



Fintraffic Air Navigation Services Ltd

Annual Report 2021



Fintraffic Air Navigation Services Ltd

Fintraffic ANS provides safe, accurate and competitive air navigation services in Finland, the most environmentally friendly airspace in the world. The aim is for air traffic to support Finland’s success in a comprehensive way.

We are responsible for managing Finland’s airspace and providing en-route and air navigation services at 22 airports in Finland.

We do not only ensure that captains receive their landing permits safely but we are also responsible for the necessary infrastructure, system design and system maintenance in accordance with international standards. Technical air navigation also encompasses the maintenance of radar, navigation equipment and radio equipment in the airport environment.

In addition, we are in charge of special tasks relating to air rescue coordination and territorial surveillance and training and consulting services.

Fintraffic Air Navigation Services Finland Ltd, (Fintraffic ANS) is part of the Traffic Management Company Fintraffic Ltd.

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Year 2021



CEO's review

In 2021, we adjusted our operations to the reduction in air traffic. No compromises were made on safety, efficiency or performance. Goal-oriented work to develop the sector continued.

We are responsible for managing Finland's airspace and providing air route services and air navigation services at 22 airports in Finland. We also provide technical maintenance services at five airports in Sweden. In addition to airports, our main customers are airlines and technical air navigation operators.

2021 was marked by the adjustment of our operations to the reduction in air traffic, which is undergoing the biggest crisis in its history as a result of the coronavirus pandemic. In terms of the year as a whole, the number of flights in Finnish airspace was about 57 per cent less than in 2019. Although we made the planned adjustments, we still made a financial loss. We achieved the performance and safety

targets set by our regulator, and also our capacity maintenance and environmental efficiency targets.

Air traffic volumes began to pick up in August as coronavirus vaccination coverage increased, but pre-pandemic levels were not reached in Finland as a whole at any time. Recovery in traffic volumes was significantly slower in Finland – up to a fifth slower – than elsewhere in Europe. There was an upswing in charter flights to Northern Finland at the turn of the year. Similar increases – of up to 10 per cent – have not been seen at airports in Northern Finland since 2018.

There is international demand for Finland's top-level air navigation expertise.





And for good reason: we have been at the forefront in achieving the safety, efficiency and emission reduction targets set for air navigation by the EU Commission. Safety is always our number-one priority. And we do not compromise on punctuality or environmental efficiency either. Route optimisation, continuous descent approaches and close international cooperation are just some of the means we use to reduce emissions. Continuous descent approaches are always optimised at our network airports. Thanks to the continuous descent approach procedure used at Helsinki Airport, arriving flights are some of the most energy efficient in Europe.

Progress in strategic projects

We made progress in several strategic projects with our partners during the year, and are now ready to move on to the next phases.

We are involved in various European collaboration projects, and are the air traffic ecosystem partner for Finland in the EU network. In 2021, for example, we submitted a Performance Plan for Air Navigation Services to the EU Commission.

Environmental issues are playing an increasingly larger role in air traffic at EU

level, and sustainability and energy efficiency will be significant drivers in the development of both airspace usage and our own operations. We are engaging in groundbreaking cooperation with Finnair in the Perfect Flight 2021 project. Our cooperation seeks to reduce fuel and carbon dioxide emissions by finding ways to optimise flight routes from an environmental perspective.

Single European Sky (SES) will be the key to maintaining safety as air traffic increases. SES1 legislation came into force in 2002. The EU Commission is currently preparing updates to the SES Regulation, as European cooperation is required to reduce the environmental impacts of aviation, ensure its safety, and provide cost-effective air navigation services all across Europe. Fintraffic has responded to these growing demands in multiple ways. For example, since 2016, we have been working on crossborder air navigation services with Estonian Air Navigation Services (EANS). It was planned that the service would be deployed in 2023, but the defence administration informed Fintraffic in March 2022 that the implementation of the FINEST cooperation project is not feasible in the near future.

Multi-ROT (Multi Remote Operating Tower) progressed in early 2021 when we signed a letter of intent with Finavia to begin preparations for the project. If these preparations lead to the launch of the remote control project, it will be possible to provide flexible air traffic control services to one or more airports from a single workstation. This would improve both airport service levels and preparedness in air traffic control. It would also enable us to provide air traffic services at a lower cost, which would benefit provincial network airports in particular.

The proliferation of unmanned aerial vehicles (that is, drones) in the air transport market has increased the need for new kinds of traffic management services and low-altitude air traffic control. The service portal for drone operators that we created with Traficom was opened at the beginning of 2021. It is now mandatory for both professional and amateur drone operators to register and complete an online test. Almost 14,000 drone pilots registered during the year. The drone register also supports the digitalisation of general aviation and forms part of our air navigation service. We

” There is international demand for Finland’s top-level air navigation expertise.



” Outlays on digital services, such as our situational picture of traffic, are visible investments that benefit the entire transport sector.

conducted a study for the Ministry of Transport and Communications on the various options for implementing a low flight network. Our report is now awaiting the Ministry's decisions on how to move forward in practice.

Towards a shared vision

Fintraffic's revised strategy and shared values have unified our Group and increased cooperation between its various elements. In 2021, this was positively reflected in our daily lives through things such as joint training sessions, which have increased our under-

standing of both general and mode of transport-specific strategies and furthered their implementation.

Outlays on digital services, such as our situational picture of traffic, are visible investments that benefit the entire transport sector. This is why, in spite of the exceptional circumstances, we have continued our determined efforts to develop our digital situational picture and other air navigation services. We are also automating aviation information services for airspace users. Our aim is to ensure that air traffic in Finland will continue

to have access to air navigation services that are among the best in the world, once the pandemic is over.

According to the results of our 2021 customer satisfaction survey, the principal strengths of our air navigation services are: compliance with safety requirements, good customer service, and a high standard of operations at the Area Control Centre and in the Airspace Management Cell (AMC). Our cooperation with the State and military aviation is also at an excellent level. On the basis of the results, we are also well placed to develop our operations and make the areas for development highlighted in the survey a visible part of our daily lives in accordance with our strategy.

Unfortunately, personnel layoffs continued throughout the year. Scores in our personnel satisfaction survey fell on the previous year, and particularly with regard to layoffs, which it was felt had been unfairly allocated. Since then, efforts have been made to find a fairer way of allocating layoffs. Personnel were supported in various ways during these different times, and our occupational healthcare services have also been available to laid off personnel. Training was

organised throughout the year and included opportunities for remote participation. We have launched development projects aimed at improving corporate culture and job satisfaction during 2022. We successfully managed to take good care of our personnel's health in spite of the challenges posed by the pandemic: there were no service outages caused by us.

A report completed by the Ministry of Economic Affairs and Employment in March 2021 outlines proposed measures to achieve sustainable growth in the aviation industry. These solutions include accelerating the deployment of remote control systems and engaging in closer cooperation with other air navigation service companies. Ensuring competitive operations and functional processes was considered important. These ideas also lie at the heart of Fintraffic's air navigation services, alongside cooperation with other modes of transport: digitalisation will create opportunities for developing easy and seamless travel that combines various modes of transport.

Raine Luojus
CEO



Year 2021 in numbers

Revenue

62.8 MEUR
(49.3 MEUR)

Personnel average

427
(434)

Overflights

38,055

Finland's optimised flight routes saved

8,420
tons of CO₂ vs the EU average

Operating profit

-1.2 MEUR
(-16.1 MEUR)

Finland's regional air traffic control
provided services for

123,300
flights.

Incidents caused by air traffic control

0

21,371

continuous descent approaches
at Helsinki-Vantaa, which equates to
60.2 per cent of all approaches.



Events in 2021

January

Brand was updated. As of January 2021, the official name of our company is Fintraffic Air Navigation Services Ltd (Fintraffic Lennonvarmistus Oy).

Registration mandatory for drone flyers – a new service was launched. The new drone legislation that entered into force at the beginning of the year harmonised the rules on drones across the EU. For Finnish drone users, the new rules introduced an obligation to register as a drone operator. Fintraffic Air Navigation Services launched a new service portal for drone users, where both professional and spare-time flyers can register for Finnish Transport and Communications Agency Traficom.

March

Fintraffic Air Navigation Services and Finavia prepare to launch joint remote air traffic control project.

August

Avia College relocated to new premises at Lentäjäntie 1 (2nd floor).

November

Fintraffic's air navigation was recognised by the European Satellite Service Provider or ESSP, which is the service provider of EGNOS, for the advanced use and development of EGNOS methods.

February

Carried out "Perfect flight"- tests from Helsinki to Kittilä. The purpose of the Perfect Flight project, jointly run by Finnair and Fintraffic Air Navigation Services, is to reduce fuel and CO₂ emissions by finding ways of optimising flight routes for environmental benefit.

April

The Aeronautical Information Services (AIS) has had an ISO9001 quality certificate for 20 years.

September

The Gulf of Finland test flight day was held in Vantaa. The international SESAR JU GOF 2.0 project is demonstrating, testing and assessing how unmanned aerial vehicles will be able to safely share the skies with manned aircraft in the future.

December

For the first time since the beginning of the coronapandemic, the air navigation provided service for more than five hundred (524) flights during the day at area control. Helsinki-Vantaa also reached close to four hundred operations (385).



Operating Environment and Business

Air Navigation Services

Area control

Area control manages the entire Finland's Flight Information region (EFIN). Area control centre service is provided from 13 sectors, managed from 1–5 air traffic control work stations, depending on the traffic situation. In 2021, the area control centre processed 123,300 flights (2020: 110,450 flights), of which 38,055 were overflights (2020: 24,649).

Helsinki Airport air traffic control

Air traffic control at Helsinki Airport includes both aerodrome and approach control. The hourly maximum operation volumes at Helsinki Airport are 48 arriving and 42 departing aircraft per hour, however without exceeding the total hourly limit of 80 operations.

In 2021, Helsinki Airport had 72,296 operations (2020: 75,512). The average number of operations per day was 198 (2020: 207).


Before the pandemic, in 2019 there were 194,634 operations (the average number of operations per day was 533).

Aerodrome control (TWR)

Aerodrome control is also referred to as "Tower". It manages air traffic in the controlled traffic region (CTR) of the airport, extending approximately 15 kilometres from the airport. The Tower also manages aircraft taxiing on ground and using runways, as well as vehicles using the traffic area.

Approach control service (APP)

The approach control service is responsible for the terminal manoeuvring area (TMA),



” The area control centre processed 123,300 flights.



Overflights

38,055

extending approximately 50–70 kilometres from the airport. The most important tool of approach control is the radar. Most air traffic controllers work both in the Tower and in approach control.

Flight Planning Centre (FPC)

The Flight Planning Centre includes the Air Traffic Services Reporting Office (ARO), International NOTAM office (NOF) Aeronautical telecommunication services (COM) as well as the operational tasks of Helsinki Airport air traffic control and regional air traffic control centre. The Air Traffic Services Reporting Office (ARO) is a unit established to receive reports concerning air traffic services and flight plans submitted before departure. In 2021, FPC processed 55,365 ATS messages (in 2020: 55,527).

Tasks supporting Helsinki air traffic control and area control include e.g. VFR control and maintenance of air traffic control systems. Aeronautical telecommunication services (COM): The Flight Planning Centre guides and monitors the use of the telecommunication problems. The centre is known as the aeronautical fixed telecommunications network (AFTN/ AMHS) centre.

The international NOTAM Office (NOF) is located at the Flight Planning Centre

unit. It is responsible for the drafting and publication of national and international NOTAMs concerning the territory of Finland. In 2021, it prepared 16,118 NOTAM messages (2020: 13,725).

Airspace Management Cell

The Airspace Management Cell operating in conjunction with the area control centre coordinates daily airspace reservations.

Finland's Flow Management

The task of Finland's Flow Management position is to regulate how much and where air traffic is permitted in case of military exercises, for example. Flow management is international co-operation.

Finland's Air Rescue Coordination Centre (ARCC)

The Aviation Act prescribes Finland's Air Rescue Coordination Centre (ARCC Finland) to take care of aviation search and rescue services in Finland's Search and rescue region. This service refers to measures to assist aircraft in an emergency or accident and locate missing aircraft. In addition, the Air Rescue Coordination Centre provides contractual support services to safety authorities. The centre maintains 24-hour readiness for

launching operations. Every year, there are approximately 400 aviation search and rescue alerts, of which on average 5% are emergencies, 35% alarms and 60% uncertainty situations.

The network's ATS services

Fintraffic ANS provides aerodrome control and approach control services for 22 airports.

Aeronautical Information Services (AIS)

Aeronautical information service takes care of the operation of the international aeronautical information system in Finland. Information system ensures the necessary flow of information for the safe, regular and economic operation of international and domestic air traffic. The aeronautical information service is regulated by national and international regulations and agreements. The publication system (Aeronautical information products) produced by the aeronautical information service includes e.g. Finnish Aviation Handbook (AIP Finland), AIP Supplements (AIP SUP), AIC A (Aeronautical Information Circular) and ANC 1: 500,000 map. The functions are certified in accordance with the ISO 9001: 2015 quality management system.

