

# The EGNOS User Interface Document Explained

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*Javier Ventura-Traveset – European Space Agency, EGNOS Project Office*

*Patricia Yague -- European Space Agency, EGNOS Project Office*

*Cristoforo Montefusco – ENAV, Italy*

# Presentation overview

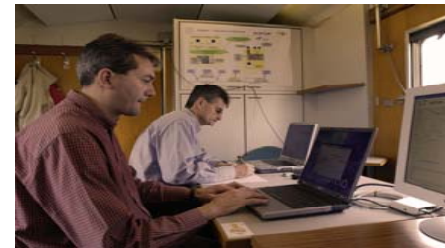


- ❖ Reasons for the EGNOS UID
- ❖ Structure and contents of the document
- ❖ Schedule
- ❖ Disclaimer
- ❖ Conclusions

# Reasons for the EGNOS UID

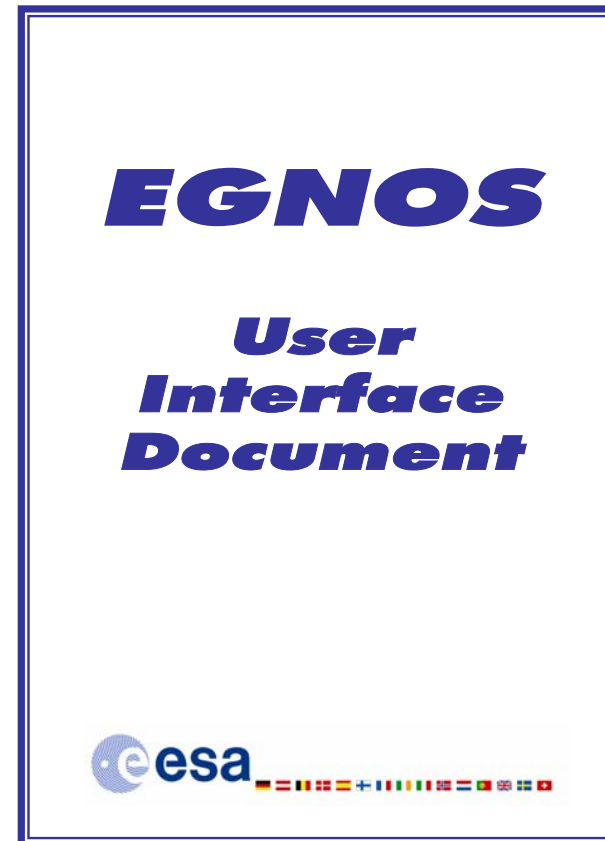


- ❖ Provide a high level information document for users, application developers, receiver manufacturers, institutions interested in EGNOS and satellite navigation
- ❖ explain how to access the EGNOS SIS, how the system works, what is delivered to users and how the system will evolve.
- ❖ It is a living document issued by ESA that will accompany EGNOS through its life, providing official information on the system like: SIS and architecture description, performance, compliance with standards and planned evolutions.



# Structure of the document

- ❖ Disclaimer
- ❖ Introduction
- ❖ Scope and motivation
- ❖ The EGNOS programme
- ❖ SBAS principles
- ❖ EGNOS system architecture
- ❖ EGNOS functional architecture
- ❖ EGNOS evolution
- ❖ EGNOS SIS and data
- ❖ Services delivered to users
- ❖ EGNOS performance
- ❖ Appendices

