



Ministry of Transport  
and Communications

# Finland's Air Transport Strategy 2015-2030



## **Ministry of Transport and Communications**

### **Vision**

Well-being and competitiveness through high-quality transport and communications networks

### **Mission**

The Finnish Ministry of Transport and Communications seeks to promote the well-being of our people and the competitiveness of our businesses. Our mission is to ensure that people have access to well-functioning, safe and reasonably priced transport and communications networks.

### **Values**

Courage, equity, cooperation



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Abstract

Finland's new air transport strategy has been developed in broad stakeholder consultation in accordance with guidelines laid down in the Government's April 2012 transport policy report to Parliament. It describes the current state of aviation and its component areas, reviews the key challenges that lie ahead, and outlines future directions for development in the various areas of aviation, that is, the airport network and air transport service standards, air transport charges and subsidies, air navigation services, aviation safety, aviation security, environmental issues, training, ground-handling services and unmanned aerial vehicles. A more extensive background report (Publications of the Ministry of Transport and Communications 2b/2015, available only in Finnish) contains a more detailed analysis of these areas of aviation and the various factors having an impact on them.

Airports are pivotal to the provision of air transport services. Finland currently has 24 airports that are operated by Finavia; in addition there is a foundation-operated airport in Seinäjoki and a municipal airport in Mikkeli. Helsinki Airport is the only profitable airport in the Finavia network: revenue from Helsinki is used to finance the entire network. The role of Helsinki Airport as an international transit hub for Asian routes ensures the continuity of travel connections to an extensive network of European destinations. For these reasons it is crucial that steps are taken to further strengthen the position of Helsinki Airport as a transit hub, particularly in the intense competition for transit passengers on routes between Europe and Asia. To this end, a substantial investment programme has been launched at Helsinki Airport that will increase its capacity from the current (2014) figure of 16 million annual passengers to 23 million in 2030.

The strategy recommends that Finavia continues to operate the Finnish airport network in keeping with the network principle. If regular commercial air services are discontinued, or if a region wants to take over the running of a regional airport and invest in developing the airport with a regional perspective in mind, Finavia can relinquish responsibility for the operation of the airport. In this instance the Ministry of Transport and Communications will work closely with Finavia, the host local and regional authorities and other stakeholders to find another owner for the airport.

The strategy recommends that efforts be continued to develop frameworks for cooperation and to improve networking and marketing in order to ensure a solid foundation for Finnish air transport, tourism, export industries and other sectors of the economy. To these ends it is proposed that five regional working groups be set up to take charge of strategy implementation. The role of these regional working groups would be to develop innovative ways of working and collaborating designed to strengthen the framework conditions for regional airports and their air transport services. National coordination of the working groups will be provided by the Ministry of Transport and Communications.

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## Finland's Air Transport Strategy

### 1. Aims and vision

The Finnish Government submitted its transport policy report to Parliament in April 2012. The report addresses transport policy in a broader public policy context. National transport policy is geared to secure effective transport connections and in this way to maintain and bolster the competitiveness and sustainable growth of the economy and to enhance people's well-being and the quality of everyday life. The transport policy report underlines the importance of a customer-driven focus, accessibility, good coordination, efficient resource use and universal responsibility for safety and the environment.

Air transport and the airport network were singled out in the report as an area of special transport policy focus in the 2010s. The report included the following recommendation for the preparation of an air transport strategy:

*An air transport strategy will be prepared, which will examine the future outlook for air traffic and assess the viability of the Finnish airport network and the state's role in providing air services, particularly in terms of transport policy and the accessibility of regions. In addition, an agreement will be made on the goals of air traffic in a changing operating environment, taking into account the overall system of public transport services and transport.*

The Ministry of Transport and Communications set in motion the preparation of an air transport strategy in September 2012. In line with the objectives laid down in the transport policy report, the air transport strategy should be a comprehensive strategy document that addresses the needs and interests of the national economy, people's mobility, business and industry as well as employment policy. It was to include an analysis of recent changes and future challenges in the air transport sector, and to outline directions for future strategic development. The strategy's time frame extends to 2030. A more extensive background report on the air transport strategy is available (in Finnish) on the Ministry of Transport and Communications website at <http://www.lvm.fi/julkaisut> -> LVM:n julkaisu 2b/2015).

The air transport strategy sets out the following vision for the development of Finnish air transport:

**Air transport strategy vision:**

***Air transport supports the Finnish economy's growth and development potential and improves the country's competitiveness. To this end public authorities are working closely with business and industry to create a sustainable and growth-oriented platform for the development of air transport based on a long-term planning horizon. The needs of passengers and other customers are the starting point for the development work.***

Regional working groups shall be set up to take charge of strategy implementation. The role of these working groups will be to support strategy implementation at regional level by creating the framework conditions for the development of regional air transport services and the operation of regional airports. National coordination of the working groups will be provided by the Ministry of Transport and Communications, which will appoint a contact person for this purpose.

