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PRESS RELEASE

First Galileo Commercial Service Demonstration with Encrypted Signals

The Early Proof of Concept (EPOC) team has successfully tracked the encrypted Galileo E6-B and E6-C signals broadcast by Galileo satellites. As a result, the Commercial Service loop has been closed using both encrypted and non-encrypted signals.

During a 10-day testing period, receivers located in Tres Cantos, Spain and Poing, Germany, showed the successful tracking and data demodulation of the encrypted signals from the available Galileo satellites, with periods where all satellites transmitting E6 encrypted signals were tracked simultaneously. The tests verified the Galileo Commercial Service (CS) signal's encryption functionalities, with the data received containing authentication and high accuracy information previously generated outside the Galileo system. This is an essential feature to ensuring Galileo's high accuracy and authentication services – some of which may be commercial in nature.

“The Commercial Service has the potential to improve the performance of existing location services for all user communities and therefore will be a key element of Galileo's service provision,” said Carlo des Dorides, Executive Director of the GSA. “It will also help further enhance the Galileo's economic added-value in the downstream markets.”

Added-value

The Galileo Commercial Service will deliver a range of added-value features, including positioning accurate to decimetre level and an authentication element, both of which allow for the development of innovative applications for professional or commercial use. The Galileo CS demonstrator began its proof of concept earlier this year, with early service expected to start in 2016.

Once operational, the CS will provide access to two additional encrypted signals on the E6 band, delivering a higher data throughput rate and increased accuracy. CS addresses the authentication and high-precision market segments and will deliver innovative services with improved performance and greater added value than those obtained through the open service.

“Although there are still many steps before the delivery of an operational CS, these first tests prove what Galileo can do in the near future,” said Ignacio Fernández Hernández, European Commission Officer in charge of the Galileo Commercial Service design and management.

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Successful team approach

The tests are the result of a collective effort involving teams and projects of 'AALECS' (Authentication and Accurate Location Experimentation with the Commercial Service), supported by the European Commission, the European GNSS Agency (GSA), the European Space Agency (ESA) and the Galileo operator, Spaceop.

The AALECS project is building a platform to connect to the European GNSS Service Centre (GSC) and transmit real time CS data through the Galileo satellites. This platform will be operational by 2015 and will demonstrate the real performance of future high accuracy and authentication services of Galileo prior to early service availability.

The European Commission launched AALECS in January 2014 and it was awarded to a consortium led by GMV including CGI, Qascom, IFEN, Veripos and KU Leuven. As part of the AALECS project, GMV and IFEN developed an Early Proof-Of-Concept platform aimed at testing external data transmission through offline means. The project will last for approximately two and a half years.

Miguel Romay, Director of GNSS at GMV added, "This first successful demonstration shows the potential of Galileo to provide a new generation of innovative and high performance satellite-based navigation services. We are pleased to be part of the team developing the CS Demonstrator and contribute to proving the capabilities of Galileo."

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