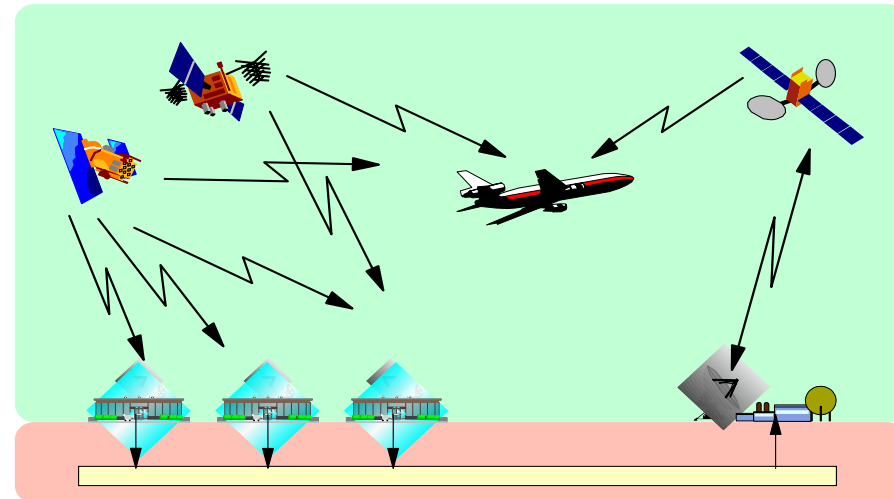
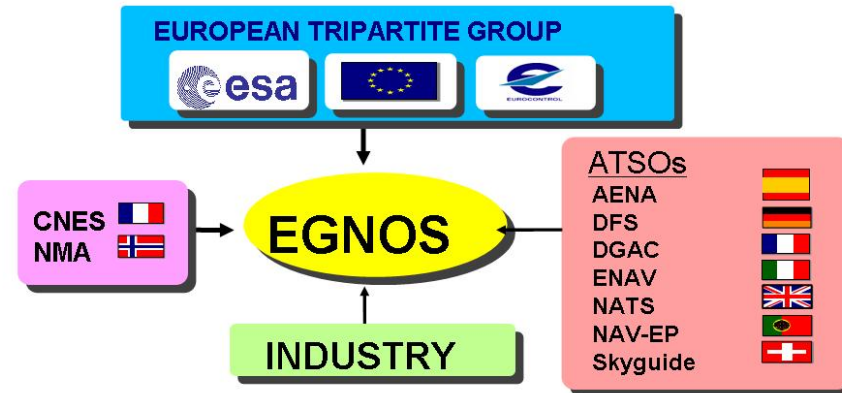


# More details on the UID content 1/9

**Introduction** (scope, content, motivations