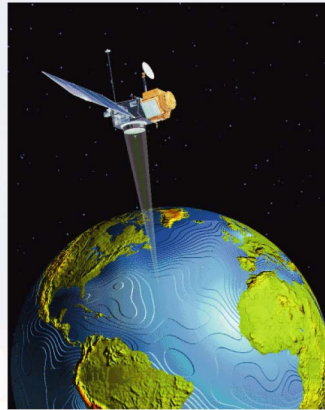


# Satellite Navigation

## SATELLITE NAVIGATION

### GNSS is the near future

ENAV in joint efforts with many partners, under the aegis of international organizations, has been actively attempting, since years, to turn the consistent work, spent from the time of its member's participation to the ICAO future Air Navigation System (FANS), into a soon to be reality.



## WHERE DOES ENAV STAND WITHIN GNSS?

- First (1993) promoter of a ground segment in Europe
- Has contributed from the very beginning to the European Geostationary Navigation & Overlay Service (EGNOS)
- Has put up in Ciampino airport the Mission Control Centre (MCC) for EGNOS
- Has spent consistent efforts towards the European Commission and the European Space Agency to demonstrate the possible extension of EGNOS service to the East Mediterranean area (MIDAN project)
- Has been a constant contributor to EUROCONTROL's activities aimed at guarantying safety of GNSS operations.

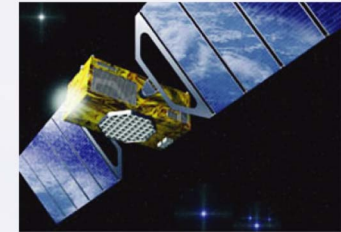
## FIRST ISSUES TO TURN EGNOS INTO OPERATIONAL

- Provide ATS Units with information on the status of navigation satellites (GPS, EGNOS, etc), as required by ICAO
- Improve quality of digital Aeronautical data
- Design instrument approach procedures with vertical guidance (APVI and II)
- Monitor electro-magnetic environment in connection with the satellites revolutions
- Contribute to ICAO and EUROCONTROL specialist works to define technical and operational requirements.



## WILL GNSS ALLOW REDUCED VISIBILITY LANDINGS?

- ENAV will soon test a GBAS (CAT I operations), compliant with the present ICAO SARPs, at Linate airport, including flight activity
- ENAV carried out preliminary complementary trials at Urbe airport (near Rome), using DGPS and VDL 4 techniques
- GNSS CAT 2 & 3 will be eventually available not before 2015 (according to 11 ANC).



## GALILEO IS THE EUROPEAN FUTURE CONTRIBUTION TO MULTIMODAL TRANSPORT, INCLUDING AVIATION

- ENAV is committed to:
- Make own technical expertise available to contribute to the European Commission and to the Governmental organizations working to define a fair allocation of the GALILEO costs
  - Undertake any possible action aimed to support and contribute to the works of the European Space Agency for GALILEO
  - Contribute to international efforts to the transition from EGNOS into GALILEO era.