## 2. Air transport SWOT analysis

The matrix below summarises the major strengths, weaknesses, opportunities and threats (SWOT analysis) in the Finnish air transport sector. A more detailed SWOT analysis of specific themes is presented in the background report.

<p><b>Strengths:</b></p> <ul style="list-style-type: none"> <li>• Finland's geographical location and intercontinental flight connections</li> <li>• Volume of transit traffic in all modes of transport: Helsinki Airport a major transit hub between Europe and Asia</li> <li>• High-quality and comprehensive airport network</li> <li>• Attraction of Finland, growing tourism and neighbouring markets</li> <li>• Secure, safe and reliable operating environment</li> <li>• Integrated and sophisticated air navigation system for civil and military aviation and flexible use of airspace</li> <li>• Role of airport to regional development</li> <li>• Strong domestic service providers (carriers, airports, etc.)</li> </ul>	<p><b>Weaknesses:</b></p> <ul style="list-style-type: none"> <li>• Despite the dense network of airports (supply), demand (passenger volumes) is inadequate to deliver the necessary standard of services: small domestic market and limited number of operators</li> <li>• Dependence of Asian connections on Russian overflight permits</li> <li>• Fragmentation of tourism services between small companies and seasonal tourism patterns in different regions: inadequate marketing resources and division of responsibilities</li> <li>• Labour market disruptions in industry</li> <li>• Public transport links to airports need improvement</li> <li>• Different modes of transport given differential treatment in central government funding</li> <li>• Taxation and high prices</li> <li>• Safety of recreational aviation needs improvement</li> </ul>
<p><b>Opportunities:</b></p> <ul style="list-style-type: none"> <li>• Proximity of Russia and Finland's geographical location</li> <li>• Growth of tourism industry</li> <li>• Development of Helsinki Airport and fulfilling the potential of its passenger flows</li> <li>• Closer cooperation among airlines and increasing specialisation: alliances and markets created by low-cost carriers</li> <li>• Training provision in the sector</li> <li>• Development of regional airports, including commercial business</li> <li>• Customer-driven travel chains</li> <li>• Domestic biokerosene producer</li> </ul>	<p><b>Threats:</b></p> <ul style="list-style-type: none"> <li>• Foreign and security policy situation: airspace restrictions (e.g. overflight access to Russian airspace) and rerouting of air transport</li> <li>• Increasing competition between northern European airports</li> <li>• Economic impacts of changes in the airport network on business and the economy at large</li> <li>• Changes in consumer behaviour</li> <li>• Impacts of stricter EU regulations on industry costs in comparison with global trends</li> <li>• Restructuring of commercial air transportation (stiff competition, cost-cutting pressures, subcontracting and security implications)</li> </ul>

### 3. Priority development projects

Finland's new air transport strategy identifies 50 key areas of strategic development. The following are singled out as priority development projects:

- *Finavia shall continue to operate the Finnish airport network in accordance with the network principle. If regular commercial air services are discontinued, or if a region wants to take over the running of a regional airport and invest in developing the airport with a regional perspective in mind, Finavia can relinquish responsibility for the operation of the airport. In this instance the Ministry of Transport and Communications will work closely with Finavia, the host local and regional authorities and other stakeholders to find another owner for the airport.*
- *Continued investment shall be made to develop Helsinki Airport as an international transfer hub so that it can retain its attraction and competitiveness and continue to offer excellent national and international connections. This will require ongoing development of the airport and its services (including public transport links) and steps to ensure continued air connections among other things by means of bilateral air services agreements (especially overflight access to Russian airspace).*
- *Regional development projects:*
  - *Finavia's "Lapland Airports/North is Near" and other projects shall be continued to improve and develop Lapland's and northern Finland's airports, air transport connections and travel chains, including public transport links to airports, with a view to meeting the needs of tourism.*
  - *Eastern Finland's airports, air transport connections and travel chains, including public transport links, shall be improved and developed to ensure that air transport services support the growth of international tourism in the Finnish lake district, with the ultimate aim of creating a Lakeland Airports concept.*
  - *Under the Tampere AiRRport concept, the aim is to create integrated travel chains that flexibly combine different modes of transport and to develop new services through interoperator cooperation. This project is designed to improve accessibility to western and central Finland and in this way to integrate business and tourism more closely with the global economy.*
- *Work shall be continued to develop frameworks for cooperation and to improve networking and marketing in order to ensure a solid foundation for Finnish air transport, tourism, export industries and other sectors of the economy. It is paramount that for these purposes, adequate resources are made available at the national level and that the partners involved are vested with the necessary powers to fulfil their respective roles. At the regional level, innovative models of cooperation can contribute to increase the profitability of the network. The eastern and northern Finland air transport development project, involving both regional authorities and local business communities, serves as a pilot project. The results from the project will be applied to developing air transport in other regions as well.*