Technical Air Navigation

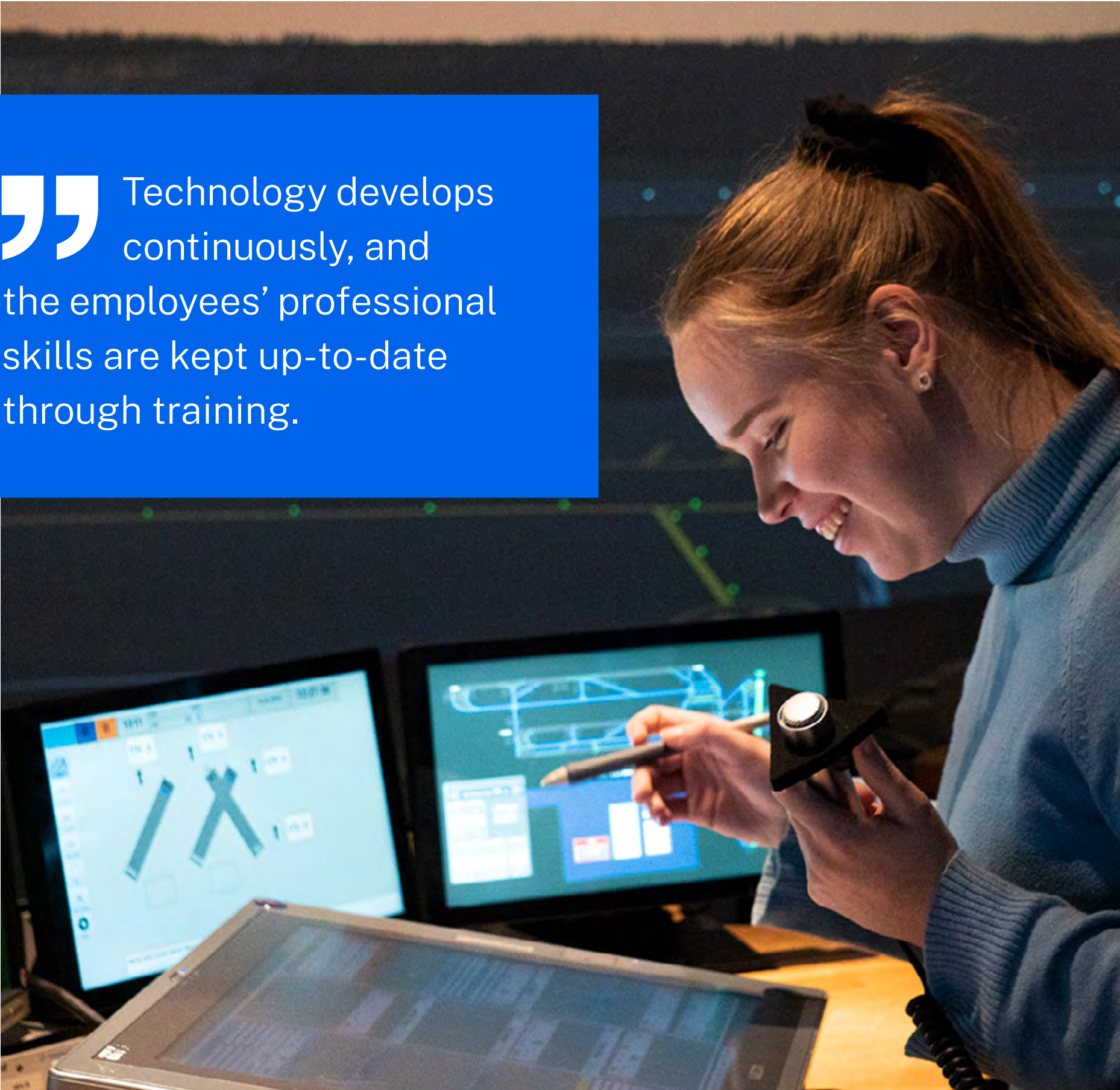
Technical air navigation comprises equipment, systems and tools used in air traffic service. These include information, radio and radar systems located across the country as well as equipment used by aircraft for navigation and landing.

The most important task of technical air navigation is to maintain the equipment and systems so that operations are safe and efficient and comply with the agreed response times. In part, safety is ensured by requiring ATSEP (Air Traffic Safety electronics personnel) qualification from everyone entitled to the technical maintenance of the systems. Obtaining it requires passing specified courses. The validity of this qualification is supervised.

The maintenance of equipment and systems takes place as specified in advance, and safety is ensured in many ways. Safety assessments are made of intended changes to air navigation systems, and they are approved by the authority (Traficom) before they can be implemented. Traficom also conducts its own safety assessment on the most significant changes.



” Our customers expect air traffic in Finland to run smoothly and without delays and interruptions.



” Technology develops continuously, and the employees’ professional skills are kept up-to-date through training.

Technology develops continuously, and the employees’ professional skills are kept up-to-date through training. Subcontractors are used in addition to Fintraffic ANS inhouse personnel, and factory maintenance contracts have been concluded with the equipment suppliers for the most important systems. In air navigation, safety is always our first priority. Therefore, the technology to be adopted must always be tried and tested in practice.

Traficom audits the operations of technical air navigation on an annual basis and tackles the possible shortcomings when needed. Fintraffic ANS is responsible, on a contractual basis, for civil aviation flight measurements in Finland as well as in Estonia.

From the beginning of 2021, we have provided COM & NAV maintenance services for five airports in Sweden: Kalmar, Karlstad, Jönköping, Norrköping, Skellefteå.

Avia College

Avia College is a vocational special education institution owned and maintained by Fintraffic ANS providing air navigation training services meeting international standards and requirements.

Avia College provides vocational air traffic controller training. In addition, it offers refresher, conversion, follow-up and specialisation training in various fields of air navigation. The 1.5-year air traffic controller training is very pragmatic and focuses on learning the basic skills. As the training is not equipment-bound, the acquired knowledge gives the students the qualification to work in other countries as well.

Students who have completed the training and the on-the-job training thereof, are ready to work as ATCs and they receive the ATC licence at graduation.

Working as air traffic controller is attractive so there is a lot of interest towards the training. The selection is rigorous and includes several phases. The selection process includes, in addition to written tests, also interviews by the training provider and a psychologist.

Over the past few years Avia College has trained air navigation professionals from various countries in Europe; including Sweden, Estonia and Bosnia-Herzegovina, and gained a strong reputation as a high-quality provider of air navigation training services.

Read more about air traffic control training on our [website](#).

STRATEGY

Best air navigation service in Europe in a cost-effective, punctual and environmentally friendly manner

Air traffic ensures that both Finland as a whole and its various regions remain easily accessible. Under normal circumstances, air navigation services are provided to about 270,000 flights per year by the Area Control Centre and to about 190,000 operations per year at Helsinki-Vantaa Airport. There are 500 aircraft movements (take-offs and landings) at Helsinki-Vantaa each day, on average.

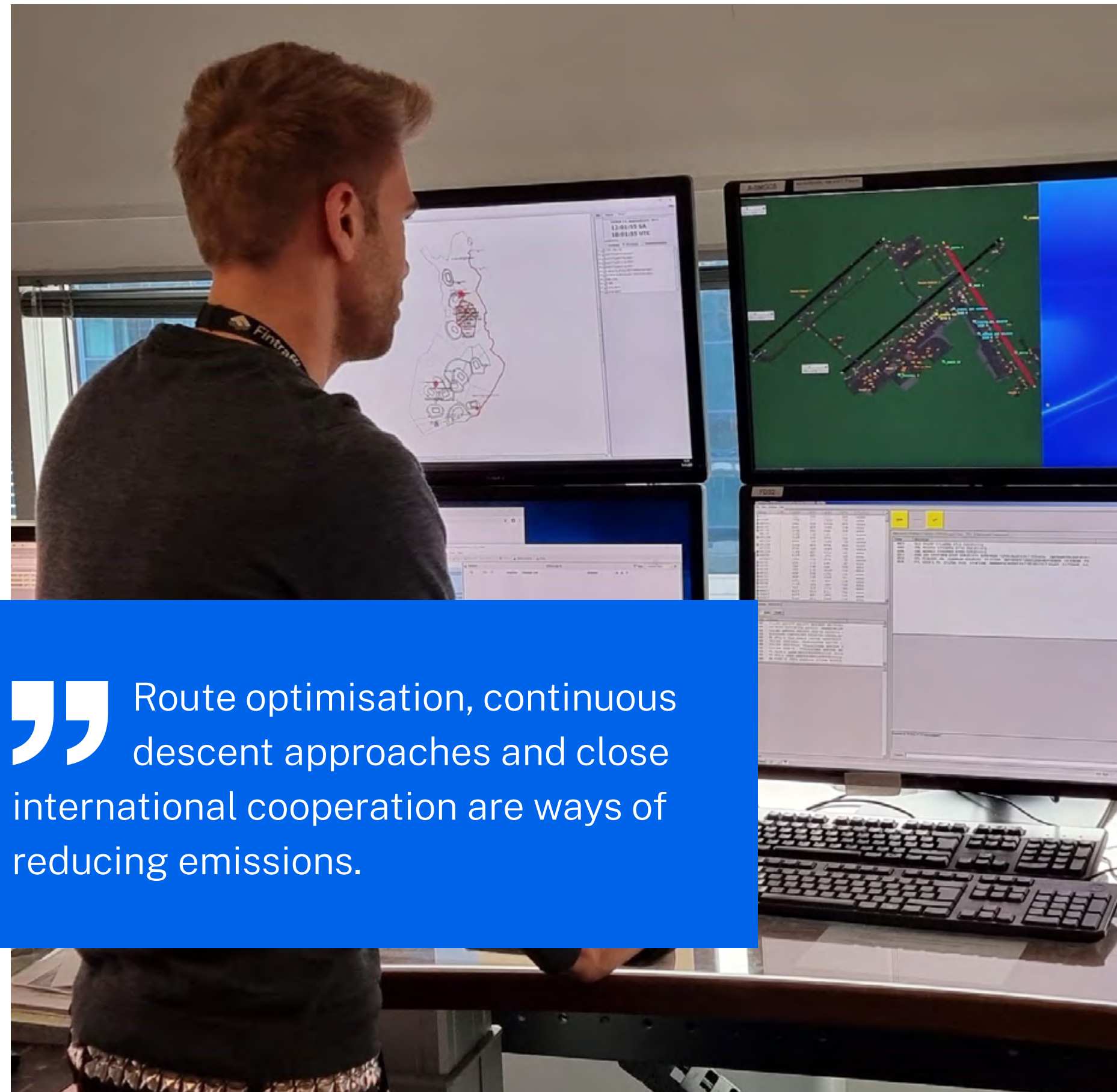
Safety is always our number-one priority. We also never compromise on our punctuality or environmental efficiency goals, in respect of which we aim to be the best in Europe. Although we operate at an extremely high level of quality, we do not claim to be the best in the world, because that would be difficult to prove. Making comparisons at the European level is easier, because the European

Commission sets goals for the providing of air navigation services.

The European Commission sets goals for safety, cost-efficiency, punctuality and environmental efficiency. How Fintraffic Air Navigation Services performs in respect of these parameters is measured against its peer group, i.e. the national air navigation services in Ireland, Sweden, Norway and Denmark.



“ Our vision is to provide best airspace management, air traffic control and traffic data in Europe.



” Route optimisation, continuous descent approaches and close international cooperation are ways of reducing emissions.

Continuing development to improve competitiveness

Before the pandemic, Finland had the best international connections in northern Europe. Our customers principally expect air traffic in Finland to run smoothly and without delays and interruptions, but they also expect our services to be competitive.

Operators in air navigation services and elsewhere in the aviation industry must explore ways to improve the quality and efficiency of services in the post-pandemic environment. Our strategic projects excellently reinforce and promote our efforts in respect of these and all other goals set for us. Our solutions for improving competitiveness include introducing Multi Remote Operating Towers (MROT), pursuing closer cooperation with other air navigation service providers (FINEST project) and addressing administration of a Low Altitude Airspace Management network.

Investments in digital service development in air navigation services are increasing year on year. Although digital data has long been available in the aviation industry, it has so far not been structured and centralised. There are aviation services that have been available online for a while, such as aeronautical infor-

mation services (ais.fi) and air traffic obstacle consultation service.

For drone pilots, we offer registration services, guidance and processing of flying permits. The aim is to create a one-stop shop for services for pilots or other operators.

In the year 2021, we introduced a drone pilot registration service online with Traficom. In 2022, we will increase our range of digital airspace use services, with a situational picture of the airspace and flight preparation services becoming available. Then, real-time information, such as weather data, airport services and opening hours, and any airport maintenance work or exceptional circumstances that may affect flying, can be found in one place. Pilots will also be able to check airspace reservations with the aid of a digital map. This will enable them to choose a safe route.

We also intend to further process the data we produce and process in accordance with the mandate given to Fintraffic as a whole by the government in order to further develop digital services in the transport sector.

Air navigation services are also sold commercially in Europe. We handle technical COM and NAV maintenance services at five aerodromes in Sweden: Kalmar, Karlstad, Jönköping, Norrköping, Skellefteå.

We have an internationally very high reputation as a provider of air traffic control training services. In recent years, we have trained air traffic controllers from Sweden, Estonia, Latvia, Luxembourg and Bosnia-Herzegovina in addition to Finnish ones.

Most environmentally friendly airspace in Europe

We do many things in our day-to-day work to make air traffic in Finland as environmentally friendly as possible. One of our basic duties is to ensure compliance with the environmental permit requirements for aircraft noise.

Route optimisation, continuous descent approaches and close international cooperation are ways of reducing emissions. Aerodromes in our network always optimise approaches, and our continuous descent approaches at Helsinki-Vantaa are among the best in Europe (source: CANSO).

In addition to the above, we have entered into a unique collaboration with Finnair, the national airline, to leverage data integration to perform analyses to foster improved environmental efficiency in air traffic.



” Internationally, we have an outstanding reputation as a provider of air traffic control services.



Air navigation strategy

Productised digital services and open data for the transport ecosystem

We are Finland's Network Manager partner for ecosystem services in the EU network. We are a key ecosystem operator for airspace users.

Towards the world's best traffic management

- We are the best in Europe in terms of the punctuality and environmental performance of air traffic. Air travel is the safest mode of transport.
- Our services are among the most cost-effective in Europe.
- We have introduced remote air traffic control.
- We control airspace in collaboration with Estonia.
- Fintraffic Air Navigation Services controls Finland's low flight network.
- We sell a lot of commercial services related to air navigation in separately agreed market areas.

