

THALES

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Ready for Initial SESAR Deployment

Pilot Common Project ATM Functionalities





THALES BRINGS A UNIQUE INTERNATIONAL DIMENSION THANKS TO ITS WORLDWIDE EXPERTISE IN GROUND, AIRBORNE AND SPACE DOMAINS

Europe counts over 440 airports, which together handle close to 26,000 flights a day and more than 1.4 billion passengers a year. To address the inevitable congestion of our skies, outdated technologies and the future ATM challenges in Europe, **SESAR is delivering technological solutions, functionalities and systems, and is preparing standards for deployment in Europe.**

Thales strongly believes that SESAR is a key programme for a safe evolution of ATM. Thales brings a third of the total manufacturing industry contribution; almost double that of the second manufacturing industry contributor.

As the leading industry player in SESAR, a key technology partner for NextGen and ready for ICAO Aviation System Block Upgrades, Thales aims to ensure global harmonisation and interoperability.



PCP OBJECTIVES:

- ▶ Improve predictability
- ▶ Optimise arrival trajectories
- ▶ Improve fuel efficiency and emissions
- ▶ Enhance demand/capacity balancing
- ▶ Improve passenger experience

THALES IS DELIVERING THE SESAR TECHNOLOGIES ESSENTIAL FOR THE FUTURE EUROPEAN SKY:

- ▶ ATC Centres: advanced controller tools, HMI and new generation FDP for 4D trajectory and TMA/queue management
- ▶ Airports: integrated airport solution, departure/arrival optimisation, D-Taxi, wake vortex
- ▶ Airborne: new generation FMS, Performance-Based Navigation
- ▶ CNS: multi-constellation GNSS, GBAS, enhanced ADS-B
- ▶ SWIM: security, interoperability, SWIM middleware
- ▶ Weather: integrated MET services portal
- ▶ Network Operations: AIM, complexity management tools

"The Pilot Common Project is a major milestone for SESAR and towards the achievement of the Single European Sky. Most importantly it shows that we are able and willing to make the necessary changes."

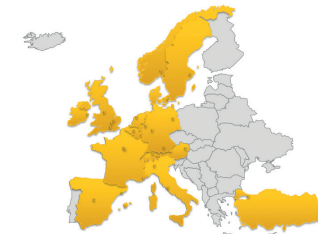
Siim Kallas, Vice-President of the European Commission in charge of Transport, 2014

PILOT COMMON PROJECT DEPLOYMENT

SESAR is at a turning point and deployment is imminent. European Air Navigation Service Providers are preparing to deploy mature SESAR technologies that will deliver significant performance improvements in terms of airspace and airport capacity, fuel consumption and emissions – and consequently, cost savings. Thales has played a key role in transforming SESAR concepts into mature technologies and will ensure the smooth deployment of the ATM Functionalities that form the Pilot Common Project.

AF#1: Extended AMAN and PBN in high density TMA

Thanks to Performance Based Navigation, aircraft will fly shorter, more direct and more environmentally friendly routes in the TMA. Maestro AMAN/DMAN, integrated with TopSky - ATM Solutions, will help ANSPs improve the predictability of approach trajectories and will facilitate traffic sequencing at an earlier stage.



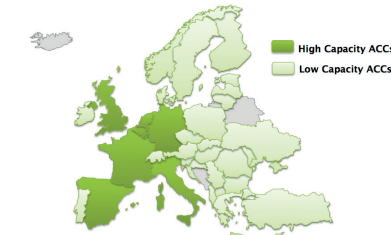
AF#2: Airport Integration and Throughput Functionalities

Airport Integration and Throughput Functionalities will improve runway safety and throughput, enhance taxi integration and safety, and reduce hazardous situations on the runway. TopSky – Tower is ready to be deployed with integrated departure and surface management, routing, D-Taxi, safety nets, weather integration and wake vortex, following operational validations at Paris Charles de Gaulle Airport.



AF#3: Flexible Airspace Management and Free Route

Free routing and flexible use of airspace together with associated controller tools will ensure a more efficient use of airspace. Thales is contributing to the validation of advanced free routing and proposes advanced Conflict Detection and Resolution tools, and HMI adaptations to support the deployment of this ATM Functionality.



AF#4: Network Collaborative Management

Network Collaborative Management improves the European ATM network performance, notably capacity and flight efficiency through exchange, modification and management of trajectory information. Thales is contributing to the improved ATC-Network Manager interoperability based on SWIM technologies developed by Thales.



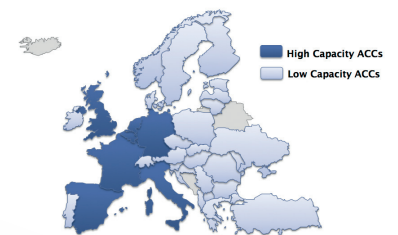
AF#5: iSWIM

European ATM System interoperability will become more flexible and agile with the introduction of iSWIM. Thales is leading SWIM developments in SESAR, including SWIM middleware, AIM evolutions, flight object interoperability and integrated MET services portal. Thales is ready to help you integrate SWIM into your ground systems.



AF#6: Initial Trajectory Information Sharing

ANSPs and Airspace Users alike will benefit from initial trajectory information sharing with fuel savings and reduced delays, and improved performance of controller tools. Thales has developed an advanced FMS, and datalink, FDP and HMI upgrades to support I-4D validations, which are ready to be deployed on the ground and on-board.



The deployment of iSWIM and initial trajectory information sharing are the first technological foundations required to support new sesar concepts and functions and will significantly improve the performance of European ATM.

THALES'S PRODUCT STRATEGY IS ALIGNED WITH SESAR

CUSTOMERS AROUND THE WORLD WILL BE ABLE TO BENEFIT FROM THE TECHNOLOGICAL BREAKTHROUGHS WE ARE MAKING IN THIS AMBITIOUS EUROPEAN ATM MODERNISATION PROGRAMME.



Come and try out SESAR technologies in an environment similar to your own at the SkyCentre, The Link Lab and CASIA in France and Australia!

AUSTRALIA

Thales Australia Limited
The Thales Australia Centre
WTC Northbank Wharf
Melbourne, VIC 3005
Tel. +61 (0)3 8630 4000

FRANCE

Thales Air Systems SAS
3, avenue Charles Lindbergh
BP 20351
94628 Rungis cedex
Tel. +33 (0)1 79 61 40 00

GERMANY

Thales Electronic Systems GmbH
Thalesplatz 1
71254 Ditzingen
Tel. +49 (0) 7156 353 28151

ITALY

Thales Italia S.p.A.
Via E. Mattei, No.1
20064 Gorgonzola (MI)
Tel. +39 02 950 951

UNITED KINGDOM

Thales ATM Limited
Minerva building, Manor Royal
Crawley, West Sussex RH10 9HA
Tel. +44 208 391 - 6277

USA

Thales ATM
2733 South Crystal Drive
Suite 1200
Arlington, VA 22202
Tel. +1 703 838 9685

For more information: marketingatm@thalesgroup.com