Implementation of Memorandum of Understanding between ASECAP and GSA

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European GNSS Agency (GSA)
A bit of history...

2010:
- First time GSA at ASECAP days
- Second GNSS-based tolling system operational (Skytoll Slovakia)

2011:
- Memorandum of Understanding

2012:
- Roadmap with 5 actions

2013:
- Task force for implementation
- Fourth GNSS-based tolling scheme announced (Belgium)
- Third GNSS-based tolling system starts (Ecomuv France)

- EGNOS is operational and delivering a stable, quality service
- First Galileo launch
- EGNOS certified for civil aviation
- 4 operational Galileo satellites
Who is the GSA?

- Staff: 80
- Nationalities: 16
- HQ: Prague

European Commission
Development contracts
Political oversight
Programme management
Council and European Parliament
European GNSS Programme Committee
European Commission
Delegation
European Space Agency
Assistance and delegation
European GNSS Agency
- Market Development
- Accreditation
- GSMC
- Exploitation

Development contracts
Deployment contracts
Independent advisors
Altitude: 23 222 km
Period: 14 hours 22 minutes
3 orbital planes inclined at 56° to the Equator
2 spare satellites in each plane
30 satellites in Medium Earth Orbit (MEO)
Galileo has already taken-off

- 4 operational satellites have been launched, as 12 October 2012
- Early services will start in October 2014
- All industrial contracts necessary have been signed to ensure up to 26 satellites
- The majority of GNSS chipset and receiver manufacturers already included or plan to include Galileo by Early Services.
12th March 2013: Galileo starts transmitting the navigation signal...

The first 4 satellites start transmitting the navigation message: it is then possible to compute the position.
...the same day, all over the world the first “position fix” with Galileo is computed.

The first positions computed with Galileo confirms the excellent expected performances, at the state-of-the-art in satellite navigation.

The satellites also transmit a time reference of atomic standard.
ASECAP and GSA join forces to transform challenges into opportunities

- Understand how European GNSS technology can add value to road infrastructure operators
- Identify concrete actions to capture this value

ASECAP and GSA worked on a joint roadmap to take advantage of new GNSS services in the evolution of new tolling schemes and ITS deployment
5 initial actions to better understand each other and remove existing barriers

1. Identification of GNSS-DSRC coexistence and interoperability
2. Analysis of strengths/weaknesses of GNSS for tolling
3. Monitoring and assessment of the legal framework, R&D projects and other RUC developments
4. Optimisation of cross-border / multi-ETC enforcement
5. Assessment of the potential of new applications and new markets
How to implement the actions?

1. Task force of experts of GSA and ASECAP (8 members)
2. Kick-off in Dubrovnik 28\textsuperscript{th} May 2013
3. Implementation of 2 actions by the end of the year
When to implement the actions?

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<tr>
<th>ACT #</th>
<th>Action description</th>
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<td>Identification of GNSS-DSRC coexistence and interoperability issues</td>
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<td>ACT 3</td>
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<td>ACT 4</td>
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<td>ACT 5</td>
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**Meeting Points:**

- ASECAP Conference (Dubrovnik, 26-28 May)
- European ITS Conference (Dublin, 4-7 June)
- International Baltic Road Conference (Vilnius, 26-28 August)
- ITS World Conference 2013 (Tokyo, 14-18 October)
- Road User Charging Conference 2014 (TBC)
Action 2: Analysis of the strengths and weaknesses of GNSS for tolling

Carry out a detailed assessment of the strengths and weaknesses of GNSS for tolling in comparison with other existing technologies and namely DSRC, with a view to develop a sound business case for GNSS-applications in tolling for all stakeholders involved.

Action 3: Monitoring and assessment of the legal framework, R&D/projects and other RUC developments:

Gather the state-of-the-art of relevant EU and national legislation and schemes, as well as the outcome of pertinent R&D/projects and other RUC developments, and consequently assess the extent to which they support the consistent implementation of GNSS for tolling, the creation of synergies between applications and the legal value of vehicle positioning, in particular for the enforcement of third-party liability for operational losses.

The intended goal is to finalize these actions in time for ITS World Conference 2013 to be held in Tokyo (14-18 October 2013)
EGNOS and Galileo for a better eCall: Good position = Lives saved

1. **Emergency Call**
   A 112 emergency call (eCall) is made automatically by the car as soon as on-board sensors (e.g., the airbag sensors) register a serious accident. By pushing a dedicated button in the car, any car occupant can also make an eCall manually.

2. **Positioning**
   Via satellite positioning and mobile telephony caller location, the accurate position of the accident scene is fixed and then transmitted by the eCall to the nearest emergency call centre. More information is given in the eCall, e.g., the direction of travel and the vehicle type.

3. **Emergency call centre (PSAP)**
   The eCall's urgency is recognized, the accident's location can be seen on a screen. A trained operator tries to talk with the vehicle's occupants to get more information. If there is no reaction, emergency services are sent off without delay.

4. **Quicker help**
   Thanks to the automatic notification of the crash site, the emergency services (e.g., ambulance, fire fighters, police) arrive much quicker there. Time saved translates into lives saved.
Galileo for safer mobility: digital tacograph and dangerous goods

✓ Digital Tacograph:
  ✓ GNSS is proposed to register at least starting-ending time/location of the journey for enhanced regulation COM(2011) 451 -> 2018.

✓ Dangerous Goods:
  ✓ Building on ITS directive
  ✓ Some Member State are requiring the use of GNSS, and in particular of EGNOS and Galileo, for tracking and tracing of special goods, such as dangerous goods