World-class expertise

In order to provide the world's best air navigation services, we need the world's best expertise at all levels – in our operations, corporate culture and leadership.

Processes

ICT-architecture



Stakeholders

Fintraffic ANS key stakeholders include Finavia, Lappeenranta and Enontekiö airports, airlines, the country of Finland, military and state aviation, employees and shareholder. The responsibility for stakeholders is manifested in Fintraffic ANS goals and values.

Customer hearings

In 2021 Fintraffic ANS has consulted its customers in several joint and customer-specific meetings.

The official customer consultations of 2021 were:

- The Finnish Border Guard consultation on payments and investments on September 10, 2021.
- The Finnish Airforce consultation on payments and investments on September 3, 2021.
- Airlines consultation on payments and investments on August 24, 2021.

Fintraffic ANS is engaged in continuous and open dialogue with its stakeholders to develop its operations and the entire industry in an increasingly sustainable direction.

Fintraffic ANS operates with an emphasis on safety, in a customer-oriented way and in accordance with the Code of Ethics. Finavia, the company operating Finnish airports, is a significant customer for Fintraffic ANS. Fintraffic ANS provides both air traffic control services and technical services, such as system servicing, maintenance and flight measurements, for it.

Airline customers

The annual customer satisfaction survey of Fintraffic Air Navigation Services 2021 was the fourth of its kind. Feedback was solicited with a panel of multiple-choice and evaluation questions, in addition to which respondents were invited to submit freeform feedback. Assessments were made on a scale of 1 (poor) to 5 (excellent).



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**We secure,
care and
lead the way.
Together.**



The respondents were a diverse group of aviation operators, from strategic partners of air navigation services to flight schools and from minor airfield operators to general aviation bodies. The 2021 survey is being primarily compared to 2019 instead of 2020 because many of the respondents were laid off due to the coronavirus pandemic.

The overall score for customer satisfaction in partnership and implementation of safety standards was about 4 out of 5, and even a bit higher than that for safety. The survey shows that the principal strengths of Fintraffic Air Navigation Services are: compliance with safety requirements; functional customer

service; and quality of the operations of the Airspace Management Cell (AMC) and the Area Control Centre. Central government and military aviation hold this collaboration in very high regard, particularly the interaction with air traffic control units, where responses yielded an excellent average score of 4.5 out of 5.

It was discovered through the survey findings that customer experiences had improved particularly in collaboration with Fintraffic Air Navigation Services overall (2019: 3.7 / 2021: 4.0) and with Helsinki air navigation services (2019: 3.5 / 2021: 3.8). With the latter, the trend was the most marked in the experience of airlines and pilots.

Military and state aviation

We support the mission of the Finnish Defence Forces by providing the required airspace reservations and monitor the airspace of the Gulf of Finland in cooperation with the Finnish Air Force. We are obligated to serve the Finnish state aviation also by law. Contacts with the Finnish Air Force and the Border Guard are regular and aim at continuous improvement of operations.

Personnel in a key role

In an area of special expertise such as air navigation, skilled and competent employees

Responsibilities in air transport



Managing body of the airport is responsible for

- Airport network
- The condition of runways and other airport infrastructure
- Airport security measures and civil protection
- Airport announcements

Fintraffic is responsible for

- Controlling air traffic both on the ground and in the airspace, technical air navigation infrastructure, and controlling airspace usage on their designated area of responsibility in the airspace above the Finnish and international sea area
- Managing and distributing information needed for aviation
- Managing airspace reservations
- Contributing to the designing of airspace structure and flight procedures

Airspace users

- Airlines are responsible for passenger services and ticket sales
- Airlines, private operators, flyers of unmanned aerial vehicles (incl. drones) are responsible for aircraft traffic



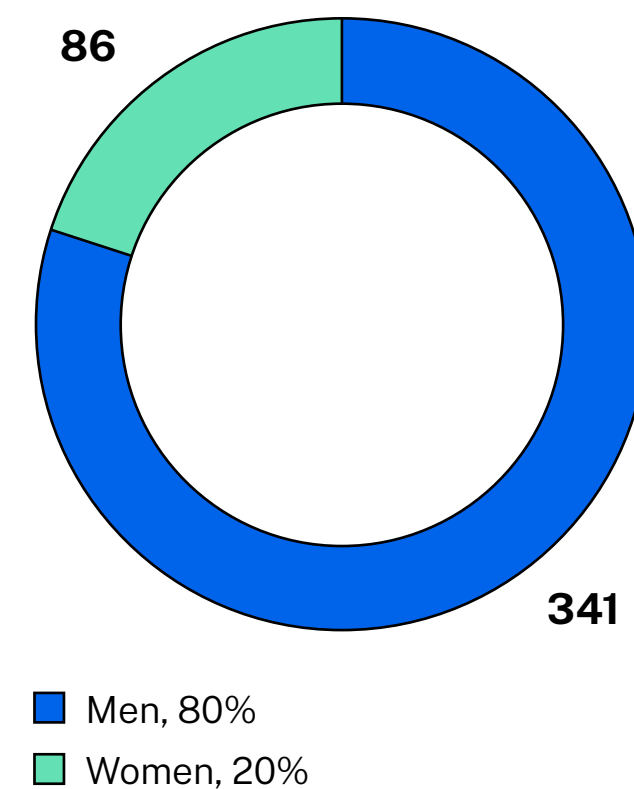
Employees

427
(434)

play a central role. Fintraffic ANS is a responsible employer. The company takes care of the well-being, health, competence and safety of its employees by providing good managerial work and training and by complying with collective labour agreements and labour legislation. Good management of personnel is a key element of Fintraffic ANS strategy.

Fintraffic ANS looks after the equal and fair treatment of its employees.

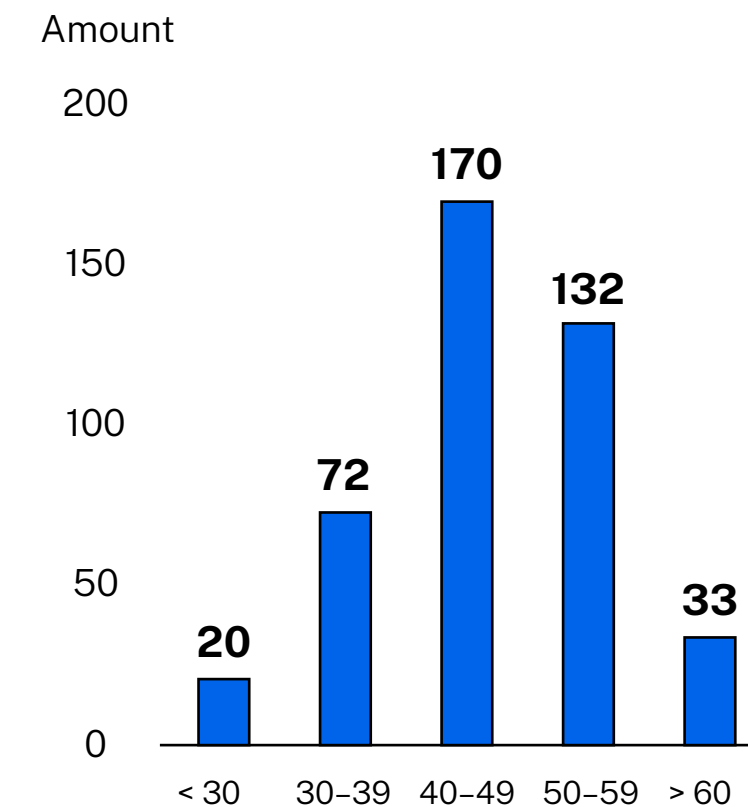
Proportion of men and women



Interaction with employees

Fintraffic ANS uses a harmonised performance appraisal model. The development discussions pursuant to it are carried out with all employees on an annual basis. The personnel is kept up-to-date on company issues by monthly reviews via email and by communicating on the intranet. The company has a Cooperation Council and a Central Committee for occupational health and Safety. The organ-

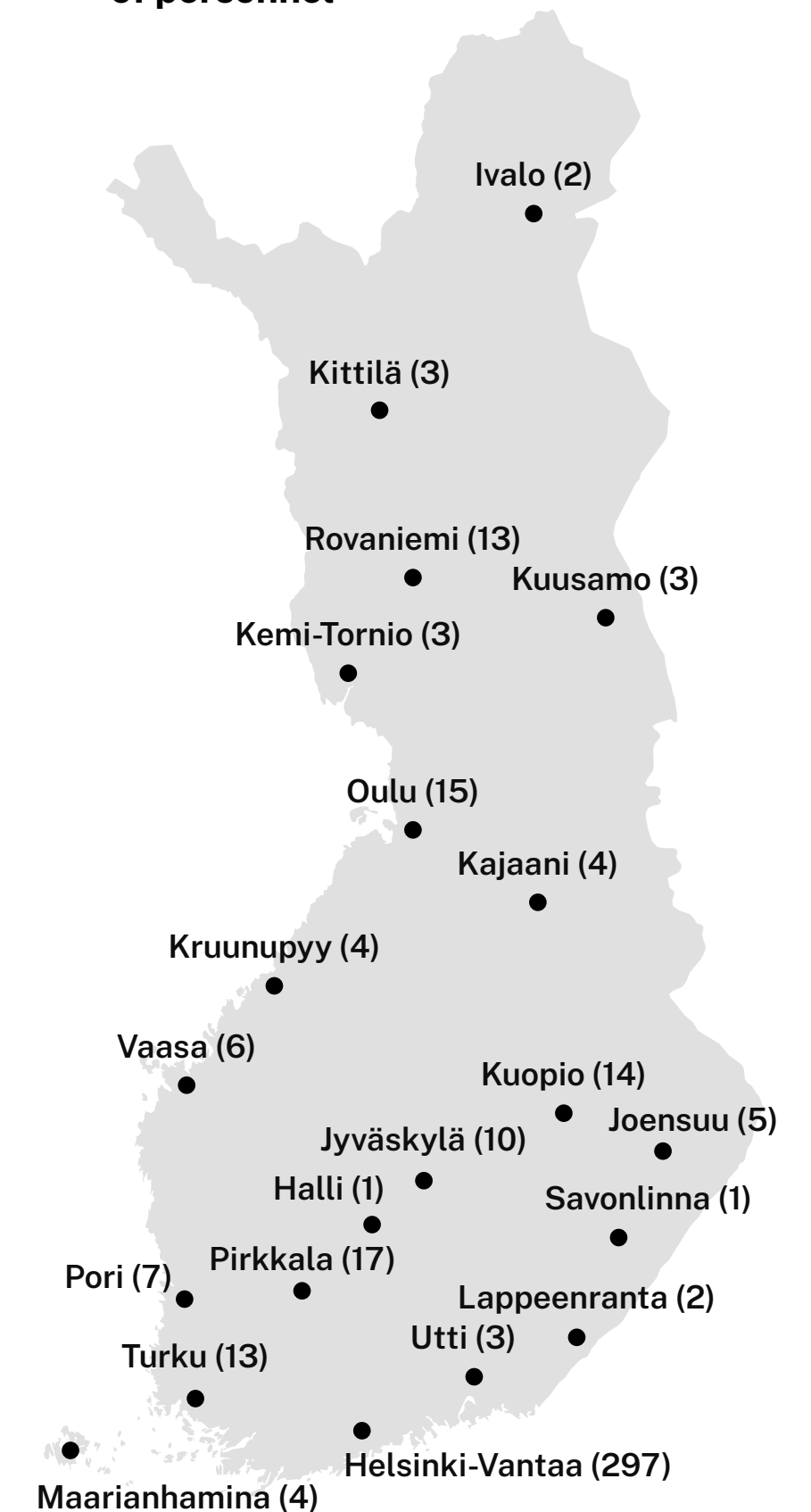
Age distribution of personnel



isation has prepared an occupational health and safety action plan for the company.

Read more about our efforts for a better work life in the Fintraffic Group's annual report: [Governance and Remuneration Report](#).

Geographical distribution of personnel



EU objectives define operations

Air navigation services are strongly regulated, and the terms of Fintraffic ANS license come directly from the EU. This gives the company a chance to offer air navigation services anywhere in Europe. The sector is increasingly opening up to international competition, and Fintraffic ANS is also preparing for this development.

Air navigation operations are getting prepared for the changes in the operating environment caused by, for example, unmanned aerial vehicles, short-range traffic and cybersecurity requirements. The EU leads the European ATM Master Plan.

Single European Sky (SES) is an EU project. SES seeks to harmonise practices in different countries. The SES is based on binding EU regulations and complementary rules on harmonised measures. For example, airlines and aviators benefit from the free routing airspace already in use in Finland, which allows them to choose their preferred route.

EU sets prices for air navigation services and performance targets for service providers in four main areas:

- the safety management systems must meet the set criteria
- the delays allowed for air traffic must stay within the set limits
- flight routes must be as short and unrestricted as possible
- costs must be below the set maximum level.

Single European Sky network performance plan (RP3 2020–2024) includes strict targets for service providers, and states are expected to improve their air navigation performance in

” For Finland, the targets concerning Fintraffic ANS were drafted by the Ministry of Transport and Communications and the Finnish Transport and Communications Agency Traficom.





” Fintraffic ANS is an active member of the association of air navigation service providers, Civil Air Navigation Services Organisation CANSO.

all areas. For Finland, the targets concerning Fintraffic ANS were drafted by the Ministry of Transport and Communications and the Finnish Transport and Communications Agency Traficom.

Functional airspace block NEFAB

Finland is part of the North European Functional Airspace Block (NEFAB) together with Latvia, Norway and Estonia. NEFAB is one of the nine European Functional Airspace Blocks established in connection with the SES project. Within the Airspace Blocks, states and service providers, including Fintraffic ANS, cooperate in developing operations.

