



**SETS OF
ESSENTIAL FACTS
ON THE
MODERNISATION
OF EU SKIES**





INTRODUCTION

Did you know that aviation and air traffic management in Europe are continuously being modernised to enhance safety, efficiency and sustainability?

The Single European Sky's Air Traffic Management Research project - SESAR - is spearheading this transformation, aiming to digitally optimise the European airspace.

SESAR focuses on technological advancements to increase capacity, precision, and punctuality while supporting the European Green Deal objectives by helping to decarbonise air transport.

These efforts support connectivity, performance and environmental sustainability in European aviation, reducing delays, enhancing safety and lowering environmental impact. SESAR's deployment contributes to a better passenger experience through improved safety measures, increased capacity, reduced delays and lower costs, aligning with EU climate objectives and fostering global connectivity.

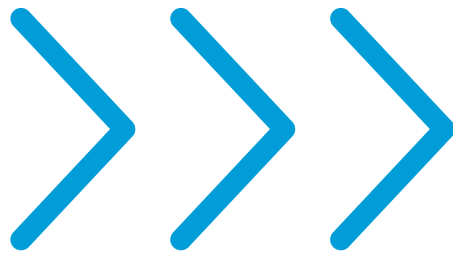
This document touches on four main aspects of air traffic management modernisation, providing an overview of how the overall passenger experience is being continuously improved through SESAR deployment.

Enjoy reading!

ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES









Air travellers

ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES





AIR TRAVELLERS

Step into the world of modernised air travel with SESAR deployment across Europe. Experience smoother, safer, and more reliable journeys like never before. Reduced flight delays and more predictable travel times make planning more efficient. SESAR enhances the quality of life of EU citizens beyond airports by making air travel more efficient. Safety and security are paramount, ensuring peace of mind from departure to arrival. With increased flexibility and punctuality, SESAR brings continuous improvements and makes air traffic management more efficient, promising a seamless experience for all travellers.





Air travellers

In the bustling world of air travel, SESAR deployment across Europe is reshaping the passenger experience, making it smoother, safer and more reliable than ever before.

Reduced flight delays

Imagine stepping into an airport knowing that your flight will be as smooth as possible. SESAR's modernisation efforts optimise air traffic management, reducing congestion and streamlining flight paths. This means fewer delays, less time spent waiting before departure, and more time to enjoy your destination.

More predictable travel times

With SESAR, predictability becomes more accurate. The uncertainty of last-minute schedule changes or unexpected flight diversions are being reduced thanks to digitalisation. Enhanced traffic management ensures that travel times are less likely to change, allowing passengers to plan their journey with confidence. Although it is important to remain realistic and note that unpredictable events, such as severe weather, can always affect travel times, SESAR's modernisation solutions reduce the impact of such unforeseen events.

Flexibility and punctuality

SESAR's modernisation efforts provide flexibility in managing air traffic, allowing for more efficient routes and smoother operations. This flexibility translates into punctual departures and arrivals, minimising unexpected events and ensuring a seamless travel experience for passengers.

ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES



DEPLOYMENT
FACT

PROJECTS

293

SESAR deployment
projects in operation,
delivering benefits
to passengers today.

sesar[✦]
DEPLOYMENT MANAGER





Air travellers

Quality of life

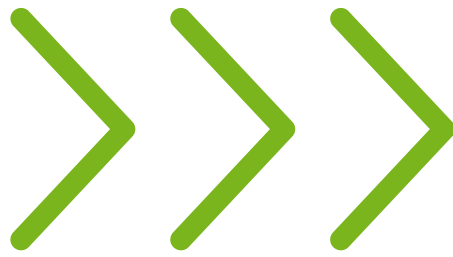
The benefits of SESAR deployment extend beyond airports, touching the lives of EU citizens in meaningful ways. Picture a world where air travel can be seamlessly integrated into your daily routine. Thanks to SESAR, smoother and more efficient air travel can be achieved. This means less stress and hassle for travellers, allowing them to focus on what truly matters. By adopting new departure or arrival procedures, SESAR also reduces noise for people living close to airports or under flight routes. These and many other technological advancements make our journeys more convenient and enjoyable. Whether it's arriving on time for an important meeting or reuniting with loved ones, SESAR enhances the overall quality of life for EU citizens.