, acronyms, Applicable Documents, Reference Documents)

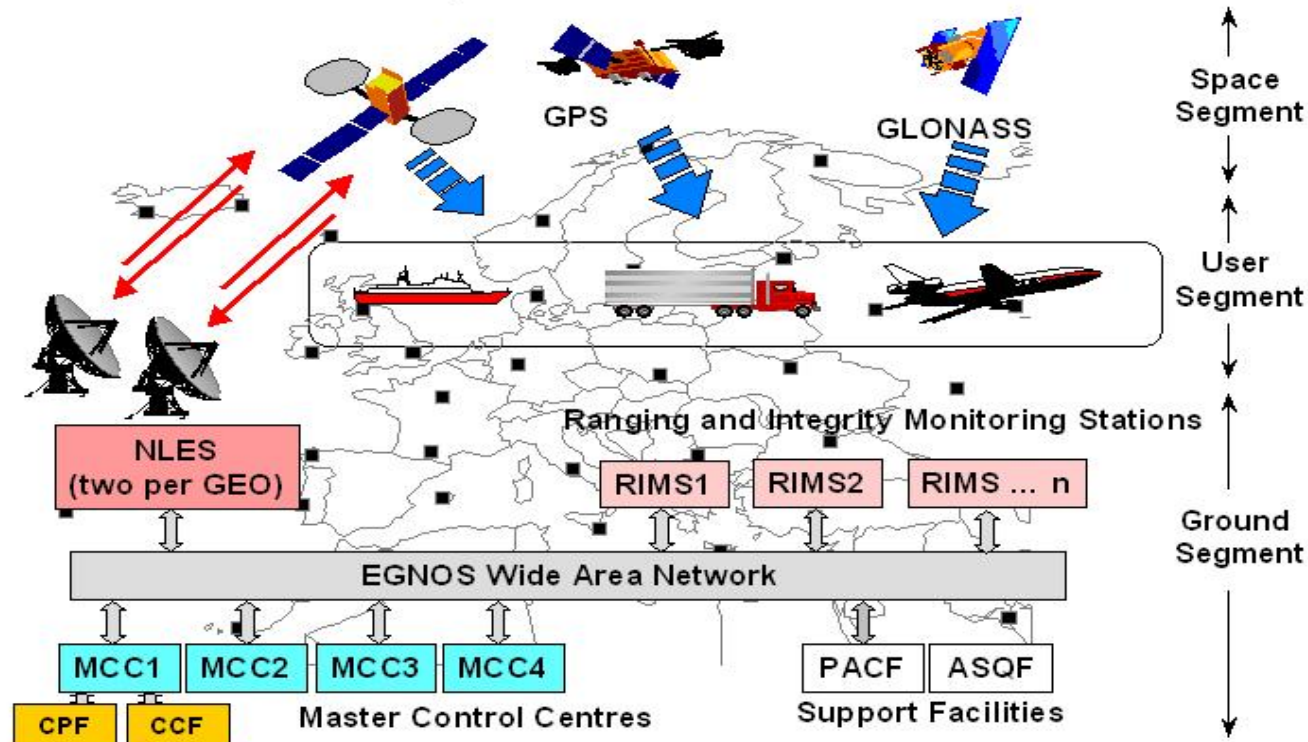
**Overview on EGNOS** and European satellite navigation strategy