Eurocontrol acts as the Network Manager in Europe, appointed by the EU.

Other operations

Fintraffic ANS is part of the Borealis Alliance, a consortium of nine air navigation service providers. Together the members of the Alliance make use of, for example, the free routing airspace on the same principles as in Finland.

Fintraffic ANS is also an active member of the association of air navigation service providers, Civil Air Navigation Services Organisation CANSO. CANSO seeks to improve the operating conditions of air navigation service providers and to influence the regulations governing them. Raine Luojus, the CEO of Fintraffic ANS, is part of the CANSO Executive Committee and the Chair of EC3. Thanks to this position, Finland has good opportunities to influence the development of the industry in Europe.

Case**We are preparing to provide low flight network services**

One of our strategic spearhead projects involves services for lower airspace and unmanned aerial vehicles. In 2021, we participated in a low flight network study coordinated by the Ministry of Transport and Communications. This study analysed the requirements for establishing a low flight network in Finland and the impacts of its establishment.

If implemented in line with the study, the low flight network would consist of two interrelated elements: a route network across the country and approach procedures to certain aerodromes.

Low flight network routes could be established between only those destinations deemed necessary or to cover the entire country. These routes would be linked to aerodrome approach procedures, which could also exist for uncontrolled aerodromes, selected emergency landing places or other locations

deemed appropriate, such as certain geographical sites or marine areas.

The key benefits of the network would be its impacts on Finland's national preparedness and safety infrastructure, as it would enable safe and flexible instrument flight operations at low altitudes. This would make it possible to speed up response times for rescue services and emergency medical services. The operating conditions for military aviation would also be improved by increasing navigation and approach services in terms of time, scope and procedures.

In some places, a separate route network would allow for safe flight at altitudes lower than the current operating environment, thereby increasing the flexibility of airspace use. In addition to the authorities, general aviation has shown an interest in the opportunities afforded by a low flight network to conduct instrument flight operations



at uncontrolled aerodromes, as the low flight network would improve the accessibility of uncontrolled aerodromes.

While the low flight network study was being carried out, the Government was preparing a proposal to amend the Aviation Act and certain related laws. The creation of a low flight network requires a review of several decrees and regulations.

One of the key questions is how to reconcile the many interests of those wanting to use lower airspace and enable equal opportunities for all operators, that is, not only the authorities, but also general aviation and unmanned aviation as a whole.

Drolo project pilots lower airspace management solutions

Fintraffic Air Navigation Services is involved in the Drolo project, which was launched in 2021. This project is coordinated by VTT, and its research partners are Aalto University and the

Finnish Meteorological Institute. The project is being piloted in the Oulu region and is seeking solutions for managing traffic in lower airspace.

Unmanned aviation will become more commonplace in the near future. The aim of the Drolo project is to test drones in various operating environments, such as urban areas, ports, archipelagos and near airports. The project will implement Finland's first air traffic control system aimed at drones (UTM, Unmanned Traffic Management) and a Common Information Services (CIS) test area.

As part of the project, Fintraffic Air Navigation Services will be modelling various options for ensuring safe, smooth and flexible air traffic. We are also engaged in open dialogue with various aviation operators.

The routes required in the Oulu region have been mapped, and the most realistic route needs will be tested during the initial phase of the project. These will include a route for the transport of samples between a health centre

and laboratory (Hailuoto-Oulu) and a fairway inspection route from the port to the open sea. A route from Oulu Airport to the centre of Oulu via the port is also being prioritised.

Digital service offering improves

The increasing number of digital services and the proliferation of unmanned aerial vehicles (that is, drones) in the air transport market is increasing the need for new kinds of services for airspace users.

In cooperation with Traficom, we launched a registration app for drone operators in 2021 and will be expanding our service offering for airspace users in spring 2022. Users will soon have a one-stop shop for real-time information such as weather data, airport services and opening hours, as well as information about any airport maintenance work or exceptional circumstances that may affect flying. Aerial vehicle operators will also be able to check airspace reservations with the aid of a digital map. This

will enable them to choose a safe route that, for example, avoids military training grounds.

This one-stop shop will enable all pilots to obtain consistent, real-time data that will increase safety throughout Finnish airspace.



Safety and responsibility

Safety is for Fintraffic ANS first and foremost value which we will not compromise under any circumstances. Fintraffic ANS continuously develops the safety of its operations and related quality assurance activities.


Fintraffic ANS has a licence for providing air navigation service issued by the Finnish Transport and Communications Agency Traficom. This means that the company continuously proves that it has a well-functioning and effective safety management system (SMS) meeting the common European requirements of the SES regulation. The system's compliance is controlled by inspections, information requests and audits, among others. The authority regularly controls our safety management operations. The SMS is an integral part of Fintraffic ANS management system. This ensures the priority of safety also at the practical level.

The assessment of safety impacts is part of our daily processes

Good safety and quality management also includes internal audits and an encouraging reporting culture. In accordance with the audit plan, we audit our own units at least once per three years and larger units once a year. One of the indicators of an encouraging reporting culture and good safety culture is the number of observations. The number of observations and audits have been reported in the Board of Directors Report.

Performance goals and safety

The performance Scheme set by the European Commission sets stringent goals for Finland regarding the punctuality, safety, environ-



” For Fintraffic ANS, the most important customer promise is the safety of its services, which is also the foundation for all its operations.



“Fintraffic ANS aims to be the world's most environmentally efficient air navigation company.”

mental efficiency and charges collected in air traffic. The performance Scheme of air navigation prepared as part of European airspace development is binding on the state of Finland and the air navigation service provided by Fintraffic ANS, and it steers the development of air navigation services.

The obligations under the performance Scheme have been set by the Finnish Transport and Communications Agency Traficom. In addition, safety goals are set in the Finnish Aviation Safety programme (FASP). It requires aviation organisations to conduct a survey of risk factors and set separate target levels for the risks and regularly monitor them

Responsibility

The operations of Fintraffic ANS affect the day to-day lives of many Finns in one way or another. Fintraffic ANS provides en-route service and aerodrome control and approach control services for airports. In practice, the company ensures smooth take-offs and landings at Finnish airports and that crossing the Finnish airspace is smooth and safe.

Air traffic enables the global citizenship of Finns. It allows tourism and business to thrive and provides employment to tens of thousands of Finnish people. Fintraffic ANS works to ensure that air traffic supports Finland's success in a comprehensive way. Air traffic allows Finland to stay active 24/7.

For Fintraffic ANS, most important customer promise is the safety of its services which also is the foundation for all its operations. Another key factor is to keep the Finnish airspace open in every day of the year, 24/7. The third success factor is the smoothness of air traffic: there were no delays in 2021 due to Fintraffic ANS en-route services.

Corporate responsibility is a natural part of the operating culture and corporate identity of Fintraffic ANS even by the nature of the company's operations.

Responsibility for the environment

Fintraffic ANS cooperates with international industry organisations and parties to reduce the negative environmental impacts of air traffic. The most important means of influence in this work include planning as short as possible flight routes, taking advantage of weather conditions, using efficient flight techniques, keeping delays to a minimum and using the entire European airspace as efficiently as possible.

Descent approach decreases CO₂ emissions

Fintraffic ANS aims to be the world's most environmentally efficient air navigation company.

Flight route optimizations and fuel-saving continuous descent approaches have an important role in decreasing CO₂ emissions. Operations are developed in cooperation with airline customers and the airport operator.

In 2021, there were 21,371 continuous descent approaches, accounting for 60.2 per cent of all approaches (35,500).

Read more about our sustainability work in Fintraffic Group's [Annual Report](#).



Governance and Organisation



Board of Directors, 31 Dec 2021



Pertti Korhonen

born 1961, MSc (Tech)

CEO,

Traffic Management Company Fintraffic Ltd

Professional experience and key positions of trust:

Outotec: CEO, 2010–2016. Elektrobit Oyj: CEO, 2006–2009. Nokia Corporation: member of the Executive Board, 2002–2006; CTO, 2004–2006; SVP, Nokia Mobile Software, 2001–2003; Director of production, logistics and procurement, 1996–2001; executive positions in product development and production, 1987–1995.

Corporate board positions: Chair of the Board for Infinited Fiber Company Ltd & Enerim Ltd; Member of the Board for Fastems Ltd & Granlund Ltd.

Previous board positions: Chair of the Board for DNA Ltd, Alhström Ltd & Climate Leadership Coalition; Member of the Board for Elisa PLC & Rautaruukki PLC.

Business Finland: Chair of the Board, 2017–2021.



Jarmo Lindberg

b. 1959, General

Chief of Defence in the Finnish Defence Forces (retd)

Board professional

Professional experience and key positions of trust:

Finnish Defence Forces, Chief of Defence 2014–2019. Finnish Air Force, Commander 2008–2012. Finnish Defence Forces, Deputy Chief of Staff, Logistics and Armaments 2012–2014. Finnish Air Force, Commander of Lapland Air Command 2005; Finnish Defence Forces, Defence Command, Assistant Chief of Staff Operations 2005–2008; Deputy Director, Operations

Division of Defence Command 2004. Finnish Air Force, Assistant Chief of Staff Operations 1999–2000, Chief of Operations 2001–2003. Finnish Air Force, Satakunta Air Command, Commander of Fighter Squadron 1995–1999. Finnish Air Force, Hornet training group leader 1995. Finnish Air Force, Chief of Pilot Training 1993–1994. Finnish Air Force, Karelia Air Command, Pilot Officer 1982–1989, Flight Commander 1989–1991.



Kaisa Olkkonen

b. 1964, M.L.

Board professional

Professional experience and key positions of trust:

Board and Audit Committee member at Cargotec Oyj 2016–; board member and chairperson at Enfo Oyj 2016– (chair 2020–); board member at Osuuskunta KPY 2020–. Board member at Kiinteistö Oy Novapolis 2020–; Chair of the Board at Fixably Oy 2020–; board member at John Nurminen Foundation 2017–; CEO at SSH Communications Security Oyj 2017–2020; Chair of the Board at SSH Communications Security Oyj 2016; managerial duties at Nokia Corporation and Nokia Mobile Phones 1998–2016 (incl. Chief Legal Officer, Head of Public Relations); Chair of the Steering Group of the Finnish IPR Strategy 2020–. Investor and advisor for Morelex Oy, 3D Bear Oy and Lulla Me Oy.



Hanna Hovi

born 1981, LL.M.

Chief Human Resources Officer,
Traffic Management Company Fintraffic Ltd

Professional experience and key positions of trust:

Traffic Management Company Fintraffic Ltd: Chief Human Resources Officer, 2020–. N-Clean: Chief Human Resources Officer, 2018–2020. YIT/Lemminkäinen: Head of HR Operational Services and Employee Relations, 2017–2018. Orion, Human Resources Manager, 2013–2017. The Federation of Finnish Technology Industries: Labour market expert, 2007–2013.

Fintraffic Air Navigation Services Ltd, Fintraffic Vessel Traffic Services Ltd, Fintraffic Railway Ltd & Fintraffic Road Ltd: Member of the Board, 2021–. Farmania: Member of the Board, 2017–. A member of labour market committees for various employers' organisations, 2016–.



Rami Metsäpelto

born 1968, Master of Laws (trained on the bench)

CEO, Fintraffic Vessel Services Ltd
Acting CEO, Traffic Management Company
Fintraffic Ltd (as of 1 December 2021)

Professional experience and key positions of trust:

Fintraffic Vessel Traffic Services Ltd: CEO, 2019–. Traffic Management Company Fintraffic Ltd: Executive Vice President, 2021– & Director, legal services, 2019–. Finnish Transport Agency: Director General (Traffic Management and Control, Planning and Projects, and Operations Management) and Director, legal services, 2010–2018. Several positions at the Ministry of Transport and Communications, Finnish Rail Administration and Helsinki District Court.

Fintraffic Air Navigation Services Ltd, Fintraffic Railway Ltd and Fintraffic Road Ltd: Member of the Board, 2021–. Hansel Oy: Member of the Board, 2014–2019. Liikenneturva: Member of the Board, 2017–2018.

Governance

The Board of Directors of Fintraffic ANS sees to the administration of the company and the appropriate organisation of the company's operations. In addition, the Board of Directors ensures that the company's accounts and asset management are appropriately organised. The Board of Directors complies with the Articles of Association, governance policy, agreement on authorisations, Limited Liability Companies Act and other valid legislation.

The Board of Directors has ratified a Board Charter, specifying the key tasks of the Board of Directors and the key procedures associated with Board work. In addition to the duties set forth in the Limited Liability Companies Act, the Board of Directors' duties include approving and monitoring the longterm strategy, confirming the annual objectives and budget and monitoring their realisation, approving the essential organisation structure, approving significant investments, establishing the investment policy, approving the principles of risk management and other similar key control systems,

appointing the CEO and confirming the appointment of management team members and confirming the remuneration paid to the senior management.

The Board of Directors has no separate committees. The Board of Directors assesses its operations regularly itself and, if necessary, using an external auditor.

The chairman of the Board of Directors was **Pertti Korhonen**. The other members of the Board of Directors have been **Jarmo Lindberg**, **Kaisa Olkkonen**, **Hanna Hovi** (starting from 17.3.2021) and **Rami Metsäpelto** (starting from 17.3.2021). **Ilkka Virtanen** was a member



” Risk management is an integral part of the internal control system and safety and quality management.



until 17.3.2021. The Board of Directors has convened 7 times.

The members of the Board of Directors have attended the meetings as follows: Pertti Korhonen 6 times, Ilkka Virtanen 1 time, Jarmo Lindberg 6 times, Kaisa Olkkonen 6 times, Hanna Hovi 4 times and Rami Metsäpelto 5 times. Remuneration is paid to members outside the Group at EUR 1,500 / month and in addition a meeting fee of EUR 600 / meeting. A total of EUR 43,200 in fees has been paid for the 2021 meetings.

