



Identifying ITS Opportunities for the HA Location Positioning Newsletter: February 2010

■ 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: 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 2014.

■ MEETINGS

GPS Jamming and Interference conference on 23 February 2010

Source: [RIN](#)

The GPS Vulnerabilities conference titled 'GPS Jamming & Interference - A Clear and Present Danger' will be held at the National Physical Laboratory in Teddington, on 23 February 2010.

This conference will bring together experts from all aspects of the Position Navigation and Timing (PNT) community to debate important aspects of GPS vulnerabilities including intentional and unintentional jamming, natural and man-made interference and other issues which might impact users and applications which rely on GNSS technology.

Speakers at the event have also been invited to present on UK regulatory aspects, on other technologies which could be combined with GNSS to provide resilience, and on mitigation techniques.

Registration for the event can be done either through via the [registration form](#) or online through the [NPL website](#).

ITS Radar International will monitor the outcome of the conference

Galileo Application Days event on 3 March 2010

Source: [application days](#)

The Galileo Application Days conference will be held in Brussels, over 3 to 5 March 2010.

The event is sponsored by the European Space Agency (ESA) and will focus on location based services, road applications, precise positioning, public services, leisure and navigation systems development. The event is also intended to showcase new satellite navigation innovations, including applications developed under the European Commission's 7th Framework Programme.

Registration for the event can be done through the [event's website](#).

HA recommended to consider attending

ITS Radar International will monitor the outcome of the event

■ CALLS FOR PROPOSALS

No new calls for proposals to report on.

■ HOT TOPICS

The EC awards major Galileo contracts

Source: [Europa](#)

Following the previously announced reduction in the order for Galileo satellites by the EC, the Commission has issued three of the six contracts that will enable the initial deployment and service provision of Europe's satellite navigation system from early 2014. For details on the EC reducing the Galileo satellite order, see previous [ITS Radar International article](#).

The three contracts issued are as follows:

- ThalesAleniaSpace - System support services, covers the industrial services needed to support the European Space Agency for the integration and the validation of the Galileo system. It has a value of €85 million (£76 million)
- OHB System AG – provision of 14, out of the intended 32, satellites. The contract has a value of €566 million (£508 million). The remaining satellites will be procured in subsequent work orders, each time from either OHB or EADS-Astrium GmbH, depending on which company provides the most advantageous offer
- Arianespace - Launch of five Soyuz launchers, each carrying two satellites. The first launch is scheduled for October 2012. The value of the contract amounts to €397 million (£357 million).

It is anticipated that the Open Service, the Public Regulated Service and the Search And Rescue Service will be provided from early 2014. The Safety-of-Life Service and the Commercial Service will be tested by 2014 and will be provided as Galileo reaches full operational capability with a constellation of 30 satellites. The remaining three procurement contracts, for the ground mission infrastructure, the ground control infrastructure and the operations are expected to be awarded by mid 2010.

ITS Radar International will continue to monitor Galileo developments

New Galileo management structure agreed

Source: [RIN](#)

The EU Transport Ministers have recently redefined the roles of the European Commission (EC) and the Parliament, thus creating a new structure for the management of the Galileo programme.

In the light of the 2007 decision to abandon the commercial concession for the Galileo deployment and operational phases, the new plan amends the 2004 Council Regulation. The Galileo Supervisory Authority (GSA) is no longer the body in charge of the Galileo programme and it has now been renamed the GNSS Agency; its role in the Galileo programme and relationship with the EC has also changed. The EC is now the sole body responsible for the programme's management.

New rules for security have also been established, with the introduction of a Security Accreditation Committee, responsible for determining the acceptability of risks associated with the system.

ITS Radar International will continue to monitor Galileo

Galileo's most comprehensive ground station is complete

Source: [ESA](#)

A new site for the Galileo ground station inside the Guiana Space Centre (CSG), near Kourou in French Guiana was recently inaugurated.

The ground station will play an essential role in the setting up of the Galileo system. The site contains the most comprehensive ground segment stations

and consists of a telemetry, tracking and command (TT&C) station to monitor and control the Galileo constellation satellites, a sensor station (GSS) for acquisition of the satellite navigation signals, and two uplink stations (ULS) for transmission of navigation and integrity messages to the satellites.

In total, the Galileo ground segment for the in-orbit validation phase (IOV) will comprise 18 sensor stations, 5 uplink stations, 2 telemetry, tracking and command stations, and 2 Galileo Control Centres (GCCs). The Control Centres will be situated at Fucino in Italy and Oberpfaffenhofen in Germany.

The Kourou Galileo ground station will evolve as the system is built up to full deployment, with the addition of 2 ULS antennae and 2 further redundant GSS channels, producing the final configuration. France's Centre National d'Etudes Spatiales (CNES) will be responsible for site security and infrastructure maintenance during the operational phase.