**SBAS principles** (general concepts, augmentation provided by SBAS systems, accuracy and integrity, corrections and variance estimations, error bounding)



# More details on the UID content 2/9

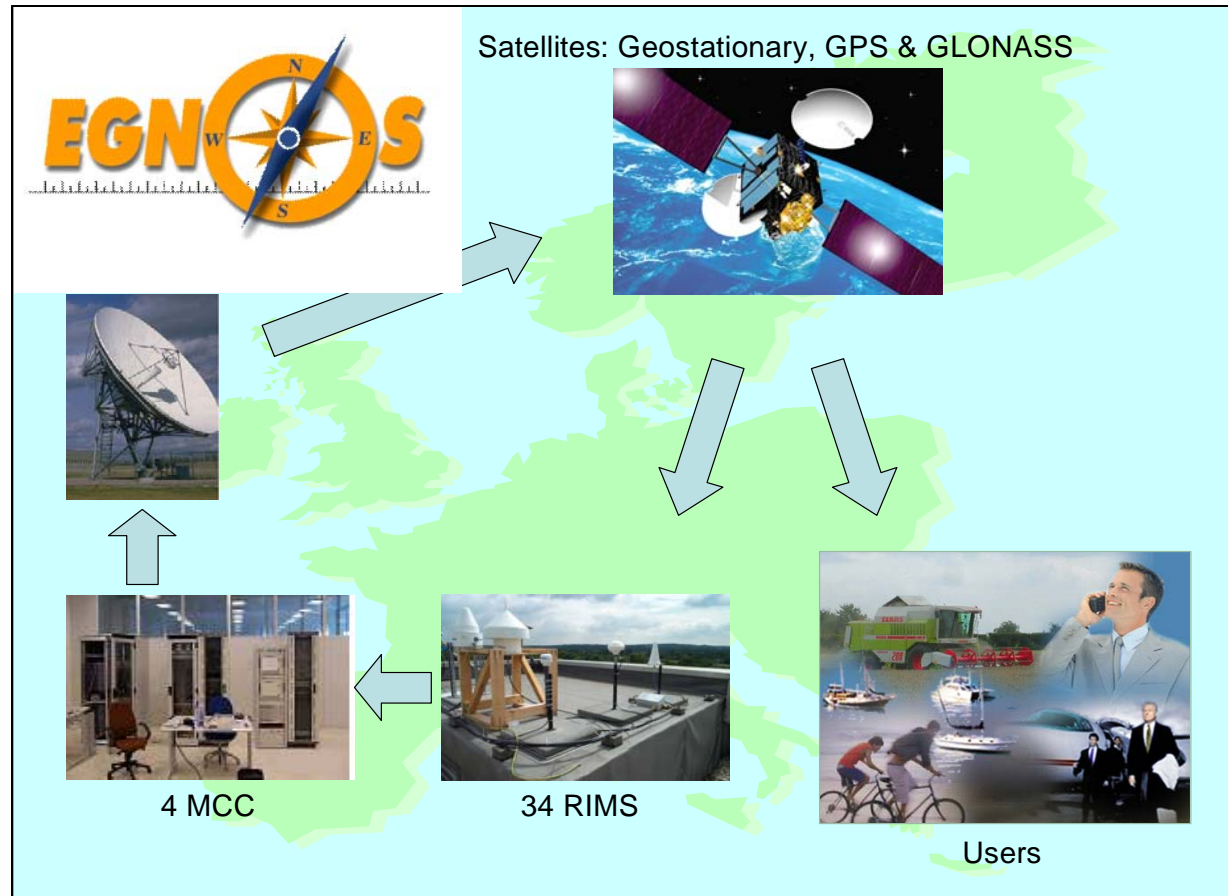
## EGNOS System Architecture overview



Description of all segments plus the support facilities

# More details on the UID content 3/9

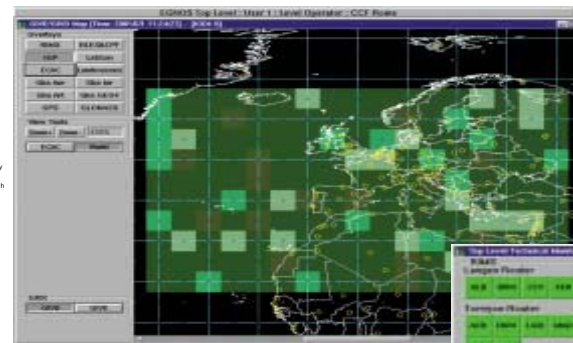
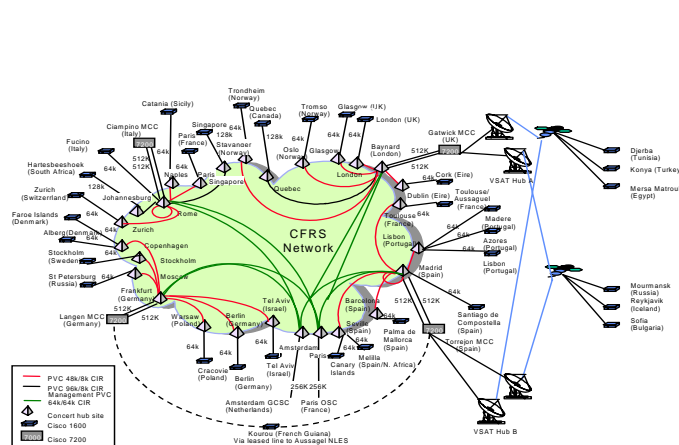
**EGNOS functional architecture** work logic, the data flow, the functional loop and the main processing stages



