

EGNOS



Industrial Challenges: on the path to ORR Success & service introduction



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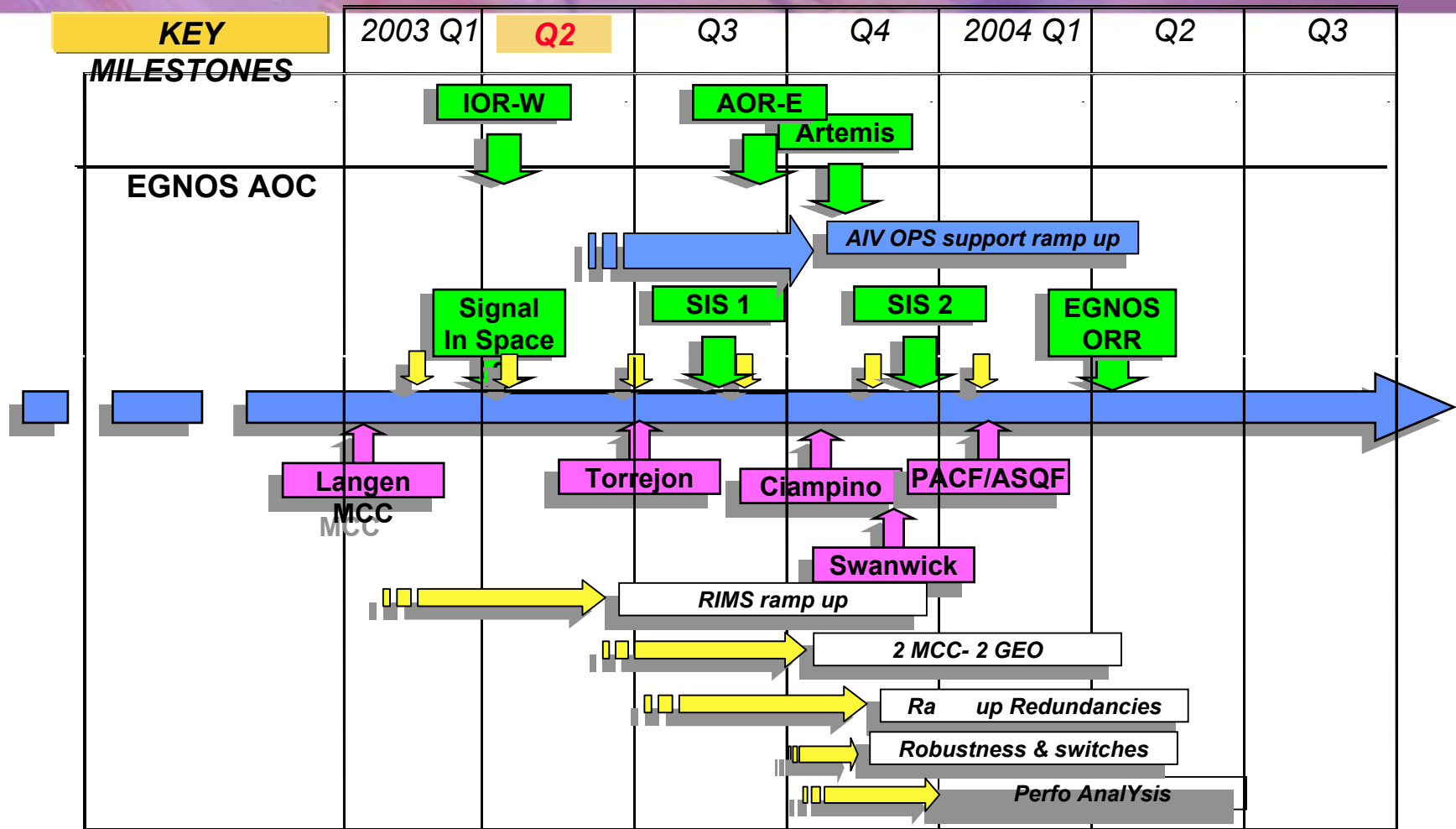
ALCATEL SPACE