Safety and security

Safety and security are paramount in aviation. SESAR deployment strengthens security across the aviation network, with measures ranging from enhanced surveillance systems and improved communication protocols to enhanced data security and protection from cyber threats. These measures not only deter potential hazards and disruptions but also provide passengers with peace of mind, knowing that their safety is prioritised at every stage of their journey.

ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES







Green is not just a promise

ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES





GREEN IS NOT JUST A PROMISE

Discover how SESAR deployment is modernising air traffic, aligning with EU climate goals and policies to reduce greenhouse gas emissions. By optimising flight routes and embracing air traffic management modernisation, SESAR supports a greener future. Dive into the details of how SESAR contributes to the European Green Deal.





Green is not just a promise

SESAR deployment plays an important role in promoting environmental sustainability, aligning with EU climate goals and policies.

Reducing greenhouse gas emissions

By optimising flight routes and reducing congestion, SESAR significantly decreases greenhouse gas emissions from air travel. This leads to improved fuel efficiency and a lower carbon footprint, contributing to a more sustainable aviation industry.

Aligning EU climate goals

SESAR's efforts closely align with the EU's ambitious climate goals and policies, demonstrating a commitment to reducing carbon emissions and, thus seeking to mitigate climate change. By embracing ATM modernisation, Europe is taking a significant step towards building a greener and more sustainable future.

The EU Sustainable and Smart Mobility Strategy has highlighted the importance of more efficient ATM operations, which would unleash “great potential for sustainability, helping to cut excess fuel burn and CO2 emissions”. Current SESAR deployment activities, are among the most urgent steps to be taken in order to increase efficiency in day-to-day operations and reduce unnecessary greenhouse gas emissions.

ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES



**EVERY EURO
INVESTED
IN ATM
MODERNISATION
SAVES
4.3 KG OF CO₂**

**ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES**





Green is not just a promise

Health and environmental benefits

Aviation emissions can be reduced thanks to SESAR, which helps improve air quality, leading to healthier environments and better quality of life for EU citizens. Cleaner skies mean fewer pollutants in the air, benefiting both human health and the environment.

Contributing to the European Green Deal

The European Green Deal is an ambitious plan that aims to make the European Union the world's first climate-neutral continent by 2050. To achieve this goal, it is essential that various sectors are addressed, including aviation, which contributes to greenhouse gas emissions.

CP1 covers 13% of the CO₂ reductions of all air traffic management-related measures currently taken by the aviation industry to contribute towards the 2030 decarbonisation goals of the European Green Deal.

ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES



**CP1 IS EXPECTED
TO ENABLE OVER
12,600,000 TONS
OF CO2 SAVINGS,
WHICH EXCEEDS
THE YEARLY CO2
EMISSIONS OF
1.5 MILLION EU
CITIZENS**

**ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES**





Green is not just a promise

Air traffic management modernisation, especially through the deployment of SESAR, plays an important role in advancing the following objectives of the European Green Deal:

Enhanced efficiency and reduced emissions

Modernising air traffic management (ATM) systems leads to improved efficiency in air traffic operations. SESAR focuses on optimising routes, reducing flight delays and enhancing airspace utilisation. These measures translate into shorter flight paths and less time spent in holding patterns, which, in turn, reduce fuel consumption and emissions. According to estimates, SESAR deployment can help prevent a third of ATM inefficiencies avoided and, as such, support the overall aim of a 6-10% reduction in CO2 emissions per flight, contributing significantly to the EU's climate goals.

**ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES**



**BY
ENHANCING EFFICIENCY,
REDUCING EMISSIONS
&
SUPPORTING THE
TRANSITION TO A MORE
SUSTAINABLE AVIATION SECTOR,**

**SESAR PLAYS A PIVOTAL ROLE IN
MAKING THE EUROPEAN AVIATION
SECTOR MORE ENVIRONMENTALLY
FRIENDLY**

**ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES**





Green is not just a promise

Improved collaborative decision-making

SESAR promotes collaborative decision-making processes among all stakeholders in the aviation industry, including airlines, airports, and air navigation service providers. By sharing data and coordinating activities, air traffic can be organised more effectively and bottlenecks can be avoided. This results in reduced fuel burn, lower emissions and minimised environmental impacts.

Noise reduction measures

ATM modernisation is not limited to emissions reduction; it also focuses on mitigating noise pollution. SESAR deployment includes the development of quieter approaches and departures, reducing the noise footprint of airports. This aligns with the European Green Deal's objectives to create a healthier and more sustainable environment for communities living near airports.