# More details on the UID content 4/9

## EGNOS operations

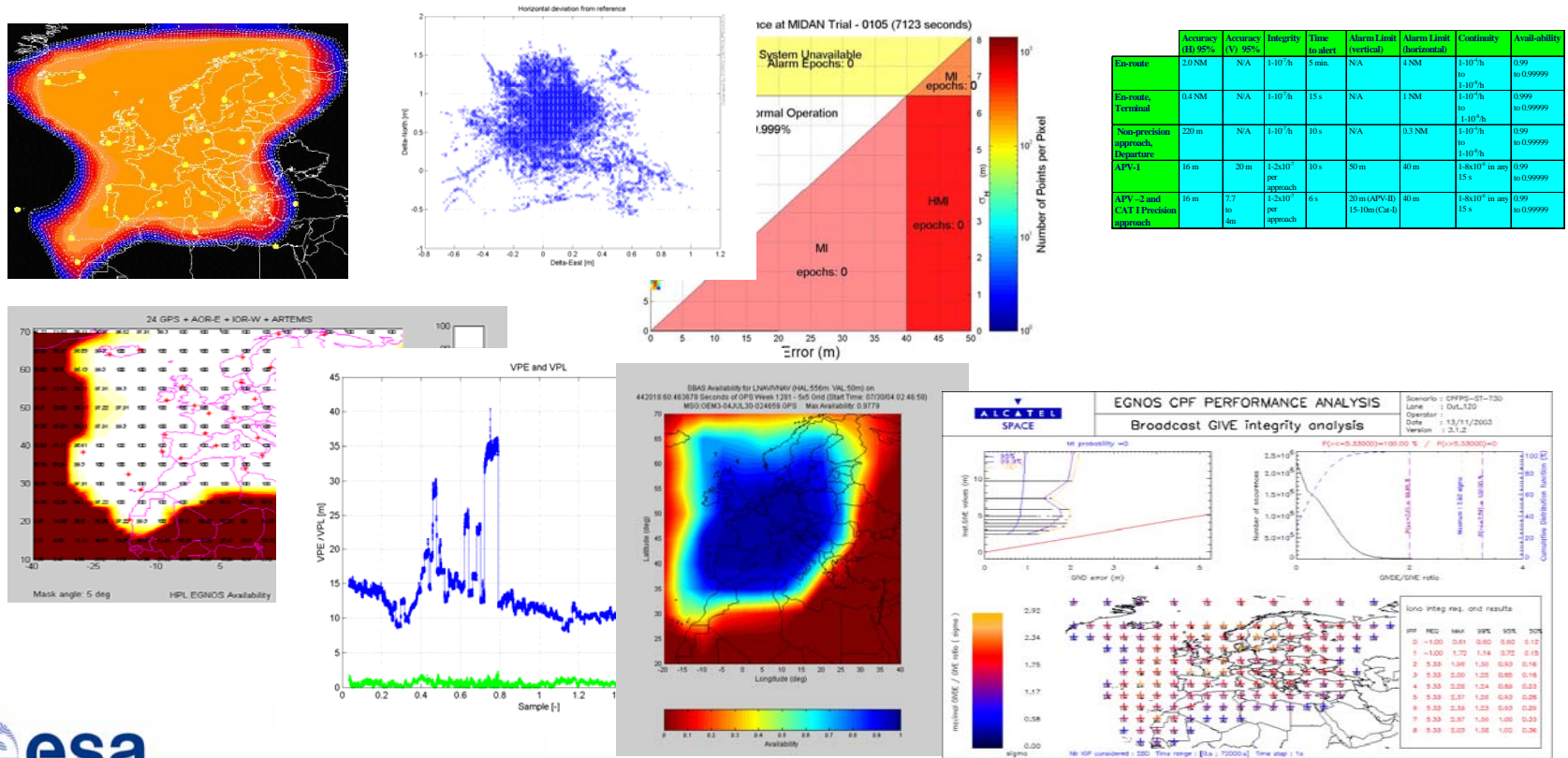
- ❖ Decision chain
- ❖ Information on MCC and CCF operations & maintenance
- ❖ GEO, NLES & RIMS operations & maintenance
- ❖ Support Facilities operations





# More details on the UID content 5/9

EGNOS performance (brief recall of system requirements, how performance is measured at CPF and User level, accuracy and integrity performance charts and explanations)

