



European
Commission

Galileo Interim Support Structure



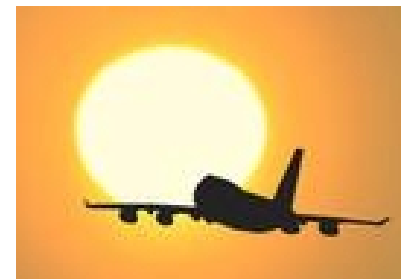
EGNOS/Galileo Applications Development and Promotion: The ESTB contribution





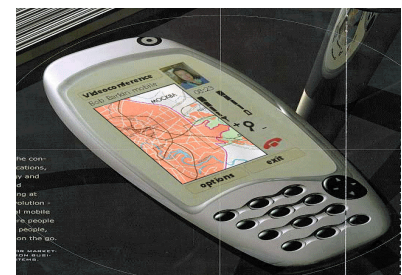
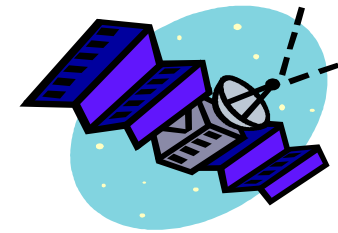
GNSS applications projects/studies

- EC and ESA launched a number of projects/studies aimed to assess the GNSS applications and services from different point of views (corresponding to a budget of more than 60 MEuro);
- Others projects and studies will be funded by EC/JU/ESA in order to prepare the EGNOS and Galileo User Community and corresponding market (e.g. 6th FP with a budget of 100 MEuro for Galileo);
- Others activities at National level are financed with the same objective;



A real Signal In Space to work

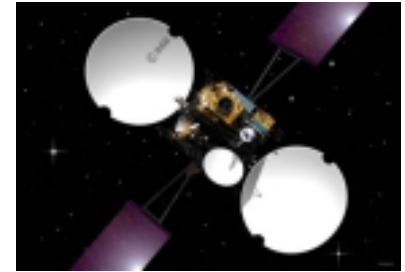
- All the application projects/studies are aimed to prepare the EGNOS and Galileo User Segments;
- There are different “assessment areas” to be addressed while launching GNSS application projects/studies (i.e. technical, infrastructures, business/market, standards, regulatory);
- For the technical and infrastructure assessment areas it is mandatory to develop prototypes/demonstrators as possible on the real environment and using a real Signal In Space (SIS);





The ESTB opportunity

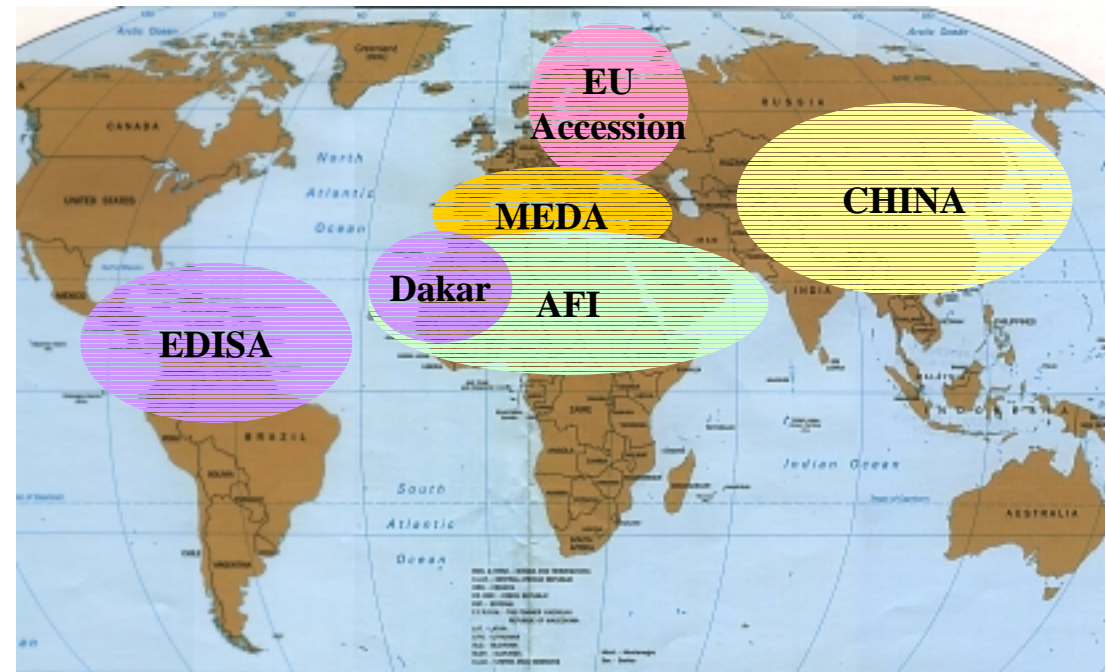
- Most of the projects, launched and to be launched, include practical tests campaigns during which the ESTB SIS is used;
- There are GNSS applications for which EGNOS and Galileo “differentiators” may represent an important “enabler” for the market uptake (e.g. better accuracy, integrity, service guarantee, authentication, etc);



