LFV shall meet the financial targets set out in the appropriation directions. As a temporary relief due to the economic situation and the pandemic, the Government has cancelled the previous goals regarding profitability and solidity.

LFV shall also comply with the targets for capacity and cost-effectiveness decided by the EU in Sweden's performance plan for en route and terminal services, as well as contractual customer requirements regarding availability and regularity. Air traffic was handled without any delays due to air navigation services, except for Terminal Stockholm-Arlanda, which experienced weather-related delays. This is beyond LFV's control but is included in the metric. LFV reached the EU goal en route for capacity. The targets for capacity and availability in accordance with contracts with customers were also met, with the exception of a delay at Landvetter in the summer.

The cost-effectiveness target is defined as an annual unit cost. This was not achieved due to the relatively low level of air traffic. The targets in the performance plan and the goal attainment are detailed in the section on the performance plan on pages 20–22.

Functional total defence

Work on total defence issues, including civil defence and robust air traffic service, was ongoing during the year. Contingency planning has taken place as planned and will continue to be developed in the following years. Robustness-enhancing measures, such as the work on information and IT security

THREE MAIN GOALS AND NINE SUB-GOALS

Main goals

Developed air navigation services
We take an active role and contribute to the development of air navigation services.

Cost efficiency and productivity
We streamline and increase productivity to meet our client's financial requirements.

Functional total defence
We ensure air navigation services in all emergency phases.

Sub-goals

ENVIRONMENT
LFV shall contribute to developing air navigation services and airspace to reduce aviation emissions and achieve environmental goals in LFV's part of Sweden's performance plan. Furthermore, we shall use energy-efficient solutions in our facilities and act as employees to reduce the environmental impact of the activities.

INNOVATION
LFV shall strengthen its innovation and development capability based on the long-term needs of its operations.

Sub-goals

SERVICEABILITY DEVELOPMENT AND MANAGEMENT
LFV shall develop serviceability in development and management through skills development, improved working methods and developed processes.

FINANCES
LFV shall meet the owner's financial goals.

CAPACITY AND DELIVERY
LFV shall maintain targets from LFV's part of Sweden's performance plan and agreed customer requirements.

Sub-goals

AIR NAVIGATION SERVICES IN ALL EMERGENCY PHASES
LFV shall plan for and maintain the ability to deliver air navigation services in all contingency phases.

Sub-goals

AVIATION SAFETY
LFV's safety management system shall continuously achieve the goals in LFV's aviation safety plan and shall thus at all times demonstrate sufficient efficiency for the air navigation services provided.

BRAND AND CUSTOMER
LFV's brand shall be characterised by being a reliable provider of air navigation services that are robust, secure, and adapted to the mission and the customers.

CULTURE
LFV shall have a culture, a leadership and an employeeship where everyone is involved, works for the good of the business and contributes to the operational objectives.

measures, progressed during the year. However, it was difficult to reach all of the ten or so underlying business objectives. This was partly due to a high level of ambition for the year and partly due to internal instructions being tightened up over time. The action plans extend over several years. LFV's work within this main goal is described in greater detail in the report for the business area Total Defence and Robust Air Traffic Service on pages 28–29.

Organisation-wide goals

LFV's safety management system shall continuously achieve the goals of LFV's aviation safety plan. Most of the aviation safety targets for the year were met and no serious incidents occurred.

The brand and branding is part of LFV's strategic work and is done to contribute to LFV's various goals being reached in both the short and long term.

LFV's daily delivery to existing customers worked well, which was confirmed by the customer and stakeholder survey conducted during the year. LFV had operational goals that concerned both working methods and the external image of LFV as an interesting employer. These goals were reached. There was also a metric set up for how LFV is perceived as an interesting employer internally. This year's measurement showed that this goal was not reached, but provided a basis for future work.

Under the sub-goal Culture, most of the operational objectives have been met. This includes objectives and activities to promote a good working environment, participation and skills supply issues and recruitment.

The work during the year and results for Aviation Safety, Brand and Customer and Culture are described in more detail in the sections Aviation Safety on page 27 and Culture and Employees on pages 36–37.

LFV operates in four areas

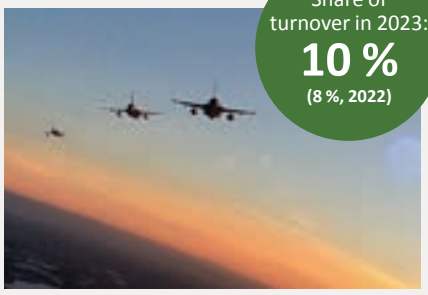
LFV's operations are divided into four areas of operation: Air Navigation Services, Total Defence and Robust Air Traffic Service, Other Commercial Activities, and Research and Innovation. The largest business area, air navigation services, accounts for more than 80 percent of turnover.



Air navigation service

The business area consists mainly of air navigation services in Sweden. This area includes air traffic control, communication, navigation and surveillance (CNS) services, procedure and airspace design, obstacle analysis and streamlining and optimisation of airspace. The services are performed for both civilian and military air traffic.

In 2023, air navigation services totalled SEK 2,935 million (2,264). This means that the business area accounted for 82 (81) percent of LFV's total turnover, which amounted to SEK 3,584 million (2,790). Air navigation services are mainly financed by en route and terminal charges 76 (76) percent, compensation from the Swedish Armed Forces 12 (12) percent and compensation for operations at civil airports 11 (11) percent. En route and terminal charges are regulated by EU regulatory frameworks. Less than 1 (1) percent of the turnover for air navigation services comes from operations in the competitive part of the market in Sweden and internationally.



Total Defence and Robust Air Traffic Service

LFV is an emergency response authority. Through its own preparedness-enhancing activities and together with other transport authorities, LFV works to contribute to a strengthened total defence.

LFV is working to create additional robustness and redundancy to continue to deliver air navigation services regardless of the level of preparedness. A large number of measures were carried out during the year, many of which involved significant investments.

Funding is provided through two framework appropriations: Civil defence and Infrastructure for air navigation services within expenditure area 22 Communications. Revenue from appropriations for the Total Defence and Robust Air Traffic Service business area amounted to SEK 326 million (208). This corresponded to 10 (8) percent of LFV's total turnover.



Other commercial activities

The business area Other commercial activities includes airspace services, technical services, environmental services, training and leasing of air traffic controllers. LFV offers technical and operational specialist and investigative skills and aviation safety expertise.

This area of operation also includes the activities of subsidiaries aimed at external customers and shares in the profits of associated companies.

Turnover for the other commercial activities amounted to SEK 263 (258) million, equivalent to 7 (9) percent of LFV's total turnover.



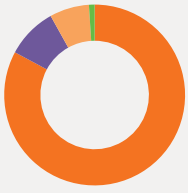
Research and innovation

LFV conducts research and innovation (R&I) in the field of aviation, primarily within the framework of the European research programme for air traffic management, Single European Sky ATM Research (SESAR).

The operations are funded by external revenue, mainly from the EU-grants and funds from the Swedish Transport Administration.

During the year, research and innovation activities comprised SEK 49 (54) million, which corresponds to 1 (2) percent of LFV's total turnover.

Breakdown turnover



- Air navigation services, SEK 2,935 million, 82%
- Total Defence and Robust Air Traffic Service, SEK 336 million, 10%
- Other commercial activities, SEK 263 million, 7%
- Research and innovation, SEK 49 million, 1%

Composition of the state-owned enterprise group

The LFV Group includes the state-owned enterprise, the holding company LFV Holding AB and its wholly owned subsidiaries Aviseq Critical Communicaton AB (AVISEQ) and LFV Aviation Consulting AB as well as the associated company Entry Point North AB (EPN). In 2023, the inactive subsidiary LFV Norway AS was discontinued. In December 2023, the LFV Board of Directors decided to integrate AVISEQ into LFV, which is planned to be implemented in 2024.

The companies in the group are included in the business area Other commercial activities. They are also suppliers to LFV in various ways. AVISEQ provides services and materials such as operation and maintenance for air navigation services, technical consultants and services for various projects. EPN provides air traffic controller training.

AVISEQ offers services in critical communications and delivers monitoring and technical operation and maintenance services in aviation and security. LFV is AVISEQ's largest customer.

Through LFV Aviation Consulting AB, LFV offers various consulting services in air navigation services and airport services on the international market.

EPN is jointly owned by LFV, Danish Naviair, and AirNav Ireland. EPN is a Swedish company with subsidiaries and joint ventures in Europe. They offer training in air navigation services to the owner organisations and other customers in the international market.

Certifications

LFV is certified by the Swedish Transport Agency in accordance with applicable EU regulations for the provision of air navigation services (ANS), air traffic management (ATM), procedure design (FPD) and for conducting training of air traffic controllers

LFV is also certified according to ISO standard 9001:2015 for quality management and ISO standard 14001:2015 for environmental management.

Area of operation:

Air navigation service – performance management

The EU's performance goals guide the activities

Air navigation services in Europe are governed by extensive EU regulations and performance plans. For 2023, LFV met the targets in the Swedish performance plan for flight safety and en route capacity. The environmental and cost-effectiveness targets for Sweden were challenging and were not reached.

EU's regulation of air navigation services covers several areas. Among other things, it concerns certification requirements and technical harmonisation. The European Commission establishes so-called performance plans for the Member States, which include targets for aviation safety, capacity, environment and cost-efficiency, as well as how to achieve these targets. Investments, staff plans, traffic forecasting and cross-border cooperation are key elements. For Sweden, the Swedish Transport Agency is responsible for organising the work on the Swedish plan and contacts with the EU. LFV in turn provides data to the Swedish Transport Agency. In 2023, LFV participated in the Swedish Transport Agency's consultations.

Through the performance plans, the European Commission wants to achieve a number of long-term objectives:

- Maintain or improve aviation safety regardless of traffic increases,
- Reduce the environmental impact of each flight.
- Increase airspace capacity and reduce delays.
- Reduce air traffic control costs.

The Swedish performance plan includes air navigation services for overflight traffic, so-called en route, and the terminal service at Stockholm Arlanda Airport. The third reference period, RP3 (2020–2024), is ongoing and preparations for the next reference period, RP4 (2025–2029), have started. The performance plan model was introduced in 2012 and in the first reference period, RP1 2012–2014, LFV achieved all targets. During the second reference period, RP2 2015–2019, LFV achieved most of targets.

A summary of the targets and outcomes of the current performance plan is set out in the table on page 22.

Reference period 3

During the year, Sweden had an approved plan, after a lengthy process which meant that the European Commission only decided to approve the Swedish performance plan for 2020–2024 in December 2022. Normally, performance plans are adopted before the start of a new reference period, but the COVID-19 pandemic contributed to the lengthy RP3 process. Once the performance plan is approved, it is followed up in accordance with the regulatory framework linked to the targets in the different areas. Deficits incurred in the years when the performance plan was not approved began to recover during the year, in accordance with the principles of the charging scheme, in the form of higher fees over a seven-year period.

Reference period 4

In 2023, work started on the next reference period, RP4 (2025–2029). LFV delivered an initial submission to the Swedish Transport Agency that contained assessments of the costs of operating the air navigation service for en route and the terminal service for Stockholm Arlanda during RP4. The Swedish Transport Agency in turn compiled the data and sent it to the EU. The RP3 regulatory framework is expected to remain unchanged for RP4. The process of developing EU level targets for the different areas is ongoing and an initial proposal was published. All relevant stakeholders in the aviation sector were consulted and LFV provided a response. The process will continue in 2024.

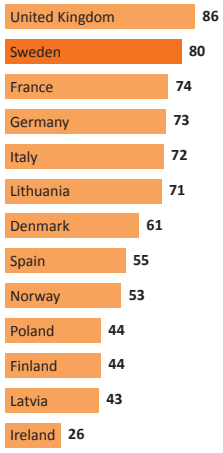
Feedback on the performance plan outcomes for 2020–2023 contains preliminary outcomes for 2023. These may be revised in future years as the follow-up of 2023 will be reported to the Swedish Transport Agency and the EU in spring 2024.

Aviation safety

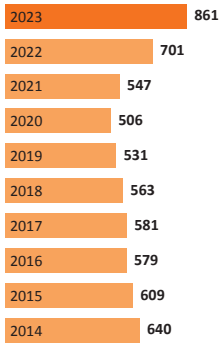
During RP3, aviation safety targets were set to assess the organisation's efficiency and degree of maturity of safety management systems and compliance with and maintenance of safety culture. The targets cover all of LFV's activities. Target fulfilment is measured through an annual survey.

The survey for follow up of the targets has been completed for the years 2020–2022. During that period, LFV achieved all national targets in aviation safety. Reporting for 2023 is made to the Swedish Transport Agency in Q1 2024. Thereafter, the Swedish Transport Agency will report to the EU on 1 June 2024. Because of this, no outcome is presented for 2023.

En route charges 2023 selection of European countries
(EUR/service unit)



Route charges Sweden
(SEK/service unit)



Punctuality

99.9%

... of flights have been completed without any major delays caused by air navigation services in 2023.

Environment

The deviation between the actual distance flown and the straightest flight path from the departure airport to the landing airport, average horizontal en route efficiency, is the key performance indicator for environment in the performance plan. The intention is for the flight path to be as straight as possible and thus cause as little environmental impact as possible. For several years, Sweden has applied Free Route Airspace, which means that airlines can fly in a straight line within Swedish airspace.

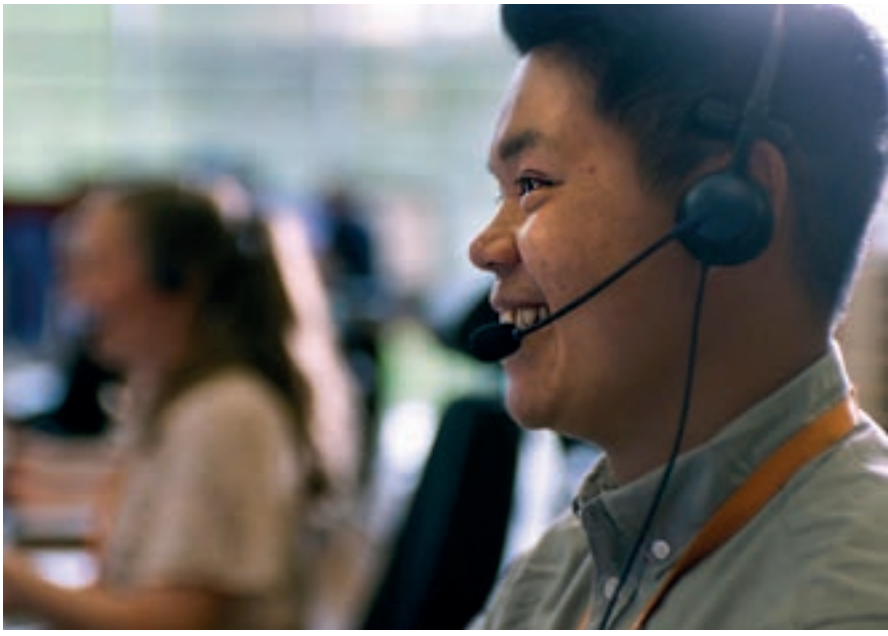
Before the airspace restrictions due to the war in Ukraine, the deviation between distance flown and straightest distance in Swedish airspace was just over 1 percent. It was one of the best outcomes for national airspaces in Europe. The outcome in the last two years was affected by the extension of many flight paths due to restrictions, especially in the area around Kaliningrad.

This affected the key figure of the environmental objective in all neighbouring airspaces. The outcome for Swedish airspace was 1.75 percent in 2023 (1.70), compared to the performance plan's target of 1.05 percent. The environmental objectives of the performance plan were adopted before the changed situation. Sub-components of the key figure show that the flight paths within Swedish airspace are still straight and that the deterioration of the key figure is mainly due to the extension of the entire flight path, from take-off to landing.

Capacity

The capacity target measures air traffic delays caused by air navigation services based on the average delay per flight, both for en route and for Terminal Stockholm-Arlanda. In this context, delays caused by air navigation services include both technical and weather-related disruptions. The target number is set as an average delay per flight. Air traffic in Swedish airspace was operated with high availability in 2023. A strong contributing factor was the continued relatively low volume of traffic compared to the years before the pandemic. 99.9 percent of en route flights in Swedish airspace in 2023 were carried out without any major delays caused by the air navigation service. The average delay in Swedish airspace was 0.01 (0.04) minutes per flight, compared to the target of 0.08 minutes per flight.

The airspace capacity of Terminal Stockholm-Arlanda was at a high level in 2023, but the target in the performance plan was not met. The outcome for average delay was 0.30 (0.09) minutes per flight, which was worse than the target of 0.15 minutes per flight. The cause was almost exclusively weather-related disruptions, such as thunderstorms and snowstorms. The deviation meant that fines will be imposed for deviation from the target under the incentive scheme of the performance plan.



Air navigation services in Europe are governed by EU regulations.

Cost efficiency

The cost-effectiveness targets measure the development of real unit costs. The base year is the 2017 price level, as measured by the Harmonised Index of Consumer Prices (HICP). The en route and terminal charges at Stockholm Arlanda Airport are regulated by the charging scheme. In total, these fees account for approximately 65 (67) percent of LFV's turnover. The en route charges finance en route air navigation services performed at the control centres and associated infrastructure, flight information service, and a significant part of the local air traffic service performed from control towers and terminal controls. For Terminal Stockholm-Arlanda, costs for the tower service including management and support services are included. The Swedish Transport Agency's national guidelines regulate the scope of theparts included.

EU cost efficiency targets are calculated as unit costs, where costs are divided by the number of service units. The outcome for 2023 was SEK 665 per service unit, which was lower than the target of SEK 468. This was due to the traffic volume for en route in particular being lower than forecast in the performance plan. Nor was the cost-effectiveness target for Terminal Stockholm-Arlanda achieved. The outcome was SEK 1 462, compared to the target of SEK 911. The main reason was lower traffic volumes than forecast in the performance plan. LFV shall maintain the infrastructure and availability of airspace in all situations.

The ability to adjust costs in the short term to fluctuations in air traffic volume is therefore very limited.

Performance plan reporting

In accordance with the EU's Single European Sky (SES) legislation, performance targets for air navigation service en route and Terminal Stockholm-Arlanda have been set for the third reference period (RP3) 2020–2024.

The table below shows targets and outcomes in Sweden's performance plan and LFV's follow-up of these targets 2020-2023. The table below shows targets and outcomes in Sweden's performance plan and LFV's follow-up of these targets 2020–2023. The outcomes for Environment and Capacity are published by Eurocontrol in the Single European Sky Data Portal. The results of the follow up of aviation safety targets are published annually by the European Commission's follow up reports. The targets and outcomes are graded from A to D, where A is the lowest level and D is the highest level. The cost-effectiveness outcome in 2023 is preliminary and may be updated after final reporting to the Swedish Transport Agency in spring 2024. After final reconciliation of the 2022 outcome, the outcome has been adjusted compared to the 2022 annual report.