ATM modernisation, particularly through SESAR deployment, is an important element in achieving the goals of the European Green Deal. By enhancing efficiency, reducing emissions, and supporting the transition to more sustainable aviation, SESAR plays a pivotal role in making the European aviation sector more environmentally friendly. As the EU continues to invest in research, innovation and deployment of modernisation projects within the aviation industry, the EU is well on its way to becoming a leader in green aviation, contributing to a more sustainable and climate-neutral future.

**ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES**



DEPLOYMENT
FACT

SAVINGS

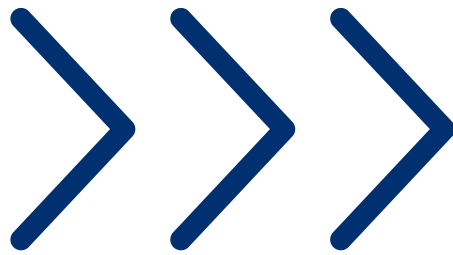
7.2
MILLION

tons of CO2 saved
by modernising air traffic
management in Europe

sesar
DEPLOYMENT MANAGER









Economical flight paths

**ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES**





ECONOMICAL FLIGHT PATHS

Discover how SESAR deployment contributes to economic growth, job creation and global competitiveness. By modernizing air traffic management systems, SESAR enhances efficiency, attracts more passengers, and strengthens the aviation industry. Aligned with EU economic policies and objectives, this initiative prioritises innovation, investment and sustainable growth. Join the journey towards digitalised skies for generations to come.



DEPLOYMENT
FACT

INVESTMENT

**EUR 2.8
BILLION**

**EUR 1.5
BILLION** invested
by the
aviation industry

+

**EUR 1.3
BILLION** invested
by the
European Commission





Economical flight paths

SESAR deployment brings substantial economic advantages, fostering competitiveness, job creation and economic growth across Europe.

Increased competitiveness

By modernizing the ATM system, SESAR enhances the competitiveness of EU airlines and airports on a global scale. Streamlined operations and improved efficiency attract more passengers and businesses, boosting revenue and profitability for the aviation industry.

Global market competitiveness

Europe's modernized ATM system positions its airports as global leaders, offering efficient and reliable services to airlines and passengers worldwide. This competitiveness strengthens the aviation sector and drives economic growth, benefiting not only the industry but also the broader economy.

Moreover, current SESAR deployment directly and indirectly addresses all urban nodes located in the core and comprehensive network identified in the TEN-T guidelines. In particular, the technologies implemented by SESAR will directly improve the throughput of all major European airports and will make sure that citizens and goods can move freely, efficiently and sustainably across Europe.

ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES



DEPLOYMENT
FACT

SAVINGS

2.3
MILLION

tons of fuel saved through SESAR deployment

sesar[✦]
DEPLOYMENT MANAGER





Economical flight paths

EU economic policies

SESAR deployment aligns with EU policy objectives in the aviation sector and is also fully consistent with the overall long-term goals of the European Union in the area of transportation and mobility. It explicitly contributes to the development and modernisation of trans-European networks, and helps the aviation industry move forward on its path to contribute to the EU's long-term decarbonisation commitments.

Alignment with EU objectives

SESAR deployment aligns closely with the EU's economic development strategies, promoting innovation, spurring investment, and creating highly skilled jobs. By prioritising ATM modernisation, Europe is strengthening its position as a global leader in aviation while driving economic prosperity for its citizens.

SESAR deployment is a truly pan-European initiative and, as such, it delivers European added value: It is a tool to improve the overall ATM system and infrastructure throughout the European Union and even beyond: currently, it involves over 100 organisations, spanning across 26 EU Member States and 8 Third Countries and is distributed in all geographical areas of the European network.

ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES



DEPLOYMENT
FACT

SAVINGS

**EUR 9.6
BILLION**

saved

by modernising air traffic management
in Europe

sesar[✦]
DEPLOYMENT MANAGER







Economical flight paths

It's all about the people

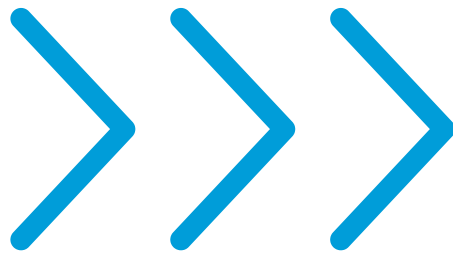
SESAR deployment centres around people. It is driven by a diverse group of professionals dedicated to improving safety, efficiency and sustainability in Europe's airspace. These individuals, including air traffic controllers, pilots, engineers, policymakers, and aviation experts are leading the integration of innovative technologies in air traffic management (ATM), prioritising safety and security while advancing industry competitiveness.