GNSS outside Europe

Some of the on-going initiatives:

- EU Accession Countries
- MEDA
- EDISA
- AFI Test Bed
- Dakar
- Chinese Test Bed
- Others coming..



The EC/ESA on-going application projects

(not complete list,

most of these projects are presented during NAVSAT 2002)



Aviation domain

- EMS – Eurocopter
- Delta - Hybridisation

• Road domain



- DAB
- RDS
- GALLANT
- NAVOCAP SISNET
- *Intelligent Car Navigation (*)*

• General

- FGI SISNET
- ETRAN CCN SISNET
- *Special Applications (*)*



• Info-mobility

- ✧ INSTANT
- ✧ Nav-Com

✧ Maritime domain



- ✧ NAUPLIOS
- ✧ ETRAN-2
- ✧ *Waterways Applications(*)*

• Rail domain



- ✧ GADEROS
- ✧ LOCOLOC/LOCOPROL
- ✧ INTEGRAIL
- ✧ ECORAIL
- ✧ RUNE

• Local Elements

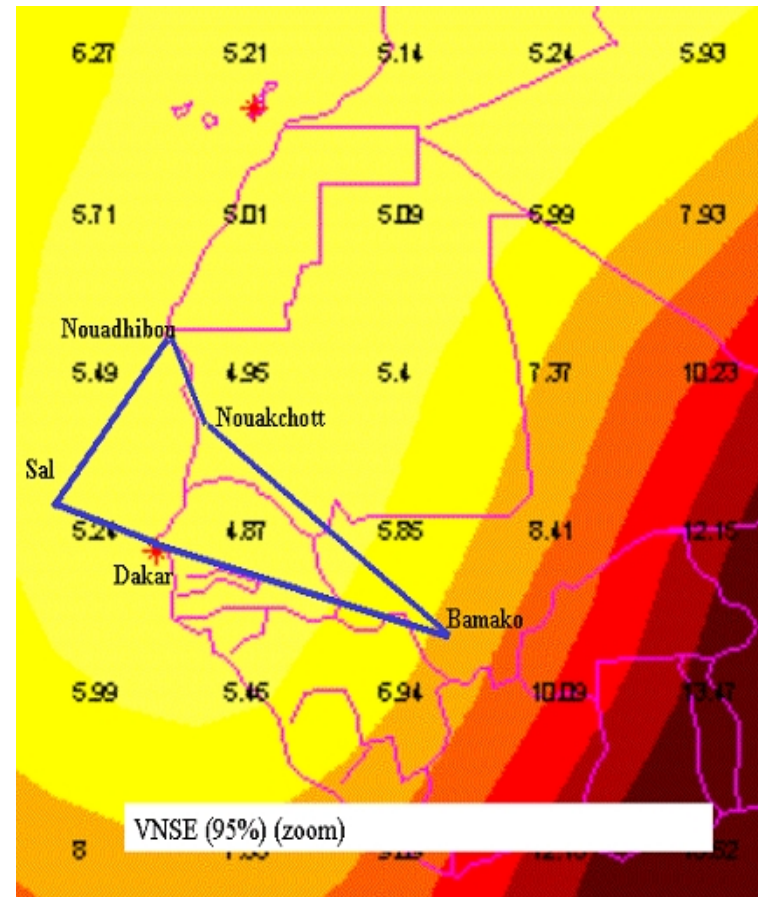
- ✧ ETRAN-1 *(*) to be launched*



Most recent demos/projects

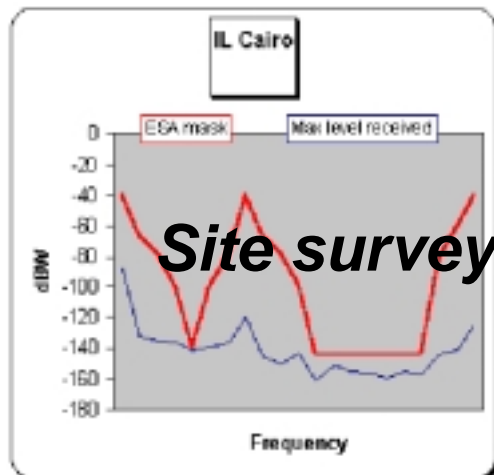
Dakar – February 2003

- Successful installation of a EGNOS test reference station in Dakar (July 2002);
- Preparatory test in Bordeaux end of November 2002;
- Carrying out trials to evaluate the performance of the EGNOS signal over West Africa;
- Performing flight demo at five airports, using a AT42 test aircraft equipped with a EGNOS test receiver