Target areas – KPI	Area	KPI (definition)	Target 2023	Outcome 2023	Target 2022	Outcome 2022	Target 2021	Outcome 2021	Target 2020	Outcome 2020
AVIATION SAFETY										
Policy and goals	LFV	Maturity according to survey	C	—	C	C	C	C	No goal	C
Risk management	LFV	Maturity according to survey	D	—	D	D	D	D	No goal	D
Ensuring aviation safety	LFV	Maturity according to survey	C	—	C	C	C	C	No goal	B
Promoting aviation safety	LFV	Maturity according to survey	C	—	C	C	C	C	No goal	C
Aviation safety culture	LFV	Maturity according to survey	C	—	C	C	C	C	No goal	C
ENVIRONMENT										
Average horizontal en route efficiency, %	En route	Discrepancy between distance flown and straightest distance.	1.05	1.75	1.05	1.70	1.05	1.04	1.26	1.03
CAPACITY										
ATFM delays – minutes per flight	En route	Delays caused by air navigation service	0.08	0.01	0.07	0.04	0.05	0.00	0.12	0.01
Terminal ATFM delays on arrival – minutes per flight	Terminal Arlanda	Delays caused by air navigation service	0.15	0.30	0.15	0.09	0.05	0.00	0.35	0.00

COST EFFICIENCY			Target 2023	Outcome 2023	Target 2022	Outcome 2022	Target 2020–2021	Outcome 2020–2021
	En route	Unit cost – Sweden	650.98		774.65		1,361.88	
		Unit cost – LFV	467.76	665.44	560.74	614.29	1,036.72	1,008.62
	Terminal Arlanda	Unit cost – Sweden	1,317.83		1,722.42		3,968.73	
		Unit cost – LFV	910.84	1,461.79	1,207.95	1,128.49	2,984.78	2,899.98









Area of operation:

Air Navigation Service – our services

External influences led to changes in flight patterns

Military activities increased during the year, and so did the need for training areas. Cooperation with the Swedish Armed Forces was deepened as a result of Sweden's NATO application. Proposals for an alternative design of the lower airspace were submitted to the Government and the mission regarding unmanned aviation was clarified.

Traffic development at Swedavia's airports showed a clear increase in traffic during the first quarter of the year compared to the corresponding period in 2022, and then stalled somewhat. Although domestic traffic has a much smaller increase than international traffic, the development followed LFV's forecast for the year.

Impact on air traffic

The Air Navigation Service at LFV's control centres in Malmö and Stockholm handle overflight traffic. Air traffic was affected by the closure of Russian airspace to Western airlines, while European airspace was closed to Russian carriers. The airspace closure had a major impact on the volume of civilian air traffic. The total volume during the year varied between 70 and 80 percent of the 2019 traffic and remained stable at around 78 percent at the end of the year. In 2023, the capacity target on delays was met, based on the performance plan. Aviation safety remained high and en route operations met all aviation safety targets.

Military activity was high. Several major military exercises were conducted, which increased the complexity of the airspace during the exercises. Drones were used by several stakeholders. The police and military in particular wanted protected areas where their drones could fly. LFV and the Swedish Transport Agency worked together to create these protected areas, which took up more time in 2023 than in previous years.

Local air navigation service

LFV provides local air navigation services, mainly for Swedavia's ten airports and for the Swedish Armed Forces. During the year, there were no operational disruptions to the local air navigation service, with one exception. During the summer months, staffing shortages at Landvetter led to restrictions on arrivals. The outcome was just under 15,000 minutes of delay. During the summer, there were also some delays for arriving Arlanda traffic related to air traffic control, but the delays were mostly due to bad weather in the region and not delivery problems in LFV's air traffic service. However, the EU target for arrival delays at Arlanda (the capacity target for the Terminal Stockholm-Arlanda) was not reached.

In February 2023, remote air traffic control from RTC Stockholm was deployed for another airport, Umeå Airport. This means that three of the four airports for which Swedavia has ordered remote air traffic control are now in operation: Kiruna, Åre-Östersund, and Umeå Airport. The commissioning of Malmö Airport was planned for the end of 2023 but was postponed to 2024 due to technical reasons.

Military air navigation service

In Sweden, LFV's air traffic controllers handle both civil and military traffic, so-called integrated air traffic control, which is unique in the world. LFV is an important stakeholder for Sweden's air transport in all contingency phases and is the Swedish Armed Forces' supplier of air navigation services.

Cooperation with the Swedish Armed Forces takes place on several levels: strategic, tactical, and operational. Due to the current world situation, LFV worked intensively with the strategic work during the year. The Robust Air Traffic Service programme aims to strengthen the infrastructure for both civil and military aviation. LFV prepared for what a NATO accession could mean for our integrated air navigation service.

The Swedish Armed Forces have seven airports in Sweden where LFV personnel provide air navigation services: Vidsel, Luleå, Uppsala, Linköping Malmen, Karlsborg, Såtenäs, and Ronneby. In addition, two training bases and the establishment of a third base in 2024. Air traffic by the Swedish Armed Forces has increased every year since 2019. By the end of 2023, the increase was estimated to be around 25 percent. In the coming years, we will see an increase in the number of newly trained air traffic controllers who will also be trained as reserve officers.

Technical infrastructure

LFV is responsible for a large part of the technical infrastructure for air navigation services in Sweden. It involves many systems and infrastructure at many



The number of drones in the airspace is increasing, which means an increased need for services for drone operators.

different sites. All these interact in a total air navigation service system that is maintained and managed by LFV in cooperation with our subcontractors. The requirements for systems and infrastructure are high and are continually being tightened in line with the growing need for a safe, efficient and environmentally friendly air navigation service.

The technical systems worked well. A very high availability for users contributed to a well-functioning air navigation service.

LFV works continuously to develop our systems and infrastructure to meet new requirements and to manage adaptations to new technology. During the year, LFV ran several major projects. Examples include the development of the TopSky air traffic management system as part of COOPANS, and projects in the areas of radio, networks, radar, and IT and information security.

LFV is also tasked with developing concepts for tomorrow's military air traffic management systems. Tasks that LFV has worked on include extension of operating time, development of the current basic concept, and alternative operations for unit production. LFV also designs airspace and procedures for the Swedish Armed Forces' airports.

Optimisation of competences

There is a shortage of air traffic controllers, especially during the holiday period. In 2023, LFV worked to reduce the need for the number of air traffic controllers during the summer month working to support air navigation services. This frees up more air traffic controllers for air traffic control during periods of heavy air traffic, including identifying tasks that can be performed by competences other than certified air traffic controllers.

In 2023, contacts were made with other air traffic control providers in Europe to exchange knowledge and experience on optimised resource planning for operational staff.

During the autumn, the work on airspace issues was gathered in a new unit to achieve greater coordination of these issues and clear responsibility for LFV's strategic airspace issues, as well as the delivery of various airspace services. This includes unmanned aviation, operational airspace issues for the en route service as well as supporting airspace services and strategic issues related to indirect environmental impact.

Government assignment on the lower airspace

In September 2021, LFV was commissioned by the Government to conduct a review of the lower airspace, below 2 900 metres, and propose an alternative design of the structure of this airspace. In August 2023, the final report of the Government assignment, which contained four proposals for changes to the airspace structure in the lower airspace, was submitted.

The proposals mean that more airspace classes will be used in Swedish airspace, that the controlled air around airports can be reduced and that the control area in Sweden will have a lower altitude in southern Sweden. LFV's proposal can increase availability for airspace users. Heavy air traffic will also have better

conditions to fly in an environmentally friendly and safe manner in controlled airspace when landing. The proposals also increase the availability for unmanned aviation.

Unmanned aviation

In 2023, LFV's instruction was supplemented with the task of providing services for the planning and execution of unmanned aviation flights in Sweden. In addition, the Government appointed LFV to be the exclusive provider of common information services for all so-called U-space airspaces, when they are established in Sweden. The amended instruction was preceded by a Government assignment to establish unmanned aviation services. The assignment was finally reported to the Government Offices on 15 June 2023.

Examples of possible services for drone operators:

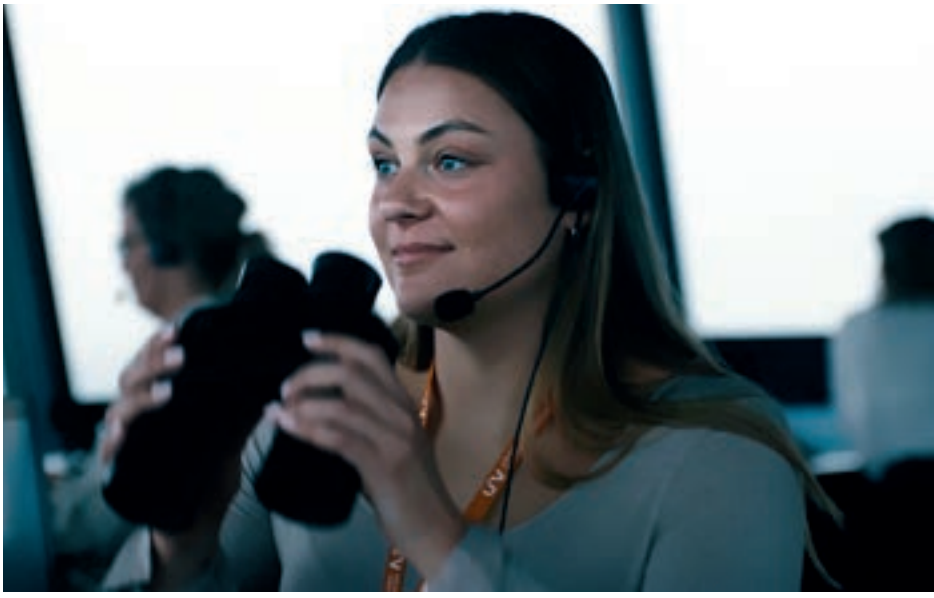
- Geo-Awareness Service – information on operational conditions and airspace limitations.
- Traffic Information Service – information on surrounding air traffic.
- Network Identification Service – information on the drone's ID, position, altitude, speed, etc.
- UAS Flight Authorisation Service – request for authorisation to operate a specific flight and approval or rejection.

LFV's task is to provide services to enable the continued development of unmanned aviation in the lower parts of Swedish airspace- in uncontrolled airspace, controlled airspace, inside and outside U-space airspace. The services shall be available for use by essential operators, commercial drone operators, and hobbyists. The focus is to ensure access to the airspace for all types of airspace users, both unmanned and manned aviation, while maintaining a high level of safety for aviation and the public.

The first part of two in the procurement of a technical system solution for unmanned aviation services was finalised in 2023. Here, potential system suppliers were pre-qualified. The next phase, which includes the call for tenders and contracting with a system provider, is expected to be finalised in 2024.

During the year, LFV's proprietary drone map was updated with new functionality. The changes had been requested by drone operators to facilitate flight planning. The drone map will continue to be active and to some extent be further developed until the abovementioned system solution under procurement is in place, to meet the current needs of unmanned aviation as far as possible.

In order to follow and influence future technological and regulatory developments in the field of unmanned aviation, LFV participates in both national and international contexts.



Airspace Modernisation

LFV continued the work on the Sweden Airspace Project (Swea) during 2023, in cooperation with Swedavia. The project will create a more appropriate airspace structure for all traffic flows to and from the Stockholm area. Swea will lead to positive environmental effects through reduced fuel consumption for air traffic flying to and from Stockholm Arlanda Airport. If 2027/2028 traffic volumes are on the same level as the 2019 volumes, the implementation of Swea means that emissions to air from air traffic in Swedish airspace are expected to decrease by between 4,000 and 5,000 tonnes of carbon dioxide per year.

The Swea airspace project was delayed and the timetable has been postponed for a few years, delaying the positive effects on emissions. The main reason was the lack of specific competences and the prioritisation of how these competences were distributed between the missions within LFV.

The first phase of Swea also includes a review of the airspace in the Gothenburg area. It is partly outdated and based on conditions that have changed since the creation of the airspace.

Swea was expanded during the year to include the development of a new concept for managing traffic to Stockholm Arlanda Airport. The concept involves a new way of applying so-called curved approaches, Established on RNP, in combination with conventional approach methods. It will allow more flexible use of the runways at the airport, shortening flight distances and reducing any waiting time in the airspace.

The fact that LFV's air traffic controllers handle both civil and military traffic is unique in the world. As military air traffic increases, it is becoming more common for air traffic controllers to be trained as reserve officers as well.

Military air traffic

+14%

... increase in air movements of the Swedish Armed Forces on average since 2019.

Area of operation:

Air navigation service – aviation safety

An LFV with aviation safety in focus

Aviation safety is a top priority throughout LFV and permeates all activities. LFV did not contribute to any injury or fatality incidents during the year, thereby meeting ICAO's aviation safety targets.

For LFV, it is important to learn from incidents that occur in order to constantly develop aviation safety work, both in daily operations and in a long-term perspective. Therefore, incidents that are assumed to have a high teaching value or had the potential to be serious are investigated.

All aviation safety targets set in the 2023 performance plan were met, except for the target of finalising all investigations within 90 days.

Aviation safety organisation with clear responsibilities

Aviation safety forms the basis of LFV's operations, where everyone, from top management to employees in all parts of the organisation, should have a basic knowledge and understanding of aviation safety and how it is affected by the work they do. The Aviation Safety Committee, under the leadership of the Director General, manages and follows up LFV's aviation safety work. The operational units have a clear and designated aviation safety responsibility and a responsibility to create favourable conditions for all employees to assume their aviation safety responsibility.

LFV works with aviation safety in a structured manner. In LFV's operational activities, there are a number of focus areas of particular interest from an aviation safety perspective. Incidents in these areas are further analysed and compiled in a report for each area. The analyses of the focus areas can result in recommendations.

Focus areas during the year were separation minima infringement, runway incursion, drones, flight without transponder, technical incidents, human factors, and restricted area or hazardous area incidents. The latter two are new focus areas that were analysed in 2023 and whose recommendations will be evaluated and acted upon in 2024.

Safety culture in the field of aviation safety

A strong safety culture is an important foundation throughout LFV's operations. In order to evaluate LFV's internal safety culture in aviation safety, LFV conducted a safety culture survey in autumn 2023, aimed at all employees. The preliminary results at the overall level show a positive shift compared to previous measurements. The results are being analysed and will be presented in early 2024.

Despite more aircraft movements compared to 2022, the number of serious incidents did not increase (such as separation minima infringement and runway incursion) where LFV contributed. The number of reported deviations and disruptions remained stable and high. It shows a good aviation safety culture with a good willingness to report.

Just Culture is part of the safety culture. The EU defines it as a culture where employees are not punished for actions, omissions or decisions that are commensurate with their experience and training. During the year, LFV carried out activities to maintain but also increase LFV's capacity for Just Culture.

Other activities carried out during the year are the revision and development of LFV's aviation safety plan, LFV's manual for the aviation safety management system (SMS) and SMS training.

New regulatory requirements

EASA and the Swedish Transport Agency demand incident reporting, with all EU Member States reporting in a specific format, so-called taxonomy, and according to defined mandatory fields. To adapt our reporting to the new format, LFV launched an implementation project at the end of 2023, which will continue throughout 2024.

The European Commission adopted five new regulations in 2023 that merge existing rules on how air traffic management (ATM) and air navigation services (ANS) systems and components interact. The aim was to ensure a more modern European ATM network and reduce fragmentation in the ATM ground equipment market. LFV needs to adapt its processes and procedures to ensure that equipment meets the new requirements, a so-called statement of compliance. All safety-critical elements of LFV's operations and rules for LFV's certified services are broken down and described in manuals, processes, procedures and instructions.

LFV'S FOCUS AREAS IN AVIATION SAFETY:

- R/D areas (incidents linked to restricted or hazardous areas)
- Human Factors
- Separation minima infringement
- Runway incursion
- Unmanned aviation
- Flight without transponder
- Technical incidents

Area of operation:

Total Defence and Robust Air Traffic Service

Increased focus on total defence

The security situation and an increased terrorist threat in 2023 posed a threat to Sweden's infrastructure. LFV focused on preparedness issues throughout the year, and much effort was put into strengthening total defence capabilities.

As a preparedness authority, LFV is part of the Emergency Preparedness Sector Transport, where the Swedish Transport Administration has sectoral responsibility and leads the coordination. During the year, cooperation and exchange between the participating authorities was expanded. In 2023, the Swedish Civil Contingencies Agency (MSB) produced a planning guidance that guides emergency response authorities on how to build up civil preparedness. LFV, as well as several other emergency response authorities, operate based on this guidance.

LFV continued to strengthen total defence capability in a number of designated focus areas, including through recruitment of additional staff with expertise in the field

An important method in building defence capabilities is to practice, test, and evaluate. LFV's units and departments continuously conduct exercises to develop and adapt capabilities. In addition to these, a joint LFV total defence exercise is conducted annually. In November, LFV conducted its largest ever total defence exercise, Leoniderna. The focus of the exercise was to practice the start-up of LFV's war organisation, internal cooperation and external collaboration. A total of 124 people participated in the exercise, which, in addition to LFV employees, also involved participants from the Swedish Armed Forces and other authorities within total defence. The exercise provided useful experiences and insights for our future work on total defence issues, including decision-making and roles in crisis teams.

The threat to Sweden's infrastructure remains strong. LFV has developed its safety work, which will expand in the next few years.



In the coming year(s), LFV's development in IT security is expected to intensify



LFV is prepared for Swedish NATO membership. Among other things, LFV participates in the NATO Resilience Committee's Transport Group, analyses NATO's requirements for preparedness measures, has a procedure for handling information security in the NATO cooperation and participates in a sector-wide working group for uniformity and synergies. In addition, LFV is a member of Nordic transport cooperation, which Denmark and Norway also joined during the year. The goal is a joint contingency plan for enhanced preparedness and war.

In 2023, LFV and Swedavia continued their joint project Copia, which entered the next phase after a feasibility study. The project aims to strengthen airports' supply readiness, i.e. the ability to both maintain essential functions and provide the population with the goods and services needed to sustain life and health. Copia is Latin and means supply.

LFV worked to strengthen its ability to deliver air navigation services in all emergency phases, including through the publicly funded Robust Air Traffic Service programme. Some 15 projects were conducted under the programme, for example in the areas of IT and information security and radar and radio equipment. In December 2023, the Robust Air Traffic Service programme ended and the development work was handed over to line management.

Security

A continued serious security situation and an increased terrorist threat in 2023 meant a continued strong threat to Sweden's infrastructure, which also included LFV's operations. Although threats to LFV are estimated to have increased, the number of security incidents or offences against LFV did not increase in 2023 compared to previous years.

The development of LFV's security protection work continued within personnel security, physical security, and information security. During the year, there was a particular focus on security protection analyses, a work that led to major advances throughout the organisation. The analyses are a prerequisite for further development in all areas of security protection.

The appropriations for civil defence allocated to LFV in 2023 were used to strengthen preparedness and total defence and to expand security protection work, including through recruitment. The deteriorated security situation and announced investments in total defence will require further development of security work within LFV in the next few years.

Information security

As part of the systematic information security work, work continued on developing a management system for information security (LIS). The work involved updating policy documents and carrying out training and consensus building.

The information security work concerns all of LFV's operations, and during the year a large part of the work was devoted to ongoing operational support to the organisation on information security issues. In 2023, there was an increase in information classifications, risk analyses and IT security classifications of systems, which needs to continue in 2024. Several new EU directives imposed requirements for managing information security risks that have a potential impact on aviation safety. These were identified and shall be incorporated into LFV's information security management system. Information security risks shall also be considered in the administrative and technical requirements for IT systems and services.

Follow-ups were carried out continuously to assess the organisation's knowledge of information security. They showed a continued need to increase knowledge about information security in general, in particular knowledge about responsibilities, roles, information processing and information management. Training sessions provided the opportunity to ask questions to increase knowledge. Follow-ups have also been carried out extensively on the classification of information and systems.

IT security

The risk of cyber attacks against LFV is high, which requires a high level of IT security to meet the threats to which the organisation may be exposed. During the year, LFV began work based on a prepared multi-year action plan. The plan will guide and support IT security efforts by focusing, prioritising and securing resources. In the coming year(s), LFV's development in IT security is expected to intensify and constitute an increased proportion of the authority's work.

In 2023, LFV continued to build and develop the organisation and activities around IT security issues, and to develop and manage general IT security solutions. Capacity and expertise in IT security has been strengthened through recruitment and training initiatives. Measures to improve IT security were planned and implemented in the systemmanagement of administrative and operational systems. This work will continue in the coming year(s).

LFV cooperated with authorities and industry representatives nationally and internationally and exchanged experiences in the field of IT security. Several employees also participated in the Swedish Armed Forces' SAFE Cyber 2023 exercise, which focused on detecting and managing IT security incidents.