CEO and management team

The CEO sees to the day-to-day management of the company in accordance with the instructions and orders issued by the Board of Directors. The CEO is appointed and the CEO's remuneration and other terms of employment are confirmed by the Board of Directors. The company's CEO has been **Raine Luojus**.

In addition to the CEO (chair), the strategic management team of Fintraffic ANS **Tapio Nurmela, Jani Suomela, Karri Hannula, Kari Kerke, Pasi Nikama, Antti Ruhanen, Stina Andersson, Christer Björkman, Seija Anttila and Tarja Hätinen**. The strategic management team convened twice a month basis. In addition to the members of the strategic management team, the company's management team comprises Director of Safety Tom Hätinen, Business Controller Jarkko Luoma and, as representative of the personnel, air traffic controller Vesa Tarvainen. The management team convened once a quarter.

Remuneration Schemes

The guidelines on remuneration in state-owned companies ratified by the government are complied with in terms of remuneration. The performance bonus scheme confirmed by the Group company Board of Directors specifies its key provisions, such as the grounds of determination and measurement of objectives.

The Group company Board of Directors can amend the rules of the system or decide not to pay performance bonuses. The objectives are based on the company's strategic themes: safety, improving operational efficiency, growth, customer satisfaction, management of personnel and management of operations/ implementation of projects.

Fintraffic ANS personnel is part if the Fintraffic Group company personnel fund. Fintraffic ANS employee performance bonuses of EUR 393 848,46 were paid to those covered by the common objectives, equating about EUR 1,177.75 per person in 2021.

You can read more about Fintraffic Group's remuneration policy in [Governance and Remuneration Report](#).

Risk Management

The company's risk management comprises two parts. In addition to Safety and Compliance, the company addresses risk management relating to financial, IT, investment, cash flow, income and insurance risks, for example. A risk management plan was prepared when the company began operations, and it is updated on a regular basis. Risk management is an integral part of the internal control system and safety and quality management. The company aims to analyse and identify predictively the impacts of diverse changes on en-route service and area traffic control operations.

Auditing

The company's auditor is Ernst & Young.



Strategic management



Raine Luojus

b. 1966
CEO,
Fintraffic Air Navigation Services Ltd

**Professional experience
and key positions of trust:**

Fintraffic Air Navigation Services Ltd: CEO, 2017–.
Finavia Corporation: Director, Air Navigation Business,
2011– 2017. Finavia Corporation: COO, Air Navigation
Business, 2008– 2011. Finnish Civil Aviation
Administration/Finavia: Deputy and operational
manager for air traffic control at Helsinki Airport,
2002–2008.Finnish Civil Aviation Administration:
managerial positions and chief instructor of air traffic
control at Helsinki Airport, 1999–2002; air traffic
controller, 1991–.

Member of the Board in several projects and
organisations, including CANSO; Chair of the Europe
region management group (EC3), 2020– & Vice Chair,
2018–2020.Finnish Meteorological Institute: Member
of the Advisory Board, 2018–. Chair of the FINEST
Management Board, 2019–. North European Functional
Airspace Block (NeFAB) CEO Board: Chair, 2015–2017.
NEFAB CEO Board: Member, 2012–.



Tapio Nurmela

b. 1975
SVP, Network Airports

**Professional experience
and key positions of trust:**

Air Navigation Services Finland Oy, SVP, Network
Airports, 1.12.2019–. Finavia Oyj/ANS Finland Ltd,
Area Manager in Northern Finland 2013–4/2019.
Finavia Oyj/ANS Finland Ltd, Rovaniemi Airport, Chief
of ATC 2010–2/2019. CAA Finland/Finavia, Air Traffic
Controller, Rovaniemi 2001–2009.



Jani Suomela

b. 1979, Master of Science (M.Sc.)
SVP, CTO

**Professional experience
and key positions of trust:**

Fintraffic Air Navigation Services, SVP, CTO 10/2020–.
Air Navigation Services Finland Ltd., VP, Head of System
Management 2019–2020. Air Navigation Services
Finland Ltd., Head of ANS Systems Management
2017–2019. Finavia Oyj, Head of ANS Systems
Management 2016–2017. Finavia Oyj, Head of CNS
maintenance 2015–2016. Finavia Oyj, Surveillance
systems manager 2008–2015. Finavia Oyj, Project
manager/System engineer 2006–2008. Helsinki
University of Technology, Research scientist, Master's
thesis worker and Research assistant 2002–2006.



Karri Hannula

b. 1968
SVP, ATCC Finland

Professional experience and key positions of trust:
Air Navigation Services Finland Oy, SVP, ATCC Finland 1 April 2017–. Finavia Oyj, Director, ATCC Finland 2015–2017. Iltmailulaitos/Finavia, Helsinki Airport, Chief of ATC 2008–2015, chief of ATC training 2004–2008. CAA Finland/Finavia, Air Traffic Controller, Helsinki Airport 1995–2015. CAA Finland, Pori Airport, Air Traffic Controller, 1992–1995.



Kari Kerke

b. 1965
SVP, Development and Quality

Professional experience and key positions of trust:
Air Navigation Services Finland Oy, SVP, Development and Quality 1.12.2018–. Air Navigation Services Finland Oy, PMO, Manager 2017–. Finavia Oyj, Air Navigation Business, PMO, Manager 2016. Finavia Oyj, Air Navigation Business, Specialist 2012–2016. CAA Finland/Finavia, Air Navigation Business, Project Manager/Systems Specialist 2005–2012. CAA Finland, EFES, Air Traffic Controller 1988–2005.



Pasi Nikama

b. 1968
SVP, Marketing and Customer Relations

Professional experience and key positions of trust:
Air Navigation Services Finland Oy, SVP, Marketing and Customer Relations, 1 April 2017–. Finavia, Air Navigation Business, VP, Marketing and Customer Relations 2015–2017. Finavia, Chief of Area Control Centre Finland, Southern Finland Air Navigation Centre 2010–2015. Finavia, Oulu Airport, Traffic Manager, 2007–2010. Finavia, Avia College, Instructor and Chief Instructor, 2002–2007. CAA Finland, Southern Finland Air Navigation Centre, Air Traffic Controller, 1997–2002. CAA Finland, Ivalo and Halli airport, Air Traffic Controller, 1995–1997. CAA Finland, Tampere-Pirkkala Airport, Southern Finland Air Navigation Centre, Air Traffic Controller Assistant, summer 1994, 1991–1992.



Stina Andersson

b. 1975
VP, Deputy Director, Development and Quality

Professional experience and key positions of trust:
Air Navigation Services Finland Oy, VP, Deputy Director Development 1.12.2018–. Air Navigation Services Finland Oy, Area Manager, ATS units in Western Finland 2017–2018. Finavia Oyj, Air Navigation business/ANS Finland Ltd, Quality Manager, 2016–2018. Finavia Oyj, Risk Management, Safety Analyst, 2008–2016 and Analyst Manager 2010–2011. CAA Finland/Finavia, Helsinki Airport, Air Traffic Controller 1998–2008.



Antti Ruhanen

b. 1979
VP, Avia College

**Professional experience
and key positions of trust:**

Fintraffic Air Navigation Services Ltd, Vice President, Avia College; 2019–. Air Navigation Services Finland Oy, Head of Training, Avia College 2017–2019. Finavia Oyj, Chief Instructor, Avia College 2012–2016. Finavia Oyj, Instructor, Avia College 2011–2012. Finavia Oyj, Air Traffic Controller, Helsinki Airport 2006–2011. CAA Finland, Air Traffic Controller, Helsinki-Malmi Airport 2005. CAA Finland, Flight Data Controller, 2001–2002.



Christer Björkman

b. 1968
VP, Deputy Director,
Network Airports and International Affairs

**Professional experience
and key positions of trust:**

Air Navigation Services Finland Oy, VP, Deputy Director, Network 1.12.2018–. Finavia Oyj, Air Navigation Business, Manager, Enroute services, 2008–2018. CAA Finland/ Finavia, Air Navigation Business, Planning Manager, 2000–2008. Oy Propilots Ab Ltd, CEO, 1999–2000. CAA Finland, EFES, Chief Instructor, 1996–1998. CAA Finland, EFES, Operations, 1995–1999. CAA Finland, EFES, Air Traffic Controller 1990–1999.



Seija Anttila

b. 1977, MBA
HR Business Partner

**Professional experience
and key positions of trust:**

Traffic Management Company Fintraffic Ltd., HR Business Partner 1.3.2019–. Air Navigation Services Finland Ltd, HR Specialist 2017–2019. Finavia Oyj, HR Specialist, 2010–2017. Finavia Oyj, Roster Planner, 2006–2010. CAA Finland, EFES, Air Traffic Control Assistant 1997–2006.



Tarja Hatinen

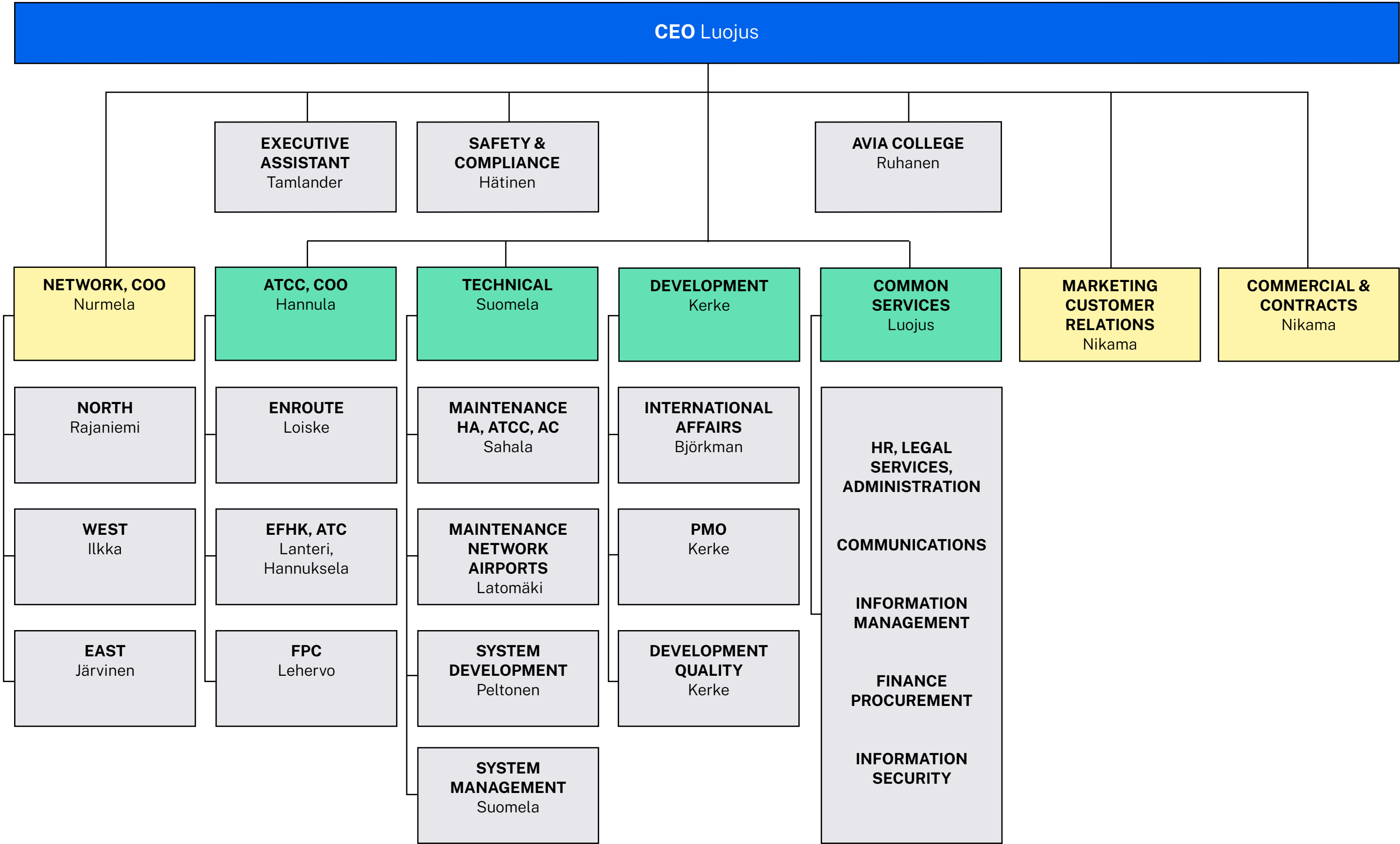
b. 1966
Chief Financial Officer

**Professional experience
and key positions of trust:**

Fintraffic Air Navigation Services Ltd, Chief Financial Officer 1.1.2020–. Fintraffic, Group Financial Controller 1.1.2019–. Air Navigation Services Finland Ltd, Business Controller 2017–2019. Finavia Corp, Business Controller, Helsinki Airport / Investment Process 2012–2017. Finavia Corp, Finance Manager, Helsinki Airport 2009–2012. Sanitec, Head of Finance / Financial Controller 2006–2009. KONE, Controller 1997–2006. OP Helsinki, Controller / assistant controller 1990–1997.



Organisation 31.12.2021



Towards the world’s safest, smoothest and most environmentally friendly traffic

Fintraffic Air Navigation Services Ltd (Fintraffic ANS) is part of the Traffic Management Company Fintraffic Ltd. Fintraffic is a wholly stateowned Group with special assignment, operating under the ownership steering of the Ministry of Transport and Communications.

The group provides and develops traffic control and management services for all modes of transport. We help people and goods to arrive safely, smoothly and with respect for the environment. Intelligent traffic control services, digital services for businesses and consumers, and up-to-date traffic data will help Finland become a pioneer in sustainable transport and logistics.