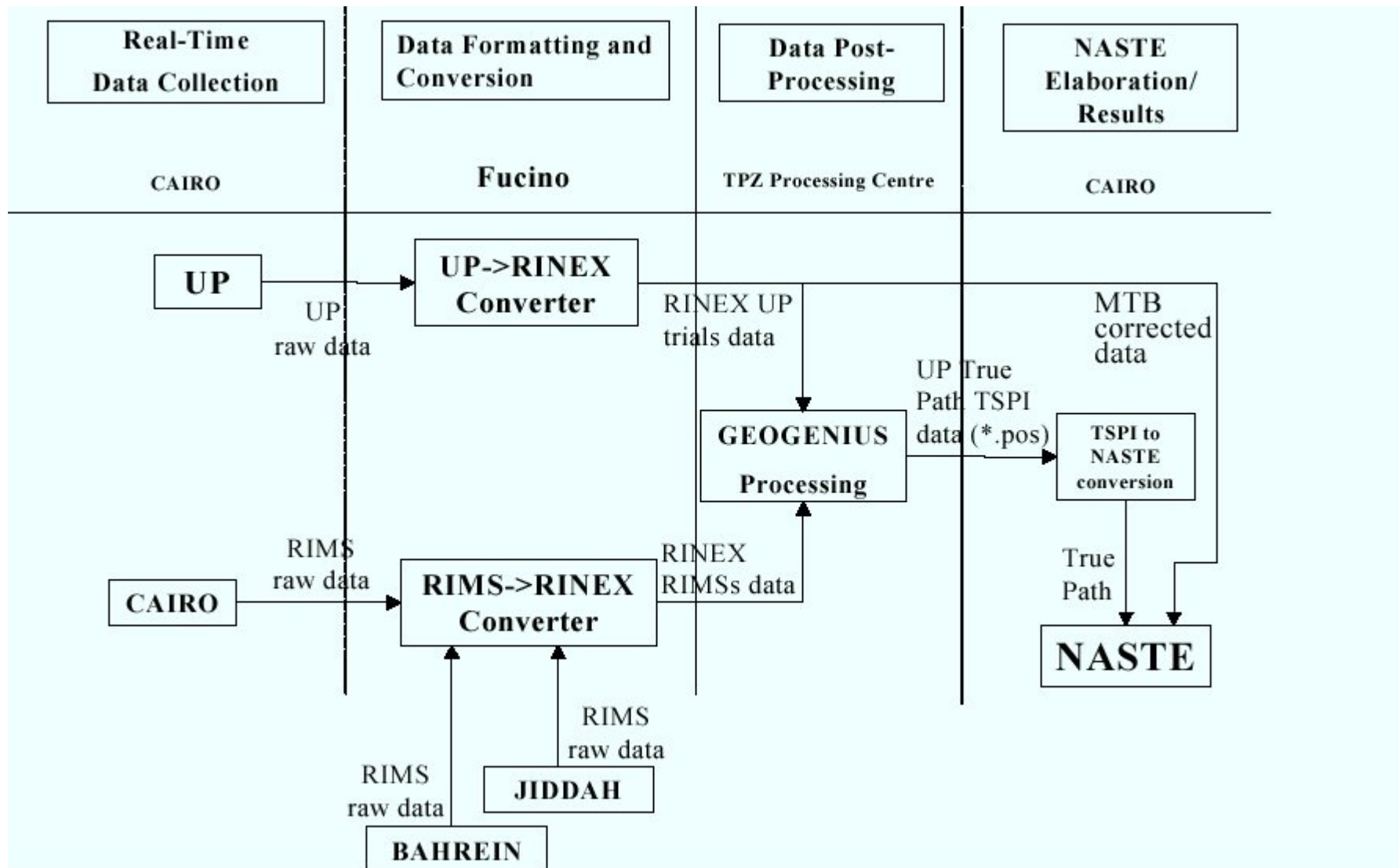


Most recent demos/projects

- MIDAN aviation test (Cairo – Egypt, 8-9/10/02)
 - ICAO, CANC (Cairo Air Nav. Center) and NANSC (National Air Nav. Service Company) and Telespazio/ENAV (Ente Nazionale Assistenza al Volo);
 - ESTB performance test using an airplane equipped with a EGNOS receiver;
