ABOUT DSNA

> 5 ACCs, 75 Control Towers
3 overseas regional structures

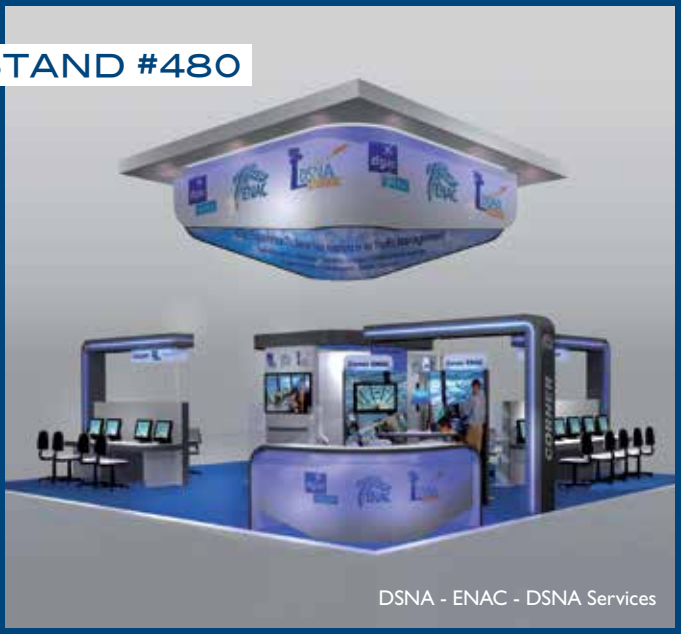
> 2.9 million flights
(7,900 flights per day
on average)

> Absolute record in one day
in Europe: 10,173 flights
on July 17th, 2015

> Staff: 7,500

COME AND SEE THE FRENCH KNOW-HOW!

STAND #480



DSNA - ENAC - DSNA Services

DSNA Services provides worldwide consultancy, operational engineering and training services

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Improving Flight Efficiency

In 2016, DSNA endeavors to offer even more quality services to all its customers. All DSNA staff are committed towards delivery of safe services thanks to a long-standing safety culture, and to continuous improvements and monitored safety performance indicators. The implementation of the ERATO Electronic Environment in Brest ACC on 18 December 2015 is a first step towards a significant modernisation of our ATM system by 2020 for performant air traffic services. With the deployment of en-route CDM and the Extended ATC Planning in our ACCs, DSNA is paving the way for the SESAR operational concept of "User Preferred Routing".

All these improvements are compliant with the SESAR ATM Master Plan and the Pilot Common Project: **they enable airlines to operate more economical and environmentally-friendly flights**.

Paris-CDG Airport
500,000 movements per year, 3 control towers, 4 runways, 110 km of taxiways

DSNA is member of FABEC, SESAR JU and the A6 Alliance. It is also member of the consortium in charge of SESAR Deployments.

LE VOL PARFAIT
DSNA

STAND #480 FLIGHT EFFICIENCY BY DSNA, THE FRENCH AIR NAVIGATION SERVICE PROVIDER

How DSNA meets airspace users needs:
Come and see demonstrations on our future, innovative ATM systems and presentations on new tools and operational concepts

Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE
Ministère de l'Environnement, de l'Énergie et de la Mer

DSNA

World ATM Congress 2016

1 4-FLIGHT, the new generation French ATM system

DSNA is deploying the most innovative ATM system in Europe in Reims and Aix ACCs, integrating Coflight (enhanced-FDPS), an innovative HMI, and advanced ATC tools.
ATCOs from DSNA and technical experts from Thales will present ATC tools: Cooperative tools, Tactical Control Tool (TCT), electronic negotiation of coordination data ("What if") and also Coflight.