During the year, several IT security projects were operated to increase the capability and robustness of air navigation services in all emergency phases. One priority area is to increase the ability to detect and manage security incidents. Important steps were taken to establish a logging platform and security monitoring of IT systems in the future.

Area of operation:

Other commercial activities

National and international expertise

LFV offers several different air traffic and airport services. With expertise and many years of experience, LFV delivers services to customers in Sweden and internationally.

LFV has extensive experience with various technical systems and ensures operation and management of systems and technical infrastructure in accordance with applicable international and national legislation, norms and standards. LFV delivers technical services, such as a technical platform for flight information, L-CAPS, and various consultancy services in areas such as procedure and airspace design. Services are provided partly by the state-owned enterprise and partly by subsidiaries and associated companies.

Services via subsidiaries and associated companies

The subsidiary LFV Aviation Consulting AB offers consulting services in an international market. The customers are air navigation service providers, airports, and aviation authorities.

The subsidiary Aviseq Critical Communicaton AB (AVISEQ) delivers technical operation and maintenance services to air traffic centres, airports, national authorities and companies in Sweden. AVISEQ also delivers, for example, critical communications with several services in the field of security. During the year, AVISEQ delivered to customers under contract and without any major disruptions.

The associated company Entry Point North AB (EPN) offers basic air traffic controller training and provides other services and consultancy. During the year, the company continued to drive development towards increased digitalisation of the training and new service offerings, thereby broadening and developing its range of services. Its activities are mainly aimed at air navigation services and other related industries. One important backbone is basic air traffic controller training on behalf of the owners LFV, Danish Naviair and AirNav Ireland. The company also sells consultancy services and training to external customers. For example, sales have been made to airports in the Scandinavian countries, but also to customers in Europe, the Middle East and Asia. In autumn, EPN held refresher training for Ukrainian air traffic controllers so they are ready to control civilian traffic again after the war.

Civilian flight procedures and obstacle analyses

LFV's airport customers are state, municipal, or private. For each customer, there is an agreement that forms the basis for delivery, information exchange, and follow-up. In 2023, LFV was commissioned to design helicopter procedures, both for hospitals and strategic locations in the terrain, where helicopters meet up with road ambulances.

In 2023, the SOLO project (regarding take-off and landing in unmanned locations) continued with the Swedish Maritime Administration as project owner. LFV contributed with procedure design of helicopter procedures and coordinated the work with the aviation safety assessments. Swedish Police, medical transport operators, and the Swedish Armed Forces also participated in the project. In 2023, the number of requests from airports and wind companies for in-depth studies for the establishment of wind farms increased. The investigations were based on LFV's obstacle analyses and the potential impact on airport procedures for instrument approaches. In addition, periodic reviews of airport procedures for instrument approach were carried out, as well as internal assignments for the Swedish Armed Forces' air traffic control school and Arlanda Airport.



In 2023, the number of requests for for studies for the establishment of wind farms increased







Airport obstacle analyses are an important part of LFV's work, not least as more and more stakeholders lay claim to the airspace.

Area of operation:

Research and innovation

LFV is a sought-after research partner

LFV has been conducting extensive research and innovation work in collaboration with national and international partners for a long time. The research focuses mainly on improving the services LFV delivers and includes both technical and operational concept development.

Issues in focus were reduced environmental impact, aviation safety, flexible and scalable service delivery, and increased productivity and cost efficiency through increased AI and automation.

The research conducted by LFV is funded entirely by external funding such as government research funds from the Swedish Transport Administration and the innovation agency Vinnova, as well as EU funds from SESAR 3, Single European Sky ATM Research.

In 2023, the R&I unit operated 15 national research projects

The SESAR programme

LFV is an important stakeholder in the European research programme SESAR 3, which focuses on developed air navigation services. In fierce competition with many other European stakeholders, LFV had ten research initiatives adopted for 2023. These projects belong to the Industrial Research category and can be implemented and deployed within five to eight years.

The main purpose of LFV's participation in this research is to ensure that Swedish special interests are taken care of in the joint development of European aviation. During the autumn, LFV submitted a further twelve proposals for research initiatives under the Exploratory Research category.

Solutions in this category are estimated to take more than eight years of further research and development before they can be deployed. A decision on funding is expected in February 2024.

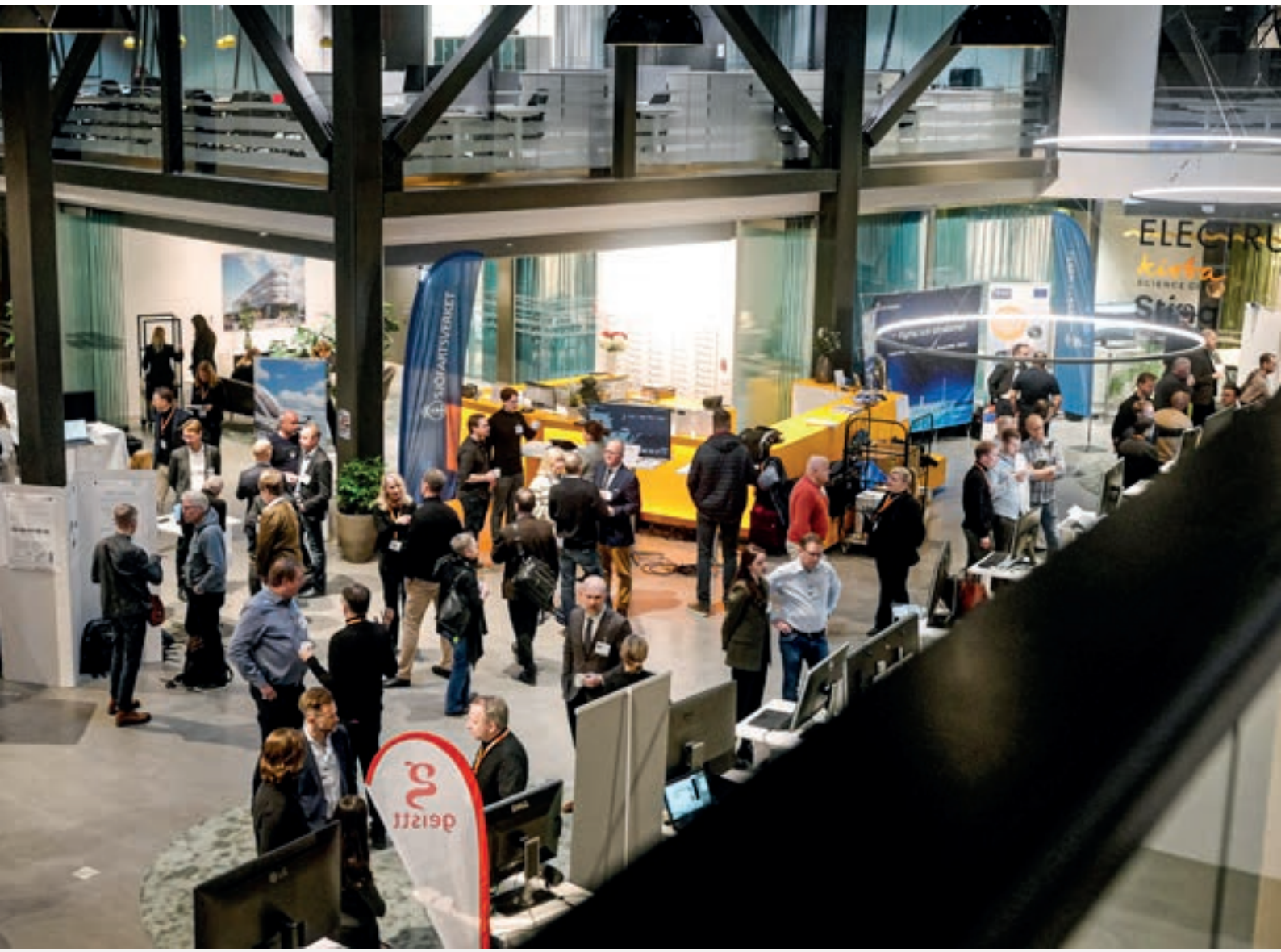
National projects

In 2023, the R&I unit conducted 15 national research projects. Some of these were carried out entirely in-house, while several projects were carried out together with industry, academia and other relevant stakeholders in the sector. LFV worked on the development of better tools and system support for air traffic controllers to offer more efficient and shorter approaches to incoming traffic. LFV also conducted research on fatigue in air traffic controllers and how shifts and scheduling affect air traffic controllers' fatigue.

In November, a large part of LFV's research in automation was presented in connection with the Automation Days in Kista. Exhibitors were LFV, Linköping University, the Swedish Maritime Administration, and the Swedish Transport Administration. Both international and national research projects were presented. The aim was to offer inspiration and exchange of experience between participants. The days were organised by LFV in cooperation with the Swedish Transport Administration.



LFV is a driving force in the European research programme SESAR 3. In 2023, ten of LFV's research initiatives were adopted.



AiRMOUR

Drone services specialising in emergency care

The research project AiRMOUR, urban air mobility emergency medical services in EU, develops, demonstrates and enables urban drone services targeting healthcare needs. AiRMOUR is a multidisciplinary consortium of 13 partners. In addition to LFV, it included research institutes, aviation authorities, drone operators, and emergency medical service providers.

LFV mainly contributed with knowledge about airspace and the regulatory frameworks that apply. The two-year project ended in 2023.

Automation programme II

Automation solutions for aviation

The Automation Programme is a research programme consisting of four parts, each with its own focus area. The main objective of the programme is to develop automation solutions for aviation and air traffic control to increase cost-effectiveness and provide better safety, increased capacity and reduced climate impact.

The programme is operated in cooperation between LFV, Linköping University, and the Swedish Transport Administration. The programme is funded by the Swedish Transport Administration. The autumn automation days were part of the automation programme.

Security assessment 2030

The project examined current security assessment and certification processes and their ability to detect potential security risks. The aim of the project was to improve and develop guidelines for the identification of risk sources for three high automation test cases: Multi Remote Tower, generic authorisations for en route and Digital ATS and AI-based support for decision-making.

The most important outcome was the preliminary guidance developed for the aviation safety assessment of automation surprises, i.e. unexpected events arising from automation.

Developed environmental and sustainability work

During the year, LFV decided to develop its environmental and sustainability work. An environmental plan with planned measures for 2024 was prepared and adopted. It was also decided that a new environmental study should be carried out to calculate LFV's carbon emissions and to measure and follow up LFV's environmental impact.

External demands in the environmental field are increasing. Among other things, the EU's emissions trading scheme shall be reviewed to eventually include emissions of nitrogen oxides, water vapour and particles, known as non-carbon emissions. This will require a transformation of the entire aviation industry, where all stakeholders will have to take greater environmental responsibility. For LFV, this will mean requirements for air navigation services and airspace that create conditions for reduced emissions of both carbon dioxide andnon-carbondioxide.

LFV's significant environmental impact

LFV's environmental impact is divided into indirect and direct impact, where the direct impact comes from our own operations. Examples include energy use in buildings and facilities, emissions from business travel, and the procurement and purchasing of products and services. The indirect impact occurs outside LFV's operations, but where LFV can participate and influence through research and development of aviation issues.

Together with 197 other public authorities, LFV received a government assignment in 2022 to implement energy-saving measures. The assignment ended in March 2023. LFV reduced the direct environmental impact of owned properties and premises by reducing energy use by 2.8 percent during the year. This met the target of reducing energy use by 4 percent for the entire period 2022–2026.

LFV also reduced carbon emissions from business travel by 34 percent per annual employee compared to 2019, thereby reaching the target of a 21 percent reduction in carbon emissions per employee from business travel by 2023.

However, this is an increase of 3 percent compared to 2022, when LFV's carbon emissions per annual employee from business travel decreased by 37 percent compared to 2019. The increase can be explained by the return to normal operations after the COVID-19 pandemic. Another reason is that air traffic controllers travelled between Umeå and Stockholm weekly in 2023 to launch remote air traffic control at Umeå Airport. To reduce the environmental impact of its own operations, it was decided that business travel by air within LFV should be carried out with a mixture of biofuels from 1 January 2024.

Extensive work on updating the purchasing process was initiated, which also includes a clearer focus on sustainable purchasing.

LFV updated its general environmental training for employees. The training covers both direct and indirect environmental impact. LFV also launched an in-depth and targeted environmental training programme for air traffic controllers.

To influence LFV's indirect environmental impact, LFV ran the Swea project, Sweden Airspace Project. This involves modernising the airspace, which will primarily lead to positive environmental effects through reduced fuel consumption for air traffic to and from Arlanda.

LFV also worked on proposals for the design of the lower airspace, to create better conditions for safer and more environmentally friendly approaches to Swedish airports.

Research on high-altitude effects

In recent years, a large number of research reports have been published that reinforce the view that the environmental effects of high altitude emissions are more extensive than previously thought. Emissions of nitrogen oxides, water vapour, and particles at high altitude, known as non-carbon emissions, account for two-thirds of the environmental impact of aviation, according to the latest estimates.

In 2023, the CONCERTO research project under SESAR (Single European Sky ATM Research) was launched. The project, in which LFV is a partner, aims to balance high-altitude effects with the extra fuel consumption and carbon emissions that come from avoiding problematic areas of the atmosphere. LFV will gather knowledge about non-carbon emis-

Emissions

–34 %

... LFV's carbon emissions per annual employee from business travel decreased compared to 2019.

sions and what operational measures are possible to implement. If certain areas of the airspace are to be avoided due to high-altitude effects, this may have operational consequences for LFV's provision of air traffic control. Both the EU and Sweden want to regulate the issue.

Working on the 2030 Agenda

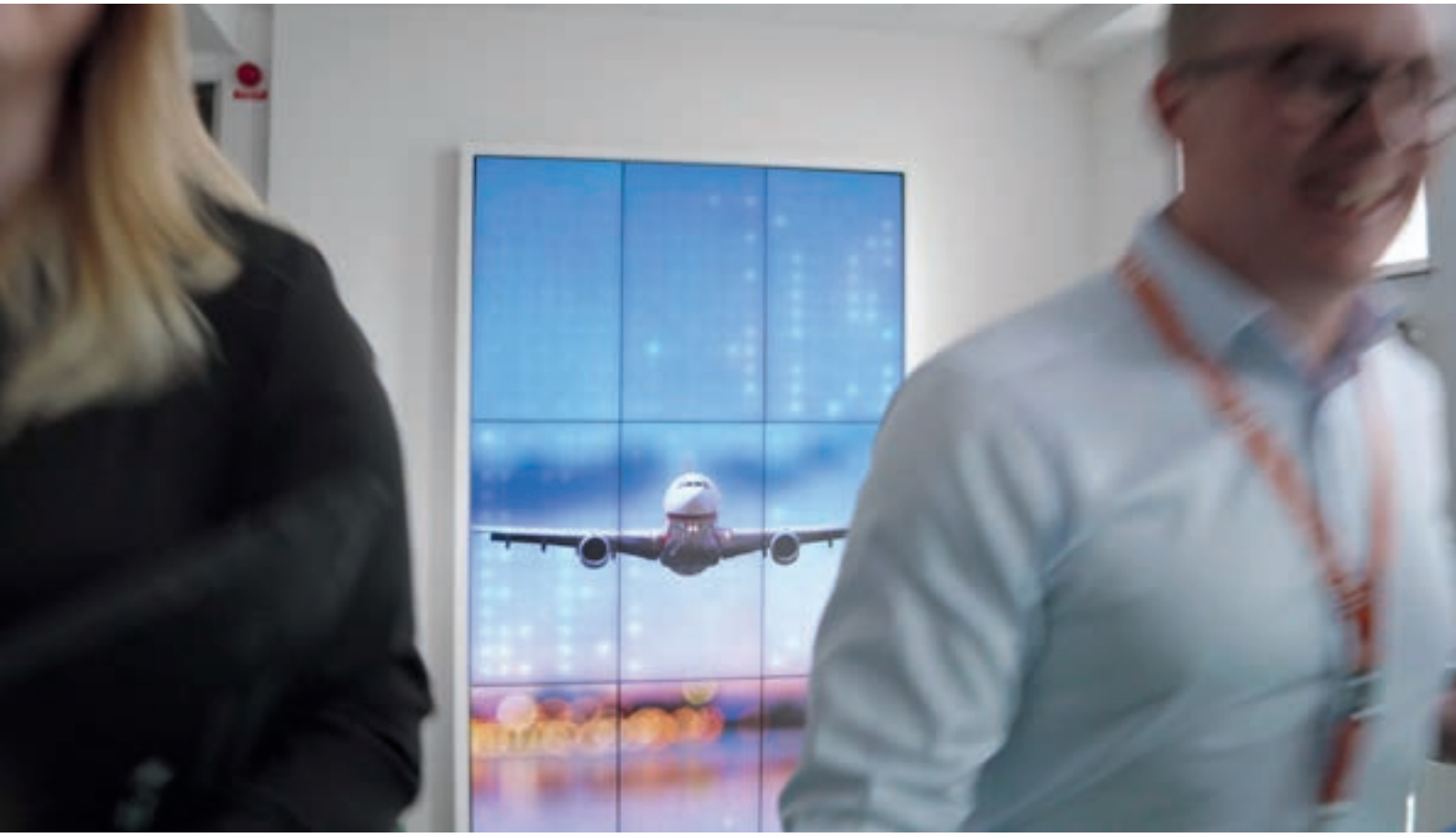
The 2030 Agenda is a global action plan for sustainable development adopted by the United Nations in 2015. The main goal is to achieve social, economic and environmental sustainability by 2030. LFV has previously worked with 6 of 17 goals in the agenda, but in 2023 chose to focus on 2 of the goals following the Swedish Agency for Public Management's assessment that each organisation should work with Agenda 2030 based on its main tasks. The chosen goals were Goal 9, Sustainable Industry, Innovation and Infrastructure, and Goal 11, Sustainable Cities and Communities.

During the year, LFV contributed to the goals by conducting research and development projects with a focus on environmental improvement, conducting in-depth environmental analyses of traffic flows in the airspace, and work on the development of airspace and system support.





Energy use in LFV's owned properties and premises decreased by 2.8 percent, which meets the target of 4 percent for the entire period 2022–2026.



Increased efforts to recruit skills

LFV shall have a culture, a leadership and employeeship where everyone participates, works for the good of the organisation and contribute to the operational goals.

Several efforts were made to recruit new staff, such as engineers, to meet the new and changing requirements of the operations. Increased efforts to recruit air traffic controller students, including through social media, had a major impact with many applicants.

During the year, a new specialisation for LFV was developed. It includes the vision, goals, and strategies for the public authority's activities.

Work on aviation safety culture continued during the year, including through training programmes for both managers and employees.

Leadership and employeeship

LFV implemented a number of leadership development initiatives during the year. Among other things, LFV invested in method and leadership training in Organizational Behaviour Management (OBM). The training programme was previously only offered to managers and leaders, but was expanded in 2023 to include, for example, project managers, communicators, and HR staff.

A collaboration with the Swedish Maritime Administration to offer mentoring programmes was initiated. The programme shall provide junior leaders with the opportunity for individual competence development and lead to an exchange of knowledge and experience between mentee and mentor.

As part of LFV's employee development, work was started to develop proposals for training and development opportunities, with employees from different parts of the organisation participating. Employee development should include all employees at LFV.

An employee survey was conducted in the spring. The results of this showed a positive increase in the engagement index. The areas of leadership, culture and team effectiveness remained positive, while organisational and social work environment decreased slightly. The index for recommending LFV as an employer deteriorated compared to the previous year's survey. Based on the results, local action plans are drawn up and smaller and more frequent pulse measurements are carried out in selected areas.

