

Business Plan 2017-2021

*in June 2017, Naviair will be hosting
"CANSO Global ATM Summit and 21st AGM."
The Little Mermaid features in both the logo
and a number of advertisements for the event.*

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Company information

Naviair
Naviair Allé 1
DK 2770 Kastrup

CVR 26059763

Naviair is a state-owned infrastructure company with status as a company owned by the Danish state represented by the Ministry of Transport, Building and Housing.

Naviair has been designated by the Danish Transport, Construction and Housing Authority to provide aviation infrastructure.



Co-financed by the European Union
Connecting Europe Facility

COOPANS and Borealis are co-funded by the European Union's Connecting Europe facility

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Søren Stahlfest Møller, CFO

Growth and focus on digital opportunities

In 2016, air traffic at last experienced a return to growth after many years of stagnation. For Naviair, significant results of this upturn have included approximately 2 per cent more en route operations and over 5 per cent more operations at Copenhagen Airport in 2016 compared with 2015. This is good for aviation. We are also pleased to note that Naviair handled this growth safely and efficiently and without increased costs.

As part of our constant endeavours to develop and optimise our service and improve efficiency, we have started work on exploring the opportunities for using digital and other new technology in the modernisation of aerodrome and approach control services at Danish regional airports. Our long-term ambition is to bring aerodrome and approach control services at regional airports together so they are managed from a single control centre rather than – as now – from the control towers of the individual airports. A development of this kind will improve the efficiency of ATM in the long term. Initially, it will also require considerable investment on the part of Naviair.

It is our ambition to make use of new technological solutions for developing and updating the surveillance of Danish airspace and we are currently preparing a new strategy for our surveillance activities.

In Greenland, we are also focusing on optimising ATM and use of airspace.

At international level, we are continuing our successful cooperation on the development and standardisation of technical systems with four other European ANSPs in COOPANS. In spring 2016, this cooperation was singled out for the EU's most prestigious award, when Naviair and our partners received the first "Single European Sky Award" from the European Commission.

As an active partner in Aireon LLC, Naviair is involved in setting up the world's first global flight surveillance system. The system is based on signals from 66 satellites. The first ten have just been launched with a SpaceX Falcon 9 rocket from California in January. According to the plan, the remaining satellites will then be launched with a further six rockets over the next eighteen months, so that the system can be put into operation at the end of 2018.

Between now and 2019, we are subject to the requirements of the EU's so-called RP2 plan. Until now, we have fulfilled all the EU requirements and this has been recognised by the EU. In 2020, the RP2 plan will be replaced by an RP3 plan. In Naviair's opinion, the RP2 requirements are very general for all ANSPs in Europe, irrespective of individual differences and the various stages of development the companies have reached. Among other things, this leads to widely differing financial results and opportunities for the various companies. This is not ideal for many companies, including Naviair.

During the preparations for RP3, we will acknowledge and promote the fact that high demands will still be made to the ANSPs, but we will also strive for individual companies to be given the opportunity to put their own stamp on the way the targets are to be achieved, so that in RP3 there will be more consideration given to the specific levels of efficiency, situation and other conditions of individual companies.

In this business plan we describe Naviair's strategy and goals. We also describe the initiatives we will prioritise in the next few years and lastly the business plan contains a review of the framework for our activities and an overview of our customers. We will of course continue to adapt to the prevailing rules and market conditions. This plan marks out Naviair's course for the period 2017-2021.

Enjoy!



Morten Dambæk
CEO



Anne Birgitte Lundholt
Chairman

About Naviair

Naviair provides safe and efficient Air Traffic Management (ATM), meaning specifically that it is Naviair that directs aircraft through Danish airspace and parts of North Atlantic airspace, safely and without any delays. Naviair thus plays a vital role in the aviation value chain.

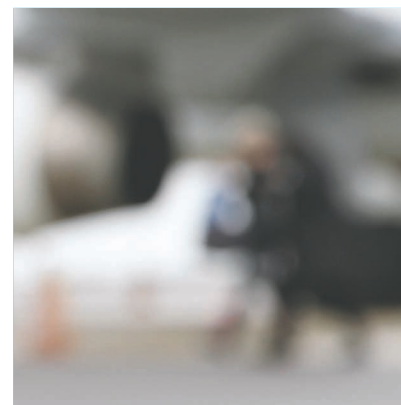
All traffic in Danish airspace is monitored from Naviair's control centre in Kastrup 24/7, 365 days a year. Naviair managed 646,902 en route operations in Danish airspace in 2016.

Naviair provides aerodrome and approach control services in Copenhagen, Roskilde, Billund, Aarhus, Aalborg and on Bornholm. In addition, Naviair provides Aerodrome Flight Information Service (AFIS) from the tower on Vågar.

Through our international partnerships and alliances, we are developing our business and securing a strong position with our aviation customers and partners. We are also working hard to make it easier, better and cheaper for our customers to use

the airspace – and at the same time reduce the negative impact on the environment – partly by cutting CO₂ emissions.

The Danish Transport, Construction and Housing Authority has granted Naviair the – exclusive – right to provide area control services in Danish airspace and aerodrome and approach control services etc. to Copenhagen Airport, Kastrup and Copenhagen Airport, Roskilde. The designation will run until October 2030.



Mission

Naviair contributes to the creation of value and welfare for society and our customers by developing and providing safe and efficient Air Traffic Management (ATM) at competitive prices, fulfilling our role as a vital part of the aviation value chain.

Vision

We will always be among the best Air Navigation Service Providers (ANSPs).

We will continually develop our company and secure a strong position with our customers and partners, partly by participating in international alliances. At the same time, we will consistently deliver the best products in the industry at competitive prices without compromising on the priority we give to high levels of safety, quality and service.

We will achieve our ambitions through competent, committed and motivated employees who thrive on working in a demanding environment in which targeted employee development and involvement form the basis for maintaining an attractive workplace.

Strategic platform

To fulfil our mission and achieve our vision, we have drawn up three sub-strategies each of which sets out guidelines on how to meet our objectives in a specific area. To achieve our

objectives, we will: create value for society and our customers, continually develop our company, and have competent, committed and motivated employees.

To achieve our objectives, we have identified a number of critical success factors that are to ensure that we remain focused on achieving our strategic objectives.



The three sub-strategies

Creating value for society and our customers

Naviair will always focus on supporting customer needs. We will therefore continuously strengthen and develop our relations with airlines and airports through close cooperation focusing on safety, quality and price to ensure that Naviair's services optimally support our customers.

One way in which we create value is by developing and strengthening NUAC, which operates the Air Traffic Control Centres (ATCCs) in Copenhagen, Malmö and Stockholm. Through joint coordination of air traffic, we are also securing the basis for environmental and climate improvements.

- We will maintain our high level of safety and at the same time continually develop our capacity level and improve efficiency.
- We work on providing ATM at lower prices measured against current prices.
- We focus on financial responsibility, efficiency and being cost-conscious.
- We exploit new technology and digitisation to develop and strengthen our business and improve efficiency.
- We are environmentally conscious and continually strive to achieve climate improvements in aviation.
- We support our customers' growth through close cooperation.

Developing the company

Naviair will develop continually and maintain a strong position with customers and partners by participating in international partnerships and alliances.