 - The data processing and analysis is in progress, the report will be available within the end of year;



MIDAN Demo post processing flow



Most recent demos/projects

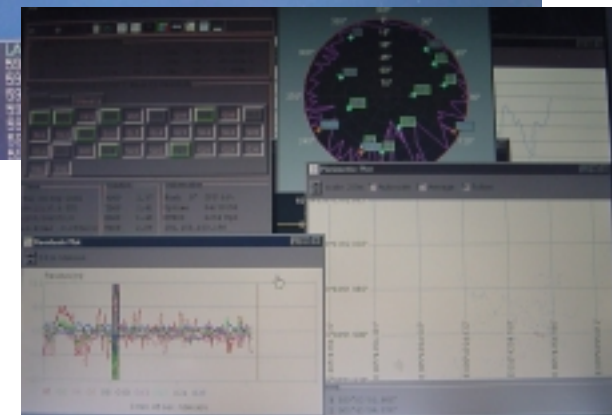
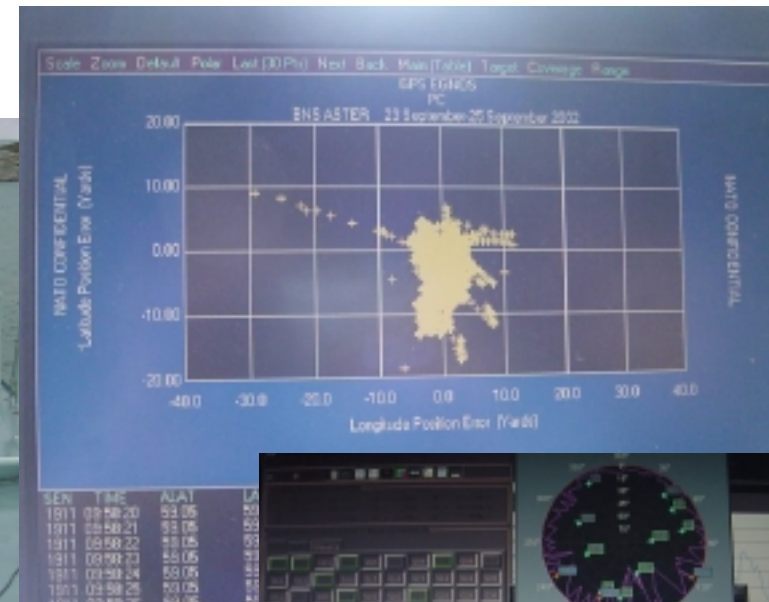
- Belgian Navy test (Norwegian sea, 23-25/09/02)
 - ESTB performance test using a Belgian Navy ship on high latitude Norwegian sea equipped with an EGNOS receiver