The Fintraffic group employs 1,100 professionals across Finland.

Traffic Management Company Fintraffic Ltd subsidiaries:

- Fintraffic Air Navigation Services Ltd is responsible for air navigation services.
- Fintraffic Vessel Traffic Services Ltd is responsible for vessel traffic services.
- Fintraffic Railway Ltd is responsible for rail traffic control and management.
- Fintraffic Road Ltd is responsible for road traffic control and management.



Board of Directors' report and Financial statements



Financial statements

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Fintraffic Air Navigation Services Ltd

Board of Directors' report 2021

Mission and Group relationship

Fintraffic Air Navigation Services Ltd (until the end of 2020 under the name Air Navigation Services Finland Oy, ANS Finland) is responsible for special tasks relating to air navigation, such as airspace management, area control, services for the state's aviation and aeronautical rescue services. In addition, the company is responsible for en-route services in the Finnish airspace and air navigation services at Finavia-owned airports and the Enontekiö and Lappeenranta airports. The company is also responsible for the technical air navigation services of five airports in Sweden as a subcontractor of ACR Aviation Capacity Resources AB. Fintraffic Air Navigation Services Ltd is also responsible for the design and maintenance of the infrastructure and systems required for air navigation in compliance with international requirements.

Fintraffic Air Navigation Services Ltd's customers include commercial aviation

operators, airports, the Finnish state's aviation operations including military aviation, general aviation and pilot training schools.

Fintraffic Air Navigation Services Ltd is part of the Fintraffic Group.

Key events in the financial year

The year 2021 was characterised by the adjustment of operations due to reduced air traffic. In en-route services and at Helsinki Airport, traffic volumes were modest until July, on average only about 25–40% of the volume compared to the corresponding period of 2019. Traffic at network airports continued to be normal in terms of military traffic throughout 2021, so joint airports and military airports have operated almost as normal. The situation at other network airports was also better than in 2020, although some airports were closed due to lack of scheduled flights.

As COVID-19 vaccinations progressed, airlines increased their flights from late

summer to the end of 2021 so that, in December, the level of en-route services was already around 72% and that of Helsinki Airport around 60–65% compared to 2019. The rapid spread of the Omicron variant did not yet have an impact in December, but traffic volumes at seasonal airports in Northern Finland reached the pre-pandemic level at the end of the year. On the whole, the recovery of traffic volumes in Finland has been significantly, up to 20%, slower than in the rest of Europe.

Due to the sharp decrease in the volume of air traffic and the dramatic decrease in turnover, almost all personnel have been laid off, depending on their work tasks, partly or until further notice during 2021. The company saved in all categories of operating costs and either postponed or cancelled investments. Adjustment measures have been taken as much as possible, while ensuring the safety of air traffic and carrying out the company's statutory and service agreement tasks, which are based on European Union legislation,

in accordance with the agreements and authorities' regulations.

At the beginning of 2021, the company's cash position was poor. The company relied on the Group's financing arrangements. The company's balance sheet was strengthened by the parent company's EUR 8 million investment, which was recorded in the reserve for invested unrestricted equity. The state granted the company a subsidy of approximately EUR 3 million through Traficom, corresponding to the amount of Finland's Eurocontrol membership fee. In addition, the company has received support for the organisation of vocational training and innovation funding for development projects.

Despite the pandemic, the company has promoted its strategic projects to ensure future performance. One of the strategic objectives is the strategic FINEST project, which was established in cooperation with an Estonian air navigation service provider and



which progressed according to plan during 2021. Its purpose is to survey the opportunities of providing air navigation services across country borders.

The preparation of the remote control concept, Multi-ROT, progressed in 2021. Fintraffic ANS and Finavia are planning to acquire a remote control system for the airports specified by Finavia. If the service were introduced, one air traffic controller would be able to remotely control the air navigation of more than one airport during their shift.

The third strategic project relates to U-space and unmanned traffic services. Under the guidance of the Ministry of Transport and Communications, the company together with state flight operators investigated the construction of a U-space network and satellite-based cloud penetration methods in uncontrolled airspace. Under the guidance of the Ministry of Transport and Communications, the company prepared a report aimed at implementing the project, which the ministry published in September.

The proliferation of unmanned aerial vehicles, i.e. drones, in the air traffic market increases the need for new types of traffic management services. During 2020, a network service for drone pilots was prepared

in cooperation with Traficom and introduced in early 2021. The system also supports the digitalisation of general aviation and is part of the air navigation service.

Commercial projects also made progress. During the autumn, the company's training centre, Avia College, completed the training of Luxembourg's air traffic controllers, which began last year. At the beginning of 2021, the company also started as a subcontractor of ACR Aviation Capacity Resources AB at five airports in Sweden, which means that it is responsible for the technical air navigation services of the airports. The duration of the agreement is eight years.

At the initiative of Finnair, the company's largest customer, Avia College was completely moved to the AVIA Fleet building, where the company's other premises in Vantaa are also located.

Revenue and profit

The company's revenue in 2021 was EUR 62.8 (49.3) million. Revenue grew by 27.4% year-on-year. The increase was mainly due to the regulation adjustment of EUR 16.6 (5.0) million. The regulation adjustment is based on EU legislation, according to which the 2020 and 2021 deficits could lead to an increase in air navigation charges in the future. Revenue

based on invoicing amounted to EUR 46.2 (44.3) million, which is 4.2% higher than in the previous year. Turnover was boosted by the recovery in traffic and other income. The unit price of the en-route service (EUR 42.88/service unit) was 1.5% lower than in the previous year. By contrast, the unit price of Helsinki Airport's air navigation service (EUR 123.64/€-tn-unit) was 3.3% higher than in the previous year. Other operating income includes state support for Eurocontrol's membership fee and subsidies from the European Union for deployment projects of the Trans-European Transport Network in the aviation sector.

The adjustment measures continued in 2021. Operating costs were 2.5% below the

level of 2020 and 10.4% below the level of 2019 prior to the pandemic. The most significant savings were achieved in staff expenses, which were 20.0% lower than in 2019. Most of the savings resulted from the layoffs. The cost of materials and services was 5.5% higher than in 2020. Other operating expenses were 3.8% lower than in 2020. Depreciation increased by 12.7% with new deployments.

The operating result of the company in 2021 was EUR 1.2 (16.1) million in negative due to the decrease in traffic caused by the COVID-19 pandemic. Group support and the unwinding of the depreciation difference turned the profit for the financial year EUR 3.4 million positive (EUR 13.3 million negative).

Key indicators	2021	2020	2019	2018	2017*
Revenue (EUR million)	62.8	49.3	80.2	81.5	63.9
Operating profit (EUR million)	-1.2	-16.1	5.9	6.8	9.3
Operating profit/revenue (%)	-2.0	-32.6	7.3	8.4	14.5
Investments (EUR million)	6.2	1.9	5.3	2.1	4.0
Return on equity (%)	-8.7	-107.6	14.5	31.2	45.1**
Equity ratio (%)	45.1	22.6	36.1	37.0	40.8
Personnel on average (FTE)***	326	355	405	408	402

* operations commenced on 1 April 2017

** calculated on the basis of the closing rate for balance sheet items

*** layoffs reduce the person-years in 2020 and 2021



Traffic

Traffic volumes in 2021 were still clearly below normal due to the COVID-19 pandemic. In January–June, the traffic volumes of the en-route service were approximately 40% of the level of the pre-pandemic period. In the second half of the year, traffic increased so that in December traffic volumes were 72% of the 2019 level in all services (overflights, international traffic and domestic traffic). In overflights, traffic volumes in the early part of the year were about 55% of the level in 2019, while in domestic traffic (approximately 25%) and in international transport (approximately 20%), the volumes were lower. Towards the end of the year, the volume of domestic and international traffic grew faster than the overflight volume.

In the first half of the year, the traffic volumes of Helsinki Airport were approximately 20% higher than in 2019. In the second half of the year, traffic increased so that in December traffic was 63% of the level of 2019. In domestic traffic, growth started a little earlier than in international traffic.

Operational uncertainties and assessment of key risks

The company's risk management comprises two parts. The risk management unit deals

with cases relating to the safety of air traffic, in addition to which the company addresses other risk management matters relating to financial, IT, investment, cash flow, income and insurance risks, for example. The risk management plan is regularly updated.

The most significant financial risk is related to the low volume of air traffic in the next few years. The pandemic may even permanently change people's travel behaviour, especially business travel, so it may take a few more years for traffic to recover to the pre-pandemic levels.

In addition to the pandemic, the geopolitical crisis in Eastern Europe, if prolonged, will have repercussions on the availability of airspace. In practice, the closure of Russian airspace will put an end to overflights in Finland, significantly reducing the turnover of air navigation services.

This uncertainty is aggravated by the delay in the processing of the European Performance Scheme for air navigation services' objectives for the coming years. A decision by the European Commission is expected in May 2022.

Personnel, training and salaries

At the end of 2021, the company employed a total of 427 (434) professionals from

different fields, of whom approximately 280 work in air traffic control duties. In addition to air traffic control personnel, the company employs technical air navigation, administration, safety and risk management professionals in 22 production units across Finland. The salaries paid to the personnel during the financial year totalled EUR 29.8 (30.9) million.

The average age of employees is 47.0 years and the average duration of employment relationships is 17.9 years. Of the employment relationships, 97% are permanent and 3% are fixed-term.

In 2021, the collective agreement concerning Fintraffic Air Navigation Services Ltd (former Service Sector Employers Palta's General Collective Agreement for the Special Sectors of Palta) and the collective agreement with the Finnish Air Traffic Controllers Association were renewed, which are the collective agreements applied in Fintraffic ANS. The collective agreement for Ilmailutietekniset (ILTT) was renegotiated during the year, but results were not yet achieved.

Fintraffic Air Navigation Services as well as the entire Fintraffic Group carried out a group-wide personnel survey in the early autumn of 2021. The company's overall performance in key areas has decreased

slightly from the previous year, which is partly explained by the ongoing COVID-19 pandemic and its impact on the industry. However, in the majority of the company's business areas, the overall results are at the previous year's level and even better than before. The managerial index of the entire company is still at a good level. High-quality managerial work and management is part of the strategy of Fintraffic ANS and the aim is that the investments in personnel will continue to be reflected in the managerial index.

In 2021, the remote working recommendation was extended for the whole year to the extent possible due to work tasks, with a few temporary exceptions caused by the improving COVID-19 situation.

In 2021, the Fintraffic Group prepared common values for all its businesses areas and the parent company. The personnel of Fintraffic ANS also made valuable contributions and actively participated in their creation through the value survey and HYVÄ workshops.

In autumn 2021, Fintraffic ANS launched also a corporate culture reform project in cooperation with Leidenschaft and Prevenia. Based on the survey and interviews conducted by Leidenschaft, both the current state of the corporate culture and the experience



of the employees were examined. Leiden-schaft provided the company's management with an analysis of the results and action proposals, which are being processed by the management, and some of them will be implemented in 2022. The results of the personnel survey, the formation of new values and the corporate culture development project support each other and will take the company's development in a better direction in the future.

The representatives of Fintraffic ANS personnel have also been active in the Fintraffic-wide cooperation group in 2021 and the occupational health and safety committee has continued its meetings at the company level.

During 2021, the company held one cooperation meeting regarding the reduced demand for services caused by the COVID-19 pandemic. So far, the adjustment measures have still been implemented through layoffs and terminations have not even been negotiated.

Refresher training to maintain the professional skills of operational personnel was carried out in accordance with the annual plan as either local training, remote training or as refresher or conversion training at Avia College. The plan included the training of the personnel of the Air Traffic Control Centre Finland and air traffic control units

elsewhere in Finland. For the airports of the network, the simulator sections of the refresher training for procedural controllers and flight information officers, which were postponed in 2020, were carried out during the autumn as the pandemic subsided. For the joint airports, refresher training was carried out remotely and the part to be held in the simulator was postponed until 2022. The trainings were realised in accordance with international regulation.

Training of technical personnel was carried out in order to maintain existing ATSEP qualifications and to develop professional skills in accordance with international regulations. In addition, the training required for the ATSEP qualification of new employees who started at the beginning of the year was carried out during the first half of the year.

With regard to occupational health and safety in the workplace, the company focuses on measures that promote safe and healthy working environments and working conditions, as well as the maintaining the personnel's physical and mental ability to work. In 2021, the focus on the development of occupational safety and well-being was shifted more to the management of psychosocial stress factors in the work community, which is reflected, for example, in the work community development

projects that have been initiated. To improve the working environments and conditions, the employer and the employees prevented or removed work-related hazards. The aim was to minimise occupational health and safety risks to ensure that there are no accidents at the workplace. Disability due to occupational disease or occupational accidents as well as close calls were also minimised.

During the second year of COVID-19, both unit-specific and group-level occupational health and safety measures and COVID-19 preparedness were successfully implemented thanks to active occupational health and safety activities. Work-related COVID-19 infections did not occur at the air navigation company's workplaces.

In 2021, there were no occupational accidents causing at least one sickness-related absence day among the company's employees. A total of four occupational accidents were reported, but they did not result in sickness-related absences. A total of 17 safety and health observations were made. The observations were related to, for example, lighting, indoor air and psychosocial workload. The highest physical risk for an accident still appears to be caused by slipping and tripping at work or on the way to or from work.

In 2021, the sick leave rate among the company's personnel was 3.1% and accident rate 0.0% (the annual number of accidents per a million working hours).

Air traffic safety

Safety is the company's first and foremost value. The company continuously strives to improve the safety of its operations and the related quality assurance in accordance with the requirements of safety management, even during the long-running exceptional circumstances of air traffic.