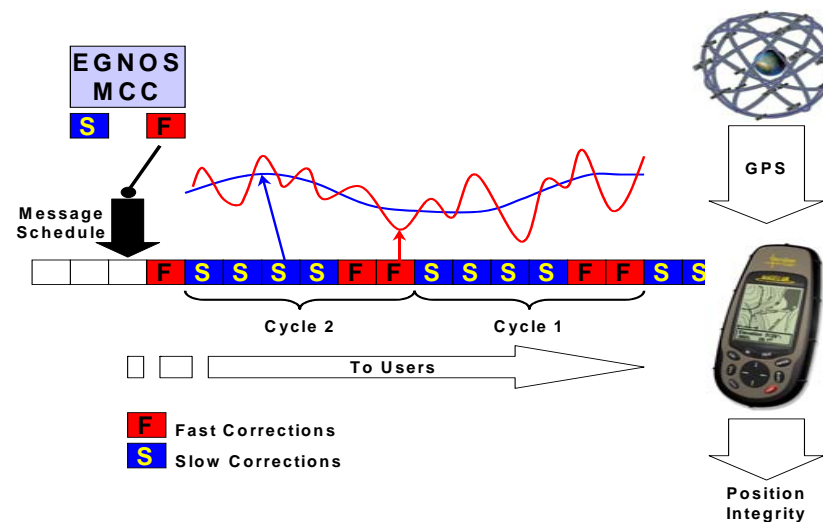
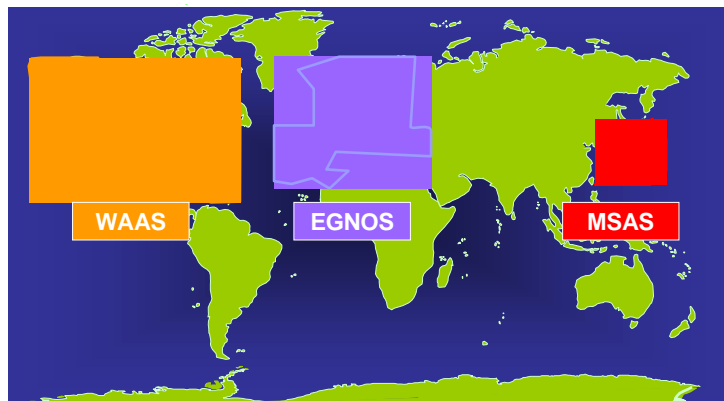


# More details on the UID content 6/9

**Signal in Space**  
 (description of messages, compliance with SBAS standards, interoperability with other SBAS)



MSG 0	Don't use this SBAS signal for anything (for SBAS testing)
MSG 1	PRN Mask assignments, set up to 51 of 210 bits
MSG 2 to 5	Fast corrections
MSG 6	Integrity information
MSG 7	Fast correction degradation factor
MSG 8	Reserved for future messages
MSG 9	GEO navigation message (X, Y, Z, time, etc.)
MSG 10	Degradation Parameters
MSG 11	Reserved for future messages
MSG 12	SBAS Network Time/UTC offset parameters
MSG 13 to 16	Reserved for future messages
MSG 17	GEO satellite almanacs
MSG 18	Ionospheric grid point masks
MSG 19 to 23	Reserved for future messages
MSG 24	Mixed fast corrections/long term satellite error corrections
MSG 25	Long term satellite error corrections
MSG 26	Ionospheric delay corrections
MSG 27	SBAS outside service volume degradation
MSG 28 to 61	Reserved for future messages
MSG 62	Internal Test Message
MSG 63	Null Message