Naviair provides air navigation services and technical maintenance. These services must be continuously developed and made attractive to both existing and new customers. We participate actively in European cooperation within air navigation services, using our close and strong relations with the Danish Transport, Construction and Housing Authority and Danish Defence as a basis for ensuring our sustained growth and development.

We will cement and develop our market position through international partnerships and alliances such as NUAC, COOPANS, Entry Point North and Aireon. That will give us the strength we need in relation to the other players in the market.

We strengthen our technical and operational development through international cooperation with other ANSPs.

- Modelling our efforts on COOPANS, we will form new alliances with other partners and suppliers, where strategically expedient and positive for our business and the development of our core areas.
- We provide technical and operational services to airports and enter into technical strategic partnerships.
- Based on specific needs analyses, focused tender procedures and tight supply chain management, we will invest in automated and standardised systems.

Competent, committed and motivated employees

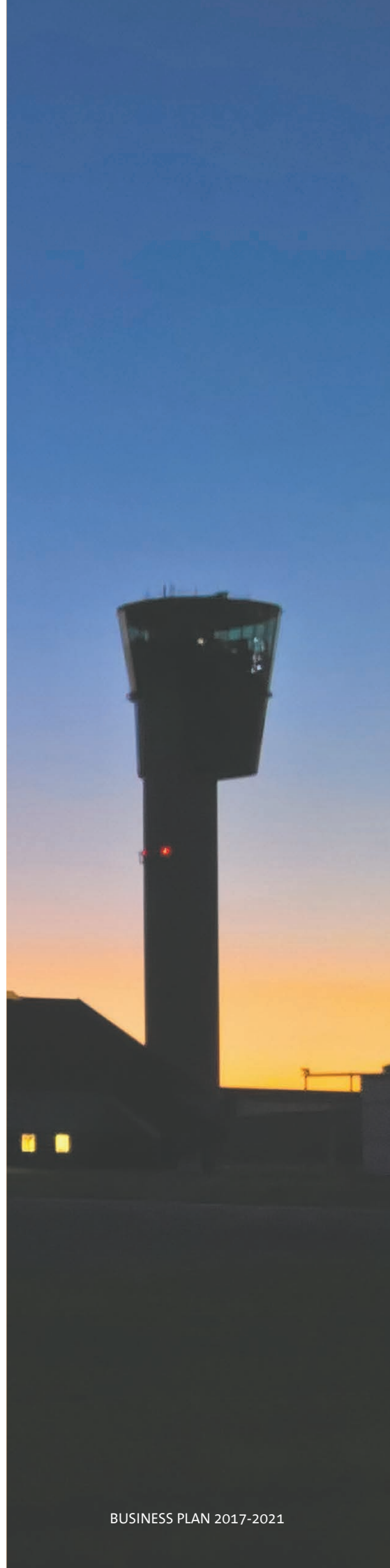
Naviair is a workplace that offers good professional and personal development opportunities and is able to both retain and attract talented and committed employees.

Naviair will continuously develop management, organisation and employees.

We implement targeted development of employee culture and skills to ensure that we always focus on safety, capacity and efficiency in our provision of services.

- We ensure that our employees always have the right skills and motivation to support our core business.
- We continually strengthen leadership skills through skills development and supplementary training, mutual sparring and involvement in the strategic development and management of the company.
- We ensure ongoing development in efficiency, management, culture, skills and communications.
- We ensure that our employees bear our strategies in mind and adhere to our values.





Critical success factors

Safety

At Naviair, we always maintain a high level of flight safety.

Environmental responsibility

At Naviair, we ensure handling of air traffic that reduces air pollution and minimises noise.

Development

At Naviair, we constantly strive to develop all our areas of activity via partnerships and alliances, harmonisation and standardisation.

Capacity

At Naviair, we ensure that we have adequate capacity and handle air traffic with as few delays as possible.

Financial responsibility

At Naviair, we are cost-conscious and we focus on the price of our services.

Attractive workplace

At Naviair, we are positive, motivated and well-functioning, and all our employees have the right skills.

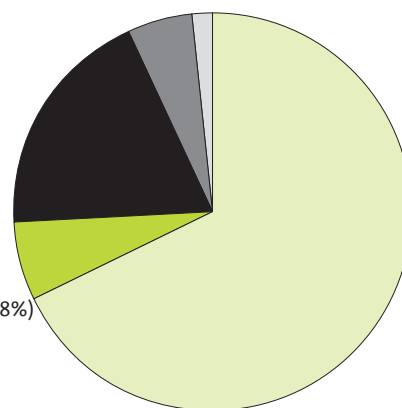
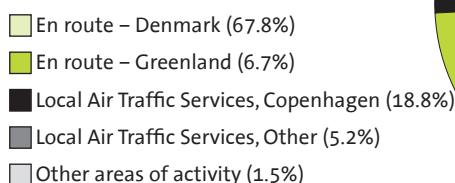
Efficiency

At Naviair, we are punctual, meet deadlines and make optimum use of resources.

Activities

Naviair has activities both in Danish airspace and North Atlantic airspace as well as other areas of activity, including technical support and maintenance. The activities cover four areas: En route – Denmark, En route – Greenland, Local Air Traffic Services and Other areas of activity.

Naviair's revenue by area of activity



En route – Denmark

Area control services in Danish airspace from:

- > ATCC in Copenhagen *

Approach control service to Copenhagen Airport from:

- > ATCC in Copenhagen *

Briefing service from:

- > ATCC in Copenhagen *

Flight Information Services from:

- > ATCC in Copenhagen *

Aeronautical Information Service:

- > Aeronautical publications, AIP in Denmark

Technical support and maintenance of ATM/CNS equipment in Denmark:

- > ATM equipment
- > Navigation systems
- > Communications systems
- > ATS surveillance systems

*) The ATCC in Copenhagen is operated by NUAC on behalf of Naviair.

En route – Greenland

Flight Information Services from:

- > Flight Information Centre in Nuuk

Technical support and maintenance of CNS equipment in Greenland and the Faroe Islands:

- > Navigation and communications systems in Greenland and the Faroe Islands
- > ATS surveillance systems in Greenland and the Faroe Islands
- > Radar installations in the Faroe Islands

Briefing service from:

- > Flight Information Centre in Nuuk

Aeronautical Information Service:

- > Aeronautical publications, AIP in Greenland and the Faroe Islands



Local Air Traffic Services

Aerodrome control service from:

- > Tower in Copenhagen
- > Tower in Roskilde
- > Tower in Billund
- > Tower in Aarhus
- > Tower in Aalborg
- > Tower on Bornholm

Approach control service from:

- > Tower in Roskilde
- > Approach control service in Billund
- > Tower in Aarhus
- > Tower in Aalborg
- > Tower on Bornholm

Aerodrome Flight Information Service from:

- > Tower on Vágur

Other areas of activity

Sale of technical support and maintenance of ATM/CNS and airport equipment from:

- > Technical station in Copenhagen
- > Technical station in Billund
- > Technical station in Aalborg

Sale of technical-operational know-how

Activities in Danish airspace

En route – Denmark

En route – Denmark comprises area control services in Danish airspace and ATM over Danish airports, including approach control service to Copenhagen Airport. The activities also include briefing and flight information services from the ATCC

in Copenhagen as well as technical support and maintenance of radar installations and communications systems in Denmark.