In cooperation with the Social Partners' Council, work was underway to develop and

Number of annual employees



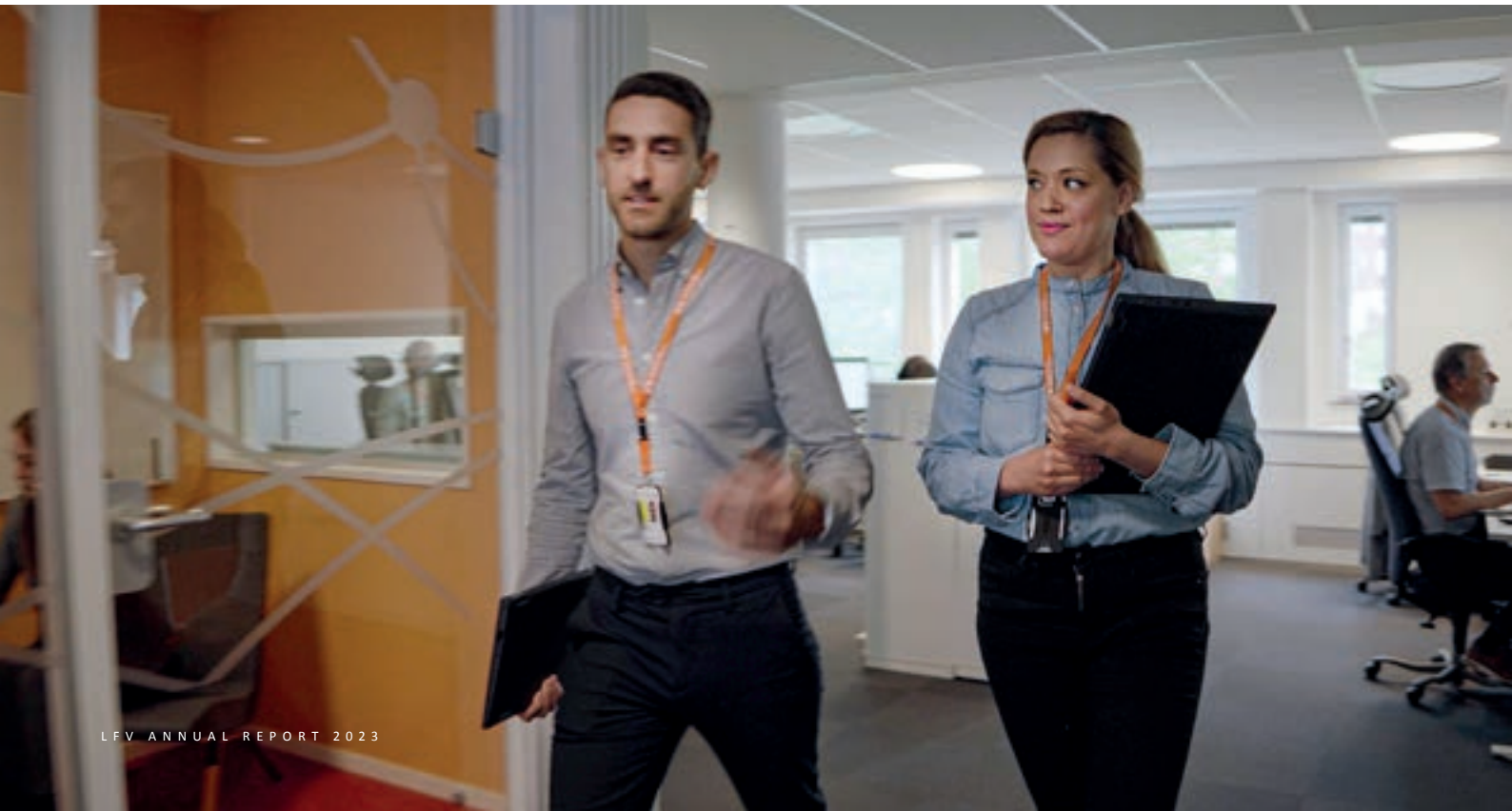
- Air traffic controllers, 594 (48 %)
- Other staff, 645 (52%)

Number of employees



- Women, 494 (36 %)
- Men, 878 (64%)

LFV is intensifying its efforts to ensure competence. A trainee programme was carried out during the year, as well as a social media campaign to recruit air traffic controller students.



improve cooperation between LFV as employer and the staff organisations. The Social Partners' Council is a non-profit organisation made up of employers and trade unions within the State. Collaboration work was carried out at several organisational levels.

Skills supply

The Swedish Agency for Government Employers estimates that 350 000 new civil servants will be needed over the next ten years. The labour shortage is very high in professions that require excellence, such as in technology and IT, where LFV also has a great need for skills. To promote competence exchange and competence development between different authorities, and to strengthen the State's employer brand in Östergötland, LFV cooperated with the other nine authorities headquartered in Östergötland County in 2023. One result of the cooperation was the development of support material on staff loans and the holding of information meetings for managers and other key employees. More specifically, the work in 2024 is focused on encouraging and implementing staff loans between relevant authorities.

The work on skills supply also involved a continued focus on managing capacity and resource planning. To meet the fierce competition in certain areas of expertise and increase the availability of skills in the field of technology, LFV welcomed eight trainees during the year. All eight were employed by LFV after completing the trainee programme. The recruitment of air traffic controller students for the operational departments continued unabated. The number of applicants was higher than in previous years. The recruitment process was further developed, including by using new candidate selection tools.

Work environment

Occupational health and safety work was managed systematically by managers. This was done, for example, through regular discussions with employees at workplace meetings, safety rounds, risk and impact analyses carried out in the event of changes, union interaction, and in connection with safety committee meetings at major workplaces.

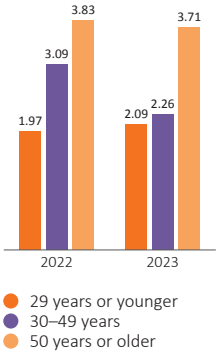
Gender equality

LFV always strives for an even gender balance, which is a particular focus in the recruitment process. LFV used a competence-based approach to ensure that the most competent person gets the job regardless of background and gender. In order to optimally target campaigns and reach the right candidates with the right skills, LFV also worked to identify target groups. The gender breakdown remained unchanged during the year, with fewer women than men. The share of female managers was 36 percent. The salary survey conducted in 2023 did not identify any unjustified pay inequalities between men and women.

LFV's brand

The launch of LFV's new specialisation Destination – ONE LFV helped to build LFV's brand from the inside out. All employees were invited to participate through workshops, where goals and strategies were made known. A number of communication activities highlighted and clarified in various ways what the new specialisation meant. The specialisation will be introduced on 1 January 2024. In connection with the new specialisation, a new vision was developed, which was visualised through a film describing LFV's activities and us who work here. The film was also published externally on LFV's website and on social media to create awareness of LFV and strengthen the brand.

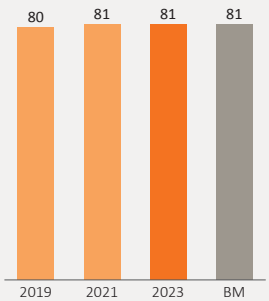
Sickness absence
(%)



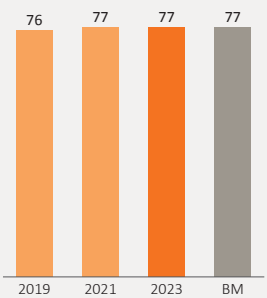
Total sickness absence for 2023 has decreased slightly from the previous year. However, sickness absence of 60 days or more has increased compared to the previous year.

Employee survey 2023

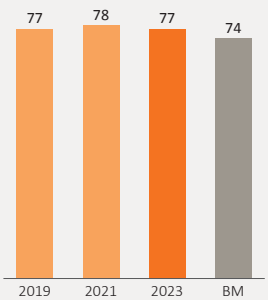
Leadership index



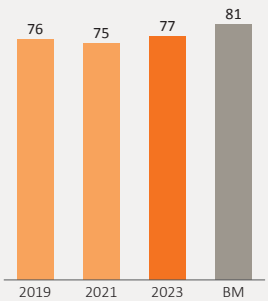
Team efficiency



Organisational and social work environment



Engagement index



The figures in the employee survey apply only to the state-owned enterprise.
BM = Benchmark

Collaborations build aviation infrastructure



A6
Association of twelve air navigation service providers to drive the development of European aviation within SESAR.

BOREALIS
Alliance between nine Northern European air navigation service providers working to provide airlines with straight flight paths in NorthernEurope.

CANSO
Global industry association mainly for air navigation service providers.

CINEA
Responsible for developing the European transport system.

CONTINGENCY SECTOR TRANSPORT
Cooperation in the transport sector, where the Swedish Transport Administration is the sectoral coordinator.

COOPANS
Collaboration between six European air navigation service providers to coordinate the development of a common air traffic control system.

EASA
Joint European Aviation Safety Authority.

EUROCONTROL
Organisation for the coordination of air traffic in European airspace.

ICAO
UN body with the task of contributing to increased aviation safety through common regulations in areas such as air navigation services.

LIU
Linköping University.

SESAR
LFV participates in the EU programme SESAR, Single European Sky ATM Research, through COOPANS.

SWEDAVIA
State-owned company operating ten airports.

SWEDISH AIR TRANSPORT SOCIETY
Industry association for the aviation industry in Sweden.

SWEDISH ARMED FORCES
Since 1978, civil and military airnavigation services have been integrated in Sweden.

SWEDISH REGIONAL AIRPORTS
A cooperation body for Sweden's non-state-owned airports.



SWEDISH TRANSPORT ADMINISTRATION
Authority responsible for the planning, construction and use of the transport system for road, rail, shipping and aviation.

SWEDISH TRANSPORT AGENCY
Supervisory authority over LFV. LFV collaborates with the Swedish Transport Agency on the design of rules and controls for aviation.

VINNOVA
Innovation agency tasked with strengthening Sweden's innovative capacity and contributing to sustainable growth.

Importance of international cooperation

By participating in international cooperation, LFV can influence the development of new regulations. During the year, LFV participated in several collaborations to develop air traffic management and pursue issues such as drone traffic, free routes, and environmental development.

Single European Sky II+

Single European Sky (SES II+) is an initiative of the European Commission to meet future demands for increased capacity, modernisation of technical systems, flexibility, digitalisation, drones and cost efficiency. Despite the world situation, the European Commission considered that the development of SES II+ should continue. The negotiations were not completed in 2023 due to a lack of consensus on the issues between the Commission, the European Parliament, and the Member States.The aim is for a new regulatory framework to be adopted and operational by 2025.

Eurocontrol

Eurocontrol coordinates European aviation. They are not an EU body, but work on behalf of the European Commission. The European Commission pushed for a stronger role for Eurocontrol in the harmonisation of increased airspace availability. One of Eurocontrol's tasks is to drive the development of performance requirements. Performance requirements are legal requirements imposed by the EU on Member States' air navigation service providers in the areas of aviation safety, environment, capacity, and cost efficiency. Performance targets are set in reference periods.

COOPANS

LFV is a member of COOPANS (COOPeration between ANS providers), where air navigation service providers from Denmark, Ireland, Austria, Portugal and Croatia coordinate the development of a common air traffic management system.

COOPANS carried out continuous development and deployment of new versions of the air traffic management system. LFV took a particularly active role in COOPANS on the development of System Wide Information Management (SWIM), a new standard for information exchange between systems in the aviation industry. COOPANS faces major challenges due to the European regulatory requirements for the modernisation of air traffic management systems. The requirements entail significant investment, while there is a need for continuous development and adaptation of the systems.

SESAR 3

A large part of LFV's international research in airspace development is part of the SESAR research programme led by the SESAR Joint Undertaking. During the autumn, the third consecutive programme, Single European Sky Air Research 3 (SESAR 3), was launched. The focus is on using the latest digital technology to develop Europe's airspace. SESAR 3 will also enable the future growth and diversity of air traffic to be managed safely and efficiently, while minimising environmental impact.

LFV cooperates with several different organisations within SESAR, nationally and internationally. These include Borealis, Swedavia AB, Linköping University, Eurocontrol, and Thales. LFV also participates in SESAR Deployment Manager (SDM), the organisation in charge of implementing the research results.

In early 2023, the start of the SESAR 3 project CONCERTO, run by Borealis and Thales, was approved. CONCERTO will look into the possibility of reducing carbon emissions and how to reduce the impact of vapour trails at high altitude.

Investments

New regulations, increased capacity requirements, increased social requirements on air navigation services in all emergency phases have led to an increased rate of investment in recent years. LFV makes both new investments and continuous upgrades of technical systems, infrastructure and working methods.

	Out-come* 2020	Out-come 2021	Out-come 2022	Plan 2023	Out-come 2023
Acquisition and development of new investments					
ATM equipment	195	123	76	268	70
Radar equipment	63	70	67	39	90
Communications equipment	28	22	41	69	44
Radio equipment	205	108	142	125	158
Buildings	16	9	6	16	12
IT	19	15	16	15	28
Commercial investments	2	7	—	—	—
Contingency assets	—	1	1	11	0
Other	1	3	1	5	2
Total acquisition and development expenses	**529**	**358***	**350**	**548**	**405**
Of which investments in fixed assets	529	358	350	548	405
Funding					
Own resources	529	356	344	537	399
Grants	—	2	6	11	6
Total funding of acquisitions and development	**529**	**358**	**350**	**548**	**405**
Maintenance of existing investments					
ATM equipment	3	4	7	14	3
Radar equipment	11	2	4	6	12
Communications equipment	13	15	18	16	30
Radio equipment	1	—	—	16	—
Buildings	2	7	6	9	2
Total maintenance expenses	**28**	**28**	**35**	**60**	—
Of which investments in fixed assets	28	28	35	60	48
Funding					
Own resources	28	28	35	60	48
Total funding for maintenance	**28**	**28**	**35**	**60**	**48**
Of which investments in fixed assets	**557**	**386**	**385**	**607**	**452**

* Excluding acquisition of subsidiary SEK 193 million.

In 2023, new and replacement investments were made to meet requirements on functionality, aviation safety, capacity and regularity as well as cost efficiency. Massive new investments were made in infrastructure for a robust air traffic service, particularly in the areas of surveillance, radar, communication and radio.

The 2023 outcome is higher than in 2022, but lower compared to the 2023 investment plan (according to the Three-Year Plan 2024–2026 submitted on 1 March 2022). In particular, investment outcomes for ATM equipment are lower, while new investments in radar and radio equipment and IT are higher. The lower outcome than planned is partly due to some planned projects being postponed until the coming year(s) and partly due to changed conditions for some projects.

Investments are mainly funded by own resources. A small part, mainly contingency assets, is funded by the Civil Defence grant. The appropriation Infrastructure for air navigation services is utilised in line with the annual depreciation of investments that fall within the scope of the appropriation. The investment expenditure incurred at the time of acquisition is funded by own resources.

Investments in ATM equipment as part of COOPANS continued during the year. Among other things, new system releases of the TopSky air traffic control system were launched and work on contracted system versions continued. Preparations are underway to modernise the air traffic control system within the next five years. As a result, this year's investments focused on necessary updates to ensure accessibility and security. During the year, LFV worked, through an active role in COOPANS, on the development of System Wide Information Management (SWIM). SWIM is a new standard for the exchange of information between systems in the aviation industry, introduced by an EU regulation in 2025.

In recent years, LFV has developed and invested in infrastructure for remote air traffic control, Remote Tower Services (RTS). In 2023, investments were made in technical solutions for RTS for two of Swedavia's airports, which will be controlled from the remote air traffic control centre (RTC) in Stockholm. A total of four airports will be managed from RTC Stockholm, of which two were launched in 2021, one in 2023, and the fourth is expected to be launched in 2024.

The higher rate of investment in recent years, particularly in Robust Air Traffic Service, has led to challenges in terms of resources and implementation capacity - having enough resources and the right expertise to cope with the higher rate while carrying out maintenance and upkeep. In the next few years, investments are expected to remain at a relatively high level, with investments mainly in ATM, radar, and radio and communication equipment. Work on robustness-enhancing initiatives and projects will continue.



Internal governance and control

LFV's work with internal governance and control is based on the tasks and goals set out in instructions, appropriation directions, and other statutes and government decisions. The process includes risk analysis, control measures, follow-up, documentation, and assessment.

The Government Agency Ordinance (SFS 2007:515) states that the authority must have internal governance and control that functions in a reassuring manner. The Internal Governance and Control Ordinance (SFS 2007:603) places additional requirements on internal governance being integrated into the operations and a tool for senior management's governance.

The internal governance and control process

LFV's activities are planned, managed, and followed up against set targets in a business plan and related financial plan approved by the Board of Directors. This plan is submitted annually, by 1 March at the latest, to the Government in accordance with the Ordinance (SFS 2000:605) concerning the Annual Reports and Budget Documentation. The plans, usually with a five-year perspective, are drawn up taking into account the basic elements: risk analysis, control measures, follow-up, documentation, and assessment. Before each business plan period, planning begins with analyses and strategic discussions to produce goals where both internal and external factors are risk-assessed. This forms the basis for revision of strategies, main goals, business plan, and risks during the plan period.

Internal governance and control are ensured through LFV's organisation, rules of procedure and delegations, policies and guidelines. The process for internal governance and control is largely integrated into LFV's operational control. The process also includes work and control measures to prevent the organisation from being exposed to corruption, undue influence, fraud, and other irregularities. Policies, instructions, etc., and all essential processes, including descriptions, are collected and documented in LFV's Business Management System and document management system.

Follow-up and analysis of outcomes against plans takes place continuously throughout the year, on a monthly and quarterly basis. Reporting to management and the board of directors is made based on main and operational objectives and financial reporting. Other important components in the control environment are the senior management's ongoing communication and dialogues with the organisation, senior management's assessments and decisions, information and built-in controls in processes.

Internal and external audit

LFV is subject to the Internal Audit Ordinance (SFS 2006:1228) and has an established internal audit function. Based on analysis of the risks of the activities, the internal audit examines whether senior management's internal governance and control is designed so that the authority fulfils its tasks with reasonable certainty, achieves the operational goals and meets the requirements set out in the Government Agency Ordinance. The results of the review are continuously reported to the Board. LFV works continuously to deal with the internal audit's observations.

In addition, LFV is subject to several other audits. This includes annual audits by the Swedish National Audit Office and other external audits such as for external grants, ISO audits, certificates and other internal and external quality audits, etc.

Risk management

LFV's risk management is an essential tool for LFV to achieve set goals and thereby limit or prevent unacceptable losses, damages, and disruptions. LFV's risk process is based on set main goals and is integrated into operational planning and follow up.

Risk management is done in five steps, where root causes are determined and risks are evaluated, managed, and reported. Continuous follow up of identified risks focuses on mitigation measures.

Each group entity manages operational, project and process risks within their respective areas of responsibility. Group management and the Board focus on top risks, which risks are considered to have the greatest value-at-risk and that have a clear connection to and significant impact on the main goals. Follow-up is done monthly by the Group management and quarterly by the Board of Directors.

Changing risk profile and measures to strengthen the control environment

During the year, LFV has continued to work on issues relating to IT and information security and the implementation of adopted action plans is ongoing. The new security situation after February 2022 and the increased threat in society at large have had an impact on the risk assessment. The risk level remains at a high level. The security protection analysis and security plan under the security protection legislation have been updated during the autumn. The organisation has also been strengthened around these issues. Work on measures will continue in coming years.

