



Identifying ITS Opportunities for the HA Location Positioning Newsletter: July 2009

■ ITS RADAR INTERNATIONAL PROJECT

This project is providing intelligence for the Highways Agency on ITS developments in Europe and around the world. It is carried out by TRL and AECOM on behalf of the HA. The project summarises key information for decision makers and practitioners on activities related to Intelligent Transport Systems (ITS). The project covers specific areas of key interest to the HA.

Regular newsletters are being produced, covering information which is in the public domain. For more information about the project and the services provided, the web site can be reached at:

<http://www.highways.gov.uk/itsradar>.

To contact us and let us know what you would like this project to deliver please email us at: ITSRadarInternational@trl.co.uk

■ ABOUT LOCATION POSITIONING

This newsletter covers key developments in positioning information relevant to ITS, such as GNSS (Global Navigation Satellite Systems), the Global Positioning System (GPS) and Geographical Information Systems (GIS).

The Galileo Programme is a joint initiative of the European Commission (EC) and the European Space Agency (ESA) to provide Europe with its own independent global civilian controlled satellite navigation system. This is a particular area of focus in ITS Radar International news on Location Positioning.

The Galileo system will allow users to pinpoint their location at any time to a high degree of accuracy, and will ensure Europe's competitiveness in a global market in satellite navigation products and services.

When fully deployed, Galileo will consist of a constellation of 30 satellites in 3 orbits offering unprecedented accuracy and reliability of positioning. This allows for a range of many applications, products and services to be developed for use in transport, telecommunications, fisheries and agriculture, civil protection, building, construction etc. Galileo was due to go live in 2008 but it is now predicted to be in operation by 2013.

■ MEETINGS

ION GNSS 2009

Source: [ION](#)

The event will be held in Savannah, Georgia, over 22 to 25 October 2009. The Institute of Navigation (ION) is a professional organisation for the advancement of positioning, navigation and timing.

In addition to providing updates on all major GNSS systems (Global Navigation Satellite Systems), the event will also include presentations on the following:

- Galileo Integrity
- GNSS ground based augmentation
- Galileo signal structure, Galileo/GPS Interoperability
- Galileo system design and services
- Alternatives and backups to GNSS
- GLONASS modernisation (Russia's Global Navigation Satellite System).

ITS Radar International will monitor the outcome of the conference

Keywords: Galileo

■ CALLS FOR PROPOSALS

Supporting Galileo and EGNOS standardisation

Source: [RIN](#) & [CORDIS news](#)

The European Commission's Directorate-General for Energy and Transport (DG TREN) has launched a call for tenders for support to GALILEO and EGNOS standardisation.

The aim is to carry on the standardisation process for the European Geostationary Navigation Overlay Service (EGNOS) and Galileo in key application areas, such as:

- Aviation (SBAS L5)
- Location-based service (LBS) communities (terrestrial trunked radio (TETRA))
- Worldwide interoperability for microwave access (WIMAX)
- Digital video broadcasting (DVB)

Successful tenderers should also help make some relevant progress in the rail, road and multimodal transport domains, supporting the appropriate standardisation bodies and presenting relevant technical contributions to European global navigation satellite system (GNSS) performance standards and standardisation of specific aspects in the operating chain for target communities.

ITS Radar International will monitor developments in this project

Keywords: European Commission, Galileo, Project, Standard

■ HOT TOPICS

GPS may suffer reduced service in 2010

Source: [telematics update](#) & [GPS World](#)

The US Government Accountability Office (GAO) has issued a report on the current state and future of the GPS (Global Positioning Service). The report highlighted that a string of technical problems and missed deadlines, in particular affecting the Block IIF programme, have put the GPS system at the risk of dropping below the level of service that the US Government has committed to.

The report indicates that there is a very real possibility that the US Air Force will not be able to maintain the minimum recommended number of satellites in orbit throughout 2010. Ongoing technical problems with new satellites and delays due to launch vehicle faults could mean that the old satellites that begin to fail may not be replaced in time by the new, GPS IIF and IIIA satellites.

Based on the most recent satellite reliability and launch schedule data from March 2009, the estimated long-term probability of maintaining a constellation of at least 24 operational satellites falls below 95 percent during fiscal year 2010 and remains below 95 percent until the end of fiscal year 2014, at times falling to about 80 percent.

In the event that the GPS constellation does fall below 24 satellites, there are several possible consequences:

- Intercontinental commercial air carriers may have to delay, cancel, or reroute flights
- Enhanced-911 response to emergency calls could lose accuracy
- Accuracy of precision-guided munitions could decrease, forcing the military to use larger munitions or use more munitions on the same target
- Both standard and precise positioning service could suffer, affecting civil users, both professional (for example, surveyors) and casual (users of location-based services via cell phones).

