

Embracing the Future of Navigation: How Galileo Transforms the GNSS Landscape for Society's Benefit

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Abstract

This keynote speech explores the significance of Galileo, Europe's Global Navigation Satellite System (GNSS) in shaping modern society. Using a constellation of 24 satellites in Medium Earth Orbit (MEO), Galileo delivers unparalleled worldwide position, navigation and timing services using state-of-the-art technology. We will focus on how GNSS systems work, including the fundamental technological aspects and scientific principles underpinning these systems. Furthermore, we will present both existing and upcoming Galileo services and applications that hold tremendous benefits for European society.

In this context, the European Commission's Joint Research Center (JRC) has an instrumental role in supporting the evolution of European satellite navigation programs. As the European Union's GNSS Test and Demonstration Hub, JRC fosters the development of Galileo applications, provides technical support to European industry and policymakers, and shapes the evolution of Galileo's Second Generation. We will showcase some of the unique research facilities at JRC, and their significance in advancing satellite navigation and driving innovation for a more efficient and prosperous society.