Danish airspace covers 158,000 square kilometres and is known colloquially as Copenhagen FIR (Flight Information Region). Copenhagen FIR includes part of the North Sea and the part of

Denmark to the west of the Baltic – from the German border and a fair way up towards Norway. Bornholm is in Malmö FIR and is therefore in Swedish airspace, so en route traffic over Bornholm is managed by LFV from the control centre in Malmö. Flights into Bornholm are managed by Naviair from the control tower in Rønne.

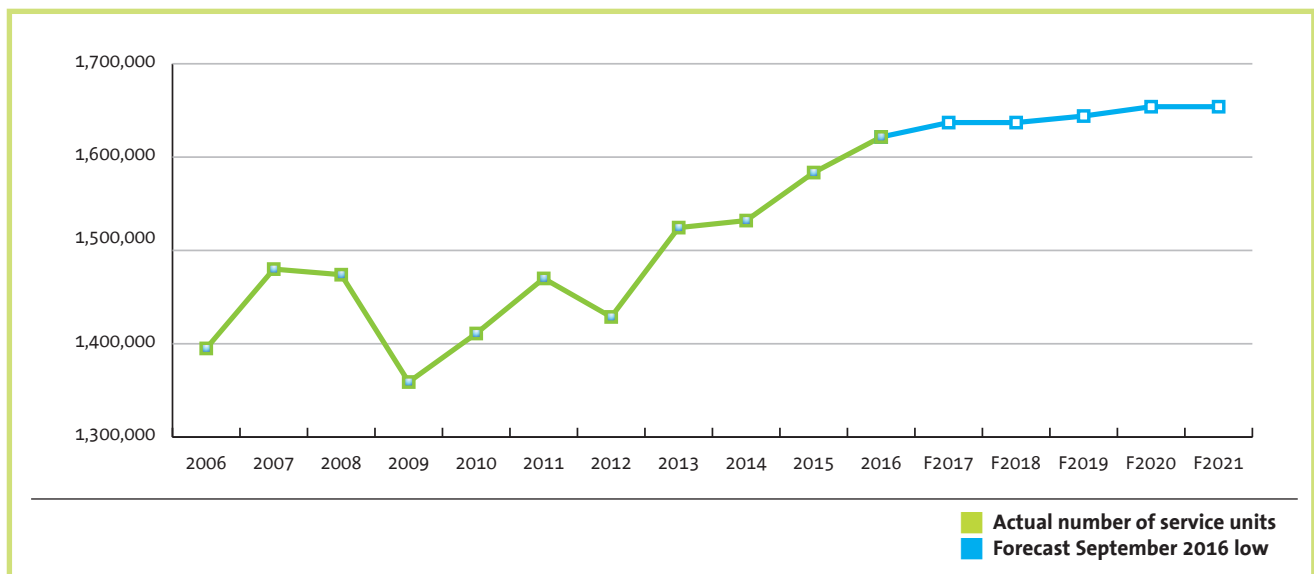


København FIR (Copenhagen FIR)

By far the largest portion of Navi-air's revenue comes from en route traffic charges in Danish airspace. Our outlook for en route traffic is based on forecasts from Eurocontrol, which

in its latest forecast from September 2016 anticipates traffic on a par with 2016 in the period 2017-2021. Expectations for growth in en route service units are slightly more upbeat

than the expectations for air traffic. For 2017, we expect modest growth in service units compared with 2016.



Development in service units – En route

Naviair continuously strives to optimise airspace in the Danish-Swedish functional airspace block (FAB). The cooperation in NUAC has reduced the costs of ATM in Danish-Swedish airspace, thus contributing directly to a long-term price reduction. Indirectly, the cooperation also helps to reduce the airlines' costs through the savings they make in the form of reduced flight times and lower fuel consumption, resulting in a considerable reduction in airlines' CO₂ emissions.

Naviair and LFV introduced the option of Free Route Airspace in the joint Danish-Swedish airspace already in 2011. The scheme was extended in 2015 to cover the North Europe-

an FAB – NEFAB (Norway, Finland, Estonia and Latvia) and the aim is to extend this collaboration, allowing free route planning to be further extended to cover Ireland, England and Iceland as well.

When it is possible for airlines to plan their flights from A to B freely the result will be shorter distance and reduced flight times, which will lead to considerable fuel savings, thereby benefiting the airlines' finances. Free Route Airspace also results in reduced greenhouse gas emissions, so it has beneficial effects on the environment as well.

Naviair also provides Aeronautical Information Service (AIS) from Copenhagen, comprising aeronautical publications for Denmark, Greenland and the Faroe Islands. We publish AIPs (Aeronautical Information Publications) for all three areas as well as a VFG (Visual Flight Guide) for Denmark. These are publications containing information that helps to improve safety for pilots flying according to the visual flight rules. We also publish AICs (Aeronautical Information Circulars), Supplements and NOTAM (Notice To Airmen). Naviair is working on transferring our approximately 800 subscribers to a 100 per cent digital solution in the AIS area.

Local Air Traffic Services

Local air traffic services comprise aerodrome control and approach control at a number of Danish airports.

Our largest airport customer is Copenhagen Airports A/S. According to Eurocontrol's forecast from September 2016, the number of service units at the airport will be largely the same in 2017 as in 2016.

For our second-largest airport customer, Billund Lufthavn A/S, and for the other airports, we expect the number of service units to remain unchanged or to rise slightly.

The Danish airports are very important for the development of aviation in Denmark, so at Naviar we want to promote initiatives that will support aviation in Denmark by ensuring a high level of safety, capacity and efficient service in the towers in which we operate. These initiatives include continuously exploring the possibilities of developing and improving the efficiency of air traffic services, partly through digitisation using new technology. Our long-term ambition is to bring aerodrome and approach control services at regional airports together so they are managed from a single control centre rather than – as now – from the control towers of the individual airports.

Naviar also endeavours to minimise the environmental impact from aviation by continuously focusing on optimising operational patterns and procedures.

Other areas of activity

Our other areas of activity in Denmark primarily comprise technical support and maintenance of ATM/CNS and airport equipment. These activities mainly comprise CNS equipment owned by third parties, primarily airports.

In addition, we are focusing strongly on the area of drones, which is expanding rapidly and may revolutionise traditional aviation in the long term as well as creating new business opportunities. In close cooperation with the Danish Transport, Construction and Housing Authority, Naviar is involved in drone projects that will contribute to Denmark's development and ensure the flexible integration of drones into the airspace without compromising safety and capacity.

These activities are excellent supplements to Naviar's core areas and enable us to optimise utilisation of our resources.

Activities in North Atlantic airspace

En route – Greenland

En route – Greenland comprises briefing, Flight Information Services and search and rescue operations in Søndrestrøm FIR (Søndrestrøm FIR) from the Flight Information Centre in Nuuk.