# More details on the UID content 7/9

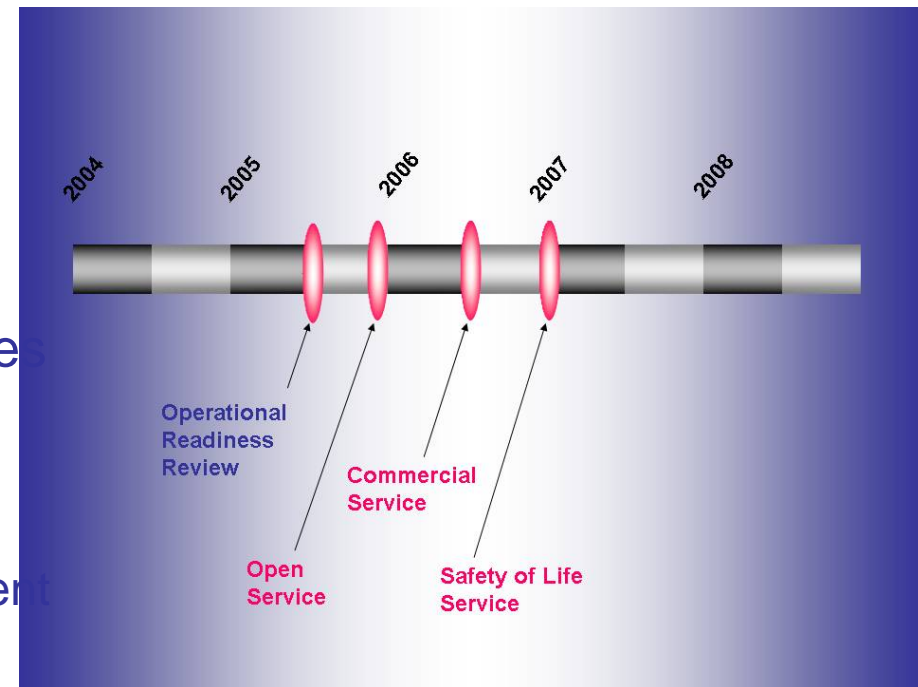
❖ Description of **services** delivered to users (provision of early GALILEO services through EGNOS) and **roadmap** for their implementation.

❖ Services classification

- ❖ Open service
- ❖ Safety of Life service
- ❖ Commercial service

❖ Features associated to the services provided:

- ❖ Performance
- ❖ Signal / data access
- ❖ Liabilities / Service level agreement
- ❖ Fees
- ❖ Certification



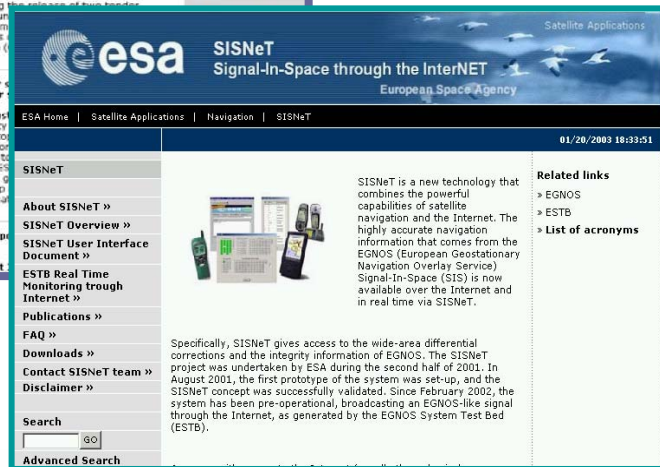


# More details on the UID content 9/9

**9 appendices** (further technical details on system architecture and work logic, signal in space detailed description, compatibility with international standards, interoperability, contact points, websites, FAQ)