**EGNOS Receiver Manufacturers
Technical Workshop - Paris - 3/7/03**

Egnos early focus on System operations

- **Subsystems qualifications good progress**
 - Fully closed: FEE, RIMS C, ENMA, TWAN, RIMS A, TUE, CPF
 - In next weeks: CCF, NLES, RIMS B
- Intermediate Deliveries allowed to start **system debug/ pre-integration from May 2002**
 - Formal Factory AIV phase now started in Langen (Ge)
 - Permanent designers' support (System & Subsystem)
 - Early on-site experience from December 2002
- **Serial production underway**
 - Complete for FEE, RIMS C
 - 15+ RIMS A delivered, 1 to 2 per week

The industrial road map brings the full signal in 2003



- 1 to 2 reference stations (RIMS) deployed each week from April

NOW is the time for Operators, Users & Industry to increase cooperation towards EGNOS service introduction

EGNOS key industrial milestones

1st Signal in Space	April 2003
Test Signal in Space (SIS1)	August 2003
ORR	April 2004

EGNOS Operations Team Ramp Up is starting NOW

Reduced MCC staff to support AIV	Summer 2003
Stable Egnos operations (data collect)	End 2003
ORR	April 2004

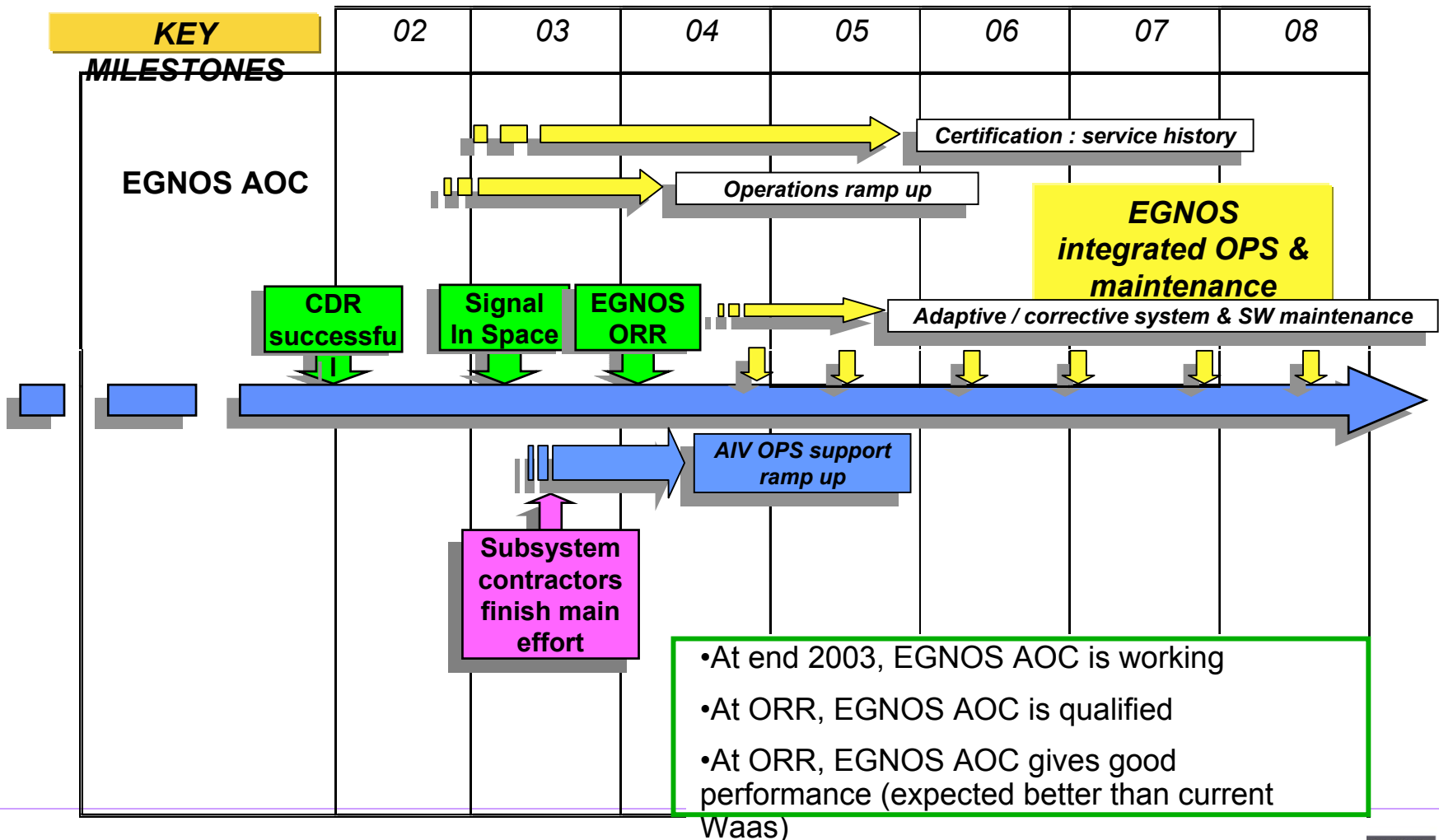
COMMON OBJECTIVES FOR INDUSTRY AND INSTITUTIONS

Ensure efficient and fast Egnos AIV towards delivery

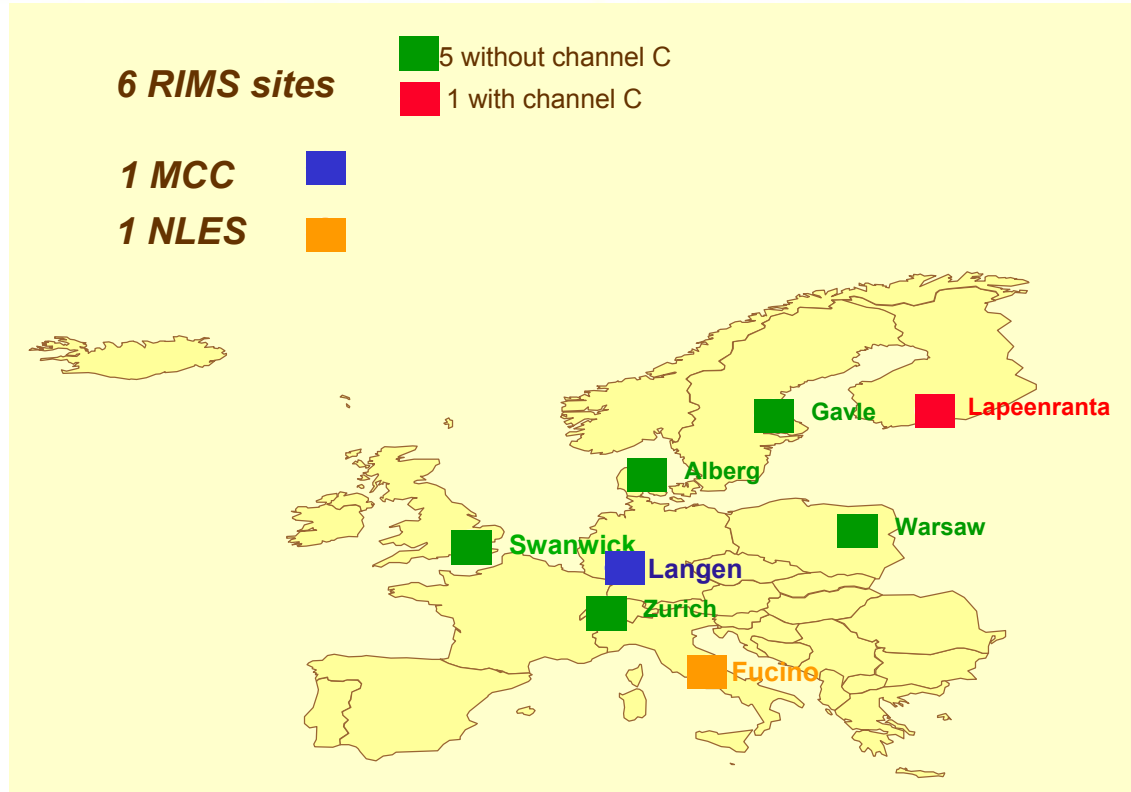
Ensure Operators & Users ramp up to benefit from EGNOS European investments