Area (perspective in business plan)	Risk	Description	Management
Operations and delivery	Aviation safety	LFV's air traffic control shall be characterised by a high level of aviation safety and efficiency. To maintain a high level of aviation safety and minimise the probability of aviation safety events occurring, continuous and systematic aviation safety work is conducted at all levels within LFV. The likelihood of a serious event occurring, with the contribution of the performance of LFV's duties, is considered to be very low.	LFV ensures through its processes that changes in operations/systems are analysed, carried out systematically and uniformly through follow-ups of safety criteria and monitoring criteria to minimise aviation safety risks as far as reasonably possible. In addition to investigating each individual incident, LFV works continuously with focus areas. (and where necessary identified problem areas) to proactively manage aviation safety risks. In 2023, two new focus areas have been added based on current trends and identified problem areas. A continuous analysis is made of events within each focus area. Based on these analyses, recommendations are made, which are then followed up.
	Air navigation services in all contingency phases	Extensive work is underway within LFV to strengthen civil defence and crisis capabilities and increase the robustness of the infrastructure. There is a risk that LFV will not achieve sufficient capability within the scheduled time because the crisis and total defence work is not fully established in LFV.	LFV's work on strengthening and further developing the capabilities linked to civil preparedness continues in order to achieve the main objective of a functional total defence. The capabilities being strengthened and further developed relate to technology, organisation and procedures, but also cooperation with external parties.
	Information and IT security	The security situation and the current threat mean that LFV can be affected by events that mean that systems become inaccessible, that information is altered, destroyed or leaked, or that unauthorised persons gain access to it. The need to protect sensitive information has increased.	LFV works with administrative and technical measures to strengthen information and IT security. Based on an action plan, LFV is working to update policy documents, conduct training programmes, and provide ongoing support to operations. The focus is on establishing common security functions, identifying risks and potential impact on LFV systems, improving LFV information management and increasing the number of IT security classifications of systems.
	Drones in the airspace	The increased presence of drones in Swedish airspace means that there is a risk of collisions between drones and manned aircraft, whether due to a lack of expertise among drone pilots, mistakes or malicious intent.	During the year, LFV took a number of initiatives to reduce the risk of drones, such as work with LFV's government assignment linked to unmanned aviation, development of drone services, and information campaigns.
Finances	LFV's finances and funding	LFV's finances in the coming year(s) will be affected by how the EU-regulated fee system develops. There is a risk that the demands for cost efficiencies become greater than the assumptions made in the financial plan and/or that traffic development deviates from LFV's forecast. There are major uncertainties concerning future goals and regulatory frameworks, but also about the funding model with different financiers.	Developments in EU regulatory frameworks and goals have been monitored. LFV has submitted initial information to the Swedish Transport Agency for the next reference period. To gain acceptance, LFV has also had meetings with the Swedish Transport Agency and participated in the consultations that the Agency has organised with the industry. LFV also works on the parts of the operations that are funded by appropriations, grants, or by customers to ensure goal attainment.
	Currency risk	Currency risk is defined as the profit/loss effect that a currency exchange rate can have on LFV's balance.	The risk is limited by hedging on the period of the known future flows. An interval controls the minimum share hedged within a certain period. Currency hedging of en route charges is done according to a specific procedure.
	Credit risk	Credit risk is defined as the risk that the counterparty in a transaction is unable to meet their commitment. LFV has a large surplus liquidity associated with pension liability to manage.	To limit credit risk when investing, counterparties, instruments, maturities, and permitted investments are regulated in LFV's financial policy. Investment may be made in treasury bills, government bonds, deposits into banks supervised by Finansinspektionen, certificates with counterparties wholly-owned by the Swedish central government or with a corresponding credit rating of K1 and in bonds with counterparties wholly-owned by the Swedish central government or with a minimum credit rating of A (Standard & Poors) and A2 (Moody's).
Other risks	Fraud and corruption	Overall, LFV's protection against fraud, corruption, bribery and other irregularities is deemed adequate.	The main activities are regulated and monitored by the Swedish Transport Agency. LFV's organisation, rules of procedure and delegations, regulatory framework, instructions, processes, etc., are defined and documented. In addition, there are other documents that help to clarify regulatory frameworks and LFV's position on these issues.

Financial statements LFV 2023



Income statement

		GROUP		STATE-OWNED ENTERPRISE	
Million SEK	Note	2023	2022	2023	2022
OPERATING REVENUE					
Aviation revenue	1	2,880	2,233	2,880	2,233
Work performed by the company for its own use and capitalised		72	67	49	31
Revenue from grants		347	213	347	213
Other operating revenue	2	285	277	198	196
TOTAL OPERATING REVENUE		**3,584**	**2,790**	**3,474**	**2,673**
OPERATING EXPENSES					
Staff costs	3	–2,177	–1,949	–2,018	–1,799
Miscellaneous external costs	4	–623	–557	–668	–570
Depreciation and write-downs of tangible and intangible fixed assets	5	–360	–341	–285	–258
TOTAL OPERATING EXPENSES		**–3,160**	**–2,848**	**–2,970**	**–2,627**
Income from participations in associated companies	6	9	10	—	—
OPERATING PROFIT/LOSS		**432**	**–48**	**503**	**46**
INCOME FROM FINANCIAL INVESTMENTS					
Income from participations in Group companies	7	0	—	–65	—
Interest income	8	158	34	153	33
Interest expenses and similar income statement items	9	–539	–2	–539	–2
TOTAL FINANCIAL ITEMS		**–380**	**32**	**–451**	**31**
PROFIT/LOSS AFTER FINANCIAL ITEMS		**52**	**–16**	**53**	**77**
Tax/tax equivalent on the profit/loss for the year	10	–1	0	—	—
PROFIT/LOSS FOR THE YEAR		**51**	**–16**	**53**	**77**
Added:					
Actuarial revaluation of pension liability	19, 20	–58	10	–58	10
COMPREHENSIVE INCOME AFTER REVALUATION OF PENSION LIABILITY		**–6**	**–6**	**–5**	**87**

Comments on income statement

Unless otherwise stated, all amounts are reported in million SEK. Information in brackets refer to the previous year.

The LFV Group (LFV)'s profit after financial items amounts to SEK 52 million (–16). Comprehensive income after actuarial revaluation of the pension liability amounts to SEK –6 million (–6). The financial plan (budget) for 2023, the budget data submitted in the three-year plan to the Government on 1 March 2023, showed a profit/loss after financial items of SEK 0 million and a comprehensive income of SEK –57 million.

The fact that the result is better than budget and the previous year is mainly due to higher aviation revenue due to the design of the so-called charging scheme. In terms of costs, personnel costs and financial costs in the form of interest/indexation of pension liabilities increased the most compared with 2022. The higher aviation revenue is due to compensation for the higher pension costs and other revenue adjustment attributable to inflation, traffic development, etc. The profit of SEK 121 million according to the forecast in the interim report as of 30 September 2023 was SEK 121 million. The deviation in outcome is mainly due to write-down of consolidated goodwill of SEK 66 million as of 31 December 2023.

Operating revenue

Operating revenue amounts to SEK 3,584 million (2,790), an increase of SEK 794 million.

Aviation revenue

Of total operating revenue, the outcome for aviation revenue is SEK 2,880 million (2,233), corresponding to 80 percent (80) of total revenue, of which en route and terminal charges amounted to SEK 2,332 million (1 800).

LFV's revenue for en route air navigation services and for Terminal Stockholm-Arlanda are based on decided fee levels and the number of service units. Service units en route increased in 2023 by 7.8 percent compared to 2022 (–30.2 percent compared to 2019).

For 2023, the Swedish performance plan for RP3 (2020–2024) was decided by the EU. The fees for 2023 are thus determined and not just preliminary as they were for invoicing in 2022. En route charges for 2023 have been increased by 22.8 percent and terminal fees by 18.3 percent compared to 2022. The fee changes result in higher billed revenue per service unit. The 2023 charges include a first seventh of the deficits from 2020–2022 to be imposed on the fee over a seven-year period starting in 2023.

The RP3 regulatory framework (as for RP2) has a built-in risk-sharing mechanism for traffic and inflation. It links to the actual traffic outcome and the actual inflation compared to the forecasts on which the performance plan is based, and affects the size of fee revenue. For 2023, the effect of the risk-sharing mechanism for air traffic has been calculated based on the difference between Eurocontrol's forecast from June 2022, which is used in the adopted performance plan, and LFV's forecast from December 2022. Effects have also been calculated regarding the difference between the inflation forecast in the performance plan and actual inflation in 2023. In accordance with the regulatory framework, revenue have also been reserved for uncontrollable pension costs where the difference between the performance plan and outcome has been reserved as a receivable for 2023.

Regarding the terminal charges for Stockholm-Arlanda, a reserve has been made for a fine of just under SEK 3 million as the capacity target was not reached in 2023.

Revenue adjustment items amount to a total of SEK 381 million (357). A final reconciliation has been made in the annual accounts of the revenue from en-route and terminal charges for the years 2020–2022 with documentation from the Swedish Transport Agency. The reconciliation has had a positive impact on revenue in 2023 of SEK 50 million.

Compensation for local air navigation service at state and military airports amount to SEK 549 million (433). Higher revenue compared to the previous year is mainly due to compensation for the higher pension costs that LFV has in 2023 compared to 2022 and by increased opening hours at the airports.

Work performed by the company for its own use and capitalised

The value of work performed by the company for its own use and capitalised attributable to investment projects amounts to SEK 72 million (67).

Revenue from grants

Grant revenue amounts to SEK 347 million (213). The outcome for the year is attributable to the appropriation items Civil Defence, Air Navigation Infrastructure and Unmanned Aviation in expenditure area 22. Grant operations have gradually increased in recent years and are higher for 2023 compared to 2022 for all three framework grants, totalling SEK 134 million. The outcome is SEK 48 million lower than budget.

Other operating revenue

Other operating revenue amounts to SEK 285 million (277), of which revenue from commercial services amounts to SEK 173 million (167). Grant income amounts to a total of SEK 107 million (106). LFV received EU grants for the financing of investment and development activities. Grants for research and innovation are received both from the EU and from the Swedish Transport Administration to develop and streamline air navigation services.

Operating expenses

Operating expenses amount to SEK 3 160 million (2 848), an increase of SEK 312 million.

Staff costs

Staff costs amount to SEK 2,177 million (1,949), an increase of SEK 228 million. However, the outcome for staff costs is in line with the 2023 budget.

Salary costs are SEK 48 million higher than last year, and social security costs, including pensions, are SEK 177 million higher. A larger number of employees and an annual salary review explain the difference in salary costs between the years. Higher social security contributions come with higher salary costs. In addition, the costs of defined-benefits

pensions in accordance with PA 16 increased in 2023. The year's provision to the pension liability for earned pensions is SEK 141 million higher in 2023 compared with 2022, which is partly an effect of the increased price and income base amounts between the years.

Miscellaneous external costs

Miscellaneous external costs for the year amount to SEK 623 million (557), a cost increase of SEK 66 million compared to the previous year.

Costs that have mainly increased compared to 2022 are for maintenance of telecommunications equipment, electricity for own properties, data communication, licenses, training of new air traffic controllers, and travel. The increased level of activity in grant operations explains part of the higher outcome for the year. External costs are higher than budget for the year and are to some extent met by higher commercial revenue.

Depreciations and write-downs

Depreciations and write-downs amount to SEK 360 million (341). The outcome for the year is attributable to depreciations and write-downs of intangible and tangible fixed assets. Construction in progress has been written down by SEK 21 million. These are projects that have been ongoing for some time and that have had changed conditions before they were completed, which has meant that the future benefit cannot be estimated with certainty and thus parts of the projects have been written down.

The outcome for 2023 was affected by a write-down of acquisition goodwill in the LFV Holding Group attributable to subsidiaries of SEK 66 million.

Financial items

The total financial revenue and costs amounted to SEK -380 million (–32).

The pension liability carries interest and annual indexation, which are recognised as financial items in the income statement. Other changes to pension entitlement and earnings for the year, etc., are reported as staff costs.

The net interest and indexation of the pension liability in 2023 is SEK –538 million (6) and is the major explanation for the difference between the years.

The indexation of the debt on 1 January 2023 amounted to SEK –664 million due to the Government raising the price base amount by 8.7 percent between 2022 and 2023, which reflects the high inflation. However, the interest on the debt for the year is positive, SEK 126 million, as a result of the net interest rate being –1.51 percent for the year. The higher interest/indexation costs are matched by a higher return on cash and cash equivalents.

Thanks to a higher interest rate situation, the return on short-term investments and bank balances is SEK 130 million higher than in 2022. Net financial items are SEK 20 million better than budget due to the higher return on cash and cash equivalents.

The state-owned enterprise reports profit/loss from participations in group companies of SEK –65 million. Holdings in subsidiaries have been written down as a result of the write-down of goodwill in the LFV Holding subgroup. Book value as of 31 December 2023 corresponds to equity in the Holding Group.

Revaluation of the pension liability due to change in calculation bases

Actuarial revaluation of the pension liability on 1 January 2023 resulted in an increase in the liability of SEK 58 million (2022 decrease by SEK 10 million). The revaluation is recognised in non-restricted equity and as an additional item in Other comprehensive income after revaluation of the pension liability. The parameter that was changed in the 2023 calculation bases, which the National Government Employee Pensions Board's board of directors decided on in November 2022, is the mortality assumption. The gross and net interest rates for 2023 are the same calculation bases as for 2022, i.e. the gross interest rate is –1.5 percent and the net interest rate is –1.51 percent.

The 2024 calculation bases were adopted in November 2023 by SPV's Board of Directors. The gross interest rate was raised from –1.5 percent to +0.5 percent. This means an actuarial revaluation as of 1 January 2024 that reduces the liability by SEK 3,244 million. On the other hand, the liability will continue to be subject to relatively high indexation in 2024 as a result of the price base amount change in 2023/2024, which is due to the continued high inflation rate in 2023. The effect of the change to the 2023 calculation bases will be reported as of 1 January 2024 in the 2024 Annual Report.

LFV Holding

The Group's turnover amounts to SEK 283 million (253) and Profit/loss after financial items to SEK –60 million (–86).

The turnover mainly stems from the subsidiary Aviseq Critcal Communications AB (AVISEQ), which provides services to LFV. LFV is the single largest customer. Intra-group purchases and sales between LFV and subsidiaries are eliminated in LFV's consolidated accounts.

In addition to subsidiaries, the result in the Holding Group also comes from participation in the profits of LFV's associated companies, which are reported in the Group using the equity method.

In 2023, the subsidiary LFV Norway AS was wound up through voluntary liquidation.

Result for the financial year was negatively affected by the write-down of goodwill in the consolidated accounts of SEK –66 million (–65). The written-down goodwill item is attributable to LFV Holding AB's acquisition of AVISEQ in 2020. In December 2023, LFV's Board of Directors decided to transfer the operations of AVISEQ to the state-owned enterprise. In the write-down test as of 31 December 2023, the decision on the change, which is expected to take place in 2024 and encompass all of AVISEQ's operations and staff, has resulted in a write-down of the acquisition goodwill in LFV Holding Group that was included in the consolidated accounts to zero.

Annual reports for the financial year 2023 for LFV Holding AB and its subsidiaries and associated companies have not yet been adopted at each respective 2024 Annual General Meeting.

Balance sheet

		GROUP		STATE-OWNED ENTERPRISE	
Million SEK	Note	23-12-31	22-12-31	23-12-31	22-12-31
ASSETS					
Fixed assets					
Intangible fixed assets					
Goodwill	11	—	77	—	—
Software rights and other intangible assets	11	565	581	573	588
Total intangible fixed assets		**565**	**658**	**573**	**588**
Tangible fixed assets					
Buildings	12	222	221	222	221
Maintenance expenses on third-party property	12	18	18	18	18
Installations in the field	12	2	2	2	2
Electrical installations	12	8	11	8	11
Telecommunications equipment	12	1,141	1,039	1,151	1,044
Vehicles, machinery, etc.	12	44	13	40	11
Contingency equipment	12	1	1	1	2
Stockpile	12	2	2	2	1
Leased fixed assets	12	1	1	1	1
Construction in progress	12	456	408	466	418
Total tangible fixed assets		**1,895**	**1,717**	**1,912**	**1,730**
Financial fixed assets					
Holdings in subsidiaries	13	—	—	234	299
Holdings in associated companies	14	57	55	—	—
Other long-term receivables	15	3,808	3,473	3,808	3,473
Total financial fixed assets		**3,865**	**3,528**	**4,042**	**3,771**
TOTAL FIXED ASSETS		**6,325**	**5,903**	**6,526**	**6,089**
Current assets					
Current receivables					
Accounts receivable – trade		53	77	34	58
Receivables from subsidiaries		0	0	13	13
Receivables from associated companies		6	3	6	3
Tax assets		1	5	—	—
Other receivables	16	846	733	844	725
Prepaid expenses and accrued income	17	352	218	343	214
Total current receivables		**1,258**	**1,036**	**1,239**	**1,013**
Short-term investments	18	2,763	2,335	2,763	2,335
Cash and bank		1,959	1,941	1,776	1,783
Total cash and cash equivalents		**4,722**	**4,276**	**4,539**	**4,118**
TOTAL CURRENT ASSETS		**5,981**	**5,312**	**5,779**	**5,131**
TOTAL ASSETS		**12,306**	**11,214**	**12,305**	**11,220**

Balance sheet

Continuation

Million SEK	Note	GROUP 23-12-31	GROUP 22-12-31	STATE-OWNED ENTERPRISE 23-12-31	STATE-OWNED ENTERPRISE 22-12-31
EQUITY AND LIABILITIES					
Equity					
Restricted equity	19				
Public capital		202	202	202	202
Restricted reserves		310	309	252	252
Total restricted equity		**512**	**510**	**453**	**453**
Unrestricted equity	19				
Profit/loss brought forward		166	241	252	232
Public capital without required return		12	7	12	7
Profit/loss for the year		51	–16	53	77
Total unrestricted equity		**229**	**232**	**317**	**317**
Total equity		**741**	**742**	**771**	**770**
Provisions					
Interest-bearing provisions					
Pension provisions	20	10,553	9,436	10,553	9,436
Non-interest-bearing provisions					
Other provisions	21	36	37	35	36
Total provisions		**10,589**	**9,473**	**10,588**	**9,473**
Long-term liabilities					
Interest-bearing liabilities					
Liabilities to leasing companies	22	1	1	1	1
Non-interest-bearing liabilities					
Other non-interest-bearing liabilities	23	108	102	108	102
Total long-term liabilities		**109**	**103**	**109**	**103**
Current liabilities					
Non-interest-bearing liabilities					
Accounts payable – trade		256	189	237	166
Liabilities to subsidiaries		0	0	25	28
Liabilities to associated companies		9	5	9	5
Other non-interest-bearing liabilities	24	334	419	317	408
Accrued expenses and deferred income	25	268	283	249	267
Total current liabilities		**867**	**895**	**837**	**874**
TOTAL EQUITY AND LIABILITIES		**12,306**	**11,214**	**12,305**	**11,220**
Memorandum items					
Contingent liabilities	26	0	1	50	51
Pledged assets		None	None	None	None

Funds statement

		GROUP		STATE-OWNED ENTERPRISE	
Million SEK	Note	2023	2022	2023	2022
Operating activities					
Profit/loss after financial items		52	–16	53	77
Adjustment for items not included in cash flow etc.	27	1,423	739	1,412	654
		1,475	**723**	**1,465**	**732**
Tax equivalent		4	–1	—	—
Cash flow from current operations before changes to working capital		**1,479**	**722**	**1,465**	**732**
Cash flow from changes in working capital					
Change in current receivables		–147	–20	–147	–16
Change in short- and long-term receivables in the charging scheme	27	–343	–235	–343	–235
Change in current liabilities		15	–37	8	–43
Change in short- and long-term liabilities in the charging scheme	27	–38	–125	–38	–125
Cash flow from operating activities		**966**	**304**	**944**	**312**
Investment activities					
Change in intangible fixed assets		–77	–57	–78	–16
Change in tangible fixed assets		–369	–324	–374	–327
Investments in financial assets		–2	–10	—	—
Increase in other long-term receivables		–71	–75	–71	–75
Cash flow from investment activities		**–519**	**–466**	**–523**	**–460**
Financing activities					
Change in liabilities		0	0	0	0
Cash flow from financing activities		**0**	**0**	**0**	**0**
Cash flow for the year		**446**	**–161**	**421**	**–148**
Cash and cash equivalents at the beginning of the year		**4,276**	**4,437**	**4,118**	**4,267**
Cash and cash equivalents at the end of the year		**4,722**	**4,276**	**4,539**	**4,118**

Statement of appropriations

Appropriations (thousand SEK)	Opening carryover	Allocation for the year according to appropriation directions	Reallocated appropriations	Withdrawal	Total amount available	Expenditure	Closing carryover
Expenditure area 22 Communications							
22 01 001 002 Civil Defence to LFV	4,128	83,774	—	–2,937	84,965	–64,365	20,600
22 01 017 001 Air Navigation Infrastructure	121,660	351,000	—	–121,660	351,000	–276,968	74,032
22 01 019 001 Unmanned Aviation	3,444	30,000	—	—3,444	30,000	—10,438	19,562
22 01 020 001 Contribution to LFV (closed)	870,240	—	—	–870,240	—	—	—
	999,472	**464,774**	**0**	**–998,280**	**465,965**	**–351,772**	**114,194**

Comments on balance sheet, funds statement and statement of appropriations

Unless otherwise stated, all amounts are reported in million SEK. Information in brackets refer to the previous year.