The Søndrestrøm FIR extends from the sea to the south of the southern tip of Greenland all the way to the North Pole. It is one of the world's largest flight information regions and covers the airspace above a total area of approximately 4.2 million square kilometres. Our Flight Information Centre in Nuuk covers flight information services up to FL 195 (flight level 19,500 feet). For the northern part of the Søndrestrøm FIR, Denmark has outsourced air traffic control above this flight level to Iceland and it is provided from Reykjavik, while air traffic control in the southern part has been outsourced to Canada, with the service provided from Gander.

Air traffic control above FL 195 is based on agreements concluded between Denmark and Canada in 1963 and Denmark and Iceland in 1975 and these agreements have not been reviewed since they were set up. Naviar provides the technical equipment in Greenland that is used by Nav Canada and ISAVIA.

In the North Atlantic, Naviair has a close working relationship with the Arctic Command, from whom we rent premises in Nuuk in Greenland. We contribute Air SAR (Search and Rescue) to Joint Rescue Coordination Centre Greenland by coordinating search and rescue activities in our control centre in Nuuk. The close coordination of search and rescue missions for aviation in Greenland ensures an optimum level of service.

Local Air Traffic Services

In the North Atlantic, we operate Aerodrome Flight Information Service (AFIS) in the Faroe Islands from the tower on Vágur.

Other areas of activity

Other areas of activity in Greenland include operation of technical en route equipment. Naviair owns and maintains the technical equipment for ATM and CNS services in Green-

land. We also operate the national COM centre in Nuuk, from where we monitor the international and national telecommunications that are used to distribute flight plans, meteorological information and other information for use in aviation in Greenland.

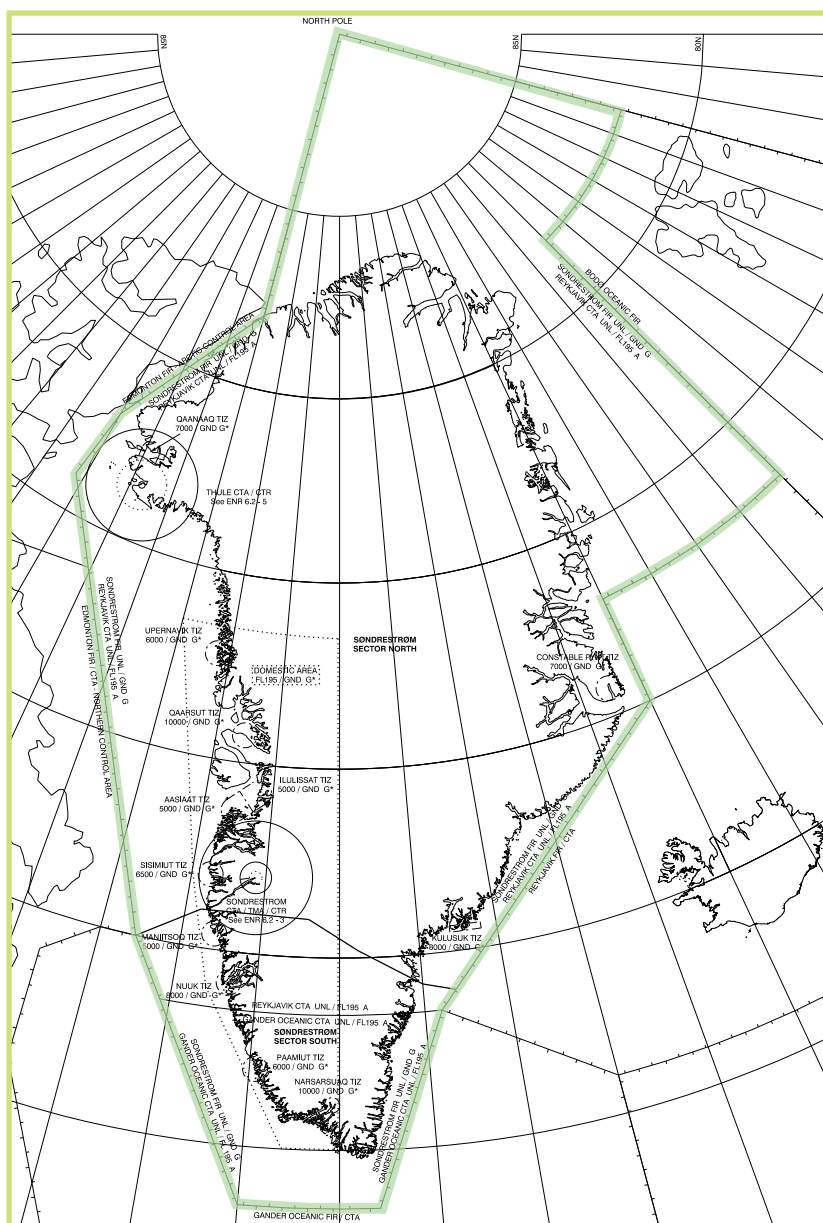
In cooperation with a group of other ANSPs, Naviair aims to improve the efficiency of ATM over the North Atlantic by using satellite-based aviation surveillance technology. We are doing this through our partnership in Aireon LLC.

Digital security

Naviair has established a security management system comprising personal security, physical security, information security and emergency preparedness. Naviair's handling of flight safety includes the threats that could be directed at the aviation industry.

Naviair performs regular threat assessments, monitors relevant developments and continuously adapts its contingency plans. Security breaches are systematically reported and investigated and submitted to Naviair's senior management. In 2016, Naviair conducted an external analysis of the guidelines and procedures it uses, focusing on cybersecurity. The review has demonstrated that Naviair has an efficient security management system with adequate procedures.

Naviair participates in a number of national fora with a view to gathering up-to-date knowledge about threats and the threat level. Naviair has also put in place additional measures in response to the ever-increasing cyber-threat.



Søndrestrøm FIR (Sondrestrom FIR)

Customer base

We strive to provide the best service to our customers at all times. We maintain both a high level of safety and provide the requested capacity at a price level that is optimum in relation to the high, requested standard of service. Delay-free travel is a crucial contribution to the customers we serve in Danish airspace and at Danish airports.

Airlines

In Danish airspace, we service a number of Danish and foreign airlines with handling of more than 600,000 en route flights annually. We provide these services both from our ATCC in Copenhagen and from the towers at the airports at which we operate.

In 2016, en route traffic was approximately two per cent up on 2015.

Naviair has been handling en route traffic without delays for a number of years. Our aim is to maintain delay-free ATM while keeping our prices at a competitive level compared with neighbouring countries.

Our largest airline customers are SAS, KLM, Ryanair and Norwegian.

The airlines are good at adapting the number of routes and departures to current market needs. Traffic can therefore grow or fall almost without warning. At Naviair, this affects both our use of capacity and our earnings. Naviair is well equipped to deal with this situation.

Airports

Our largest airport customer is Copenhagen Airports A/S. We are very conscious of the airport's important role as a North European hub and of the social significance of having a Danish airport with high international status. We are very aware that we have a great deal of influence on the level of service provided to international aviation. We therefore focus strongly on always ensuring that traffic is managed safely and efficiently, so that Copenhagen Airport appears attractive compared with the large competitor airports in neighbouring countries. For one thing, we have been operating ATM for a number of years without contributing to – or causing – any form of delay worth mentioning. At the same time, our efficient, direct ATM means that Copenhagen Airport is seen as a

low-fuel – and therefore CO₂-saving – choice for airlines. This benefits both the airlines' finances and the environment.