Get all parties “hands-on” experience to prepare the follow-on activities

EGNOS ROAD MAP OVERVIEW

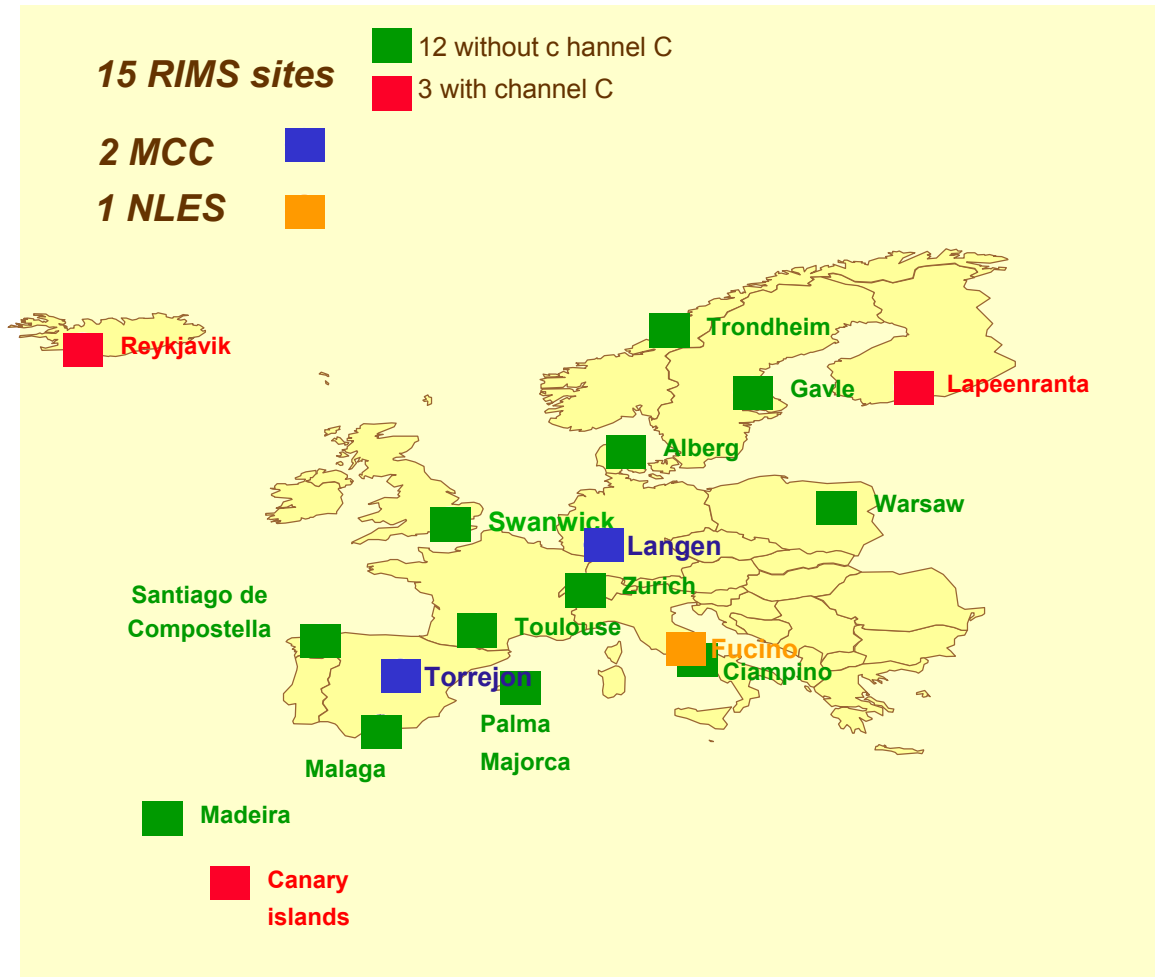


EGNOS SIS0 deployed network

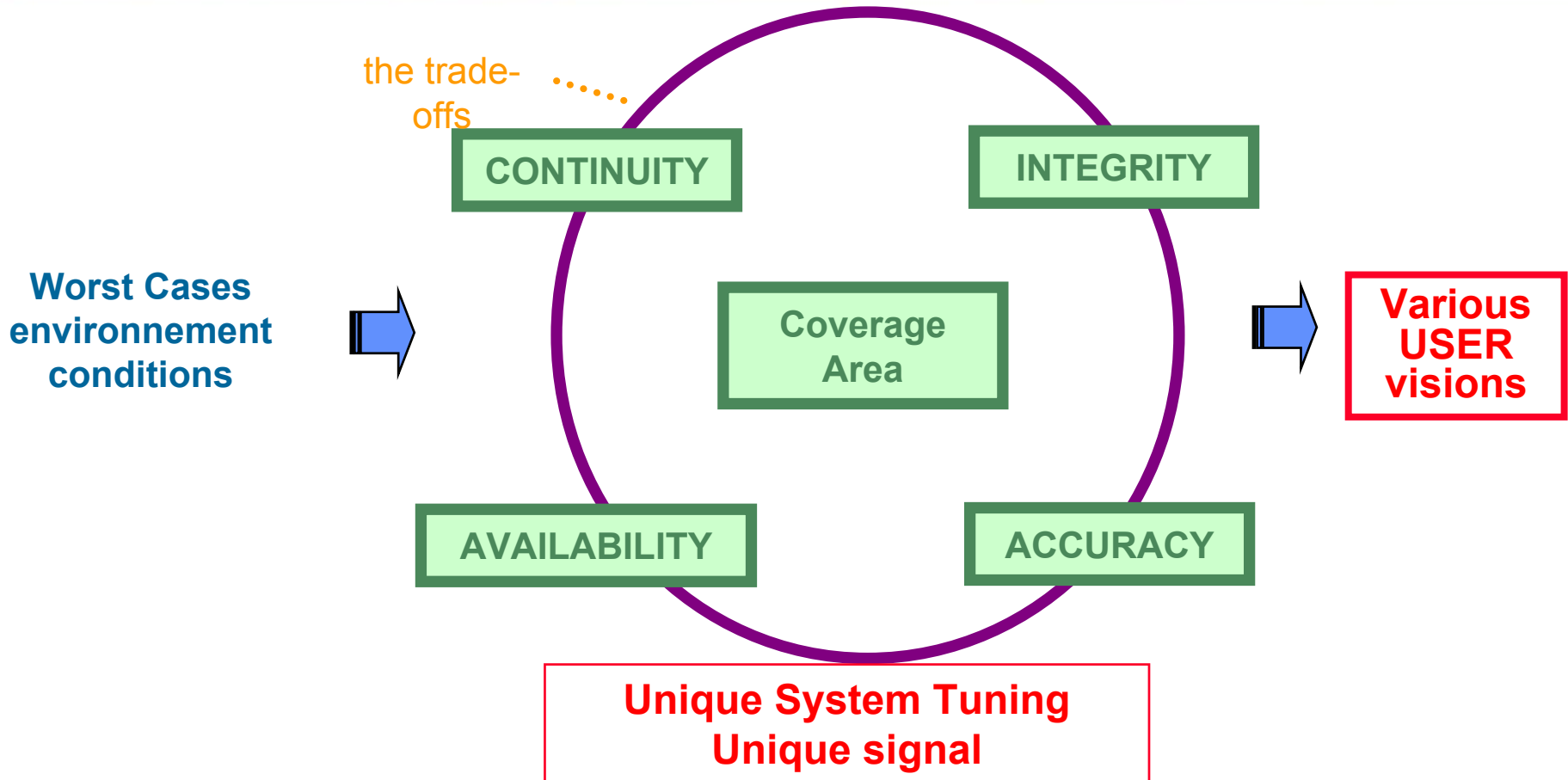


- **190h SIS broadcast on INMARSAT IND-W PRN126 between 31/03/03 and 16/06/03**
- **27h continuous broadcast**

EGNOS SIS 1 deployed RIMS network



Egnos designers help optimising applications



Example 1: 1 m Accuracy @ 10^{-3} Integrity \Leftrightarrow 7 m Accuracy @ 10^{-7} Integrity

Example 2: 1 m Acc @ normal iono/GPS \Leftrightarrow 7 m Acc @ worst worst iono/GPS cases

Same Signal = Various Service Guarantees

- **Aviation**

- 7.7 m Vertical & Horizontal Accuracy, 10⁻⁷ Integrity, 10⁻⁵ Continuity,
> under extreme worst cases

- **Rail**

- 1-2 meters Linear Accuracy (the rail !),
> high integrity

- **Others**

- Accuracy ? Integrity ? QoS ?
- Tracking robustness ? Good even in URBAN areas
> E.g. 90% acquisition availability in cities/ mountains wrt 30% GPS alone

- **many possible service levels: need to be analysed case by case**
- **Egnos designers partnerships with Applications / receiver providers :**
- **come & see us ! : contact sabine.caillault@space.alcatel.fr**

NOW !



- > Our team is committed to success of Egnos on-site !
- > Egnos experience can be leveraged further for worldwide Infrastructures & Applications
- > We look forward to efficient cooperation with Operators & Users so that the services of Egnos are a success !

THANK YOU !

EGNOS, the first operational European GNSS system !

EGNOS, the Early Galileo Navigation Operational Service

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