Fixed assets

Total intangible and tangible fixed assets amount to SEK 2,460 million (2,375) as of 31 December 2023. Investments for the year amount to SEK 452 million (385), of which SEK 337 million (268) are investments attributable to the publicly funded operations Total Defence and Robust Air Traffic Service. The remainder is mainly in Air Navigation Services.

This year's investment outcome is lower than LFV's budget for 2023, and also lower than planned according to the appendix to LFV's appropriation directions, which amounted to SEK 607 million. This is mainly attributable to investments in ATM equipment and is due to postponed timetables.

Long-term receivables and liabilities

Long-term receivables amount to SEK 3,808 million (3,473) and long-term other non-interest-bearing liabilities to SEK 108 million (102). The long-term net receivable attributable to the charging scheme has increased by SEK 307 million and is due to how en route and terminal charges shall be regulated in accordance with the regulatory framework.

The difference between invoiced revenue and compensation for each year, including different revenue adjustment items according to the regulatory framework, is reported as long-term receivables and long-term liabilities, respectively. LFV accrues the recoverable deficit for the year and previous years. The part expected to be settled within the next 12-month period is reported as current other receivables and other current non-interest-bearing liabilities, respectively.

From reference period 2 (RP2), there are receivables attributable to uncontrollable cost increases regarding pensions. Long-term receivables from RP2 will be settled over a period of nine years starting in 2021 and long-term receivables from RP3 over a period of seven years starting in 2023. Of the long-term net receivables as of 31 December 2023, SEK 773 million (928) refers to RP2 and SEK 2,838 million (2,356) to RP3.

Other long-term receivables amount to SEK 196 million (124) and refer to prepaid rents for a 10-year period relating to the period after 31 December 2023. Short-term part, SEK 24 million (15), is recognised as a prepaid expense.

Current receivables

Current receivables amount to SEK 1,258 million (1,036). The item and the year-to-year increase are mainly attributable to the short-term portion of receivables within the settlement of the charging scheme; the part that will be settled in 2024 by being added to the charge in 2024 and invoiced to the users of Swedish airspace.

Cash and cash equivalents

Cash and cash equivalents on the balance sheet date amount to SEK 4,722 million (4,276). An increase of SEK 446 million since the start of the year. The positive cash flow is explained by higher invoicing of the charge to users due to more service units and higher charges. Of cash and cash equivalents, SEK 2,763 million (2,335) are invested in short-term certificates that mature in 2024.

Provisions for pensions

As of 31 December 2023, provisions for pensions including special payroll tax amount to SEK 10,553 million (9,436). The change for the year consists of accrued pension benefits of SEK 674 million (533), pensions paid including paid payroll tax SEK –152 million (–132), interest/indexation SEK 538 million (–6) and changed calculation bases of SEK 58 million (–10). Reported liability on the balance sheet date amounts to the pension obligation calculated by the National Government Employee Pensions Board in accordance with the current year's liability bases.

Tax and dividends

Tax equivalent for the year amounts to SEK –1 million (0). According to the 2023 appropriation directions, the Government does not intend to withdraw any dividend for the year. Therefore, no dividend is proposed.

Profitability and solidity

The Government is not imposing any profitability or solvency requirements during 2021–2024 to give LFV the chance to deal with negative effects of the COVID-19 pandemic. Previously, LFV's financial targets were that the return on equity after tax equivalent over a business cycle should amount to 4 percent and the equity/assets ratio should correspond to 15 percent in the long term. The profitability is 7 percent (negative) and the solidity amounts to 6 percent (7).

Funds statement

Cash flow for the year amounts to SEK 446 million (–161). Cash flow from operating activities amounts to SEK 966 million (304). Of the change, the change in receivables and liabilities in the charging scheme accounted for SEK –381 million (–360), i.e. the change in both current and long-term receivables and other non-interest-bearing liabilities attributable to the charging model for en route charges. This change was reported in the previous year in the funds statement under financing activities. The comparison year in this year's annual report has been changed and follows the 2023 classification, which provides an overall picture of cash flow from the activities.

Cash flow from investment activities is SEK –519 million (–466). Cash flow from financing activities is SEK 0 million (0).

Statement of appropriations

LFV disposes of appropriations through three framework grants within expenditure area 22; Civil Defence, Air Navigation Infrastructure and Unmanned Aviation. Total amount available for the year was SEK 466 million (348). LFV allocates funds for administrative and other preparedness and civil defence expenditure in the field of transport and expenditure on investments in certain infrastructure for air navigation services. The third appropriation, Unmanned Aviation, may be used for LFV's work and services for unmanned aviation.

The scope of the publicly funded activities increased. Expenditure on Air Navigation Infrastructure is higher than last year and amounts to SEK 277 million (177). Previous and current year's investments in Robust air traffic service entail increased depreciation and operating costs, and new initiatives and activities have also been implemented during the year to increase the robustness of air navigation services. However, the outcome is lower than the allocated framework and budget. Projects, investments and other measures are somewhat later than previously planned.

The outcome for Civil Defence, SEK 64 million (37), is also higher than last year, although the balance has not been used up.

Appropriations attributable to investments in Air Navigation Infrastructure (RF) are allocated in line with depreciations. Contingency assets and other investments attributable to total defence work are financed by the appropriation Civil Defence at the time of acquisition.

The year's expenses for work with unmanned aviation amount to SEK 10 million (5) and relate to the previous year's government assignment and the expanded assignment LFV received in the instruction for 2023. The work to establish systems and services for unmanned aviation has begun.

Accounting and valuation principles

Accounting principles

LFV's accounts for the state-owned enterprise and the Group comply with the Ordinance (SFS 2000:605) concerning the Annual Reports and Budget Documentation (FÅB) and ESV's regulations and general guidance, as well as the requirement for Generally Accepted Accounting Principles pursuant to the Bookkeeping Ordinance (SFS 2000:606). To the extent that there is no standard directly targeting public authorities and government agencies, LFV applies, as reported in the respective sections below, the valuation rules set out in the Swedish Accounting Standards Board's General Guidelines BFNAR 2012:1 Annual Report and Consolidated Accounts (K3).

LFV's subsidiaries draw up annual reports in accordance with the Swedish Annual Accounts Act and BFNAR 2012:1 Annual Report and Consolidated Accounts (K3).

The accounting principles and the formatting of the income statement and balance sheet in general are unchanged compared to the previous year.

Format and supplementary information

Income statements and balance sheets and funds statements have been formatted in accordance with the rules applying to state-owned enterprises and state-owned enterprise groups. As of 2020, reporting of actuarial revaluation of the pension liability has, where applicable, been added to the income statement. LFV thereby reports comprehensive income after revaluation of pension liabilities.

Consolidated accounts

LFV draws up consolidated accounts. The consolidated accounts include the state-owned enterprise and the group companies in which the state-owned enterprise directly or indirectly holds more than half of the votes for all shares or otherwise exercises a controlling influence (subsidiaries) and the other companies (associated companies) in which the state-owned enterprise has a significant influence as a result of shareholdings. All intra-group balances are eliminated upon consolidation.

Principles for the Group's reporting of deferred tax are described below under the heading Taxes and tax equivalent.

Subsidiaries

Companies in which LFV directly or indirectly holds more than half of the votes for all shares or otherwise exercises a controlling influence are classified as subsidiaries. Subsidiaries are consolidated in the consolidated accounts in accordance with the acquisition method. The acquisition date is the date on which the controlling influence is obtained.

Subsidiaries in other countries draw up their annual reports in foreign currencies. Upon consolidation, the items in the balance sheets and profit and loss accounts of these companies are converted using the exchange rate on the balance sheet date and the spot rate, respectively, for the day each transaction took place. The exchange differences that arise are recognised in accumulated exchange differences in the Group's equity.

Associated companies

Companies in which the state-owned enterprise or LFV Holding AB, through holding more than 20 percent and no more than 50 percent of the votes, can exercise significant influence are reported as associated companies. Associated companies are recognised in the consolidated accounts using the equity method.

Areas of operation and geographical markets

LFV's operations consist of four main fields of activity: Air Navigation Services, Total Defence and Robust Air Traffic Service, Other commercial activities, and Research and Innovation. Operations are conducted almost exclusively in Sweden. A minor part originates from markets outside Sweden.

Revenue recognition

Revenue are recognised to the extent it is likely that the economic benefits will accrue to the Group, and these benefits can be reliably calculated. Intra-group turnover is eliminated in the consolidated accounts. The principles applied are essentially consistent with BFNAR 2012:1 (K3), Chapter 23 Revenue, which the subsidiaries apply for revenue recognition. Revenue are recognised at the fair value of what has been or will be received, with deduction for discounts.

Appropriations are reported and settled in accordance with the Appropriations Ordinance (SFS 2011:223). With respect to investments within the scope of publicly funded activities, appropriations are settled at the rate of depreciation, except for contingency assets and stockpile, which are funded by appropriations at the time of acquisition.

Grants are recognised as income upon receipt if the purpose of the grant is for it to be used by LFV and if there is no repayment obligation or if the probability of repayment obligation is small. Grants that are subject to repayment obligations are also recognised as revenue if such obligation arises only if the state-owned enterprise does not comply with the conditions and regulations of the grant in question or if something unexpected occurs that disrupts the conditions for the grant. Unused grants are accrued to cover future costs and are recognised under the item Other current liabilities.

Interest and dividends are recognised as revenue when it is likely that the Group will receive the financial benefits associated with the transaction and that the income can be reliably calculated.

Valuation of ongoing service assignments

For service assignments on current account, the income attributable to a completed service assignment is recognised as revenue when the services are rendered and/or materials are delivered or used.

For fixed-price service assignments, the income and expenditure attributable to a completed service assignment are recognised as revenue and cost, respectively, in relation to the degree of completion of the assignment on the balance sheet date (successive profit settlement). An assignment's degree of completion is determined by comparing expenditure incurred at the balance sheet date with estimated total expenditure. When the outcome of an assignment cannot be calculated with reasonable certainty, revenue is recognised only to the extent equivalent to the expenditure incurred for the assignment that are likely to be reimbursed by the purchaser. Known or anticipated losses are immediately recognised as a cost.

General valuation principles

Unless otherwise stated below, assets, liabilities, and provisions have been valued at cost of acquisition.

Fixed assets

Intangible fixed assets

Expenditure on development of significant value to the operations in coming years is recorded as an intangible fixed asset, provided all the conditions specified in the regulations exist. LFV reports expenditure for purchased licenses and other software whose useful life is estimated to exceed three years and externally acquired materials and services for the development and production of intangible assets as intangible assets when they otherwise meet the criteria for being recognised as assets.

Expenditure for internally generated development (Work performed by the company for its own use and capitalised) is added to the cost of acquisition when the criteria for capitalisation are otherwise met.

Research expenditure are not in any case recorded as a fixed asset.

Straight-line depreciation is made according to plan throughout the asset's useful life. The useful life of an intangible fixed asset is more than five years in cases where it can be determined with a reasonable degree of certainty that the useful life is longer, as is mainly the case for operational air traffic management systems and goodwill.

Tangible fixed assets

Tangible fixed assets are valued at their acquisition value with a deduction for planned depreciation. Expenses for time spent in production of fixed

assets are added to the acquisition value. Where appropriate, write-downs are performed in the manner indicated below. Planned depreciation is calculated by accruing the acquisition value linearly over the course of the estimated useful life.

Depreciation begins when an asset is ready to be used for its intended purpose. When an asset includes significant components with different useful lives, the rules on so-called component depreciation are applied. Depreciation periods are continuously reassessed.

Ongoing investment projects related to tangible fixed assets are reported under the heading Construction in progress. The item also includes advance payments to suppliers relating to tangible fixed assets.

Depreciation according to plan:

Software rights and other intangible assets	3–12 years
Goodwill	10 years
Installations in the field	15–30 years
Buildings	15–30 years
Maintenance expenses on third-party property	5–10 years
Electrical installations	5–20 years
Telecommunications equipment	4–15 years
Vehicles, machinery and equipment	3–15 years
Contingency assets	3–20 years
Stockpile	-- years
Leased assets	3–5 years

When there are indications that an asset has decreased in value, the need for write-downs is assessed using ESV's general guidance, Chapter 5, Section 5, Write-downs.

Leasing

Leasing is classified as either financial or operational leasing. Agreements classified as financial leasing, mainly vehicles, are reported as fixed assets with a nominal cost of acquisition with deduction for planned depreciation, and obligations to make future lease payments are recognised as liabilities. Operating lease expenses are expensed on a straight-line basis over the lease term.

Financial instruments

Financial instruments primarily held to generate yield or appreciation are valued at fair value unless otherwise indicated below. The fair value is determined based on the market value of the instrument. The change in value since the previous balance sheet date is reported in the income statement.

Financial instruments not held to generate yield or appreciation are valued at amortised cost using the effective interest method, with the exception of shares in wholly and partly owned companies, financial guarantee contracts, and leasing agreements.

The following financial instruments may not be valued at fair value:

1. financial instruments held to maturity
2. loan claims and other claims arising from the activities and that are not held for trading purposes
3. shares and participations in wholly or partly owned companies
4. liabilities, with the exception of liabilities included as part of a trading portfolio.

Financial instruments held to maturity are financial assets and financial liabilities with fixed or determinable payments and fixed maturities and which the Group intends to keep until maturity. Loan claims and other claims are financial assets with fixed or determinable payments but that are not derivative instruments. Amortised cost is the amount at which a financial asset or financial liability is recognised after acquisition, taking into account:

- accrual of accrued interest using the effective interest method
- repayment of principal
- any write-downs.

A financial asset or financial liability is recognised in the balance sheet when the Group becomes a party to the contractual terms of the financial instrument. Independent sales are recognised each trading day.

Accounts receivable – trade

Accounts receivable are recorded with the amount with which they are expected to be received. Provision for expected risk of loss relating to outstanding accounts receivable is made following individual assessment.

Receivables and liabilities in foreign currencies

Monetary receivables and liabilities in foreign currency are converted at the exchange rate on the balance sheet date. Hedged monetary receivables and liabilities are recognised based on the hedged rate.

Non-monetary receivables and liabilities are recognised at the rate at the time of acquisition. Revaluation of non-monetary items in foreign currency is recognised at the exchange rate on the day of the revaluation.

Exchange rate differences are recognised in the income statement for the financial year in which they arise. Exchange gains are recognised as financial revenue and exchange losses as financial costs under the heading where the difference occurred.

Public capital/equity

Non-restricted equity includes public capital without required return, which refers to appropriation funds that the public authority has used to fund fixed assets.

Provisions and contingent liabilities

A provision is defined as a liability of an uncertain amount and/or uncertain date when it will be settled. A provision is reported in the balance sheet when:

1. the Group has an obligation (legal or informal) as a result of a past event,
2. an outflow of resources is likely to be required to settle the obligation,
3. a reliable estimation of the amount can be made.

Restructuring provisions are made when there is an adopted and detailed restructuring plan in place and the concerned parties have been notified. Future commitments regarding agreements with employees concerning occupational or partial pensions, paid leave of absence, or those who have been made redundant due to a shortage of work where a future commitment through the Swedish Job Security Foundation may be invoked are also recognised under Provisions.

The Group discounts obligations that are expected to be settled after more than 12 months. The increase in the provision due to the passing of time is recorded as an interest expense.

Pensions

As of 1 January 2016, an occupational pension agreement applies to government employment, PA 16, which consists of two sections. Section 1 is a wholly defined-contribution plan and applies to employees born in 1988 and later. Section 2 is a defined-benefits plan and to some extent a defined-contribution plan. Defined-benefits pensions in accordance with PA 16 section 2 apply to employees born from 1943 to 1973 or employees with an annual income of not less than 7.5 times the income base amount (2023 SEK 557,250; 2022 SEK 532,500).

Persons born before 1943 and with a retirement age of 65 years are covered by PA-91. For air traffic controllers, PA-91 applies if they were born before 1948.

The pension liability includes defined-benefits retirement pension, survivor's pension, disability pension, and temporary retirement pension (60–65 years) for air traffic controllers. With the introduction of PA16, the exception for temporary retirement pensions from age 60 does not apply for air traffic controllers born in 1988 or later.

The pension liability is calculated by the National Government Employee Pensions Board (SPV) using the safeguarding bases and means that earned pension rights are discounted to present value. The calculation is based on the current interest rate in accordance with SPV's board of directors' decision on actuarial bases for calculating pension liability. The adopted gross interest rate is calculated by Finansinspektionen as an average of the interest rate for long-term treasury inflation protected

securities for the period 1 October to 30 September of the previous year.

The defined-benefits part is adjusted upwards annually with the change in the price base amount.

Valuation is made according to the current year's calculation basis. The present value of the pension liability as of 31 December 2023 has been calculated using the 2023 calculation bases. Gross interest is –1.5 percent less overheads of 0.1 percent, i.e. a net interest rate of –1.51 percent. The net present value of the pension liability as of 31 December 2022 was calculated using the 2022 calculation bases. The gross and net interest rates are the same for both years. The difference in the calculation bases is due to the modified mortality assumption in 2023. The effect of actuarial revaluations of the pension liability in 2023 amounts to SEK –57 million (2022: SEK 10 million) including special payroll tax. According to ESV's regulations and general guidance for the Ordinance (SFS 2000:605) concerning the Annual Reports and Budget Documentation, Chapter 4, Section 2, this effect is recognised directly against non-restricted equity instead of in the income statement. LFV has also chosen to present actuarial revaluation of the pension liability as an addendum to the income statement.

Provision for the pension liability for earned pension benefits and interest accruing from the liability are expensed. The interest portion is recognised under financial revenue and costs. The interest element includes the value hedging of pension benefits (annual indexation).

The pension liability includes commitments regarding both active staff and pensioners. Non-vested commitments regarding staff with an earlier retirement age than 65 are fully included in the liability, as these pension provisions are expected to be fully utilised. The state-owned enterprise pays special payroll tax on pensions paid. Provision for special payroll tax has therefore been recognised as pension liabilities at the end of the financial year. LFV's pension obligations, as set out above, are recognised under Provisions.

Contingent liabilities

Obligations resulting from past events that are not recognised as liabilities or provision because the size of the obligation cannot be calculated with sufficient reliability, or it is unlikely that an outflow of resources will be required to settle the obligation, are recognised as contingent liabilities.

Potential obligations resulting from past events, the existence of which is confirmed only by the occurrence or absence of one or more uncertain future events, which are not fully within the Group's control, are also recognised as contingent liabilities.

Taxes and tax equivalence and VAT

LFV's subsidiaries report current tax and thus pay income tax. The state-owned enterprise LFV is not liable for income tax, but LFV applies Chapter 10 of ESV's Special provisions for public utilities, and complies with the Government's regulations on so-called tax equivalent. This means that the public enterprises must pay to the State an amount corresponding to the income tax that would have been paid if the activities had been conducted in the form of a limited company. The tax rate is 20.6 percent.