The Øresund Region is characterised by having three airports located relatively close together – Copenhagen Airport, Roskilde Airport and Sturup Airport in Malmö.

Both demands from the EU for new operational procedures and the fact that Copenhagen Airport has plans for considerable passenger growth in the years ahead make it necessary for ATM in the Øresund Region to be coordinated. This means that traffic must be managed jointly by Denmark and Sweden. This will be absolutely essential if efficient ATM into and out of Copenhagen Airport is to keep pace with the growth in the number of operations.

Establishing more extensive cross-border airspace in the Øresund Region will allow more environmentally friendly approaches to be set up, as these require more space compared to existing standards. Together with the Danish authorities and Danish Defence, Naviair is in dialogue with



LFV, the Swedish authorities and Swedish Armed Forces on establishing an area of this kind.

The other airports in Denmark play a key role both to the development of aviation in Denmark and to the sustained efficiency of domestic aviation. It is important that the Danish airports continue to be able to attract air traffic in competition with other modes of transport and in competition with nearby airports in our neighbouring countries.

As a provider to these airports, we focus both on delivering the most efficient air traffic services and on keeping the price of our services at the lowest possible level. For example, we continuously explore the possibilities of developing air traffic services still further through digitisation using new technology. One of our ambitions is to combine digitisation and other modern technology to serve the regional airports more efficiently by bringing aerodrome and approach control services at the airports together, so they are managed from a single control centre instead of – as now – from the control towers of the individual airports. In autumn 2016, Naviair began talks with the regional airports on further cooperation to realise this ambition and secure the future of ATM at and around the regional airports.

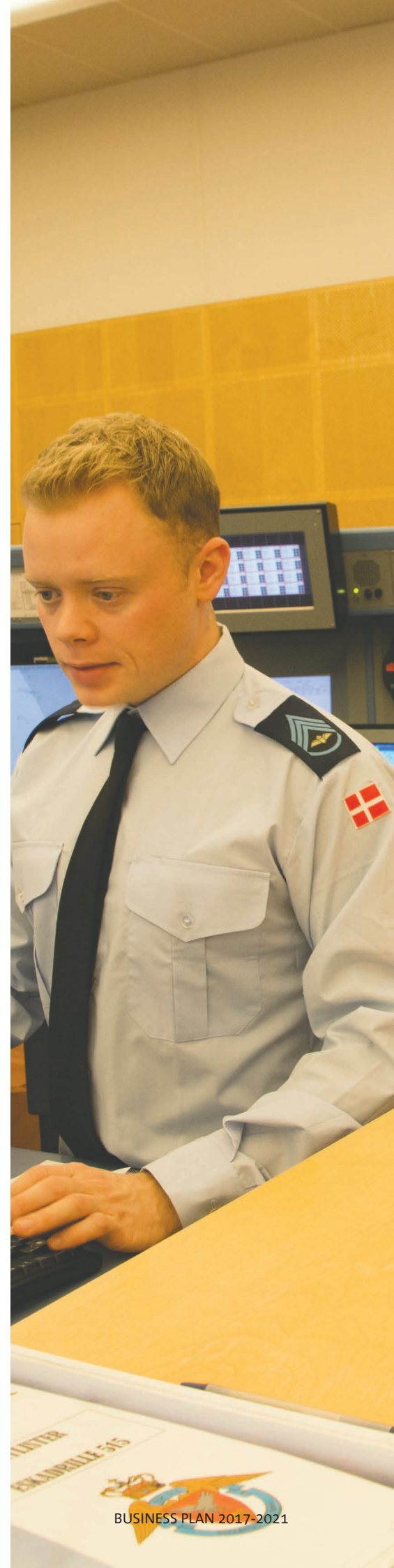
Danish Defence

The ongoing planning of military and civil airspace activities is handled by Airspace Management Cell (AMC) Denmark, which is run jointly by Naviair and Squadron 515 in Kastrup. Current civil and military traffic management is integrated and run by the ATCOs in the control centre in Copenhagen under the leadership of Naviair. ATCOs from Danish Defence are part of the integrated traffic management.

Military training needs are met by military training areas, which can be allotted according to current requirements. In this case, it is the ATCOs in the control centre who adapt the extent of the training area to civil air traffic in the area, so that aviation as a whole runs smoothly and efficiently.

Danish Defence flights outside the military training areas are supported in the control centre in Copenhagen based on current needs. Flights are managed in accordance with rules laid down by the Danish Transport, Construction and Housing Authority for the relevant airspace.

Over the next few years, Naviair will support Danish Defence in a reappraisal of the need for military airspace in the light of the coming replacement of fighter aircraft.

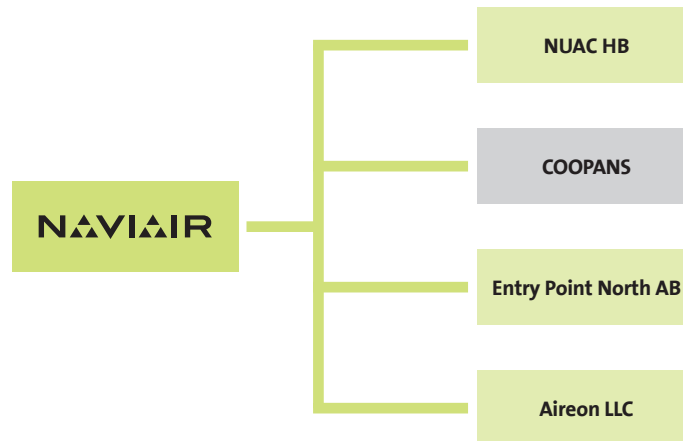


International partnerships and alliances

To achieve our vision and the objective of always being among the best in our industry, Naviair's

business model is based on strong involvement in international partnerships and alliances.

Below you can read more about our partnerships and alliances across Europe.



- Partly-owned enterprises
- International partnership (Naviair, Irish Aviation Authority, LFV, Austro Control & Croatia Control)

NUAC HB



Owners: Naviair (Denmark) and LFV (Sweden)

NUAC is still the only integrated operating company in Europe that is responsible for en route ATM in a joint functional airspace block (FAB). Through our co-ownership of NUAC, we are working together with LFV to develop and implement a number of efficiency improvements and other improvements that contribute to the harmonisation of ATM in Europe. NUAC operates the three ATCCs in Copenhagen, Malmö and Stockholm as a subcontractor on behalf of Navi-air and LFV, ensuring continued improvement of the efficiency of ATM.

The measures implemented by NUAC help to fulfil the performance targets set for Denmark and Naviair in the performance plan for the Danish-Swedish FAB. Among other things, they result in the optimisation of air traffic around Copenhagen and Malmö airports, where our ambition is to re-organise ATM across the old territorial boundaries, so that approaches and departures at the airports can proceed even more efficiently than today.