ITS Radar International will continue to monitor Galileo

U.S. Coast Guard publishes Loran-C Termination while UK and Europe launch trial eLoran service

Source: [Inside GNSS](#) and [RIN](#)

The U.S. Coast Guard (USCG) has certified that termination of the Loran-C signal will not adversely affect the safety of maritime navigation and that decommissioning will begin on February 8 2010, with all Loran stations expected to cease transmitting the Loran-C signal by October 1 2010.

This news comes following the recent statement from the Department of Homeland Security (DHS) certifying that the Loran-C system infrastructure is not needed as a backup to the GPS system or to meet any other federal navigation requirement.

USCG was the last signature that was required in order to proceed with the termination of Loran-C, following the decision by U.S. President Obama not to seek further funding for Loran-C in 2010.

The decision to terminate Loran-C has seen much opposition in the U.S., as reported in previous [ITS Radar International News](#). Termination of Loran-C will lead to the removal of its infrastructure, on which eLoran is dependant.

Europe and UK on the other hand, are choosing to pursue the deployment of eLoran with a new eLoran transmitter being recently installed in Cumbria. More information on eLoran in the UK and Europe can be found on the [General Lighthouse Authorities website](#).

ITS Radar International will continue to monitor eLoran

New civil capabilities for GPS

Source: [Inside GNSS](#)

President Obama has recently signed the Fiscal Year (FY10) consolidated appropriations bill which allocates \$43.4 million (£27 million) in FAA funds to add new, civil-unique capabilities to the Global Positioning System (GPS).

The measure also provides \$91 million (£56 million) for the Federal Aviation Agency's (FAA) Wide Area Augmentation System (WAAS), \$7 million (£4 million) for FAA's Local Area Augmentation System (LAAS), and \$4.6 million

(£2.8 million) for the inland part of the Nationwide Differential GPS system (NDGPS).

ITS Radar International will continue to monitor GPS

Further delays to the launch of the first GPS IIF satellites

Source: [Inside GNSS](#)

The first GPS IIF satellites have missed the deadline for being moved to the launch site at Cape Canaveral. This is now unlikely to happen until February 2010. Due to an already busy 2010 schedule, the launch is now expected to happen at some point in "mid-2010". However, before the spacecraft can be prepared for launch, the GPS wing still has to sign off on successful resolution of technical issues that have arisen with the next-generation spacecraft, including wiring on the IIF solar panels and susceptibility to radiation effects of some components.

In addition, the contract award for the modernisation of the GPS operational control segment (OCX) has now been delayed until February.

ITS Radar International will continue to monitor GPS

Three more GLONASS satellites launched

Source: [GPS World](#)

Three more GLONASS - M satellites were launched in December 2009 and communications have been established with all of them. The three new satellites join a constellation of 19 satellites. One of these is soon to be decommissioned, and two more are undergoing maintenance.

The Russian space agency Roscosmos had originally intended to launch six satellites at the end of 2009. However, a glitch with one of the recently launched spacecraft led to a delay to the launch of three others. The satellites had to be returned to the factory to ensure that the fault witnessed with a satellite currently in orbit is not replicated in the new batch.

The next launch is now scheduled for 11-20 February 2010. With this launch, three more satellites will join the GLONASS constellation, bringing the total number of satellites in orbit to 24, the number required to attain global service level.

ITS Radar International will continue to monitor GLONASS

■ PROJECTS

No new recent publications to report on

■ RECENT PUBLICATIONS

No new recent publications to report on

■ GLOSSARY

Compass	The Chinese global navigation satellite system
CNES	France's Centre National d'Etudes Spatiales
CSG	Guiana Space Centre
DHS	Department of Homeland Security (US)

eLoran	Enhanced Long Range Aid to Navigation: Terrestrial radio navigation system
ESA	European Space Agency
FAA	Federal Aviation Administration (in US)
Galileo	The European contribution to the Global Navigation Satellite System; full operational capability expected from 2014
GCC	Galileo Control Centre
GLONASS	Russian satellite positioning system
GNSS	Global Navigation Satellite Systems: a general term given to all navigation satellite systems, it includes systems such as GPS, GLONASS, Compass and Galileo
GPS	Global Positioning System
GPS IIF	Follow on block II GPS satellites, last block II satellites to be deployed before the introduction of next generation GPS satellites - GPSIII
GPS III	The next generations GPS
GSA	GNSS Supervisory Authority
IOV	In-Orbit Validation
LAAS	Local Area Augmentation System (for civil aviation GPS applications in the USA)
Loran-C	The latest iteration of Long Range Aid to Navigation prior to the introduction of eLoran
NDGPS	National Differential GPS system in the USA
NPL	UK's National Physical Laboratory
OCX	The next generation GPS ground control system (for GPS III)
PNT	Position Navigation and Timing
WAAS	Wider area Augmentation System (for civil aviation GPS applications in the USA)