The current tax equivalent for the year is calculated based on the profit/loss reported in the consolidated financial statements, with deduction for tax allocations corresponding to the balance sheet allocations that limited companies can use, with supplements for non-deductible items and non-taxable revenue. Deductions are also made for the income tax paid by the subsidiaries. The final amount of this year's tax equivalent to be paid is determined by the Government in connection with the adoption of LFV's annual report.

Deferred tax is reported on differences between recognised and taxable values, loss carryforwards and temporary differences if it is probable that they will be paid. Deferred tax assets on loss carryforwards are only recognised if it is probable that they will be able to be used against taxable profits in the future.

LFV pays special payroll tax on pension costs and is liable to pay tax under the VAT Act. As of 2009, LFV is not entitled to deduct VAT attributable to the exercise of official authority, referring to LFV's charging of air navigation fees. However, LFV receives compensation for input VAT, pursuant to the Ordinance (SFS 2002:831) concerning public authorities' rights to compensation for input VAT.

Profitability and solidity

Profitability is calculated as the profit/loss for the year after tax equivalent divided by average equity. Solidity is calculated as equity divided by total assets on the balance sheet date.

Other

The limit for accruals in the annual accounts of deferred and accrued income and expenses, respectively, amounts to SEK 30,000.

Regarding rounding of amounts stated in the annual report, the figures reported in tables and graphs have in some cases been rounded. This means that the sum of these does not always add up to the amount stated. In texts and tables, figures between 0 and 0.5 are shown as 0. A dash indicates a missing value.

Notes

Amounts are in million SEK unless otherwise stated.

Note 1 Aviation revenue

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Route charges	2,146	1,650	2,146	1,650
Terminal fees	186	150	186	150
Remuneration for air navigation service	549	433	549	433
Total	**2,880**	**2,233**	**2,880**	**2,233**

Note 2 Other operating revenue

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Rents and leases	6	6	6	6
Commercial service	161	158	81	80
Grants received	107	106	107	106
Service exports	7	2	—	—
Other	5	4	5	4
Total	**285**	**277**	**198**	**196**

The group companies' share of the state-owned enterprise's other operating income, 7.0% (6.2%).

Note 3 Staff costs and information about staff, Director-General, Board of Directors, and auditors

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Salaries	1,036	988	929	888
Payroll overhead	1,108	932	1,064	890
Other staff costs	32	29	25	21
Total	**2,177**	**1,949**	**2,018**	**1,799**
Payroll overhead includes pension costs, including payroll tax of	775	614	764	603

SALARIES AND COMPENSATION

	Boards of Directors, Director-General and Managing Directors		Other employees	
	2023	2022	2023	2022
State-owned enterprise	4	4	925	883
Subsidiaries	2	2	105	99
Total Group	**6**	**6**	**1,030**	**982**

SALARIES/FEES FOR THE BOARD OF DIRECTORS AND DIRECTOR-GENERAL (IN SEK)

Ann Persson Grivas	230101–231231	1,885,768
Catharina Elmsäter-Svärd	230101–231231	110,312
Carl-Johan Edström	230101–230630	20,208
Ann-Christine Hvittfeldt	230101–231231	40,216
Per Nilsson	230101–231231	40,316
Cecilia Looström	230101–231231	40,316
Robin Teigland	230101–231231	40,106
Johan von Sydow	230701–231231	20,108
Jonas Wikman	230701–231231	20,108
Anne-Marie Bredberg	230101–230630	604,171
– of which board member compensation	230101–230630	19,998
Christian Axelsson	230101–231231	861,298
– of which board member compensation	230101–231231	40,316
David Johansson	230701–231231	553,596
– of which board member compensation	230701–231231	19,988

SICK LEAVE, %

	STATE-OWNED ENTERPRISE	
	2023	2022
Total sick leave as a proportion of normal working hours	2.96	3.38
Percentage of total sick leave representing continuous absence	50.55	41.97
Sick leave distributed by gender:		
Men	1.79	2.24
Women	4.63	4.99
Sick leave distributed by age group:		
29 years or younger	2.09	1.97
30–49 years	2.26	3.09
50 years or older	3.71	3.83

Note 4 Miscellaneous external costs

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Resale costs	73	78	2	7
Property and rent expenditures	102	86	90	76
Materials, maintenance, transport	249	184	238	174
Travel expenses	30	24	27	21
External services	89	117	238	229
Administrative costs	80	69	73	63
Total	**623**	**557**	**668**	**570**

The group companies' share of the state-owned enterprise's various external costs, 20.3% (2.3%).

REMUNERATION TO AUDITORS

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Swedish National Audit Office				
– Audit engagement	1	2	1	2
KPMG				
– Audit engagement	—	—	—	—
– Other engagements	—	0	—	0
PwC				
– Audit engagement	0	1	—	—
– Other engagements	—	—	—	—
E & Y				
– Audit engagement	1	0	1	0
Aider Accounting				
– Audit engagement	0	—	—	—
Total	**2**	**3**	**2**	**2**

Note 5 Depreciations and write-downs

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Intangible assets	170	171	93	87
Buildings	15	15	15	15
Maintenance expenses on third-party property	3	3	3	3
Installations in the field	0	0	0	0
Electrical installations	3	3	3	3
Telecommunications equipment	140	146	142	146
Vehicles, machinery and equipment	8	5	7	5
Contingency equipment	0	0	0	0
Stockpile	0	0	0	0
Leased facilities	0	0	0	0
Construction in progress	21	—	21	—
Total	**360**	**341**	**285**	**258**

Note 6 Results from holdings in associated companies

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Associated companies:				
Entry Point North AB				
Share in associated companies' profit/loss	9	10	—	—
Total	**9**	**10**	**—**	**—**

Note 7 Profit from participations in Group companies

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Capital gain from divestment of Group company (LFV Norway)	0	—	—	—
Write-down of participations in subsidiaries (LFV Holding AB)	—	—	65	—
Total	**0**	**—**	**65**	**—**

Note 8 Interest income

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Interest income, banks	48	7	43	6
Interest income from short-term investments	106	20	106	20
Interest income from current receivables	0	0	0	0
Interest portion of pension cost	—	6	—	6
Other financial income	4	1	3	1
Total	**158**	**34**	**153**	**33**

Note 9 Interest expenses and similar items

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Interest portion of pension cost	538	—	538	—
Interest expenses for financial leasing	0	0	0	0
Other financial costs	1	2	1	2
Total	**539**	**2**	**539**	**2**

Note 10 Tax/tax equivalent on the profit/loss for the year

	GROUP	
	2023	2022
Tax equivalent for the year		
Group profit/loss before tax	52	–16
Tax reported for the year	–1	0
– of which tax in subsidiaries	–1	0
–of which deferred tax on deductible tax losses and taxable temporary differences	—	—
Profit/loss after tax	**51**	**–16**

Deferred tax assets on loss carry-forwards have not been recognised at any value in the 2022 and 2023 annual accounts.

Note 11 Intangible fixed assets

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
GOODWILL				
Opening cost of acquisition	193	193	—	—
Acquisitions of the year	—	—	—	—
Closing acquisition value	**193**	**193**	**—**	**—**
Depreciations and write-downs brought forward	–116	–32	—	—
Depreciations for the year	–11	–19	—	—
Write-downs for the year	–66	–65	—	—
Depreciations and write-downs carried forward	**–193**	**–116**	**—**	**—**
Planned residual value carried forward	**—**	**77**	**—**	**—**
SOFTWARE RIGHTS AND OTHER INTANGIBLE ASSETS				
Opening cost of acquisition	1,053	1,178	1,061	1,183
Acquisitions of the year	77	57	78	59
Sales / disposals	—	–181	—	–181
Reclassifications	—	—	—	—
Closing acquisition value	**1,130**	**1,053**	**1,139**	**1,061**
Depreciations and write-downs brought forward	–472	–567	–473	–567
Depreciations for the year	–93	–86	–93	–87
Sales / disposals	—	181	—	181
Reclassifications	—	—	—	—
Depreciations and write-downs carried forward	**–565**	**–472**	**–566**	**–473**
Planned residual value carried forward	**565**	**581**	**573**	**588**

The useful life of intangible fixed assets is more than five years in cases where it can be determined with a reasonable degree of certainty that the useful life is longer, as is mainly the case for operational air traffic management systems and goodwill.

Note 12 Tangible fixed assets

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
BUILDINGS				
Opening cost of acquisition	579	572	579	572
Acquisitions of the year	15	7	15	7
Sales / disposals	0	—	0	—
Closing acquisition value	**594**	**579**	**594**	**579**
Depreciations and write-downs brought forward	–358	–343	–358	–343
Depreciations for the year	–15	–15	–15	–15
Sales / disposals	0	—	0	—
Depreciations and write-downs carried forward	**–372**	**–358**	**–372**	**–358**
Planned residual value carried forward	**222**	**221**	**222**	**221**

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
MAINTENANCE EXPENSES ON THIRD-PARTY PROPERTY				
Opening cost of acquisition	24	24	23	23
Acquisitions of the year	4	0	4	0
Sales / disposals	—	—	—	—
Closing acquisition value	**28**	**24**	**27**	**23**
Depreciations and write-downs brought forward	–6	–4	–5	–2
Depreciations for the year	–3	–3	–3	–3
Sales / disposals	—	—	—	—
Depreciations and write-downs carried forward	**–9**	**–6**	**–8**	**–5**
Planned residual value carried forward	**18**	**18**	**18**	**18**

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
ELECTRICAL INSTALLATIONS				
Opening cost of acquisition	77	78	77	78
Acquisitions of the year	—	—	—	—
Sales / disposals	–5	–1	–5	–1
Closing acquisition value	**72**	**77**	**72**	**77**
Depreciations and write-downs brought forward	–66	–64	–66	–64
Depreciations for the year	–3	–3	–3	–3
Sales / disposals	4	1	4	1
Depreciations and write-downs carried forward	**–64**	**–66**	**–64**	**–66**
Planned residual value carried forward	**8**	**11**	**8**	**11**

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
INSTALLATIONS IN THE FIELD				
Opening cost of acquisition	2	2	2	2
Acquisitions of the year	0	—	0	—
Sales / disposals	—	—	—	—
Closing acquisition value	**3**	**2**	**3**	**2**
Depreciations and write-downs brought forward	0	0	0	0
Depreciations for the year	0	0	0	0
Sales / disposals	—	—	—	—
Depreciations and write-downs carried forward	**0**	**0**	**0**	**0**
Planned residual value carried forward	**2**	**2**	**2**	**2**

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
TELECOMMUNICATIONS EQUIPMENT				
Opening cost of acquisition	1,949	2,315	1,954	2,315
Acquisitions of the year	242	224	249	229
Sales / disposals	-47	–590	-47	–590
Closing acquisition value	**2,144**	**1,949**	**2,156**	**1,954**
Depreciations and write-downs brought forward	–910	–1,354	–910	–1,354
Depreciations for the year	–141	–123	–142	–123
Write-downs for the year	—	–22	—	–22
Sales / disposals	47	590	47	590
Depreciations and write-downs carried forward	**–1,003**	**–910**	**–1,005**	**–910**
Planned residual value carried forward	**1,141**	**1,039**	**1,151**	**1,044**

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
VEHICLES, MACHINERY, ETC.				
Opening cost of acquisition	52	37	40	37
Acquisitions of the year	38	19	36	7
Sales / disposals	0	–4	0	–4
Closing acquisition value	**90**	**52**	**76**	**40**
Depreciations and write-downs brought forward	–39	–28	–29	–28
Depreciations for the year	–8	–14	–7	–5
Sales / disposals	0	4	0	4
Depreciations and write-downs carried forward	**–46**	**–39**	**–36**	**–29**
Planned residual value carried forward	**44**	**13**	**40**	**11**

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
STOCKPILE				
Opening cost of acquisition	2	1	2	1
Acquisitions of the year	0	1	0	1
Sales / disposals	—	—	—	—
Closing acquisition value	**3**	**2**	**3**	**2**
Depreciations and write-downs brought forward	0	—	0	—
Depreciations for the year	0	0	0	0
Sales / disposals	—	—	—	—
Depreciations and write-downs carried forward	**0**	**0**	**0**	**0**
Planned residual value carried forward	**2**	**2**	**2**	**2**

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
CONTINGENCY EQUIPMENT				
Opening cost of acquisition	1	—	1	—
Acquisitions of the year	0	1	0	1
Sales / disposals	—	—	—	—
Closing acquisition value	**1**	**1**	**1**	**1**
Depreciations and write-downs brought forward	0	—	0	—
Depreciations for the year	0	0	0	0
Sales / disposals	—	—	—	—
Depreciations and write-downs carried forward	**0**	**0**	**0**	**0**
Planned residual value carried forward	**1**	**1**	**1**	**1**

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
LEASED FIXED ASSETS				
Opening cost of acquisition	3	3	3	3
Acquisitions of the year	—	1	—	1
Sales / disposals	–1	–1	–1	–1
Closing acquisition value	**2**	**3**	**2**	**3**
Depreciations and write-downs brought forward	–2	–2	–2	–2
Depreciations for the year	0	0	0	0
Sales / disposals	1	1	1	1
Depreciations and write-downs carried forward	**–1**	**–2**	**–1**	**–2**
Planned residual value carried forward	**1**	**1**	**1**	**1**

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
CONSTRUCTION IN PROGRESS				
Opening cost of acquisition	408	329	418	338
Acquisitions of the year	374	323	374	324
Write-downs for the year	–21	—	–21	—
Completed new construction	–304	–244	–305	–244
Closing acquisition value	**456**	**408**	**466**	**418**

Note 13 Holdings in subsidiaries

	COMPANY REG. NO.	NUMBER OF SHARES:	PERCENTAGE OF SHARE CAPITAL	NOMINAL VALUE	COST OF ACQUISITION	BOOK VALUE 2023	BOOK VALUE 2022
Direct holdings							
Shares in group company, LFV Holding AB	556374-8432	75,000	100	75	75	234	299
Indirect holdings (via LFV Holding AB)							
Shares in group companies							
LFV Aviation Consulting AB	556193-1469	3,000	100	3	—	—	—
Aviseq Critical Communication AB	559235-1083	25,000	100	0	—	—	—

Note 14 Participations in associated companies

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Accumulated profit shares, etc.				
At the start of the year	55	45	—	—
Share of net profit/loss of associated companies	9	10	—	—
Change of participations in associated companies' equity	–7	—	—	—
Total	**57**	**55**	**—**	**—**
Book value	**57**	**55**	**—**	**—**

Holdings in associated companies - Breakdown of the state-owned enterprise's and the group's holdings in associated companies

	COMPANY REG. NO.	NO. OF SHARES	PERCENTAGE OF SHARE CAPITAL	NOMINAL VALUE	SHARE OF ADJ. EQUITY	BOOK VALUE	
Breakdown of the state-owned enterprise's and the group's holdings in associated companies						GROUP	STATE-OWNED ENTERPRISE
Indirect holdings (via LFV Holding AB)							
Entry Point North AB	556682-8272	100,000	33	—	57	57	—
						57	**—**

Note 15 Other long-term receivables

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
At the start of the year	3,473	3,552	3,473	3,552
Additional items Eurocontrol	916	418	916	418
Settlement Eurocontrol	–653	–572	–653	–572
Change in other long-term receivables, prepaid rent	, 72	75	72	75
Total	**3,808**	**3,473**	**3,808**	**3,473**

Note 16 Other receivables

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Short-term share of receivables via the charging scheme (Eurocontrol)	805	697	805	697
VAT recoverable	36	27	35	27
Other current receivables	6	9	4	2
Total	**846**	**733**	**844**	**725**

Note 17 Prepaid expenses and accrued income

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Miscellaneous prepaid expenses	79	54	76	51
Accrued revenue	273	164	267	163
Total	**352**	**218**	**343**	**214**

Note 18 Long- and short-term investments

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Short-term				
Commercial papers	2,763	2,335	2,763	2,335
Total	**2,763**	**2,335**	**2,763**	**2,335**

Note 19 Equity

	GROUP			STATE-OWNED ENTERPRISE		
	Public capital	Restricted reserves	Non-restricted capital	Public capital	Restricted reserves	Non-restricted capital
Amount at the start of the year according to adopted balance sheet	**202**	**309**	**232**	**202**	**252**	**317**
This year's change in public capital without required return	—	—	5	—	—	5
Transfer between unrestricted and restricted equity	—	1	–1	—	—	—
Actuarial revaluation of pension liability	—	—	–58	—	—	–58
Profit/loss for the year	—	—	51	—	—	53
Amount at the end of the year	**202**	**310**	**229**	**202**	**252**	**317**
Total Closing equity			**741**			**771**

Note 20 Pensions provisions

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
At the start of the year	9,436	9,052	9,436	9,052
Pension provision for the year	674	533	674	533
Pension payments for the year*	–152	–132	–152	–132
Indexation and interest	538	–6	538	–6
Change due to change in calculation bases	58	–10	58	–10
Total	**10,553**	**9,436**	**10,553**	**9,436**

* Amount including special payroll tax.

Note 21 Other provisions

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Restructuring costs	4	6	4	6
Other provisions	32	31	31	30
Total	**36**	**37**	**35**	**36**

Note 22 Liabilities to leasing companies

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Leasing companies	1	1	1	1
Total	**1**	**1**	**1**	**1**

Note 23 Other non-interest-bearing liabilities

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Security funds	34	35	34	35
Restructuring fund	5	2	5	2
Liability to Eurocontrol	69	65	69	65
Total	**108**	**102**	**108**	**102**

Note 24 Other non-interest-bearing current liabilities

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Debt to the central government	91	129	91	129
Liability to Eurocontrol	0	42	0	42
Employee withholding taxes and employer's contributions	56	62	51	57
Other current liabilities	186	185	175	180
Total	**334**	**419**	**317**	**408**

Note 25 Accrued expenses and deferred income

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Salaries and compensation	14	2	12	—
Holiday pay liability	75	70	70	65
Social security contributions	46	35	44	33
Other accrued expenses	67	98	47	91
Deferred grants	45	51	45	51
Other deferred revenue	21	27	32	26
Total	**268**	**283**	**249**	**267**

Note 26 Contingent liabilities

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Guarantee for pension liabilities with LFV Airport Center AB	0	1	0	1
Guarantee in favour of group companies (framework for bank guarantees)	—	—	50	50
Total	**0**	**1**	**50**	**51**

LFV may issue guarantees for credits up to SEK 400 million (400) in favour of LFV Holding AB regarding financial commitments in the group of companies.

Note 27 Other information for the funds statement

Adjustment for items not included in cash flow etc.

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Depreciations and write-downs	360	342	350	258
Pension provisions	1,059	384	1,059	384
Other provisions	4	12	3	12
Total	**1,423**	**738**	**1,412**	**654**

Change in short- and long-term portion of receivables and liabilities in the charging scheme

	GROUP		STATE-OWNED ENTERPRISE	
	2023	2022	2023	2022
Change in current receivables	–80	–389	–80	–389
Change in long-term receivables	–263	154	–263	154
Total	**–343**	**–235**	**–343**	**–235**
Change in short-term non-interest-bearing liabilities	–42	–107	–42	–107
Change in long-term non-interest-bearing liabilities	4	–18	4	–18
Total	**–38**	**–125**	**–38**	**–125**

Dividend proposal

The profit/loss after tax for 2023 amounts to SEK 51 million. Comprehensive income after actuarial revaluation of the pension liability amounts to SEK –6 million. No dividend is proposed. Tax equivalent for the year amounts to SEK –1 million. Tax payable amounts to SEK 0 million.

We deem the internal governance and control at Luftfartsverket (LFV) to be satisfactory during the period covered by the annual report. We certify that the annual report provides a true and fair picture of the organisation's results and of its costs, revenue, and LFV's financial position.