COOPANS



Partners: Naviar (Denmark), Austro Control (Austria), Croatia Control (Croatia), Irish Aviation Authority (Ireland) and LFV (Sweden)

The COOPANS Alliance is an international partnership consisting of Naviar, Austro Control, Croatia Control, the Irish Aviation Authority and LFV. The partners cooperate on the joint development, upgrading and harmonisation of their ATM systems. Thus, all systems use common software, and maintenance processes have been harmonised. In addition, the COOPANS partners harmonise operational and technical procedures in order to limit specific and individual functionalities at the various ANSPs. This is a clear advantage for all partners as system development costs are cut compared with the costs each partner would incur if we had to develop the technology independently. To this should be added our considerable savings in operating expenses as a result of joint work concepts and exchange of experience.

The COOPANS Alliance has enabled Naviar and the other four partners to take the lead in the matter of implementing EU requirements for the harmonisation of ATM. The cooperation was honoured at the 2016 World ATM Conference in Madrid, where COOPANS won the European Commission's Single European Sky Award, which is awarded in recognition of the initiatives and projects implemented by COOPANS to enhance flight safety, improve capacity and increase the efficiency of European aviation.

Besides technical-operational cooperation, the COOPANS partnership includes a common approach to and participation in SESAR 2020, SESAR Deployment Manager, EU funding projects, and the A6 Alliance in which the COOPANS Alliance participates on an equal footing with the largest ANSPs in Europe. Through these alliances, we at Naviar contribute directly to influencing developments in Europe.

The COOPANS Alliance and DSNA, the French ANSP, have jointly decided to launch the so-called CODACAS programme. The programme aims at commissioning a common build of their ATM systems from 2025 onwards. Combining COOPANS' and DSNA's experience and expertise will create synergy to meet SES' (Single European Sky) challenges for the next fifteen years.

Entry Point North



Owners: Naviar (Denmark), Avinor (Norway), Irish Aviation Authority (Ireland) and LFV (Sweden)

The primary aim of the ATS training academy Entry Point North is to provide standardised and harmonised training for ATCOs and ATCO trainees. Together with the other three owners (Avinor, IAA and LFV), Naviar has created a unique initiative in the field of international air traffic services by virtue of a harmonised training concept. We have succeeded in setting up a highly specialised training course for ATCOs across national borders with the clear objective of developing and offering the best imaginable and most professional ATCO training. In addition to meeting the four owners' specific need for a coordinated training scheme for ATCOs, Entry Point North fulfils the ambitions for Single European Sky. At the same time, through Entry Point North, Naviar can help to strengthen the Scandinavian countries' chances of influencing the further development of air traffic services.

Entry Point North services ANSPs worldwide by selling training courses tailored to customer requirements that are held either at Entry Point North in Sturup or on-site at the customer. So far, the academy has trained students from more than 40 companies from approximately 20 countries.

Aireon



Owners: Naviar (Denmark), ENAV (Italy), Irish Aviation Authority (Ireland), Iridium (USA) and Nav Canada (Canada)

Aireon is a joint venture formed by a number of companies that will set up the world's first satellite-based global aviation surveillance system in the coming years. Aireon's business strategy is based on the sale of traffic surveillance data, mainly to the ANSPs but also to others, including airlines and flight handling companies. Through its co-ownership of Aireon, Naviar will help secure a major advance for ATM.

Once the new system is operational as expected in 2018, it will be possible to collect data all over the world on all aircraft fitted with ADS-B equipment. In addition to the safety benefits, the system will also provide an opportunity to use airspace much more efficiently than we are able to today. This in turn will enable the airlines to save fuel and flying time and save the environment from considerable quantities of greenhouse gases.

Through its special service, Aireon ALERT, Aireon plans to supply the first global emergency surveillance service, whereby data on lost and missing aircraft will be made available free of charge to rescue services and other relevant services. This free service will considerably strengthen global preparedness for aircraft emergencies.

Aireon LLC is headquartered in Virginia, USA. Besides Naviar with a 6% ownership interest in 2017/2018, the other partners are the US telecommunications company Iridium Communications Inc. (24.5%) and the ANSPs Nav Canada (51%), ENAV (12.5%) and the Irish Aviation Authority (6%).





Environmental and climate initiatives

Like all other forms of transport, aviation affects both the environment and the climate. Aviation's share of global air pollution is between 2 and 3 per cent. The transport sector as a whole accounts for approximately 20 per cent. The biggest polluter in this sector is road transport, which accounts for 14 per cent of overall pollution globally.

Regardless of the fact that aviation consequently only accounts for a small proportion of the global environmental and climate impact, it is naturally always a challenge to ensure the biggest possible reduction in pollution. Aircraft and aircraft engines undergo constant development to ensure that they pollute less and less, generation by generation. At Naviair, we are also working hard to reduce the impact on the environment and the climate. We are constantly seeking ways to help reduce the negative impact of aviation on the environment and the climate by using airspace optimally, managing air traffic efficiently, and cooperating on the development of new technical solutions.

Emissions of CO₂ and other greenhouse gases from aviation

We are striving to optimise our infrastructure systems and make ATM more efficient, so that our activities can help to reduce the impact of aviation on the environment and the climate as far as possible. Insofar as this is possible – and where deemed safe – we give aircraft direct routes between their destinations and ensure that the airlines are allocated the altitudes and speeds they request so that the individual types of aircraft use the least possible fuel, thereby minimising their CO₂ emissions. We also ensure that the aircraft take off, land and taxi at airports in a way that allows fuel consumption to be kept as low as possible.

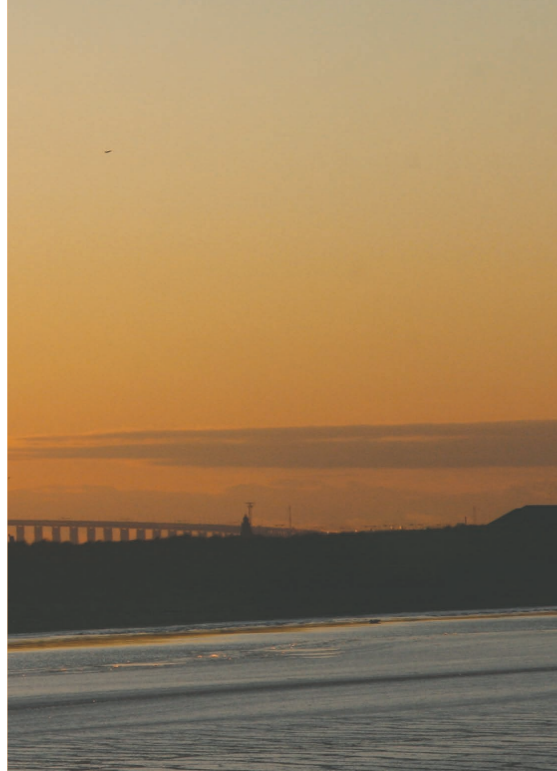
Flight safety is naturally always given top priority in ATM. While always maintaining the highest level of safety, we are constantly striving to optimise ATM in a way that is beneficial for both aviation and the environment and our attention is always focused on taking every opportunity to implement new initiatives aimed at improving the climate and the environment.

Optimisation is the result of prioritising a service-oriented culture, in which we work hard to develop the most efficient traffic concepts and ensure the most flexible use of airspace. Our work is, of course, also guided by the recommendations of the European aviation organisations.

