

# ENAV numbers

Flights handled in one year	roughly 2 million
Peak of flights managed in one day	6,064
Control Towers (TWRs)	39
Area Control Centres (ACCs)	4
Total sq km of airspace for which ENAV is responsible	752,832
Air/ground contacts per year	31 million
Employees (two thirds of whom with operational tasks)	3,251
Hours of training imparted in 2010	248,000
Investments 2003-2010	1,500 million Euros

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# The value of a Country takes off from here

# Flight Inspection



## FLIGHT INSPECTION AND VALIDATION IN THE MODERN ATM ENVIRONMENT

Today the conventional air navigation infrastructure is complemented by satellite based systems, with space or ground based augmentation capability to increase navigation accuracy.

New airways and approach procedures are developed almost on a daily basis to increase airspace capacity, efficiency and to protect the environment while at the same time keeping or improving the safety level. The challenges that all Flight Inspection Providers are facing at this time are mostly related with R-NAV procedures validation and supporting infrastructure (ground or space-based) calibration. ENAV has accepted this challenge through the implementation of a technological plan aiming at fulfilling these new requirements.



## OUR AIRCRAFT

During 2008 the final decision to modernize the Flight Inspection fleet was taken and a choice was made at the end of a selection process.

The lead aircraft in the ENAV Flight Inspection fleet is the brand new Piaggio P180 AVANTI II(3 in the fleet). With the superior performance this aircraft, and its Flight Inspection System, is able to deliver the efficiency and precision required for the Flight Inspection activity. Equipped with an ad-hoc automatic high technology system is able to perform Flight check Operations acquiring real time data without any ground-based equipment. The fuel efficiency will provide for less pollution for any given mission, fulfilling our global strategy to reduce carbon emissions. In terms of general performance the P180 is the fastest turboprop in production today with a top speed of 402 Kts, a certified ceiling of 41,000 feet and a range of over 1,500 nautical miles. Professionally flown by our crew, the combination aircraft/flight inspection system will provide the edge over competitors, with greater efficiency, reduced emissions and top precision in the flight inspection results. ENAV Flight Inspection: reliable flight calibration services since 1984.



## ENAV FLIGHT INSPECTION CAPABILITIES

The Flight Inspection System installed on board each aircraft is a state-of-the-art System using the latest technologies available to obtain the highest accuracy in measurements. The aircraft positioning accuracy needed for most flight checks is attained using a GPS high precision differential corrections service. For ILS flight checks the positioning accuracy is attained with INS and two camera fixes over the runway thresholds, during a low pass. This technique allows ENAV to flight check ILSs without landing and deploying reference equipment, even in critical electromagnetic environments, where GPS signals reception might be compromised. The result is a significant reduction of flight time and simplified operations. The installation of a mobile DGPS station in the airport is also possible if needed.

A variety of dedicated Flight Inspection Receivers permits the flight check of:

- ILS (Instrument Landing System) CAT I/II/III
- VOR (Very-High-Frequency Omni-directional Range)
- DME (Distance Measuring Equipment)
- TACAN (Tactical Air Navigation)
- NDB (Non-Directional Beacon)
- UDF/VDF (Ultra-High-Frequency/Very-High-Frequency Direction Finder)
- PAPI (Precision Approach Path Indicator)
- Radar
- Procedure validation

The flight check results are immediately available after each run, both on screen and as a printout. In addition, a set of data files is generated after each run, for the electronic storage of the flight check data and for a ground data analysis on a dedicated workstation.

The flight check activity is performed according to ICAO (Annex 10, DOC8071) standards and/or approved national standards.

The implementation of the flight check capabilities for DME/P, MLS, DME-DME and GNSS procedures, is currently in progress and will be available by June 2011.