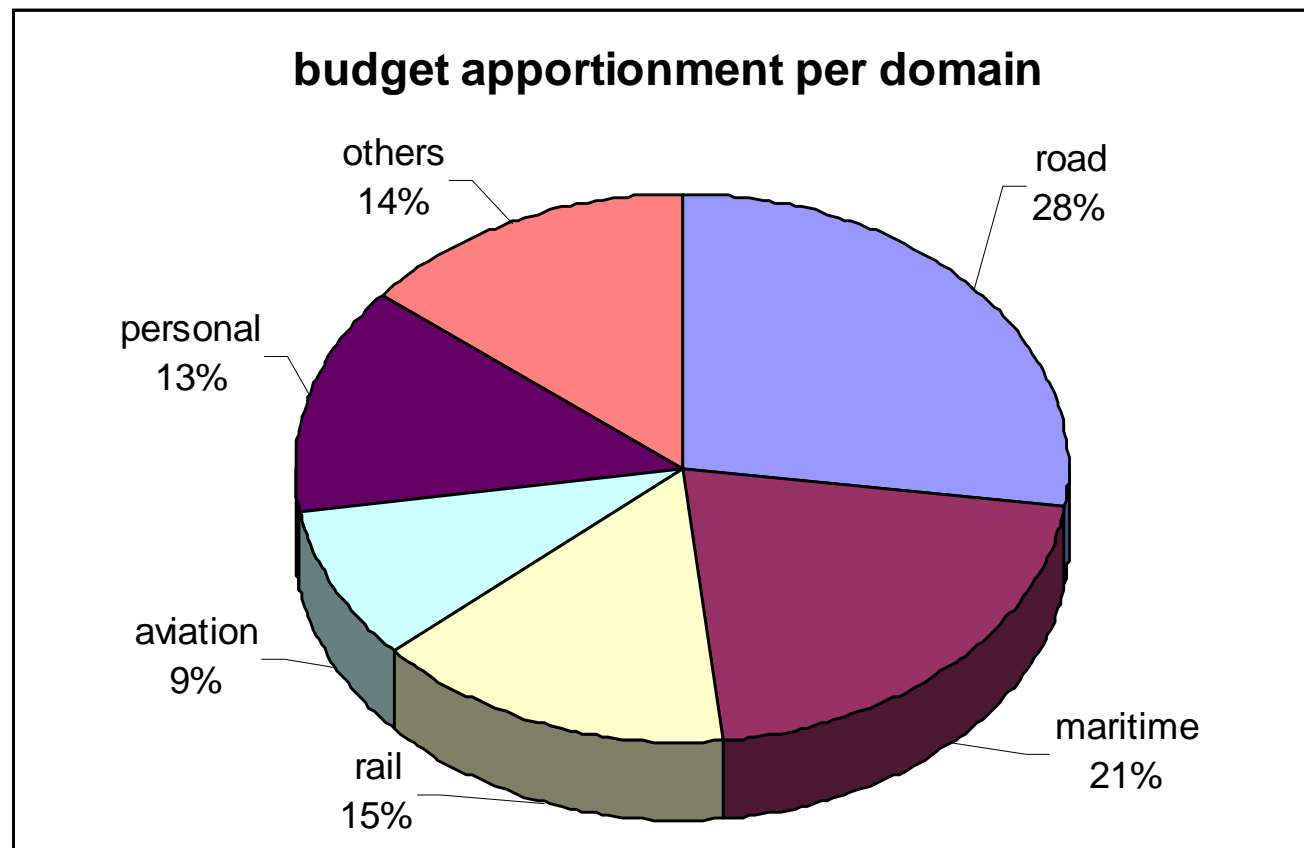
Good performances shown during the real time test;

The complete data analysis report will be presented during GNSS 2003 ;