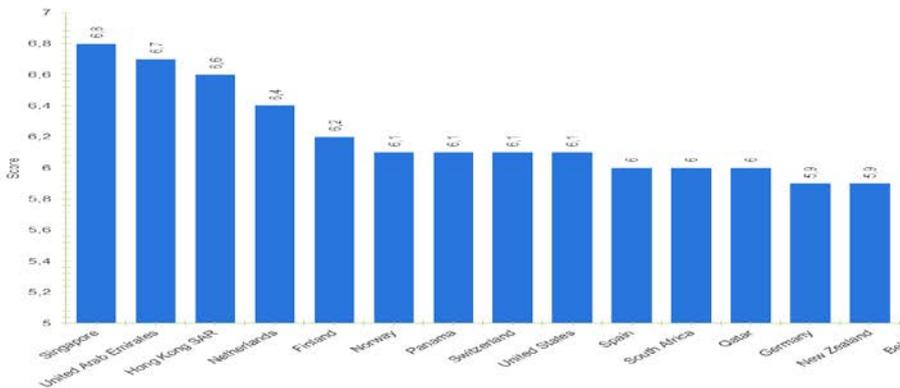
#### 4. Airport network and service standards

Figure 1: Finnish airport network



Relative to its population size, Finland has a dense and high-quality network of airports. The runways are long and designed to accommodate large aircraft. Air navigation services are state of the art. Airport opening hours are designed to flexibly serve the needs of customers (both airlines and passengers). According to the World Economic Forum's most recent, 2014–2015 Global Competitiveness Report, Finland's air transport infrastructure ranks fifth in the world after Singapore, the United Arab Emirates, Hong Kong, and the Netherlands. The value of this ranking is further augmented by the extensiveness of the Finnish airport network, as most countries ranked ahead of Finland have just one or two international airports.

Figure 2: Airports and other air transport infrastructure: a comparison of sophistication, coverage and efficiency



Source: World Economic Forum, 2013/2014

The airport network has great significance for regional accessibility, regional economic growth and the general framework conditions for business and industry. Air transport has great strategic importance for the economy. The internationalisation of business requires efficient air transport links.

In principle it appears that the most viable future solution for the operation of the airport network is to continue with the network principle and cross-subsidisation, as permitted under EU regulations. Therefore the primary strategic development premise is that Finavia shall continue to have overall responsibility for running the network airport for as long as there are regular commercial air services between those airports. This approach is in line with section 4 of the Act on the Airport Network and Airport Charges

(210/2011). It does not, of course, exclude the possible transfer of individual network airports from Finavia's responsibility before the discontinuation of regular air services if a region wants to take over the running of an airport and to invest in developing the airport with a regional perspective in mind.

**Guidelines for development:**

- *Finavia shall continue to operate the airport network in accordance with the network principle. It shall continue to improve the service it provides as an airport managing body and to work closely with airlines, other industries and other customers to facilitate the creation of new air connections.*
- *Finavia shall operate, manage and develop the airport network in such a way that airport and air traffic services are provided to commercially viable civil aviation and to military aviation, state aviation and general aviation traffic.*

*Continued investment shall be made to develop Helsinki Airport as an international transfer hub so that it can retain its attraction and competitiveness and continue to offer excellent national and international connections. This will require ongoing development of the airport and its services (including public transport links) and steps to ensure continued air connections among other things by means of bilateral air services agreements (especially overflight access to Russian airspace).*
- *Helsinki-Malmi Airport shall be closed down no later than 2016.*
- *The Lappeenranta Airport shall be removed from the Finavia airport network as from the beginning of 2016 on joint agreement between Finavia, the regional and subregional authorities, and the ministry responsible for ownership steering, i.e. the Ministry of Transport and Communications.*
- *Regional development projects:*
  - *Finavia's "Lapland Airports/North is Near" and other projects shall be continued to improve and develop Lapland's and northern Finland's airports, air transport connections and travel chains, including public transport links to airports, with a view to meeting the needs of tourism.*
  - *Eastern Finland's airports, air transport connections and travel chains, including public transport links, shall be improved and developed to ensure that air transport services support the growth of international tourism in the Finnish lake district, with the ultimate aim of creating a Lakeland Airports concept.*
  - *Under the Tampere AiRRport concept, the aim is to create integrated travel chains that flexibly combine different modes of transport and to develop new services through interoperator cooperation. This project is designed to improve accessibility to western and central Finland and in this way to integrate business and tourism more closely with the global economy.*
- *When regular commercial air services to a Finavia network airport are discontinued, the airport operator may, pursuant to section 4 of the Act on the Airport Network and Airport Charges, decide to withdraw from the operation of the airports in question. In this instance the Ministry of Transport and Communications will work closely with Finavia, the host*

