GNSS Introduction in the ROAD Sector

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GALILEO, an enabler of European Transport Policy (1/6)

- The GALILEO system:
  - 30 satellites in three planes over Medium Earth Orbit
  - 4 levels of navigation services:
    - Open Service
    - Safety of Life Service
    - Commercial Service
    - Public Regulated Service

- The GALILEO programme is quickly becoming a reality
  - EGNOS signal available since mid-2005
  - First test satellite (GIOVE-A) launched in December 2005
  - Concession awarded to joint EURELY-INAVSAT consortium (contract negotiations through 2006)
  - Partnership agreements signed with China, India, South Korea, Latin America, etc.
Shortcomings of GPS:
- Not designed as a civilian system
- No contractual operator
- Only 1 signal for civil users
- Performance levels that make it unsuitable for numerous commercial and safety of life applications
- No service warranty
- No signal integrity

GPS and GALILEO are not designed as competing systems. The combined GPS-GALILEO coverage will ensure better positioning accuracy for dual receivers.
GALILEO, an enabler of European Transport Policy (3/6)

- Integrity & accuracy:

<table>
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<tr>
<th>Accuracy (e.g. error at 95%)</th>
<th>Integrity (percentage inside the yellow circle)</th>
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<tr>
<td>8 cm</td>
<td>100%</td>
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<tr>
<td>18 cm</td>
<td>99%</td>
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High Accuracy but no Integrity

Low Accuracy but with Integrity

Integrity Mechanism (100%)
EGNOS and GALILEO are recognised by many specialists as an important component of the global answer to the challenges raised by increased private and freight transport demand:

- Achieving a significant and lasting decrease in road injuries & fatalities
- Identifying stable mechanisms of funding for road improvement
- Eradicating congestion & curbing pollution

Europe’s satellite programme offers integrity and accuracy improvements allowing the development of new applications to optimise personal mobility.

GALILEO has the potential to become a key enabler of European and national transport policies.
The key challenge for GALILEO is to bridge the gap between technological pilot services and mass-market take-up by road transport users.

This can be achieved by:
- Extending message outside usual arena of specialists
- Going back to the basics:
  - understand user requirements and doubts
  - recognise that there are competing technologies: If GPS or licence plate recognition work, why do you need more?
  - If it did not work with GPS, why should it work with GALILEO?
- Concentrating on key GALILEO differentiators
Some figures to bear in mind:

- Passenger car fleet in 2004
  - 650 million vehicles worldwide
  - 160 million in EU-25
- Penetration rate of GNSS units in new cars in Europe:
  - 2004: 10%
  - 2010: 50%
- Global market for GNSS products & services could be worth EUR 275 bn annually by 2020 contributing to 140,000 jobs

Source: European Commission
GIROADS in a Nutshell (1/6)

- 24-month project co-funded by Galileo Joint Undertaking (GJU) beginning September 2005
- GIROADS aims to facilitate the introduction of GNSS (EGNOS & GALILEO) in the road sector by:
  - identifying all potential GNSS applications in the road sector,
  - evaluating their market potential and proposing a successful commercial model,
  - assessing their impact on existing European norms & legislation
  - establishing a technical platform providing support to all planned services,
  - field-testing the platform on high-potential applications:
    - Electronic fee collection & Congestion charging,
    - Traffic information services,
    - Pay-per-use insurance
  - raising awareness of the tangible benefits of GNSS,
  - establishing recommendations facilitating take-up of GNSS applications in the road sector.
GIROADS in a Nutshell (2/6)

- All major segments of the road/GNSS value chains represented
- 8 countries (including China) with agreements extending worldwide
GIROADS in a Nutshell (3/6)

- An objective shared by all 31 consortium members: to achieve a shared understanding of the relevance of GALILEO to the everyday needs of the road transport sector.

- GIROADS will establish a platform that is:
  - Independent
  - Open
  - Market-oriented
  - Global

- « Not another ITS project »:
  - Focus on the most differentiating aspect of GNSS application
  - Optimal re-use of technological heritage
  - One OBU – Multiple services concept
GIROADS in a Nutshell (4/6)

- Common platform providing support to all planned services
- Huge technological heritage (VeRT, ADVANTIS, SCORE)
Interfacing with the road community:

- GIROADS must promote a permanent dialogue with all GNSS & road sector stakeholders

- GIROADS needs to confront and adapt its assumptions and results face to the reality of each group of potential users

- GIROADS must reach out well beyond existing ITS communities: the GIROADS Club
GIROADS in a Nutshell (6/6)

Dedicated services:
- Dedicated e-newsletter: « Intelligent Roads »
- Regular Executive Briefings
- Online information portal: www.intelligentrads.org
- Extranet: www.intelligentrads.org + login
- Workshops & infodays
- Opportunity to contribute to project output (surveys, etc.)

How to join?
- Open to all via on-line registration (possible at GIROADS stand)
- Regulated by terms of Reference (available from GIROADS website)
- > 60 Members have already joined the Club representing a wide diversity of end-users
Thank You for Your Attention!

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Secretariat

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