The latest satellite to be launched, the GPS – IIR(M), has suffered a technical setback and is transmitting on the L1 and L2 frequencies with larger than expected pseudo range errors that are elevation-dependent; these errors have never been seen before and are new to the GPS family of satellites, as reported previously in [ITS Radar International news](#). The launch of this satellite suffered numerous delays, due to a fault in the stage separation system of the launch vehicle, as reported in [ITS Radar International news](#), prior to its eventual launch in March 2009.

ITS Radar International will continue to monitor developments in GPS

Keywords: Communications, Galileo, Geographic information

The US Air Force is committed to maintaining the GPS level of service

Source: [GPS World](#)

In response to a report released by the US Government Accountability Office (GAO) as reported in [ITS Radar International news](#), the US Air Force (USAF) has issued a statement emphasising its commitment to maintaining at least 24 operational GPS satellites in orbit.

The USAF does acknowledge that a potential for an availability gap does exist and has been working on ways to reduce the gap or mitigate the effects of any such reduced availability of service.

General Kehler said - "Let me state emphatically — since we declared Full Operational Capability in 1995, the Air Force has maintained the constellation above the required 24 GPS satellites on orbit at 95 percent. In fact, we have achieved sub-three meter accuracy."

"The Air Force has been a good GPS steward continually providing 'better than expected' service to our GPS users. At this point, we foresee no significant loss of service in the future, near or far."

ITS Radar International will continue to monitor developments in GPS

Keywords: Communications, Galileo, Geographic information

Report recommends the US government commits to eLORAN

Source: [GPS World](#)

The U.S. Independent Assessment Team's (IAT) report on eLORAN has been made available to the public over two years after it was published. The report, published in March 2007, "unanimously recommends that the US government complete the eLORAN upgrade and commit to eLORAN as the national backup to GPS for 20 years."

eLORAN is a terrestrial radio navigation system that is fully independent of GPS and delivers complementary levels of performance; in the UK it is operated around the coast to enhance safety, security and protection of the marine environment.

The report was made publically available following "an extensive Freedom Of Information Act (FOIA) battle" fought by industry representatives against the federal government. The report is available to view in full on the [GPS World](#) web site.

The Obama administration and the Department of Homeland Security have recently proposed to shut down the programme, stating that doing so will save \$190 million (£118 million) over five years. However, the IAT report contradicts this. Not only does the report highlight the eLORAN upgrade and its maintenance as the most cost effective GPS back up available at the moment, but it also states that completing the upgrade of Loran-C to eLORAN will be less expensive than decommissioning LORAN.

Furthermore, the report also indicates that the eLORAN system is perfectly suited, from a national defence point of view, to be a GPS back up as it is completely independent of GPS.

ITS Radar International will monitor developments in eLORAN

Keywords: Communications, Geographic information, Galileo

First GPS platform that enables LBS ad delivery

Source: [GPS World](#)

TechnoCom Corporation has launched SpotOn GPS – a mobile advertising and marketing content delivery system. This is the first offering from the US that enables advertising/marketing to be integrated with navigation.

This platform allows for the delivery of location and time based advertising via a GPS enabled hand set such as a mobile phone.

ITS Radar International will continue to monitor Location Based Services

Keywords: Communications, Geographic information, Galileo

■ PROJECTS

GINA project website is live

Source: [GINA](#)

GINA (GNSS for INnovative road Applications) project aims to assess the suitability of using GNSS in Road User Charging (RUC) applications and determine the benefits that this may offer.

The website, brochures and newsletters were created to promote the GINA project to a wider audience.

The website currently features detailed information about the project and its objectives; news highlights; general information about Road User Charging (RUC) and Value Added Services (VAS). Also, the website will soon feature a "RUC scheme map" which will showcase current European road charging initiatives.

ITS Radar International will continue to monitor developments in GINA

Keywords: Communications, Galileo, Geographic information, Payment, Project

■ RECENT PUBLICATIONS

No new publications

■ GLOSSARY

DG TREN	Europe's Directorate-General for Energy and Transport
DVB	Digital Video Broadcasting
EC	European Commission
EGNOS	European Geostationary Navigation Overlay Service

eLORAN	enhanced LONg Range Aid to Navigation
FOIA	The Freedom of Information Act
GAO	The US Government Accountability Office
GLONASS	Russia's GLObal NAVigation Satellite System
GNSS	Global Navigation Satellite Systems
GPS	Global Positioning System
IAT	The Independent Assessment Team
ION	Institute of Navigation
ITS	(Intelligent Transport Systems): "The integration of information and communications technology with transport infrastructure, vehicles and users" [ERTICO]
LBS	Location Based Services
LORAN-C	Long Range Aid to Navigation before it was upgraded to eLORAN
RUC	Road User Charging
TETRA	Terrestrial Trunked Radio
USAF	The United States Air Force
VAS	Value Added Services
WIMAX	Worldwide Interoperability for microwave access