*local and regional authorities and other stakeholders to find another owner for the airport.*

- *If regular commercial air services and military aviation are discontinued at an airport, the Finnish Meteorological Institute will cease to be obliged to make aviation weather observations, either immediately or after Finavia's responsibility for operating the airport has been terminated.*
- *International best practices of airport ownership and operation shall be reviewed to assess their transferability to Finland. Based on the findings, work shall be initiated to develop new models for the operation of regional airports, including such aspects as airport management, marketing, funding, the development of commercial airport operations and cooperation. Decisions on the transfer of airports into regional ownership shall be made jointly with stakeholders.*
- *In order to ensure the continuity of transport connections it is imperative to drive up passenger numbers at regional airports. This requires that local residents and businesses make more frequent use of air transport services. To increase the appeal of air travel and to get more people using domestic air transport services, it is worthwhile to explore the practices used by other modes of transport to attract passengers. For example, fluctuations in demand can be countered by more effective marketing during periods of slow demand and by new ticketing practices (season tickets, series tickets and area tickets for multiple airports). This will be to the benefit of both passengers, tourism operators and airlines.*
- *Measures shall be taken to promote the growth of air transport by creating and developing integrated travel chains as well as structures supporting travel chains and the public transport system as a whole, for instance through regional experiments and interconnectivity projects.*
- *Steps shall be taken to ensure the necessary conditions for air freight operations so that there is at least one 24/7 airport in Finland providing round-the-clock services for air services and air freight activities. In particular, this means establishing a solid foundation for operations at Helsinki Airport, which has a key role in the air freight sector. Turku and Oulu shall serve as the primary alternate airports for freight.*
- *Given the rapid changes in the air transport market, it is important that the Government is prepared to make additional policy decisions, if and when required, on the size of the airport network based on the scenarios outlined in the background report. If it is proposed that Finavia's responsibilities for airport operation be curtailed, service standards in long-haul passenger transport must be maintained by developing alternative public transport links.*
- *Work shall be continued to develop frameworks for cooperation and to improve networking and marketing in order to ensure a solid foundation for Finnish air transport, tourism, export industries and other sectors of the economy. It is paramount that for these purposes, adequate resources are made available at the national level and that the partners involved are vested with the necessary powers to fulfil their respective roles. At the regional level, innovative models of cooperation can contribute to increase the profitability of the network. The eastern and northern Finland air transport development project, involving both regional authorities and local business communities, serves as a pilot project. The results from the project will be applied to developing air transport in other regions as well.*

## 5. Reasonable air transport charges

For reasons of international regulation and the requirements of EU legislation alone, different modes of transport have different charge structures and different types of infrastructure funding. In Finland, air transport differs clearly from other modes of transport in that both air transport services and the necessary infrastructure are primarily funded from business revenue. Airport operations and investment are financed almost exclusively from charges collected from airport users and other commercial revenue streams. Charged with operating Finland's airports, Finavia is a fully state-owned corporation that currently runs a network of 24 airports. Only one of them currently returns a profit, i.e. Helsinki Airport. Airport charges are determined by a uniform tariff system based on the standard of services provided. These charges have been very reasonable by European standards. In fact Helsinki Airport has consistently ranked among the most inexpensive of the main EU airports.

### ***Guideline for development:***

- ***Air transport charges must continue to remain competitive and reasonable.***

## 6. Market-driven air transport services

The control of state subsidies comes under the exclusive competence of the European Union. EU state aid legislation is intended to create a level playing field across all EU Member States and their companies, to minimize adverse effects on competition and to prevent a subsidy race between EU Member States. EU aviation legislation (EU Air Services Regulation 1008/2008) is based on the premise that air services shall primarily be provided under market conditions. Air transport is an international business, and aid may distort competition between carriers. It can only be subsidised under specific criteria and conditions if it is considered essential to maintain an air route that cannot be supplied with sufficient efficiency by other means of public transport. Under the Air Services Regulation, state aid can only be provided on condition that a public service obligation is imposed on the air route in question. In Finland, such aid for contracted transport services has only been provided for the Helsinki–Savonlinna–Varkaus air route. Flights to Varkaus were discontinued at year-end 2013. Only the Helsinki–Savonlinna section of the air route was put up for tender in 2014. The 2014 State Budget has earmarked 1.4 million euros in aid for this purpose. The local governments will be contributing the same amount in order to maintain the air connection. Furthermore, the European Commission has drawn up guidelines on how Member States can support airports and airlines in line with EU state aid rules. Adopted in April 2014, these guidelines also specify how and on what conditions Member States can provide state aid for investment in airport infrastructure, airport operating aid, and grant discounts to airlines on airport charges.