In all the focus areas involving the highest fuel consumption, we have already been working for decades on developing climate-friendly ATM and we have developed efficient concepts in many areas. We were among the first in Europe to introduce Free Route Airspace, Continuous Climb Operations, Continuous Descent Operations and Required Navigation Performance. Among many other concepts, we are also continuing to explore the possibility of Extended Arrival Management.

Noise

At all airports where Naviair manages traffic, clear noise restrictions are in place that safeguard the surrounding areas against unnecessary noise inconvenience from aviation. We of course adhere scrupulously to these restrictions and in addition we contribute actively to reducing noise at and around the airports by applying the most efficient traffic procedures. We therefore only experience very few cases of infringement of noise limits where Naviair shares responsibility.



Environmental and climate initiatives in our buildings and technical installations

Naviair operates 24/7, 365 days a year, and our technical installations need a great deal of energy for both operation and cooling. Energy consumption for both our buildings and our technical installations is therefore considerable.

Our energy consumption for cooling is substantial and we are currently in the process of building new cooling plants at Naviair's headquarters in Copenhagen, with cooling installations adapted to groundwater cooling and new cooling machinery installed. We expect the new plant to go into service in 2017. The plant is expected to lead to an annual saving in energy costs for cooling of up to DKK 1.5 million and at the same time to reduce our CO₂ emissions by approximately 275 tonnes per year.

We are also implementing minor initiatives that help reduce our energy consumption, which has been falling for a number of years.

Climate strategy

We are constantly working towards taking every opportunity to contribute to a positive effect on the climate. This work is being carried out in continuous consultation and cooperation with our customers, and we participate in environmental and climate work in a number of initiatives, including SES, SESAR, NUAC and COOPANS.

Using Eurocontrol's and IATA's joint Flight Efficiency Plan as a starting point, we continue to develop and ensure flexible utilisation of airspace by means of:

- Short routes, direct routes to destinations and fuel-efficient altitudes.
- The option of fuel-efficient approaches to airports where Naviair is providing aerodrome and approach control services.

- Minimal ground delays with engines idling through efficient ATM at airports.
- Continuous Climb Operations wherever possible – with direct routes and climbs to cruising level.
- Participation in cooperation on the development of satellite-based global surveillance of air traffic, with the opportunities this kind of system will offer for optimising the use of airspace and reducing fuel burn.

European framework

The EU framework for ATM has a major impact on the way Naviair has to run its operations. The reason for this is that the EU Member States and a number of other European countries have jointly committed to harmonising and integrating ATM in Europe into a single airspace (Single European Sky). This means that ATM across Europe will be subject to the same framework and performance targets. The aim is to achieve uniform ATM for both civil and military airspace users with a view to creating safe, efficient and economical ATM throughout Europe and at the same time reducing the negative environmental impact.

Single European Sky – SES

The EU targets to which Naviair is subject are set out in the Single European Sky (SES) legislative package from 2004 and various amendments to it, which can be found in an SES II legislative package from 2009.

Many of the geographical areas based on state boundaries were combined to form functional airspace blocks with effect from December 2012. As previously mentioned, Denmark is part of an airspace block with Sweden – the Danish-Swedish FAB. The European Aviation Safety Agency (EASA) has powers and responsibilities relating to safety in the ATM area, and Eurocontrol takes care of pan-European coordination through the Network Manager entity. Eurocontrol has been assigned this role by the European Commission until the end of 2017. Furthermore, environmental rules and regulations have been introduced to curb pollution.

Performance scheme

Naviair has been complying with the European performance scheme since 2012. The performance scheme is the result of the Single European Sky legislation through which the EU aims to ensure both more efficient utilisation of European airspace and sufficient airspace capacity to accommodate the growing volume of air traffic. Another objective is to cut CO₂ emissions and the costs of air navigation services.

Naviair is comprised by a performance plan for the Danish-Swedish FAB. Performance targets have been set in the following four areas: Safety, Capacity, Environment and Cost efficiency. The performance scheme comprises the en route area, terminals (TMA) and airports. The performance improvements will be achieved through EU-wide, FAB-wide and nationwide performance targets. The EU-wide performance targets are adopted by the European Commission and used to prepare a performance plan for each national airspace (nationwide performance targets) or for the Functional Airspace Block (FAB) of which the national airspace is a part (FAB-wide performance targets).

The performance scheme is legally binding on EU Member States. We at Naviair are therefore measured on our performance. If we do not satisfy the performance requirements, we may be subject to corrective action in the form of rate reductions.

Single European Sky ATM Research – SESAR

SESAR is an offshoot of SES and is the EU's research programme for the development of the new generation of an integrated European ATM system. This means that SESAR is the technological approach to testing and finding solutions that can achieve the SES targets.

The programme combines technology with operational, financial and legislative aspects.

One of the results of the SESAR programme is common guidelines on interoperability. This means that the systems that each ANSP invests in must be able to communicate with the systems used by other ANSPs so that data and information can be used freely by all ANSPs in Europe as and where they are needed.

Another result from SESAR is a concept and rules relating to Free Route Airspace that have already been implemented in Danish-Swedish airspace but must be implemented in the entire European airspace by 2022.

SESAR was originally scheduled to run for the period 2009-2014, but this was extended to 2016. In 2014, the EU decided to extend the work of SESAR with a new programme called SESAR 2020, which will be operational during the period 2015-2020.

SESAR 2020 builds on the experience gained from SESAR and focuses its efforts on fewer areas and more operational needs.

In 2007, the EU established a joint undertaking structured as a public-private partnership, the SESAR Joint Undertaking (SJU). The purpose of the SJU is to manage and develop SESAR. The members are: the European Commission, Eurocontrol and the aviation sector (including a number of ANSPs). Each member has one third of the seats and bears one third of the costs. In 2013, the European Council of Ministers extended the SJU to cover the period up to 2024. Naviar has been participating in the SJU together with its partners in the COOPANS Alliance since 2015.

SESAR Deployment Manager

SESAR's work has led to a number of proposals for areas in which common rules should be issued. Against the background of SESAR Joint Undertaking's recommendations, the European Commission introduced new legislation in 2014 featuring six sets of rules collectively designated Pilot Common Projects. These – and future – rules will be launched in the Member States through a governing body, SESAR Deployment Manager. Together with the other COOPANS partners, Naviar has been appointed by the European Commission to help operate the SESAR Deployment Manager entity. The SESAR Deployment Manager entity is operated by A6 – an alliance of ANSPs; A4 – an alliance of airlines; and SDAG (SESAR Deployment Alliance Group) – a consortium of airports.

In 2015, the SESAR Deployment Manager (SDM) drew up a Deployment Programme that is subdivided into six sets of rules. In order for the Pilot Common Projects legislation to be considered to have been implemented, the Deployment Programme must have been implemented. The Deployment Programme is updated annually and approved by the European Commission. SESAR Deployment Manager also coordinates and handles applications for EU funding under the Pilot Common Projects before these are submitted in one package to the EU funding agency, INEA (Innovation and Networks Executive Agency), which subsequently decides which applications should be granted funding.