**Main Navigation Page:**  
[www.esa.int/navigation](http://www.esa.int/navigation)



# Disclaimer

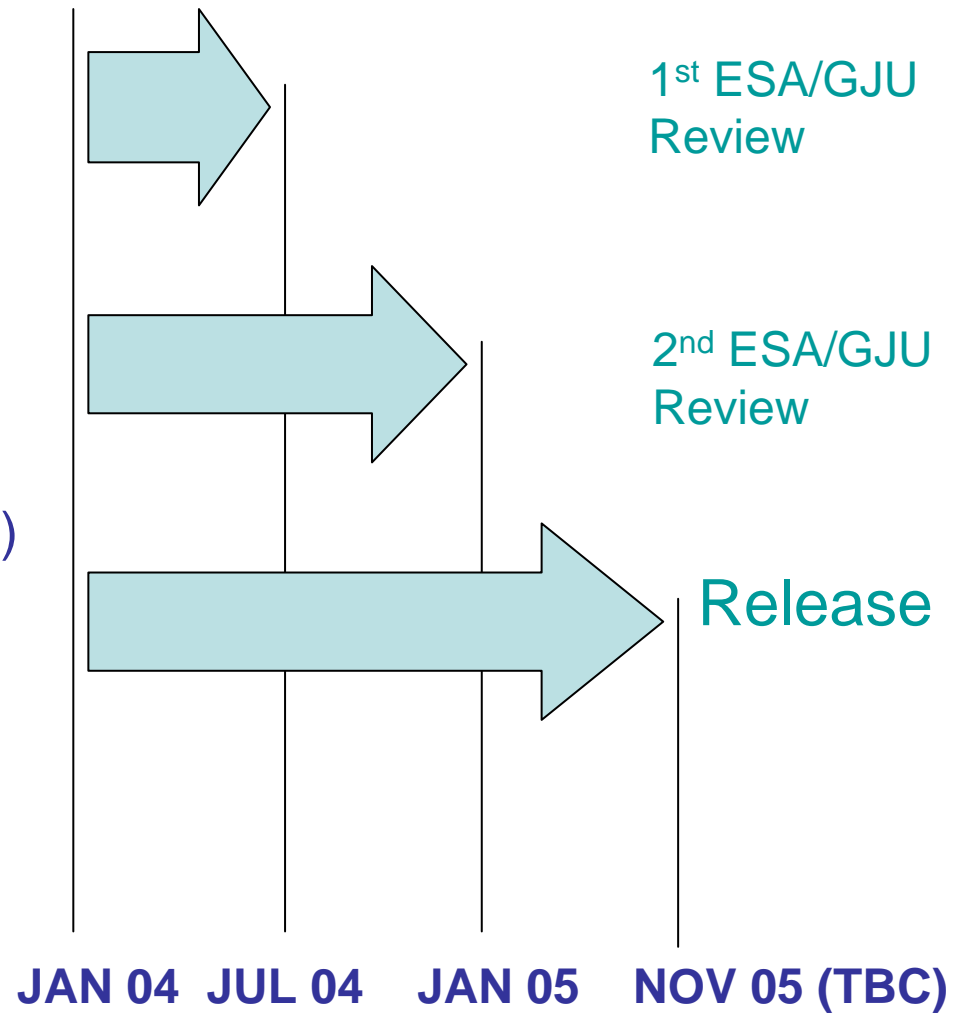
- ❖ EGNOS SIS is not certified yet for Civil Aviation or other safety critical purposes
- ❖ EGNOS SIS is currently provided without any warranties. The use of the EGNOS SIS is at the user's own risk. The EGNOS SIS is provided for test purposes without any warranties regarding availability, continuity, accuracy, reliability, fitness for a particular purpose or meeting the users' requirements.
- ❖ Liability on the services provided will be upon the EGNOS legal operator when established
- ❖ Issues on the services and the associated warranties will be contained in specific service level agreement documents



# Schedule for the EGNOS UID



- ❖ A first issue of 60 pages has been produced in 2004 but not delivered
- ❖ An ESA/GJU review took place in July 2004
- ❖ In January 2005 a second ESA/GJU took place.
- ❖ EGNOS UID will be public available by November 2005 (TBC)
- ❖ This document will be updated whenever EGNOS improvements are implemented and more knowledge on performance is available.



# Conclusion



- ❖ EGNOS UID will provide the navigation community a reference EGNOS document
- ❖ Planned to be ready in November 2005 (TBC), will be a public document available for download on the web sites:

<http://www.esa.int/egnos>

<http://www.esa.int/navigation/egnos-pro>

- ❖ Users, receiver manufacturers, application developers, institutions and organisations interested in EGNOS and satellite navigations will certainly benefit of this EGNOS UID, therefore they are invited to contribute.

- ❖ Let us know the: subjects/explanations/pictures you would like to see in the documents and contact us via e-mail at: [egnos@esa.int](mailto:egnos@esa.int) indicating in the subject: *EGNOS UID suggestion*, we will appreciate it a lot!