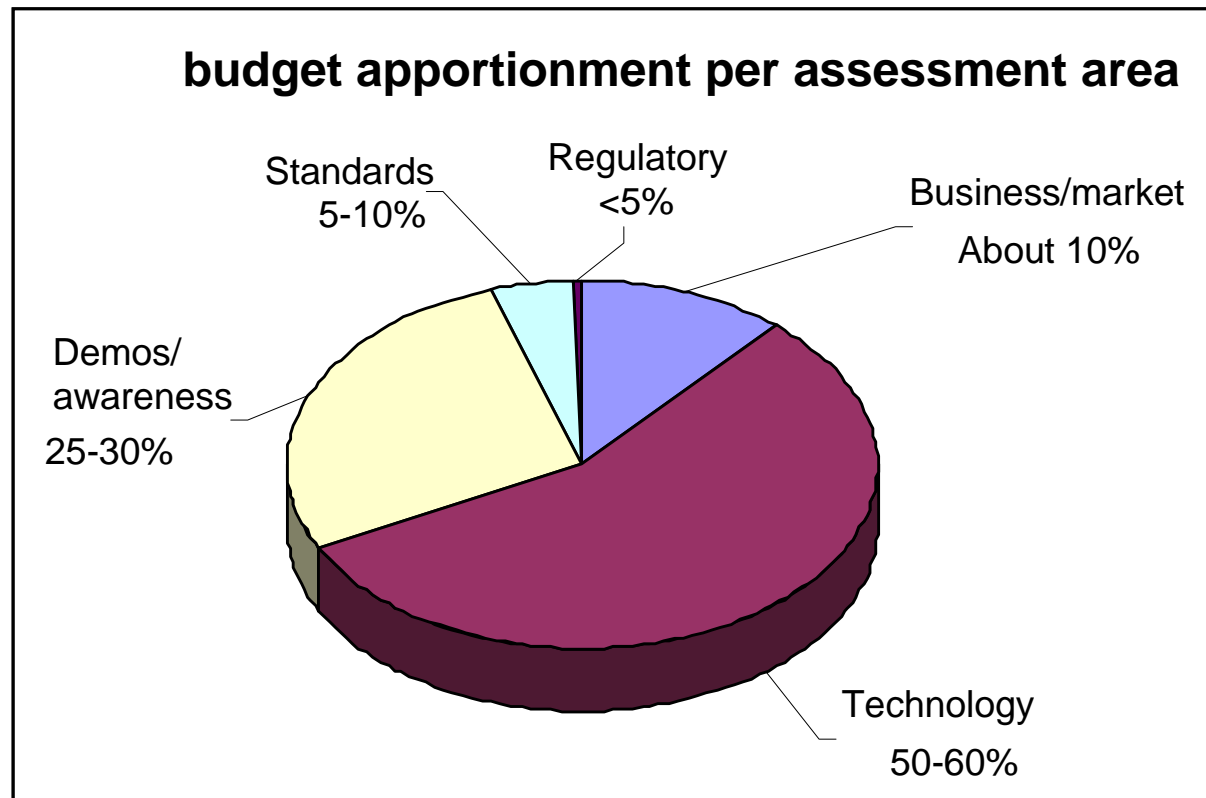




Current effort apportionment: (indicative figures)