A6

Naviar participates in the A6 Alliance through the COOPANS Alliance. A6 is an alliance of the largest ANSPs in Europe from France, Germany, the UK, Spain, Italy and Poland as well as the B4 Consortium (Czech Republic, Slovakia, Lithuania and Poland) and COOPANS. Its aim is to help modernisation of the European ATM network within the SESAR 2020 programme for the benefit of customers.

Its role is to create synergies between the ANSP members of the SJU, to maximise customer and network benefits, and to provide leadership at a European level in technical and strategic areas.

The A6 members are bound by a Memorandum of Cooperation and are all full members of SESAR.

Partnerships and alliances with other ANSPs



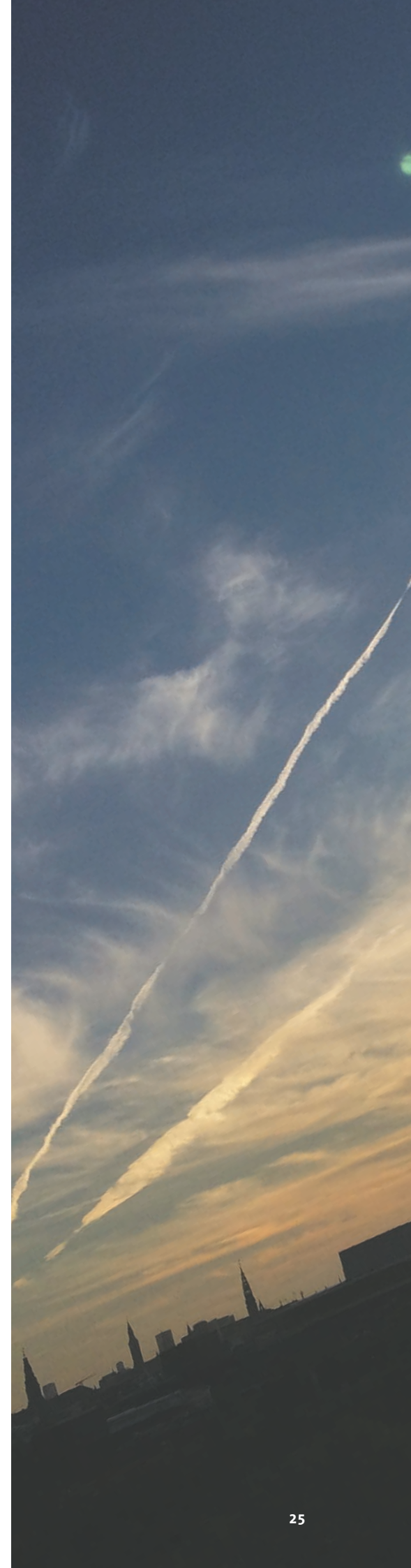
Members: Naviair (Denmark), Avinor (Norway), EANS (Estonia), Finavia (Finland), Irish Aviation Authority (Ireland), ISAVIA (Iceland), LFV (Sweden), LSG (Latvia) and NATS (UK)

To help implement EU rules and develop as safe, efficient and cost-effective ATM as possible, Naviair has formed partnerships and alliances with other North European ANSPs. Besides NUAC and COOPANS, one such cooperative alliance is Borealis, which comprises the ANSPs in Denmark, Sweden, Norway, Finland, Estonia, Latvia, the UK, Ireland and Iceland.

The long-term aim of the Borealis Alliance is to introduce Free Route Airspace in the entire airspace covered by the Borealis partners. Naviair and LFV introduced Free Route Airspace in the Danish-Swedish airspace already in 2011. In 2015, in cooperation with NEFAB (Norway, Finland, Estonia and Latvia), Free Route Airspace was extended to include these countries' airspace above FL 285 (flight level 28,500 feet), and Free Route Airspace has been implemented across the entire controlled airspace since June 2016. As part of

the cooperation, Norwegian airspace will be included in 2017, and the aim is for the single, integrated airspace featuring Free Route Airspace to include Ireland, Iceland and, if possible, the UK, from the end of 2020. The greater the areas covered by Free Route Airspace, the greater the benefits to aviation and the environment.

The Borealis Alliance focuses on a number of core areas – both nationally and internationally – that are to ensure coordination, alignment and integration as well as a joint vision and guidelines in areas such as communications, navigation, surveillance and Aeronautical Information Management (AIM).



Industry associations

CANSO

Naviair is a member of the Civil Air Navigation Services Organisation, CANSO. CANSO represents its members' views to the aviation industry's other stakeholders. CANSO has 89 members and 79 associate members across the world. CANSO's members include 32 of the European ANSPs.

Naviair has a seat on CANSO's Executive Committee, its supreme governing body.

Confederation of Danish Industry (DI)

Through its associate membership of DI, Naviair is a member of the industry association Dansk Luftfart (Danish Aviation). The association's aim is to secure the Danish aviation industry a central role in future growth and development.

During the Folkemøde (The People's Political Festival) in Allinge on Bornholm this summer, Naviair will be present at the "Infrastructure Tent", together with CPH, SAS and DI Transport, among others.

Abbreviations and designations

A4: Alliance of airlines

A6: Alliance of the largest ANSPs in Europe from France, Germany, the UK, Spain, Italy and Poland as well as the B4 Consortium (Czech Republic, Slovakia, Lithuania and Poland) and COOPANS

ADS-B: Automatic Dependent Surveillance-Broadcast (surveillance system)

AIC: Aeronautical Information Circular

AIP: Aeronautical Information Publication

AIS: Aeronautical Information Service

ANSP: Air Navigation Service Provider

ATM: Air Traffic Management

ATS: Air Traffic Services

Austro Control: ANSP Austria

Avinor: ANSP Norway

CNS: Communications, Navigation and Surveillance

COM centre: Communications centre for the processing and distribution of communications in aviation and meteorology.

COOPANS: CO-Operation of Air Navigation Service providers

Croatia Control: ANSP Croatia

DSNA: ANSP France

EASA: European Aviation Safety Agency

ENAV: ANSP Italy

Eurocontrol: European Organisation for the Safety of Air Navigation

FAB: Functional Airspace Block

FIR: Flight Information Region

IATA: The International Air Transport Association

ISAVIA: ANSP Iceland

Irish Aviation Authority: ANSP Ireland

LFV: ANSP Sweden

Nav Canada: ANSP Canada

NEFAB: North European Functional Airspace Block (consists of Norway, Finland, Estonia and Latvia)

NUAC: Nordic Unified Air traffic Control (NUAC is a jointly owned Swedish general partnership under Naviair and LFV that has been responsible for the operation of the three ATCCs in Copenhagen, Malmö and Stockholm since 2012).

RP2: Reference period 2 (2015-2019) of the European performance scheme

RP3: Reference period 3 (2020-2024) of the European performance scheme
Service unit (En route): The charge for an aircraft with a maximum take-off weight of 50 tonnes flying 100 kilometres.

SES: Single European Sky (EU initiative to unify European airspace)

SESAR: Single European Sky ATM Research programme (EU programme on development of the new generation of an integrated European ATM system)



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***Business Plan 2017-2021**, published in February 2017*

***Photo on front cover:** On 19 December 2016, the new sign on Naviair's main building was switched on.*

***Photo:** Jan Eliassen, Per Woodrow Nielsen & SpaceX*

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Business Plan 2017-2021



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