### ***Guidelines for development:***

- ***The provision of (domestic) air services must continue to remain primarily a commercial business operated under market conditions, without being subsidised from public funds. Contracted air transport services shall only be provided if adequate service standards cannot be maintained by other public transport links.***
- ***Non-network airports can be funded from public sources under EU state aid legislation if these airports are served by regular commercial flights,***

*contracted public service obligation flights, or if the airport can demonstrate that it can become commercially self-sustainable by the end of the transitional period specified in EU legislation.*

- *Airport development investments can continue to be financed by discretionary state aid and, in the case of more focused regional projects, by grants from EU Structural Funds in compliance with EU state aid legislation.*

## **7. Flexible airspace use through high-quality air navigation services**

The Single European Sky (SES) project is an initiative aimed at preventing and solving the problems caused by airspace congestion and the resulting delays in many EU Member States. The project's single most important objective is to increase the capacity of the air traffic management system. This will allow to achieve more direct flight routes, shorter flight times, improved on-time performance and reduced air transport emissions. The creation of a single European airspace is one of the key priorities of EU transport policy. Air traffic management was integrated as part of a common EU transport policy in 2004. At EU level, provisions concerning the single European airspace are laid down in SES regulations as well as in the implementing regulations issued on their basis. SES regulations apply to civil aviation, but they also have direct implications for peacetime military aviation.

One challenge for the future is to secure the continuity of Finland's integrated air navigation system in connection with EU legislative initiatives. The Finnish system is highly cost-effective. From a national point of view it is also important that active efforts are made to maintain and develop airspace management methods and systems in the future. International cooperation will continue to gain in importance. Administrative decision-making and regulation will increasingly be informed by regional and European considerations.

### ***Guidelines for development:***

- *Finland will continue to contribute actively to developing the North European Functional Airspace Block (NEFAB) and the Single European Airspace.*
- *National measures shall be taken to safeguard the competitiveness and continuity of Finland's integrated air navigation services.*
- *Steps shall be taken to develop the air navigation services market in Finland. Finavia will continue to remain a competitive national provider of air transport services.*
- *Full use shall be made of the potential of digitalisation in the provision of air navigation services.*
- *Airports outside the Finavia network shall independently acquire their air navigation services.*

## **8. Constant drive for improved aviation safety**

Internationally, the safety of commercial air transport has improved. According to the International Air Transport Association (IATA), 2013 was the fourth successive record

safety year, when measured in terms of passenger-kilometres performed, in the history of commercial aviation. In all, there were 173 commercial aviation fatalities in 2013, 55% less than in 2012 when there were 388 fatalities. Compared with 2010, the number was down by 72%. However, the aviation safety record for 2014 is set to become one of the worst for a long time. In 2014, there were four major commercial air accidents: in March 239 passengers and crew members died when a Malaysia Airlines aircraft disappeared into the Indian Ocean; in July 295 passengers and crew members were killed when a Malaysia Airlines plane was shot down over eastern Ukraine; in July 105 passengers and crew members died in the Air Algerie plane crash; and in December 162 passengers and crew members died in the Air Asia incident. The causes of both Malaysia Airlines incidents, though, had to do with aviation security, an area that is expected to become an increasing threat in the future.

Safety standards in Finnish commercial aviation are very high, and there have been no fatal accidents in commercial air transport since the Copterline incident off the Estonian coast in September 2005. Fourteen passengers were killed in the accident. High safety levels in commercial aviation are very much taken for granted.

Fatalities do occur, however, in recreational and general aviation. There is also much room for improvement in the safety standards of aerial work. The risks of general and recreational aviation have continued to increase for a number of years. In April 2014 eight people were killed in a recreational aviation accident when a light aircraft carrying parachutists crashed in Jämijärvi. The investigation into the Jämijärvi accident is due to be completed in early 2015. Preliminary reports from the Safety Investigation Authority indicate that there had been a fracture in the aircraft's wingstrut even before the ill-fated flight. In all there have been 12 fatalities in recreational aviation during the past year, the highest figure recorded in the 2000s. Immediately following the Jämijärvi accident, the Transport Safety Agency was charged with conducting a risk assessment of recreational aviation in Finland. Completed in October 2014, the report includes a comprehensive analysis of recent incidents in recreational aviation and a list of key measures designed to improve safety standards.