Norrköping, Sweden on 15 February 2024

Catharina Elmsäter-Svärd
CHAIR

Ann Persson Grivas
DIRECTOR-GENERAL

Ann-Christine Hvittfeldt

Cecilia Looström

Per Nilsson

Robin Teigland

Johan von Sydow

Jonas Wikman

Christian Axelsson

David Johansson

Audit report for LFV 2023

Pursuant to Section 5 of the Act on Audit of State Activities etc. (SFS 2002:1022), the Swedish National Audit Office has carried out an audit of LFV's annual report for 2023, dated 2024-02-15.

The audit report contains a total of five statements. If none of these statements contains a reservation or dissenting opinion, it means that the Swedish National Audit Office considers that the report and underlying accounting records are reliable, the accounts are true and fair, and that the senior management's administration complies with applicable regulations and special decisions.

Report on the annual report and consolidated accounts

Statements

According to the Swedish National Audit Office, the Authority has

- drawn up the annual report and consolidated accounts in accordance with the Ordinance (SFS 2000:605) concerning the Annual Reports and Budget Documentation, instructions, appropriation directions, and government decisions specific to the Authority.
- in all material respects provided a true and fair view of the financial results, funding, and financial position of LFV and the Group as of 31 December 2023.
- submitted a directors' report and other information consistent with and supporting a true and fair view in the annual report as a whole.

Basis for opinions

The Swedish National Audit Office has conducted the audit in accordance with the International Standards of Supreme Audit Institutions (ISSAI) for financial auditing, and the Swedish National Audit Office's internal regulations.

- The Swedish National Audit Office's review of income statement and other information in the annual report, including senior management's assessment of internal governance and control (IFRF).
- The Swedish National Audit Office's review of senior management's administration as part of the annual report review (IFRLF).

Our responsibility according to these standards is described in greater detail in the section Auditor's responsibility. We are independent of the Authority in accordance with the ISSAI 130 Code of Ethics and have otherwise fulfilled our responsibilities in accordance with this Code of Ethics. We believe that the audit evidence we have obtained is sufficient and appropriate as a basis for the Swedish National Audit Office's statements.

Statement on senior management's compliance with applicable regulations for the use of appropriations and revenue

Based on our audit of the annual report, the Swedish National Audit Office considers that the Authority has, in all material respects, used appropriations and revenue in accordance with the purposes determined by the Riksdag and in compliance with applicable regulations.

Basis for opinion

The Swedish National Audit Office has conducted the audit in accordance with ISSAI for financial auditing and IFRLF. Our responsibility according to these standards is described in greater detail in the section Auditor's responsibility. We believe that the audit evidence we have obtained is sufficient and appropriate as a basis for the Swedish National Audit Office's statements.

Opinion on senior management's assessment of internal governance and control

In our audit of the annual report, nothing has emerged to indicate that the management in its assessment of internal governance and control has not complied with the Ordinance on Internal Governance and Control (SFS 2007:603).

Basis for opinion

The Swedish National Audit Office has conducted the audit in accordance with ISSAI for financial auditing as well as IFRF and IFRLF. Our responsibility according to these standards is described in greater detail in the section Auditor's responsibility. We believe that the audit evidence we have obtained is sufficient and appropriate as a basis for the Swedish National Audit Office's opinions.

Senior management's responsibility

The Authority's senior management is responsible for the Authority's activities and must ensure that they are conducted efficiently and in accordance with applicable law and the obligations arising from Sweden's membership of the European Union, that they are reported in a reliable and fair manner, and that the Authority is economical with public funds. This is set out in Section 3 of the Government Agency Ordinance (SFS 2007:515).

Management is also responsible for drawing up an annual report that provides a true and fair view in accordance with the Ordinance (SFS 2000:605) concerning the Annual Reports and Budget Documentation, instructions, appropriation directions, and other decisions specific to the Authority. Management is also responsible for ensuring that appropriations and revenue have been used in accordance with the provisions and conditions set out in regulations, appropriation directions, and other government decisions.

Management is also responsible for ensuring that internal governance and controls are in place to ensure that the annual report can be prepared free of material misstatements, whether due to irregularities or error. Management's responsibility includes providing an assessment of the Authority's internal governance and control. This is set out in the Ordinance (SFS 2000:605) concerning the Annual Reports and Budget Documentation.

Management is also responsible for ensuring that the Authority has a process for internal governance and control that works in a satisfactory manner. This is set out in the Inter-

nal Governance and Control Ordinance (SFS 2007:603). This process shall ensure that the Authority fulfils its tasks with reasonable certainty, achieves its objectives, and meets the requirements of Section 3 of the Government Agency Ordinance (SFS 2007:515).

In preparing the annual report, the Authority's senior management shall assume that the Authority shall continue as a going concern. They disclose, where applicable, deviations and the reasons for these deviations.

Auditor's responsibility

Our responsibility is to audit the annual report. Our objectives are to obtain a reasonable degree of certainty that the annual report as a whole is free from material misstatements, whether due to irregularities or errors, and to submit an audit report containing the Swedish National Audit Office's opinions. Reasonable certainty is a high degree of certainty, but not a guarantee that an audit carried out in accordance with ISSAI, IFRF and IFRLF will always detect a material misstatement if one exists. Misstatements may arise due to irregularities or errors and are considered material if they, individually or collectively, can reasonably be expected to influence the financial decisions users make based on the annual report.

As part of an audit in accordance with ISSAI, we exercise professional judgement and maintain professional scepticism throughout the audit. In addition:

- we identify and assess the risks of material misstatement in the annual report, whether due to irregularities or error. We then design and perform audit procedures based on, among other things, these risks and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of failing to detect a material misstatement as a result of irregularities is higher than that of an error due to mistakes, as irregularities may involve collusion, falsification, intentional omissions, misinformation, or breach of internal governance and control.
- we obtain an understanding of the part of the Authority's internal governance and control relevant to our audit in order to design audit measures that are appropriate given the circumstances, but not to issue a statement on the effectiveness of the Authority's internal governance and control.
- we evaluate the appropriateness of the accounting principles used and the reasonableness of management's accounting estimates and related disclosures.
- we draw a conclusion on the appropriateness of management using the going concern basis of accounting in preparing the annual report. Based on the obtained audit evidence, we also draw a conclusion on whether there is any material uncertainty relating to such events or circumstances that may lead to significant doubts as to the Authority's ability to continue as a going concern. If we conclude that there is a material uncertainty, we shall, in the audit report, draw attention to the disclosures in the annual report concerning the material uncertainty and the assessment provided or, if such disclosures are insufficient, modify our opinions on the annual report.
- we evaluate the overall presentation, structure and content of the annual report, including the disclosures, and whether the annual report outlines the underlying transactions and events in a manner that provides a true and fair view.

As part of the review in accordance with IFRF, we plan and carry out the audit in order to:

- obtain sufficient and appropriate audit evidence that material information, of financial or non-financial nature, provided in the directors' report has been drawn up with the aim of providing a true and fair view of the activities together with the other parts of the annual report, based on the regulatory framework.
- ensure that other information is consistent with the other parts of the annual report and free from material misstatements, based on our knowledge of the Authority.

Our communication with management includes, among other things, the planned scope and focus of the audit and significant findings during the audit, including any significant deficiencies in internal governance and control that we identify during the audit.

Our responsibility also includes reviewing whether senior management's administration complies with applicable regulations and special decisions. We conduct the audit in accordance with IFRLF. In addition to the regulatory framework and special decisions that directly affect the accounts, this includes the regulations that directly refer to the use of funds decided by the Riksdag and the Government[1]. Based on the audit of the annual report, we submit an opinion with reasonable certainty on the Authority's compliance with these regulatory frameworks.

In planning and conducting the audit in accordance with ISSAI and IFRF, we consider those aspects of internal governance and control that are relevant to the Authority's preparation of the annual report to give a true and fair view, including management's assessment of the internal governance and control. This means that we have examined management's assessment of internal governance and control in the annual report. Our responsibility does not, however, include making a statement on the efficiency of the Authority's internal governance and control. We issue a limited assurance opinion on management's assessment of internal governance and control based on the measures we have taken to review the annual report. A limited assurance opinion does not have the same level of assurance as an opinion based on an audit.

Auditor in charge Katarina Holmqvist made the decision on this matter. Project manager Margit Nestra was rapporteur.

Katarina Holmqvist

Copy for information: LFV, Ministry of Rural Affairs and Infrastructure

[1] *Appropriations Ordinance (SFS 2011:223), Fees Ordinance (SFS 1992:191), Ordinance on Lending and Guarantees (SFS 2011:211), Capital Supply Ordinance (SFS 2011:210), Transfer of State Real Estate Ordinance (SFS 1996:1190), and Transfer of State Movable Assets Ordinance (SFS 1996:1191).*



Catharina Elmsäter-Svärd
Chair since 2022.

Current position:
CEO Byggföretagen.
Directorships: Member Railcare Group AB.
Previous positions:
Minister for Infrastructure, County Commissioner of Finance, Member of the Riksdag.
Year of birth: 1965.

Per Nilsson
Deputy Chair since 2022, Member since 2014.

Current position:
Head of Development of Swedish Customs.
Previous positions: Deputy Director-General and Chief of Staff of Swedish Customs, Deputy Director of Tax and Customs Division of the Ministry of Finance.
Year of birth: 1967.

Ann Persson Grivas
Member since 2017.

Directorships:
Chair LFV Holding AB and Entry Point North AB. Deputy Chair, Luleå University of Technology/LTU. Member, SOS Alarm and the Supervisory Council of the Swedish Institute of Space Physics.
Previous positions:
Senior management positions Swedish Social Insurance Agency, Sony Ericsson, Vattenfall, 3, and SAS.
Year of birth: 1961.

Jonas Wikman
Member since 2023.

Current position:
Major General and Air Force Chief.
Previous positions:
Fighter pilot, head of the aeromedical centre, management roles in the Defence Materiel Administration (FMV), head of the planning department at the Armed Forces Headquarters, adviser to the Afghan Air Force during NATO's Resolute Support Mission in Kabul, Deputy Director of Operations at Headquarters.
Year of birth: 1972.

Ann-Christine Hvittfeldt
Member since 2016.
Current position:
Several directorships.
Previous positions:
Volvo Logistics AB, Hemtex AB, Speedcargo AB/DFDS AS.
Year of birth: 1966.



Cecilia Looström
Member since 2020.

Current position:
Head of Department Swedish Civil Contingencies Agency.
Previous positions:
Assistant under-secretary Ministry of Defence, Head of Department Aerospace Engineering, FOI.
Year of birth: 1961.

Robin Teigland
Member since 2020.

Current position:
Professor Chalmers University of Technology and entrepreneur.
Previous positions:
Professor and board member Stockholm School of Economics, McKinsey & Company, board member Akademiska Hus AB.
Year of birth: 1964.

Johan von Sydow
Member since 2023.

Current position:
Director Storsthlm.
Previous positions:
Deputy County Governor, Stockholm County Administrative Board. Director General and Deputy Director General, Ministry of Finance.
Year of birth: 1969.

Christian Axelsson
Staff representative member since 2021,

Current position:
System manager and chair of LFV's SacoS association.
Directorships: LFV Holding (staff representative).
Year of birth: 1972.

David Johansson
Staff representative member since 2023.

Current position:
Air traffic controller and chair of ST within Air Traffic Control.
Year of birth: 1977.

Carl-Johan Edström
Member
2020–30 June 2023
Anne-Marie Bredberg
Member staff representative
2010–30 June 2023.



Group Management

Ann Persson Grivas
Director-General since 2017.

Directorships: Chair LFV Holding AB and Entry Point North AB. Deputy Chair, Luleå University of Technology/LTU. Member, SOS Alarm and the Supervisory Council of the Swedish Institute of Space Physics.
Previous positions: Senior management positions Swedish Social Insurance Agency, Sony Ericsson, Vattenfall, 3, and SAS.
Year of birth: 1961.

Magnus Corell
Deputy Director-General since 2019.

Directorships: Chair Aviseq Critical Communication AB and LFV Aviation Consulting AB. Member LFV Holding AB.
Previous positions: Senior positions within the Swedish Government Offices, with experience from the Ministry of Infrastructure, the Ministry of Enterprise and Innovation, and the Ministry of Justice.
Year of birth: 1969.

Petra Sernulf
Director Legal Affairs/Quality/Aviation Safety/Environment and General Counsel.

Employed: 1997–2005 and since 2008.
Directorships: Member LFV Holding AB, Aviseq Critical Communication AB, and the Swedish Public Employment Service.
Previous positions: Service as law clerk in district court and legal counsel for LFV, the Swedish Prison and Probation Service, and Glimstedt law firm.
Year of birth: 1963.

Ulf Thibblin
Chief Technical Director.

Employed since: 2013.
Directorships: Member LFV Holding AB, LFV Aviation Consulting AB, and Aviseq Critical Communication AB.
Previous positions: Senior management positions within Saab and Ericsson.
Year of birth: 1958.

Niklas Ferm
Director of Systems and Development.

Employed since: 2022.
Directorships: Member LFV Holding AB and LFV Aviation Consulting AB.
Previous positions: Senior management positions within Saab.
Year of birth: 1972.



Anna Granberg
Director Operations.

Employed since: 1991.
Directorships: Member, LFV Holding AB and LFV Aviation Consulting AB.
Previous positions:
Air traffic controller, Head of Division, Swedish Armed Forces.
Year of birth: 1970.

Jan Berggren
Director Shared Services

Employed since: 2003.
Directorships: Member LFV Holding AB.
Previous positions:
Several senior positions within both LFV and the Swedish Maritime Administration.
Year of birth: 1962.

Boel Enjin
Director Governance and Finance.

Employed since: 2021.
Directorships: Member LFV Holding AB.
Previous positions:
Senior management positions within the Swedish Defence Materiel Administration, the Swedish Social Insurance Agency, the Swedish National Agency for Education, and the Swedish Armed Forces.
Year of birth: 1967.

Petter Eklund
Director En Route.

Employed since: 2021.
Directorships: Member, LFV Holding AB and Aviseq Critical Communication AB.
Previous positions:
Senior management positions within the Swedish Coast Guard, BRA (Braathens Regional Airlines), the Swedish Transport Agency, and the Swedish Civil Aviation Authority.
Year of birth: 1972.

Fredrik Henning
Acting director HR and Communications.

Employed since: 2021.
Directorships: Member LFV Holding AB.
Previous positions: Senior management position within, among others, ED Gruppen, Huddinge Municipality, and Infratek.
Year of birth: 1980.



Five year summary

	2023	2022	2021	2020	2019
AIR TRAFFIC (thousand)					
Number of movements in Swedish airspace:					
Domestic	94	91	65	62	127
International	219	198	110	100	277
Overflights	270	253	184	169	369
TOTAL	583	541	359	332	774
Number of service units (thousand)	2,666	2,472	1,795	1,676	3,820
FINANCES (million SEK)					
Operating revenue	3,584	2,790	2,523	3,310	3,071
Profit/loss after financial items	52	–16	104	700	–40
Comprehensive income after revaluation of pension liability	–6	–6	103	–122	—
Investments	452	385	386	557	498
Return on equity, %	7	(neg.)	15	(neg.)	(neg.)
Equity ratio, %	6	7	7	6	8
Cash and cash equivalents	4,722	4,276	4,437	5,104	5,748
Equity	741	742	742	638	760
Pension liability	10,553	9,436	9,052	8,739	7,471
BALANCE SHEET TOTAL	12,306	11,214	10,996	10,708	9,412
STAFF					
Number of annual employees	1,239	1,202	1,153	1,121	992
of which operational air traffic controllers	594	577	505	500	548
of which other staff	645	625	648	621	444
Number of employees	1,372	1,331	1,301	1,348	1,123
of which women	494	487	483	509	488
of which men	878	844	818	839	635
Sick leave (%) in the state-owned enterprise	2.96	3.38	2.50	3.02	2.46

Abbreviations and explanations

A6. Alliance within SESAR focused on technological development. A6 consists of fifteen air navigation service providers and two associated members.

AAS. Airspace Architecture Study. A proposal on how to design Europe's airspace in the medium term, between 2025 and 2035.

AIRMOUR. Urban Air Mobility Emergency Medical Services in EU. A research project that demonstrates and enables drone services in cities with a focus on healthcare needs.

ANS. Air Navigation Services. Air navigation service.

ANSP. Air Navigation Services Provider. Provider of air navigation service.

ATCC. Air Traffic Control Centre. Air Traffic Control Centre.

ATM. Air Traffic Management. Air traffic control.

ATS. Air Traffic Services. Air traffic management.

AVISEQ. Aviseq Critical Communication AB. Wholly owned subsidiary.

BOREALIS. The Borealis Alliance. An association of air navigation service providers in nine countries: Ireland, the United Kingdom, Iceland, Denmark, Norway, Sweden, Finland, Estonia, and Latvia. Cooperation for more efficient flight routes with reduced environmental impact.

CANSO. Civil Air Navigation Services Organisation. International cooperation organisation for air navigation service providers.

CINEA. The European Climate, Infrastructure and Environment Executive Agency, formerly INEA, is responsible for developing the European transport system.

CNS. CNS stands for Communication, Navigation, Surveillance, i.e. radio equipment, navigation aids and radar equipment as well as surveillance.

COOPANS. Cooperation between six air traffic service providers in Sweden, Denmark, Ireland, Austria, Portugal, and Croatia. Coordinates the development of a joint air traffic management system.

EASA. European Aviation Safety Agency. The European Aviation Safety Agency.

EN ROUTE. Higher Airspace Operations. Traffic is controlled from a control centre.

EN ROUTE CHARGE The Swedish en route charge is charged for aircraft over 2 000 kg flying in airspace where Sweden operates air navigation service.

EPN. Entry Point North AB. Associated company that operates a school for air traffic controllers with LFV, Danish Naviair, and Irish IAA as owners.

EUROCONTROL. Coordinates European air traffic. Eurocontrol has no legislative authority but works to harmonise and develop air navigation services in the nearly 40 Member States.

ICAO. International Civil Aviation Organization. UN agency for aviation.

L-CAPS. LFV Aviation Comprehensive AIM Production Service. Technical platform for flight information.

MSB. The Swedish Civil Contingencies Agency.

RF. Robust air traffic service. Programme operated by LFV between TIME and TIME to ensure the ability to deliver air navigation service regardless of contingency phase.

RISE. Research Institute of Sweden AB.

RP. Reference Period. The EU sets targets for air navigation service providers over a reference period.

RTC. Remote Tower Centre. Control centre for remote air traffic control.

RTS. Remote Tower Services. Remote air traffic control.

SES. Single European Sky. The EU's effort to reduce the number of airspaces in Europe, which are currently, with a few exceptions, national.

SESAR. Single European Sky ATM Research. Joint European programme for research to increase airspace capacity.

SWEA. Sweden Airspace Project. A project for streamlining the air navigation service. Operated in collaboration with Swedavia.

SWIM. System Wide Information Management. Global initiative in the aviation industry to harmonise the exchange of flight and weather information for all airspace users and stakeholders.

UAS. Unmanned Aircraft System. Unmanned aerial vehicles or drones.

U-SPACE. A concept described by Regulation (EU) 2021/664 of new digital services for drones.

U-SPACE AIRSPACE. A geographic UAS zone with U-space services provided by U-space Service Providers (USSPs).

UTM. UAS Traffic Management. Digital services to manage unmanned aviation.



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Thank you to everyone who participated in LFV's annual report. Graphic design and production: Newsroom.
Photographers: Peter Karlsson Svarteld, Filmuminati, Pia Jakobsson, Swedish Armed Forces, Getty Images.
The pictures are taken on ATCC and FPC Stockholm Arlanda, ATS Arlanda, ATS Landvetter and LFV's head office, among other places.