They understand the broader impact of their work, emphasising passenger well-being, environmental preservation and sustainable development. Collaboration is key, with stakeholders from government, private enterprises, regulatory bodies and academia forging partnerships to navigate the complexities of modernizing Europe's ATM infrastructure.

SESAR deployment is more than a technical upgrade: it is a testament to the ingenuity, resilience and collaborative spirit of those working in the aviation sector. It empowers individuals to embrace innovation, overcome challenges and collectively shape a more efficient, sustainable and interconnected future for European aviation. Let's acknowledge the dedication of over 500,000 individuals driving progress, ensuring safe and accessible skies for generations to come.

ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES







#AsOne behind SESAR deployment

ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES





AS ONE BEHIND SESAR DEPLOYMENT

The Single European Sky (SES) is an ambitious initiative launched to modernise European air traffic management, making it safer, more cost-efficient and environmentally friendly. SESAR, as the technological pillar of this initiative, is harnessing new technologies and accelerating digitalisation to contribute towards making the SES a reality. SESAR is composed of three phases: definition, development and deployment. Discover SESAR, a groundbreaking collaborative programme aimed at modernising and harmonising air traffic management (ATM) systems across the continent. Delve into the regulatory framework of Common Projects, which set out specific targets and timelines for essential ATM functionalities. Learn how Common Projects play a key role in enriching the performance of ATM operations. Meet the SESAR Deployment Manager, the orchestrator behind the deployment of these changes, and explore the unpredictable factors challenging ATM modernisation.





As One team behind
SESAR deployment

Framework

The European Commission has set the completion of the Single European Sky (SES) as a policy priority for the aviation sector. The completion of the SES is highly dependent on the progress made with the implementation of its technological pillar, SESAR, which is reflected in the EU ATM Master Plan and in the SESAR Deployment Programme.

SESAR is a collaborative programme established to modernise and harmonise ATM systems across Europe. Its deployment phase, coordinated by the SESAR Deployment Manager, involves the synchronised implementation of innovative technologies, operational procedures, and infrastructure upgrades to enhance airspace capacity, safety, efficiency and environmental sustainability.

Common Project One (CP1), as defined by Commission Implementing Regulation (EU) 2021/116, serves as the framework guiding SESAR deployment activities. CP1 sets out specific performance targets, operational requirements and timelines for implementing essential ATM functionalities. It lays the foundation for a seamless and integrated European airspace while increasing its overall performance, reducing delays and congestion and enabling a significant reduction of aviation's environmental impact.

Without the timely deployment of CP1, the goal of building more sustainable, resilient, efficient and effective ATM in Europe will become more difficult to achieve, with negative short and mid-term outcomes for European passengers and the aviation industry as a whole.

ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES



DEPLOYMENT
FACT

AS ONE
TEAM

102

partners involved in
SESAR deployment.

sesar[✦]
DEPLOYMENT MANAGER





As One team behind
SESAR deployment

The role of Common Projects in air traffic management modernisation

Common Projects play a vital role in coordinating and harmonising air traffic management (ATM) modernisation efforts within the SESAR framework. By establishing clear objectives and requirements, timelines and performance targets, Common Projects facilitate collaboration among stakeholders, including air navigation service providers, airports, airlines and regulatory authorities.

These Projects promote the adoption of standardised SESAR solutions and interoperable technologies, ensuring compatibility and consistency across European airspace as a whole. Moreover, Common Projects enable economies of scale by pooling resources and expertise, thereby optimising investment and maximising the benefits of ATM modernisation initiatives.

Common Projects play an essential role in guiding ATM modernisation through SESAR deployment: they foster collaboration, standardisation, and harmonisation among all the operational stakeholders involved. Through concerted efforts and sustained cooperation, stakeholders can leverage on the potential of Common Projects to transform the future of air traffic management and unlock sustainable growth for aviation.

ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES







As One team behind
SESAR deployment

Civil -military cooperation

Modernisation through SESAR deployment contributes to the dual use of European airspace and the underpinning of air traffic management infrastructure and systems, both for civilian and military/defence purposes.