**Guidelines for development:**

- ***The Finnish Transport Safety Agency shall continue to develop its best practices with a view to improving the impact and effectiveness of aviation safety measures. Agency regulation and control shall focus on key areas identified on a risk basis. This requires close collaboration with national and international operators among other things to develop safety information systems.***
- ***All actors in the aviation field shall constantly work to develop their safety cultures and ensure that they have access to advanced methods and sufficient experience and know-how to manage their safety risks in all circumstances, and that they have procedures in place to ensure that the regulatory requirements are met.***
- ***The recreational aviation community shall work to develop procedures that will improve its safety culture. In this work it will make use of the recommendations set out in the Transport Safety Agency's risk assessment.***
- ***Finland shall contribute actively to developing aviation regulation with a view to ensuring that it is appropriate, fit for purpose and as light as possible; that regulation places emphasis on the responsibility of individual operators; and that it allows for extensive risk-based guidance of the authorities, with particular emphasis on performance.***

- ***Meteorological observation and forecast services for air transport shall be developed for greater accuracy in both time and place, with special consideration given to the challenges of climate change.***

## **9. Effective security procedures for smooth travel**

Civil aviation security procedures are designed to prevent illegal acts that might put the safety of civil aviation at risk. These procedures are applied to control both airports, aircraft, persons and goods. Aviation security provisions are administered by the International Civil Aviation Organization (ICAO) and the European Union. The European Union began to address security provisions for civil aviation following the terror attacks in the United States on 11 September 2001. At that point there was a strong sense of the need to introduce more rigorous security provisions than those laid down by the ICAO. ICAO regulations cover a much larger and more heterogeneous group of countries, and therefore they cannot be enforced at the same level of detail. Nonetheless even ICAO has reviewed and tightened its standards after September 11.

The trend today, both in the ICAO, the EU and several individual states (including the United States), is to develop new methods that can enhance the security of aviation without compromising the ease and comfort of travel. To achieve the best possible cost-benefit ratio, serious consideration is now being given to the introduction of risk-based security measures and international harmonisation. Risk-based security means relaxing procedures in low threat scenarios and stepping up security in instances where there is a greater threat. Based on risk assessments it should be possible to create a system that distinguishes between different security levels. Security measures would then be defined and adapted based on that identified level. Criteria would be established for the definition of each security level, together with criteria and procedures for the security measures to be implemented at those different levels.

### ***Guidelines for development:***

- ***It is essential that the security of civil aviation can be guaranteed even in the face of increasing transport volumes and changing threats. This must be done in a cost-effective way and without disrupting air transport operations. The comfort and ease of travel, with the minimum of delays, is crucial for the passenger experience, and has a direct impact on the appeal of air travel. For airlines, a smooth travel process is significant from a cost standpoint, as it affects their on-time performance and by the same token total flight times and airport capacities, for instance. Civil aviation security regulations contribute to ensuring that both customer, benefit and cost factors are adequately taken into account.***
- ***Finland lends its support to efforts within the EU and the ICAO to develop aviation security regulation in a direction that gives greater emphasis to risk-based and random inspections, and to make the best possible use of new evolving technologies. All new procedures must ensure the equal treatment of passengers and protect their data privacy.***
- ***Finland is committed to work within the EU and the ICAO to promote the single security check concept. Harmonised procedures and fewer security checks for transit flights would enable a smoother travel process and reduce the costs of both airport managing bodies and airlines. For Helsinki Airport, it would be important that the EU could reach a similar arrangement with Asian countries in particular.***

## 10. Reduced environmental impact from aviation

Air transport has both local and global environmental impacts. Locally, the airport operations with the greatest environmental impacts are the actual flight operations, airfield winter maintenance and aircraft anti-ice and de-icing treatments.

Aircraft noise emissions and the number of people affected by aircraft noise have fallen dramatically. For instance, the numbers affected by noise from planes into and out of Helsinki Airport (Lden over 55 dB) has dropped from some 97,000 in 1990 to around 14,000 in 2011. This is attributable both to technological advances in modern aircraft and to Finavia's noise abatement programmes. In particular, the opening of the airport's third runway in 2002 and air route planning have helped to reduce residential exposure to aircraft noise.

Energy efficiency in air transport has continued to improve in recent years. Aircraft fuel consumption per seat has dropped by 70% over the past 40 years. In long-haul flights and propeller aircraft, fuel consumption now stands at around 3 litres per one hundred passenger kilometres, assuming a full aircraft. On a global level, emissions from air transport have the same effect as other greenhouse gas emissions and are causing the climate to warm. CO<sub>2</sub> emissions from air transport account for around 2% of the total emissions from human activities. Emissions from domestic air transport in Finland amount to around 0.3 million tonnes. Air transport is included in the EU emissions trading scheme. Renewable fuels are considered to have significant potential to reduce CO<sub>2</sub> emissions from air travel.