Adjustment measures continued in 2021 due to the strong decline in air traffic. The slow recovery in traffic started in 2021. Regardless of the exceptional circumstances, it must be possible to ensure the safety of operations even in situations where services need to be restricted due to, for example, declining demand. The air navigation service provider must also ensure that the challenges posed by slow traffic are met and the return to normal traffic can be guaranteed and managed in a controlled manner. Returning to normal operations follows the principle of safety priority, i.e. traffic is controlled, if necessary, in such a way that employees can establish a sufficient routine as traffic volumes increase



towards normal. Transparent and active communication with the personnel has been monitored, especially in matters related to the exceptional circumstance and traffic recovery, and efforts have been made to identify the related causes and factors. Risk assessment is part of the company's day-to-day operations. The security risk management was significantly improved already in 2020 by the introduction of a new comprehensive change management system operating on an electronic platform, which integrates change risk management into a broader case management system. The reform significantly improved the speed, reliability and level of documentation of processing as well as the traceability of matters. The system has continued to be used and developed in 2021.

In 2021, a total of 47 extensive safety impact assessments related to the changes were carried out as part of the change management process. In addition, 590 preliminary safety impact assessments were carried out on the changes. This number reflects the strong commitment to ensuring safety of all employees as well as the effectiveness of the process. All such changes that have or may have an impact on the safety of the operations are assessed. Changes made by our partners in the shared airport

environment, which may have an impact on the air navigation operations, are also assessed in terms of their safe impacts. In addition, a process is used to provide partners (including other air traffic service providers) with timely information on changes that have or may have an impact on their operations (so-called Safety Support Assessment and Multi-Actor-Change procedures).

Close cooperation in the safety sector continued with regard to the joint project of the Finnish and Estonian air navigation service providers (FINEST). In the safety sector, we achieved the operational objectives related to the project, so that the prerequisites for starting operations in terms of safety cooperation are in place.

Good safety and quality management also includes internal control and an encouraging reporting culture. During the year, 14 company's own audits were carried out. No serious incidents were recorded. One of the indicators of an encouraging reporting culture and good safety culture is also the number of observations and incident reports. The persistence of high reporting rates signals that issues are reported transparently and actively. The first external audit related to the subcontracting activity was also carried out in 2021.

Reporting activity, internal control and safety assurance of changes in 2021

	pcs
Incident and observation reports by the personnel	1,787
Technical notifications related to the operation of equipment or technical systems	2,053
Change risk assessments	47
Preliminary assessments of the safety impacts of changes	590
Internal audits	14

Performance goals and safety

The Performance Scheme set by the European Commission sets stringent goals for Finland regarding the punctuality, safety, environmental efficiency and charges collected in air traffic.

The Performance Scheme of air navigation services prepared as part of European airspace development is binding on the state of Finland and the air navigation service provided by the company, and it steers the development of air navigation services.

In addition, safety goals are set in the Finnish Aviation Safety Programme (FASP). The programme requires aviation organisations to conduct a survey of risk factors and set reaction and acceptability levels for the risks and regularly monitor them.

Performance targets set

TARGET	IMPLEMENTATION IN 2021
Safety	
Efficiency of the safety management system	Achieved (see note 1)
Just Culture	The target was achieved



In addition to the Performance Scheme, Fintraffic Air Navigation Services Ltd has specified its own safety targets in its Safety and Business Plan (including the targets of the Finnish Aviation Safety Programme FASP):

TARGET	IMPLEMENTATION IN 2021
1) No accidents caused by the operations of Fintraffic Air Navigation Services Ltd	The target was achieved. No accidents.
2) No serious incidents caused by the operations of Fintraffic Air Navigation Services Ltd	The target was achieved. No serious incidents.
3) Targets under the Finnish Aviation Safety Programme (FASP) Measures/Reaction and acceptability levels by risk classification (total of 23 items)	The security programme sets targets for 23 factors. The target was reached for 22 factors. One incident exceeded the reaction level.
4) Incidents related to airspace reservations No serious airspace reservation management incidents	The target was achieved. There were no serious airspace reservation incidents.

Please note! 1) With regard to the effectiveness of the safety management system, the final result for 2021 will be confirmed later, but it is our preliminary understanding that we will achieve the 2021 maturity targets. The target level set for 2024 has not yet been reached for two factors.

Deviation from the targets and related measures

The safety targets set by the company for itself are an important part of continuous improvement of operations. In order to ensure development, it is also justified to set targets that can be challenging to achieve, and it is not always self-evident that they will be achieved.

With regard to the targets under the Finnish Aviation Safety Programme, there

was one loss of required minimum separation between aircraft, where the target was not achieved. The incident did not pose an immediate risk of collision. However, the incident exceeded the reaction level set by the company. Cases exceeding the reaction level always require an assessment of the need for corrective measures. The incident took place at the end of 2021, which is why its processing by the safety management bodies is still

ongoing. In this case, traffic management has been at a reasonable level, even if the required minimum distance between the aircraft was lower. So far, there are no known factors that would have required immediate corrective actions.

Environment

In 2021, the company worked in close cooperation with Finnair to reduce the environmental damage caused by flying. There is also extensive cooperation with international organisations and operators in the field. Significant means of influence include planning flight routes which are as short as possible and make use of weather conditions, using efficient flight methods around airports, keeping delays to a minimum and using the entire single European airspace as efficiently as possible.

Key events after the end of the financial year

In February 2022, the representatives of the Defence Administration provided advance information according to which all the preconditions set by the Defence Administration for the FINEST project have not been fulfilled by the project. No final confirmation has yet been

received, but the implementation phase of the project is likely to be delayed as a result.

The geopolitical situation in Eastern Europe, the Russian attack on Ukraine on 24 February 2022 and the resulting flight bans imposed on Russian flights to Europe and the flight bans imposed by Russia on European airlines, affect the overflight permits for flights to Asia, the routing of flights and, thereby, the company’s flight route income and the TN income of Helsinki Airport. The economic impact will be significant if the flight bans continue for a long time.

Estimate of probable future development

According to the current estimate, the number of flights (caused by COVID-19) is still lower than in 2019, which will have a significant impact on the revenue of Fintraffic Air Navigation Services Ltd at least during the first half of the year. In addition, the company is particularly prepared for a reduction in overflights and income due to Russia's attack on Ukraine and the resulting flight restrictions. Due to the financial situation, the company will continue its adjustment measures at least in the first half of this year. However, almost all staff have already been



recalled to work after the layoffs, although in the air traffic control centre in particular, part-time layoffs continue.

Fintraffic Air Navigation Services Ltd’s central development project with the Estonian air navigation company EANS to create a common airspace and make working methods more efficient (FINEST) is delayed. The problems of the voice connection system and the demands of the Finnish Defence Forces for the implementation of the project delay the implementation of the final phase by approximately 6–12 months.

Management and auditing

Pertti Korhonen continued as the Chairperson of the Board of Fintraffic Air Navigation Services Ltd and Jarmo Lindberg and Kaisa Olkkonen as members of the Board of Directors throughout the year. At the Annual General Meeting on 17 March 2021, Ilkka Virtanen was replaced by Hanna Hovi and Rami Metsäpelto. The Board convened eight times during the financial year. A total of EUR 43,200 was paid as remuneration to the members of the Board of Directors who are not employees of the Group.

The CEO of the company is Raine Luojus. The company’s auditor was Ernst & Young Oy, with Mikko Rytilahti as the auditor in charge.

Shares and share capital

The company’s share capital is comprised of 330 shares of equal value. The share capital amounts to EUR 3,300. The entire stock is owned by Traffic Management Company Fintraffic Ltd. The Ministry of Transport and Communications is responsible for the Group’s ownership steering.

Board of Directors’ proposal for the distribution of profits

The company’s distributable assets in the financial statements of 31 December 2021 amounted to EUR 19,780,303.59. The Board of Directors proposes that no dividends be distributed and that the result for the financial year, EUR 3,442,407.96, be carried over in retained earnings.



Income statement

EUR	1.1.–31.12.2021		1.1.–31.12.2020	
REVENUE	62,812,914.08		49,303,445.43	
Other operating income	3,825,855.85		3,640,786.23	
Materials and services				
Materials and supplies				
Purchases during the financial year	596,546.46		569,252.32	
External services	8,108,519.75	8,705,066.21	7,681,970.88	8,251,223.20
Staff expenses				
Salaries and bonuses	29,788,466.52		30,903,170.08	
Indirect staff expenses				
Pension expenses	5,061,780.58		4,921,792.30	
Other indirect staff expenses	834,484.79	35,684,731.89	1,172,628.46	36,997,590.84
Depreciation, amortisation and impairment				
According to plan	4,173,109.98		3,704,231.52	
Other operating expenses	19,301,244.67		20,053,761.32	
OPERATING PROFIT (LOSS)	-1,225,382.82		-16,062,575.22	
Financial income and expenses				
Other interest and financial income	15,527.55		16,171.90	
Interest expenses and other financial expenses	-13,749.40	1,778.15	-71,118.88	-54,946.98
PROFIT (LOSS) BEFORE APPROPRIATIONS AND TAXES	-1,223,604.67		-16,117,522.20	
Appropriations				
Increase (–) or decrease (+) in cumulative accelerated depreciation	446,012.63		676,916.99	
Group support	4,220,000.00		2,170,000.00	
Income taxes	0.00		0.00	
PROFIT (LOSS) FOR THE FINANCIAL YEAR	3,442,407.96		-13,270,605.21	



Balance sheet

EUR	31.12.2021		31.12.2020	
Assets				
NON-CURRENT ASSETS				
Intangible assets				
Intangible rights	2,930,233.06		3,750,295.11	
Other long-term expenditure	1,068,154.94	3,998,388.00	1,181,479.73	4,931,774.84
Tangible assets				
Machinery and equipment		4,841,307.84		4,351,606.97
Advance payments and construction in progress				
Purchases of machinery and equipment in progress	5,145,981.73		3,870,967.94	
Licence and software acquisitions in progress	1,262,528.19	6,408,509.92	2,678,454.54	6,549,422.48
CURRENT ASSETS				
Receivables				
Non-current receivables				
Accruals		16,010,380.00		3,071,471.63
Current receivables				
Trade debtors	3,948,652.32		6,916,638.84	
Receivables from Group companies	4,380,865.12		4,979,414.50	
Other receivables	701,139.92		447,614.08	
Accruals	3,281,402.00	12,312,059.36	5,684,155.67	18,027,823.09
Cash and cash equivalents		319,632.71		0.00
Total assets		43,890,277.83		36,932,099.01



Balance sheet

EUR	31.12.2021		31.12.2020	
Equity and liabilities				
EQUITY				
Share capital	3,300.00		3,300.00	
Reserve for invested unrestricted equity	16,300,000.00		8,300,000.00	
Retained earnings	37,895.63		13,308,500.84	
Profit (loss) for the financial year	3,442,407.96	19,783,603.59	-13,270,605.21	8,341,195.63
CUMULATIVE APPROPRIATIONS				
Depreciation difference		0.00		446,012.63
Statutory provisions				
Other statutory provisions		0.00		6,666.66
LIABILITIES				
Non-current liabilities				
Regulation debt	0.00	0.00	4,160,130.65	4,160,130.65
Current liabilities				
Trade creditors	2,887,075.95		2,372,138.52	
Amounts owed to Group companies	1,256,975.17		881,389.67	
Other liabilities	1,452,802.16		1,531,805.88	
Accrued liabilities	18,509,820.96	24,106,674.24	19,192,759.37	23,978,093.44
Total equity and liabilities	43,890,277.83		36,932,099.01	



Cash flow statement

EUR	2021	2020
CASH FLOW FROM OPERATING ACTIVITIES		
PROFIT (LOSS) BEFORE APPROPRIATIONS AND TAXES	-1,223,604.67	-16,117,522.20
Adjustments:		
According to plan	4,173,109.98	3,704,231.52
Other income and expenses without payment	-17,104,083.45	-5,106,942.68
Total financial income and expenses	-1,778.15	54,946.98
Cash flow from operating activities before working capital change	-14,156,356.29	-17,465,286.38
Working capital change:		
Increase(-)/decrease(+) in short-term non-interest bearing trade receivables	5,554,670.73	1,363,620.20
Increase(+)/decrease(-) in short-term non-interest bearing liabilities	465,538.59	-4,149,702.18
Cash flow from operating activities before financial items and taxes	-8,136,146.97	-20,251,368.36
Interest paid and payments for other financial expenses	-8,107.01	-16,068.88
Interest received relating to operating activities	15,527.55	16,171.90
Other financial items from operating activities	461,962.78	23,000,708.83
Income taxes paid	0	-876,999.99
Net cash flow from operating activities	-7,666,763.65	1,872,443.50
CASH FLOW FROM INVESTING ACTIVITIES		
Investments in tangible and intangible items	-6,218,526.31	-1,872,443.50
Proceeds from sale of tangible and intangible assets	117,648.01	0.00
Investment aid received	3,917,274.66	0.00
Cash flow from financing activities	-2,183,603.64	-1,872,443.50
CASH FLOW FROM FINANCING ACTIVITIES		
Share issue/reserve for invested non-restricted equity	8,000,000.00	0.00
Group supports received	2,170,000.00	0.00
Cash flow from financing activities	10,170,000.00	0.00
NET INCREASE (+)/ DECREASE (-) IN CASH AND CASH EQUIVALENTS	319,632.71	0.00
Cash and cash equivalents 1 January	0.00	0.00
Cash and cash equivalents 31 December	319,632.71	0.00
	319,632.71	0.00



Notes to the income statement and balance sheet

Fintraffic Air Navigation Services Ltd is a member of the Fintraffic Group, the parent company of which is Traffic Management Company Fintraffic Ltd., business ID 2942108-7, domicile Helsinki. Fintraffic Air Navigation Services Ltd’s financial statements have been consolidated with Traffic Management Company Fintraffic Ltd’s consolidated financial statements. A copy of the consolidated financial statements is available from the company head office Palkkatilanportti 1, FI-00240 Helsinki, Finland.