Integrating the movement of military troops or assets - the main objective of the EU military mobility approach - is one of the objectives of CP1, ensuring that military operations can be accommodated in the European network without prejudice to the safety and performance of all operations.

As SESAR deployment addresses and facilitates early and synchronised adoption of CP1, it is considered that better use of European airspace would increase the efficacy of European military forces, which is increasingly important in the current geopolitical scenario.

In particular, more effective and efficient air navigation services in Europe will benefit all types of airspace users flying into European airspace, be it commercial or military. This becomes evident when considering that military air forces manage the biggest fleet in Europe (more than 12,000 aircraft), and, as such, will directly take advantage of the possibility of operating such fleet in a safer, more efficient and environmentally friendly manner.

ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES





As One team behind
SESAR deployment

SESAR Deployment Manager

The SESAR Deployment Manager's role and function is defined by Article 9 of Commission Implementing Regulation (EU) No 409/2013. Under the oversight of the European Commission, this function consists of the synchronisation and coordination of the deployment of a set of essential functionalities in the European ATM Master Plan by EU Member States and their operational stakeholders.

The SESAR Deployment & Infrastructure Partnership (SDIP) is the organisation which was selected by the European Commission on 1 June 2022 to perform the SDM function until 2027.

A strong industrial partnership stands behind the SESAR Deployment Manager under the oversight of the European Commission. It represents all perspectives and standpoints of operational stakeholders in the ATM industry:

4 airlines: covering 3 million flights with around 500 million passengers per year (one third of the the total number of European passengers) with an operating network covering all EU Member States;

15 air navigation service providers: safely controlling around 8 million flights per year (around 80% of air traffic in the EU) and major traffic flows operated in Europe;

Airports: ACI Europe representing over 500 airports of all sizes across 55 countries, with the ability to provide a comprehensive airport operational perspective;

EUROCONTROL's Network Manager as the consortium coordinator: the best placed to provide a network-wide view, both in terms of technological deployment and in terms of operational interoperability to ensure the seamless functioning of the European ATM network.

ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES



DEPLOYMENT
FACT

AS ONE
TEAM

34

countries involved
in SESAR deployment.

sesar[✦]
DEPLOYMENT MANAGER





Unpredictable factors impacting air traffic management modernisation

While air traffic management (ATM) modernisation in Europe holds great promise for improvements, the aviation industry will always be subject to a myriad of unpredictable factors ranging from weather events to technical aspects and political, social and economic dynamics. Adapting to these challenges requires robust contingency planning, stakeholder engagement and a flexible approach to ensure the resilience and sustainability of ATM systems in the face of uncertainty.

One of the most unpredictable factors is the weather. Adverse weather conditions such as storms, heavy fog or volcanic eruptions can disrupt air traffic, leading to delays and cancellations. These disruptions not only affect the operational capacity of ATM systems but also pose challenges to the implementation of new technologies and procedures. However, SESAR deployment and ATM modernisation include specific technologies to ensure that such weather events can be mitigated and their impact on air travel can be reduced to a minimum.

ESSENTIAL FACTS
ON THE
MODERNISATION OF
EU SKIES



DEPLOYMENT
FACT

AS ONE
TEAM

21

dedicated members forming
the beating heart of
SESAR deployment.

sesar[★]
DEPLOYMENT MANAGER





Delivering benefits to European passengers,
citizens, the environment and the economy
Partnering in #SESAR deployment - 2024



Co-financed by the Connecting Europe
Facility of the European Union



Funded by
the European Union

DEPLOYMENT
FACT

EVOLUTION



of **Common Project One** deployment activities
implemented or in progress

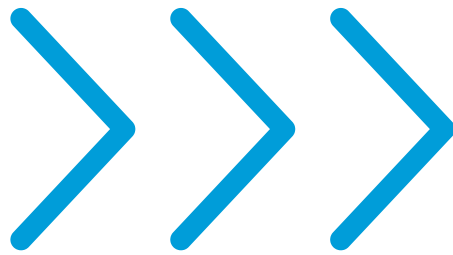
sesar[★]
DEPLOYMENT MANAGER





MODERNISING AIR TRAFFIC MANAGEMENT #AsOne





THANK YOU

FOR SPREADING

ESSENTIAL FACTS

ON THE MODERNISATION OF
EU SKIES

Contact us:

sesardeploymentmanager.eu
hello@sesardeploymentmanager

sesar 
DEPLOYMENT MANAGER



Funded by
the European Union