### **Guidelines for development:**

- ***Finland's airports differ widely both in terms of their location and the volume and type of air operations. Reviews of airport licences must consider the distinctive features of each airport and their operations. For these reasons it is imperative that the airport licensing requirements are always reviewed on a case-by-case basis. For the purposes of case-by-case licence reviews it is essential that:***
  - ***in the process of reviewing airport licensing requirements, the operators the airport provide detailed information about the operation of the airport and the environmental impacts of the aircraft using the airport; and that***
  - ***the airport operator and the authority granting the licence work closely with each other in the course of the licensing requirements review process.***
- ***There are currently four Regional State Administrative Authorities that review applications for airport environmental permits, and there has been some variation in the conditions and requirements attached to environmental permit decisions. In order to ensure that Regional State Administrative Agencies have access to adequate resources and that applicants receive fair and equal treatment, it might be worthwhile to consider having one agency that processes all applications for airport environmental permits. Alternatively, the civil servants responsible for airport licensing at each Regional State Administrative Agency could set up an expert group dealing with matters in this area. Permits and limitations concerning aircraft noise should be handled centrally by the Finnish Transport Safety Agency.***

- *In the future it is possible that land use planning may increasingly curtail the ability of airports to run an efficient operation if sites are allocated for residential development in the immediate vicinity of noise-affected areas or air routes. Land use planning must carefully consider noise contours and their changes. Sufficient buffer zones must be created around areas affected by air noise so that there is enough space for the long-term expansion of air transport.*
- *Given the international nature of air transport, the need to prevent carbon leakage and the importance of ensuring a level playing field for industry operators, the management of air transport emissions must be agreed upon internationally.*
- *A Finnish company has the technology and the capacity to produce a bio-based aviation fuel for continuous use. This puts Finland in the position to become a world leader in the continuous use of biofuels, especially once biodiesel is internationally accepted as a component of biofuel. Air transport biofuels will increase international awareness of Finnish cleantech and the appeal of Helsinki Airport as a "bio-hub" between Europe and Asia.*

## **11. Training for a skilled and competent staff**

Effective and high-impact training can help to control threats. Restructuring in the airline industry has led to a proliferation of diverse employment relations and to the increasing use of contract and seasonal labour. This, in turn, has led to increasing diversity in staff members' training and cultural background, which presents additional challenges for training and the maintenance and development of the safety culture. With the changing business models in commercial aviation, the service and maintenance required for continuing airworthiness are more and more often outsourced to foreign operators. As a result, job opportunities for trained aviation maintenance technicians in Finland have declined.

Training completed in a EU Member State or a training organisation approved by the European Aviation Safety Agency (EASA) is recognized in all EU Member States. The regulation of training should be developed in a performance-based direction. In other words, regulations should specify the required level of qualifications on completion of training rather than detail the content of the training courses themselves. For instance, the EASA regulation on maintenance operations provides detailed information on the required number of theory lessons in the flight engineer training programme. The situation is the same in the case of pilot training.

### **Guidelines for development:**

- *The regulation of training shall be developed above all to meet future needs. The development focus shall be on the architecture of regulation, training methods and both the quantity and quality of content. It is important that the development effort is based on sound research and existing safety and security knowledge. The focus of training regulation shall be on the impact, effectiveness and costs of training. The Finnish Transport Safety Agency shall work actively to export this idea into European regulation.*
- *Training organisations shall continue to develop their operation in order to secure the continued availability of domestic training opportunities and possibly to create competitive export products. This will also require*

*international partnerships and networks. It is important to make full use of the latest research findings in this development effort. Training shall be developed with a view to responding to identified threats and to meeting the challenges set for training (e.g. Evidence Based Training and Alternative Training and Qualification Programme).*

- *Given the ongoing restructuring in the aviation sector and the current technological advances, it is important to have a reliable assessment of national aviation training needs, both in terms of quantity and content, particularly for vocational training in aeronautical engineering. It is paramount that operators and authorities in Finland have continued access to skilled and competent staff with the necessary qualifications both in aviation engineering and in other demanding and safety-critical roles. Furthermore, in order to attract sufficient numbers of suitable applicants, steps are needed to ensure that this remains an attractive and inexpensive training avenue.*
- *As the restructuring continues, staff mobility is bound to increase. This is especially true of crew members. Employment contracts will increasingly be signed for a fixed term, and the international mobility of labour will increase. Operators must make sure their staff have the skills and competencies required for their roles. This will further boost the importance of induction, standardisation and refresher training. In addition to meeting the minimum training requirements, it is important to ensure that the qualitative targets for skills and competencies are met.*
- *Full use must be made of existing alternative training methods. The Finnish Transport Safety Agency shall ensure that the regulatory requirements are being met so that new methods can be mainstreamed. Furthermore, the Transport Safety Agency shall ensure that skills and competencies among its own staff are constantly updated in line with the requirements of the new training methods.*
- *Good airmanship is a key component of safety in both recreational, general and commercial aviation. Basic training is the first step in the development of good airmanship. High-quality and effective training is paramount to safety in recreational and general aviation, and it also establishes a solid foundation for the training of professional pilots.*
- *A good safety culture, including confidential reporting, is a central element of aviation safety. It is important that these principles are fostered from the earliest training stages and that they are at the very core of organisations providing pilot training. The Finnish Transport Safety Agency supports the development of training organisations' safety culture.*
- *Investigations shall be undertaken to explore the potential for closer collaboration in the provision of primary and basic flying training in civil and military aviation with a view to improving cost effectiveness.*
- *It is important that cooperation between training and research institutes and between the public sector and private business is stepped up with a view to making better use of Finland's high standard of aviation engineering expertise and to launching Finnish aviation industry expertise and products into the international marketplace.*