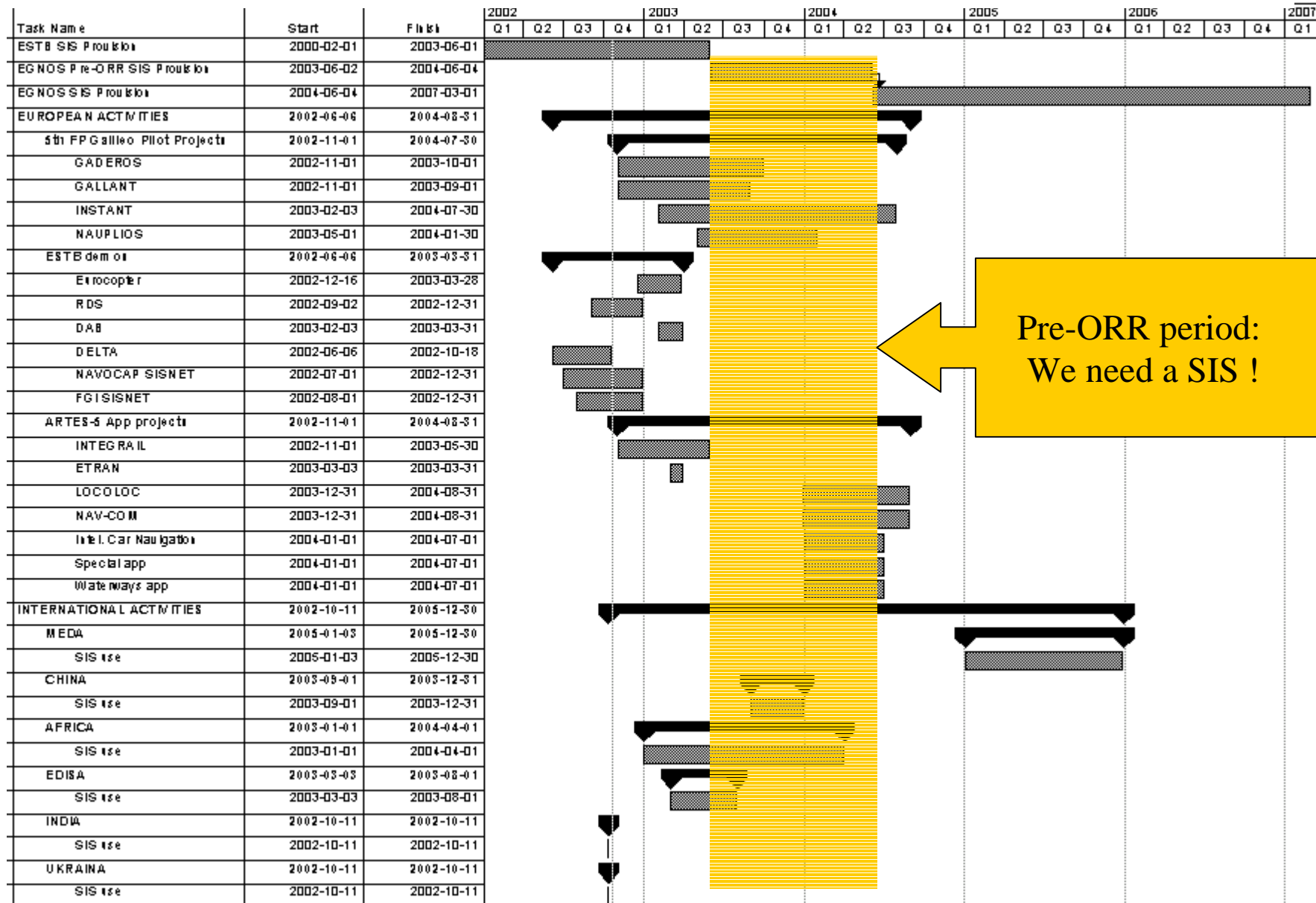


Current main assessment areas





GNSS Applications Initiative: Overall Plan showing EGNOS SIS use



Pre-ORR period:
We need a SIS !



Conclusions (1/2)

- **ESTB already provided essential and unexpected (considering the original purpose of the test bed) opportunities to exercise GNSS applications;**
- **ESTB represents today a fundamental instrument for the EGNOS and Galileo applications assessment offering a unique opportunity to use a real Signal in Space;**
- **A complex and long process is still necessary to correctly prepare the EGNOS and Galileo User Segment;**



Conclusions (2/2)

- **Continuity between ESTB and EGNOS should be provided;**
- **EGNOS based applications and services will be gradually implemented following a schedule driven by performances, commercial, legal, standards and regulatory/certification issues;**
- **The equivalent Galileo applications implementation plan will obtain a lot of benefits from the EGNOS and from the Galileo IOV phase;**



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A Galileo satellite in space, with its solar panels and antennas visible. A yellow beam of light from the satellite illuminates the Earth below.

Thank you for the attention
and.....

A composite image showing a white commercial aircraft flying over a yellow and orange topographic map of Europe. Below the map, a white truck and a red and white ship are visible, representing ground-based users of the Galileo system.

have a nice signal from space !