



Bordeaux ACC: ATCOs training on ERATO



Brest ACC: ATCOs training on ERATO



Brindisi ACC: Operations room

Live trials in France and real-time simulations in Italy have demonstrated significant benefits that ERATO can bring in terms of safety and capacity.

700 ATCOs from Brest, Bordeaux and Brindisi ACCs will use ERATO at the end of 2015; then, the system will be deployed in the other 3 Italian ACCs.

ERATO will be gradually integrated in DSNA and ENAV's new generation ATM system, the 4-Flight programme.



*ERATO is designed to support controller decision-making helping them to work in a safer and more efficient way.*



#### About DSNA and ENAV

DSNA, the French Air Navigation Service Provider, and ENAV S.p.A., the Italian Company for Air Navigation Services, are members of SESAR JU, the A6 Alliance and the consortium in charge of SESAR Deployments.

**Key Data for both ANSPs:** 9 ACCs; 4,6 million flights per year.

# ERATO

Electronic Environment

NUI133  
049 H23

127234  
049 F27

INNOVATIVE

MID-TERM CONFLICT DETECTION (MTCD),

“WHAT IF”, MONITORING ALERT (MONA),

TOOLS IN AN ELECTRONIC ENVIRONMENT

DSNA and ENAV are deploying ERATO  
in France and Italy in 2015

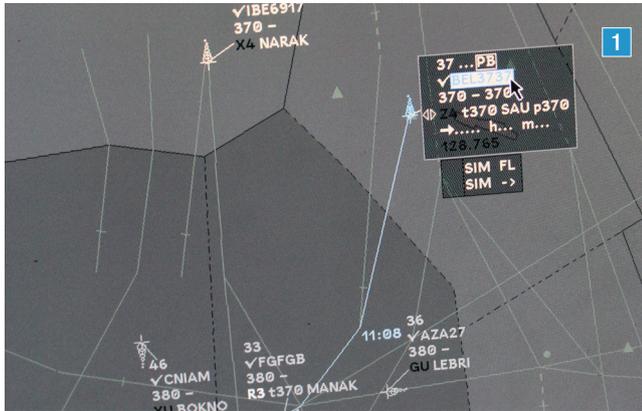


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Trans-European Transport Network (TEN-T)

**ERATO (En-Route Air Traffic Organizer)** designed by DSN is a set of modern tools for air traffic controllers. They integrate innovative functions providing helpful assistance in conflict resolution in an electronic environment.

**ERATO is much more than simply a Mid-Term Conflict Detection (MTCD) tool:** the system also includes parameter simulation (“What if” concept) and monitoring alert (MONA) tools.

### AIRCRAFT FILTERING



If the controller needs more detailed analysis on a traffic situation, he/she can isolate aircraft **1** that could cause dangerous airproxes in flight.

### EXTRAPOLATION

The controller can see the future position of aircraft in relation to control parameters.



From the filtering mode, the controller can extrapolate aircraft position. ERATO displays the future positions of each conflicting aircraft.

### “WHAT IF”

With this tool, the controller can simulate a new flight profile by temporarily modifying flight parameters and by using the functionalities “Aircraft filtering” and “Extrapolation”.



The controller simulates a FL380 **1** and as a function of this new flight parameter, ERATO displays the new traffic situation with potential conflicting aircraft **2**.

## MONITORING ALERT (MONA)

ERATO highlights flights that diverge from their ATC assigned trajectories.



**VERT** Divergence in the vertical plane from the assigned trajectory



**H+V** Divergence in the horizontal and vertical planes from the assigned trajectory

**HORIZ** Divergence in the horizontal plane from the assigned trajectory

## AGENDA

The controller can isolate a group of aircraft to define the best scenario for them. The agenda shows conflicts on a timeline and can be used by both Executive and Planner controllers, so that their cooperation is optimised (Task Sharing).

ERATO can be deployed in a dedicated screen next to the controller working position. This configuration used by ENAV improves the situational awareness of all flights owned by the sector.

ERATO Agenda includes the set of flights in charge of a specific sector plus the notified flights (flights handled

by the adjacent sectors with respect to the specific sector). Filtering is available from both Agenda Label and Flight List Label.

**Filtering from the highlighted Agenda label 1**: the Flight List and the Notified Flight List are merged in the Context Flight List which includes only flights related to the Traffic Context.