## 12. A wider choice of groundhandling services

Ground-handling services refer to a range of field services provided by an airport to air carriers. These services are divided into the categories of ground support equipment and supervision services, passenger services, baggage handling, freight and mail handling, ramp handling, aircraft servicing, fuel and oil distribution services, aircraft maintenance, aircraft anti-ice and de-icing services, flight operation and personnel services, surface transportation and catering services.

At Finavia's airports no restrictions have been placed on the market access of groundhandling companies. The provision of ground-handling services ties in with the wider problem of regional network airports, i.e., the passenger flow through these airports is quite limited and therefore it is difficult to run a profit from these services. At regional airports ground-handling services are geared to achieving maximum cost-effectiveness so that their limited number of staff will often work in many different roles, including various ground-handling functions. In a situation where a regional network airport is not returning a profit, the ground-handling operator's business may also be unprofitable. Even at Helsinki Airport the supply of ground-handling services has recently become more concentrated. A more limited supply of services is not in airlines' best interests. For the air transport sector as a whole, including ground-handling services, it is important that no restrictions are imposed on Helsinki Airport's night-time operation on noise and environmental grounds.

### **Guideline for development:**

- ***Although EU ground-handling legislation is not binding upon small regional airports (with the exception of self-handling operations), the Ministry of Transport and Communications shall work closely with Finavia to ensure, first and foremost by means of ownership steering policy, that pricing and contractual practices as well as the general layout and facilities at the airport provide a level playing field for groundhandling service operators.***

## 13. Growth potential in unmanned aerial vehicles

Unmanned aerial vehicles, or UAVs, have in recent years rapidly gained increasing social and economic importance. In June 2013, completing a process initiated by the European Commission in 2009, the "European RPAS (Remotely Piloted Aircraft System) Roadmap" was launched at the Paris Air Show. One of the roadmap's aims is to progressively integrate UAVs into controlled European airspace from 2016 onwards.

It is difficult to predict the market potential of UAVs, and the technology growth potential is included in the development prospects for other services. The European Commission's estimate is that the UAV technology and services market will grow from some USD 5.2 billion today to USD 11.6 billion by 2023. This potential includes significant opportunities for economic growth and job creation.

### **Guidelines for development:**

- ***A forward-looking environment shall be created in Finnish airspace for the development and use of UAVs.***
- ***The international and national regulation of unmanned aviation and aerial vehicles is at a dynamic stage. UAVs are emerging as a significant aviation sector with significant emerging training needs. There will be demand for domestic training in the field of unmanned aviation. For this to become a profitable operation, it will be necessary to conduct research and to monitor the research carried out elsewhere in the EU. To this end it is necessary to establish research priorities and objectives.***

## **14. Strategy follow-up**

The Ministry of Transport and Communications shall follow up implementation of the development guidelines set out in the air transport strategy, giving special focus to the priority development projects. Follow-up monitoring shall be conducted as an integral part of general strategy preparation and development processes within the Ministry's administrative branch. The strategy's priority projects are related to the maintenance of the airport network and therefore to Finavia's operation. The Ministry shall monitor these projects as part of its ownership steering of Finavia. Regional measures will figure most prominently in the priority project addressing the needs for cooperation, networking and market (project no. 5).

Working closely with regional and local authorities, business and industry and other stakeholders, the Ministry of Transport and Communications shall set up five regional working groups that will be charged with supporting regional implementation of the strategy objectives and for creating the framework conditions for the development of air transport and airport services in different parts of Finland. The work of these regional working groups shall be monitored and coordinated at national level. For this reason the Ministry shall appoint a contact person to liaise with the regions. The contact person will also look to network at national level with Team Finland and other key projects working to promote business, tourism and air transport, and where necessary create informal networks with other key players in this field (Ministry of Employment and the Economy, Finpro, Visit Finland, Confederation of Finnish Industries and its major branch associations, Central Chamber of Commerce).

In other respects the development guidelines shall be integrated as part of the preparation of EU legislation, international regulation and other international cooperation, such as the preparation of bilateral air transport agreements.