Valuation principles

VALUATION OF FIXED ASSETS

Fixed assets are measured at cost less planned depreciation.

Depreciation according to plan is calculated on the basis of the economic life of the fixed assets as follows:

Computer software	straight-line depreciation	5 years
Other long-term expenditure	straight-line depreciation	5–10 years
Machinery and equipment	straight-line depreciation	5–15 years

REVENUE

The revenue for the financial year 2021 is improved by a regulation adjustment of EUR 16,616,920.00. The regulation adjustment includes receivables and debts based on EU legislation concerning the en-route service and the air navigation service of Helsinki Airport. In the financial year 2020, the regulation adjustment increased revenue by EUR 4,983,218.35.

The adjustment entry for 2021 includes changes to the regulation item for 2020 and 2021. In the financial year 2020, the net liability recognised at the end of the period of the previous Performance Scheme was partly paid off. In 2020, no new adjustment items were recognised due to uncertainty related to the application of the amendment to EU legislation.

For the financial year 2021, EUR 27,674,453 has been recognised as regulation receivables for 2020 and 2021 on the basis of EU exemption legislation. In the draft Performance Scheme for the period 2020–2024 submitted to the European Commission by Finland, the regulation receivable was: over EUR 52 million in total. In accordance with the precautionary principle, the amount receivable has been recorded at a lower level.

The uncertainty is related to the level of costs determined acceptable in 2020–2021. The Commission will comment on the national plans during spring 2022.

In addition, a net debt of EUR 7,674,850 for the previous planning period, which ended in 2019, has been cancelled in the financial year 2021.

The debt was repaid as a lower unit price charged to airspace users for the service. The debt had mainly constituted of the transport risk mechanism and inflation, and to a small extent the transmission of EU subsidies to customers and capacity incentives. With traffic significantly lower than predicted in 2020 and 2021, EUR 7,681,608 of the regulation debt of the previous planning period was further transferred to future years. In 2020 and 2021, EUR 11,050,775 of new regulation debt was incurred, mainly on the basis of the EU subsidies received for investment and current expenditure projects and the state’s contribution to Eurocontrol’s membership fee.

At the end of 2021, the company’s balance sheet included a net receivable of EUR 3,893,961 as a result of the regulation adjustment.

ACCOUNTING PRINCIPLES OF THE FINANCIAL STATEMENT

The financial statement has been prepared as a cash flow statement in accordance with the Finnish Accounting Board’s (Kirjanpitolautakunta, KILA) general instructions. Net cash flow from operating activities is presented in an indirect manner. The Group bank accounts with balances of EUR 461,962.78 are presented in financial items of the business.



Notes to the income statement and balance sheet

euros	2021	2020
Staff expenses		
Salaries and bonuses	29,788,466.52	30,903,170.08
Fringe benefits	272,887.69	232,295.98
Total	30,061,354.21	31,135,466.06
Indirect staff expenses		
Pension expenses	5,061,780.58	4,921,792.30
Other indirect staff expenses	834,484.79	1,172,628.46
Total	5,896,265.37	6,094,420.76
Average number of employees during the financial year (man-years)	326	355
Personnel at the end of the year		
Permanent	418	424
Fixed-term	9	10
Total	427	434
Salaries and bonuses of the CEO and Board of Directors		
CEO	235,814.87	274,715.20
Members of the Board of Directors	43,200.00	44,400.00
	279,014.87	319,115.20
Depreciation, amortisation and impairment		
According to plan		
Computer software	3,051,929.19	2,767,743.54
Other long-term expenditure	265,973.03	259,571.00
Machinery and equipment	855,207.76	676,916.98
	4,173,109.98	3,704,231.52
Other operating expenses		
Other staff expenses	858,014.31	1,093,960.45
Travel expenses	224,025.97	300,470.40
Rents	6,569,109.99	6,519,551.02
Supplies and fixtures	450,963.82	315,516.96
Other operating expenses	11,199,130.58	11,824,262.49
	19,301,244.67	20,053,761.32

EUR	2021	2020
Auditor's fees		
Auditing	46,873.00	30,215.00
Financial income and expenses		
Interest income	15,527.55	16,171.90
Interest expenses	-13,749.40	-71,118.88
Total financial income and expenses	1,778.15	-54,946.98
Intangible assets		
Computer software		
Acquisition cost	13,831,878.50	13,362,628.96
Increase during the financial year	2,231,867.14	469,249.54
Decrease during the financial year	-19,375.09	0.00
Acquisition cost	16,044,370.55	13,831,878.50
Accumulated depreciation on 1 January	-10,081,583.38	-7,313,839.84
Accumulated depreciation on decrease	19,375.09	0.00
Depreciation for the financial year	-3,051,929.19	-2,767,743.54
Book value 31 December	2,930,233.07	3,750,295.12
Other long-term expenditure		
Other long-term expenditure		
Acquisition cost	2,154,871.01	2,154,871.01
Increase during the financial year	152,648.24	0.00
Decrease during the financial year	0.00	0.00
Acquisition cost	2,307,519.25	2,154,871.01
Accumulated depreciation on 1 January	-973,391.28	-713,820.28
Accumulated depreciation on decrease	0.00	0.00
Depreciation for the financial year	-265,973.03	-259,571.00
Book value 31 December	1,068,154.94	1,181,479.73



Notes to the income statement and balance sheet

EUR	2021	2020
Tangible assets		
Machinery and equipment		
Acquisition cost	6,903,370.48	5,482,293.31
Increase during the financial year	1,344,908.62	1,421,077.17
Decrease during the financial year	0.00	0.00
Acquisition cost	8,248,279.10	6,903,370.48
Accumulated depreciation on 1 January	-2,551,763.50	-1,874,846.52
Accumulated depreciation on decrease	0.00	0.00
Depreciation for the financial year	-855,207.76	-676,916.98
Book value 31 December	4,841,307.84	4,351,606.98
Advance payments and construction in progress		
Other work and purchases in progress		
Acquisition cost	6,549,422.48	5,809,838.15
Increase during the financial year	3,588,511.44	2,629,911.04
Decrease during the financial year	-3,729,424.00	-1,890,326.71
Acquisition cost	6,408,509.92	6,549,422.48
Current receivables		
Receivables from Group companies		
Trade debtors	137,416.08	27,088.82
Other receivables	4,243,449.04	4,952,325.68
	4,380,865.12	4,979,414.50
Receivables from others		
VAT receivables	701,529.93	439,428.38

EUR	2021	2020
Material accrual items		
Accruals from Eurocontrol	2,730,962.00	1,353,485.00
Regulation adjustment, long-term part	11,519,961.35	0.00
EU projects, periodisation of grants	4,490,418.65	6,569,452.20
Other accruals	458,419.32	588,028.05
Income tax	0.00	28,410.53
Occupational health care receivables	92,028.68	216,251.52
Total accruals	19,291,790.00	8,755,627.30
Accruals, long-term	16,010,380.00	3,071,471.63
Accruals, short-term	3,281,410.00	5,684,155.67
Total accruals	19,291,790.00	8,755,627.30
The regulation adjustment includes recievables of EUR 27,674,634 and liabilities of EUR 23,780,674.		

EUR	0–1 years	1–5 years	Over 5 years	Total
Maturity of the regulation re- ceivable/liability				
Receivables	0.00	22,139,562.24	5,535,072.35	27,674,634.59
Liabilities	-7,626,000.00	-12,049,486.70	-4,105,187.29	-23,780,674.00
Net balance	-7,626,000.00	10,090,075.54	1,429,885.06	3,893,960.60



Notes to the income statement and balance sheet

EUR	2021	2020
Restricted equity		
Share capital 1 January	3,300.00	3,300.00
Share capital 31 December	3,300.00	3,300.00
Restricted equity total	3,300.00	3,300.00
Unrestricted equity		
Reserve for invested unrestricted equity 1 Jan.	8,300,000.00	8,300,000.00
Increase during the financial year	8,000,000.00	0.00
Reserve for invested unrestricted equity 31 Dec.	16,300,000.00	8,300,000.00
Retained earnings 1 January	37,895.63	13,308,500.84
Dividends paid	0.00	0.00
Retained earnings 31 December	37,895.63	13,308,500.84
Profit (loss) for the financial year	3,442,407.96	-13,270,605.21
Unrestricted equity total	19,780,303.59	8,337,895.63
Total equity	19,783,603.59	8,341,195.63
Distributable assets on 31 December		
Retained earnings	37,895.63	13,308,500.84
Profit (loss) for the financial year	3,442,407.96	-13,270,605.21
Reserve for invested unrestricted equity	16,300,000.00	8,300,000.00
	19,780,303.59	8,337,895.63
Statutory provisions		
Other statutory provisions	0.00	6,666.66

A provision amounting to EUR 1,099,727.75 was transferred to the company in an acquisition to fulfil the commitments relating to the transfer of the operations of Tampere Area Traffic Control Centre. Reservation remaining at the beginning of the financial year was EUR 6,666.66 of which EUR 6,666.66 has been used during the financial year.

EUR	2021	2019
Non-current liabilities		
Loans maturing later than within five years		
Accruals from the regulation adjustment	4,105,763.00	4,200,000.00
The share of the regulation adjustment due after five years has been netted against long-term accruals for 2021.		
Current liabilities		
Other liabilities		
Amounts owed to Group companies		
Trade creditors	0.00	55,050.00
Accrued liabilities	1,256,975.17	826,339.67
	1,256,975.17	881,389.67
The company's balance in the cash pool accounts of the Group EUR 461,962.78 is presented in Other liabilities to Group companies.		
To others		
VAT liability	145,535.20	144,023.86
Withholding tax liability	806,387.67	698,168.13
Health insurance contribution liability	40,459.02	30,748.74
Other liabilities	460,420.27	658,865.15
	1,452,802.16	1,531,805.88
Material accrued liability items		
Salary and social security expense allocations	2,098,046.49	340,772.40
Holiday pay liabilities with social security expenses	7,517,248.48	7,920,059.27
Regulation debt	7,626,000.00	8,562,828.00
Other accrued liabilities	1,268,525.99	2,369,099.70
	18,509,820.96	19,192,759.37



Notes to the income statement and balance sheet

EUR	2021	2020
Commitments and contingent liabilities		
Lease liabilities		
Due during the next financial year	392,538.78	587,323.48
Due during subsequent financial years	296,619.73	844,172.82
Total	689,158.50	1,431,496.30
Other contingent liabilities		
Due during the next financial year	4,814,327.38	3,904,741.45
Due during subsequent financial years	5,035,213.58	5,003,499.69
Total	9,849,540.95	8,908,241.14
Responsibilities for business premises leases		
Due during the next financial year	1,679,684.10	1,353,628.39
Due during subsequent financial years	8,833,801.56	8,642,147.22
Total	10,513,485.66	9,995,775.61
Total commitments and contingent liabilities	21,052,185.11	20,335,513.05

The company has a long-term lease agreement for its premises, which expires on 30 June 2032.
The lease liability arising from this agreement in the financial statements 31 December 2021 totals 8,777,228.04

Insider transactions

Operational costs include a large number of transactions made with the related parties on normal terms.



Signature of the financial statements and Board of Directors' report

Vantaa, March 2, 2022

Pertti Korhonen
Chairman of the Board of Directors

Jarmo Lindberg
Member of the Board of Directors

Kaisa Olkkonen
Member of the Board of Directors

Hanna Hovi
Member of the Board of Directors

Rami Metsäpelto
Member of the Board of Directors

Raine Luojus
CEO

Auditor's note:

A statement on the audit performed has been issued today.

Helsinki, March 4, 2022

Ernst & Young Oy
Authorised Public Accountants

Mikko Ryttilahti
Authorised Public Accountant



Auditor's report

(Translation of the Finnish original)

TO THE ANNUAL GENERAL MEETING OF FINTRAFFIC AIR NAVIGATION SERVICES LTD

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of Fintraffic Air Navigation Services Ltd (business identity code 2767840-1) for the year ended 31 December, 2021. The financial statements comprise the balance sheet, income statement, cash flow statement and notes.

In our opinion, the financial statements give a true and fair view of the company's financial performance and financial position in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements.

Basis for Opinion

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the Auditor's Responsibil-

ities for the Audit of the Financial Statements section of our report. We are independent of the company in accordance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of the Board of Directors and the Managing Director for the Financial Statements

The Board of Directors and the Managing Director are responsible for the preparation of financial statements that give a true and fair view in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements. The Board of Directors and the Managing Director are also

responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors and the Managing Director are responsible for assessing the company's ability to continue as going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the company or cease operations, or there is no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance on whether the financial statements as a whole are free from material

misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with good auditing practice will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with good auditing practice, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to



provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the Board of Directors' and the Managing Director's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial

statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the company to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.

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

Other reporting requirements

Other information

The Board of Directors and the Managing Director are responsible for the other information. The other information that we have obtained prior to the date of this auditor's report is the report of the Board of Directors.

Our opinion on the financial statements does not cover the other information.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. With respect to the report of the Board of Directors, our responsibility also includes considering whether the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

In our opinion, the information in the report of the Board of Directors is consistent with the information in the financial statements and the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed on the other information that we obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Other opinions

We support that the financial statements should be adopted. The proposal by the Board of Directors regarding the use of the distributable equity shown in the balance sheet is in compliance with the Limited Liability Companies Act. We support that the members of the Board of Directors and the Managing Director should be discharged from liability for the financial period audited by us.

Helsinki 4.3.2022

Ernst & Young Oy
Authorized Public Accountant Firm

Mikko Ryttilähti
Authorized Public Accountant, Chartered
Public Finance Auditor



Fintraffic Air Navigation Services Ltd, Lentäjätie 1 B, 01530 Vantaa, Finland