2 Coflight, an enhanced-Flight Data Processing System (FDPS)

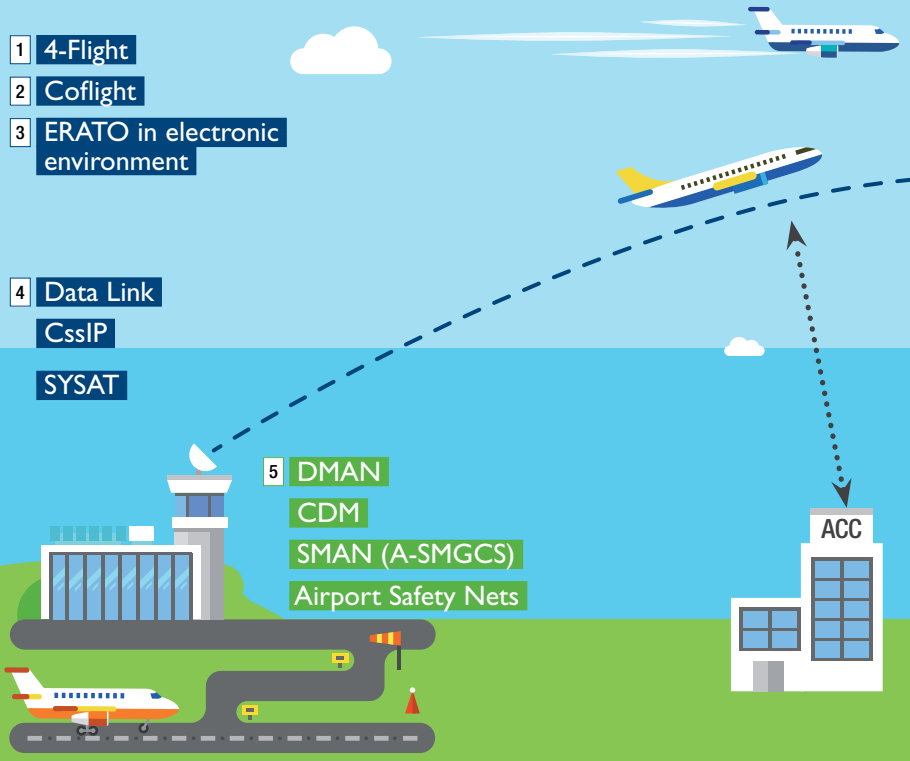
Coflight provides very advanced functions, like gate-to-gate 4D flight data processing, interoperability with other systems and data-link capabilities. With Coflight, new SESAR operational concepts will be able to be implemented.
With "Coflight as a Service", DSNA and ENAV will provide FDP remote service and system maintenance to European ANSPs.

3 ERATO Electronic Environment, a modern set of tools (MTCD, MONA, What-if) for ATCOs

This new advanced ATC tool for conflict detection, monitoring flight trajectories, extrapolation of the common situation awareness and simulation contributes to improve both safety and capacity. ERATO has been implemented since 18 December 2015 in Brest ACC. Further deployment is planned in Italy and Bordeaux ACC by the end of 2016.

4 Data Link, air-ground communication

Bordeaux and Brest ACCs can provide datalink frequency transfer for equipped aircraft. ATCOs appreciate this new technology that secures and facilitates the transmission of the correct frequency to contact.
Datalink Initial Operating Capabilities (IOC), the first step of Controller-Pilote DataLink Communications (CPDLC) will be implemented in all of French airspace in May 2016.



5 Traffic Management (DMAN / AMAN / Extended-AMAN)

Coordination between departure and arrival airports is complex. Traffic synchronisation optimises departure and arrival management, offering quality and competitive services to airspace users. At Paris-CDG airport, the DMAN tool has permitted taxi time to be reduced by 10%, it means a 13,000-Tons CO_2 reduction per year. Extended-AMAN is an essential part of global trajectory management and the CDM process promoted by SESAR. It contributes to the flow centric operation concept as described in the ATM Master Plan. This time-based, cross-border, en-route sequencing was evaluated successfully by Reims and Brest ACCs for inbound traffic flows to Heathrow airport in 2014.

6 CDM for En-route

Today, the maturity level reached by CDM allows collaborative processes to be extended to daily, en-route operations. By reinforcing its relationships with airspace users, the Network Manager (Eurocontrol) and industrial partners, DSNA is paving the way for quick-win operational solutions in terms of safety, performance and environment.

7 Free Route, the "User Preferred Routing" support, a SESAR concept of operations

Route options are proposed beyond the idea of "shortest routes" or "great circle" to allow airspace users to plan and fly the most optimised route on D-Day.

8 Extended ATC Planning

Contributing to ATM Master Plan Flow Centric Approach for DSNA customers, the Extended ATC Planning (EAP) concept is to deliver capacity improvement at peak hours, while maintaining the highest level of safety, and increase ATCOs confidence in ATFCM processes.

During the SESAR live trial led in June 2015 at Reims UAC, ATFCM regulations generated only 4,500 minutes of delay vs 10,000 minutes in the reference scenario.

9 Environmental assessment methodology in terms of visual impact, noise impact and fuel consumption

To evaluate the potential environmental impact during the definition of ATC procedure changes, DSNA has defined its own environmental assessment methodology compliant with ICAO recommendations and regulations. The process is recognized and accepted by all parties concerned, which facilitates consultations.

10 Performance Based Navigation (PBN)

ICAO and the aviation industry have strongly promoted the development of PBN procedures, in particular for terminal area navigation and approach and landing phases of flight. Indeed PBN supports shorter airspace tracks, increased airport accessibility and safer approach procedures, in the absence of ILS.

DSNA will implement PBN procedures over all IFR runway ends in 2016, fulfilling ICAO objectives.