

GRAMMAR

GRAMMAR coordinated by DLR represents a highly innovative approach to developing a prototype GNSS receiver, targeted at mass market applications, with the widest potential exploitation.

Goals

- ▶ The development of a hardware prototype for a mass-market receiver using a single chip dual frequency radio front-end and an FPGA based baseband allowing for rapid prototyping of advanced algorithms and techniques.
- ▶ The identification, evaluation and simulation of enhanced algorithm concepts for next generation mass market receivers.



Contact

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Partners

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TAMPERE UNIVERSITY OF TECHNOLOGY



GALILEO READY ADVANCED MASS MARKET RECEIVER



Funded by

GSA within EU Seventh Framework Programme
as collaborative project

Further information

- ▶ <http://www.gsa-grammar.eu>



Key Issues

Significant effort has been devoted in FP6 to R&D for mass market receiver technologies. The GRAMMAR project will consider and analyze these FP6 achievements and expand and explore on new features for special mass market segments.

The activities will be based on the inputs from the prototyping results of the GREAT project (of which GRAMMAR is a direct continuation) and focus on the development of:

- ▶ Multiple-frequency low power single chip GNSS radio front end designed to address the challenge for a plurality of advanced mass-market applications.
- ▶ A baseband prototype implementing advanced features not currently seen in mass market receivers.
- ▶ Prototyping advanced algorithms in FPGA to determine their suitability for mass market receivers.
- ▶ Simulations addressing algorithms and techniques for receivers beyond the current state-of-the-art such as complexity reduced multipath mitigation, and non-line-of-sight detection and mitigation.
- ▶ Studying the suitability of inexpensive sensors and/or assistance from existing wireless networks for improved indoor and urban position solution robustness and availability.

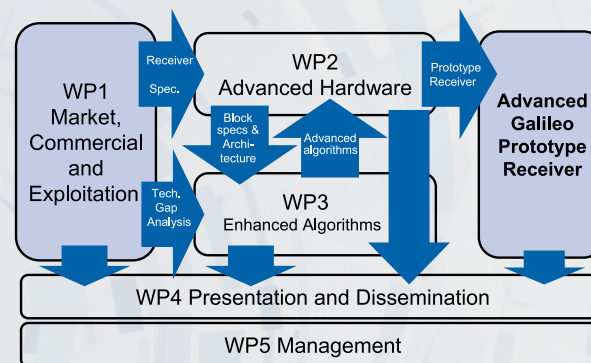


Expected Impact

- ▶ Generation of European competence in GNSS receiver technology by initiating R&D activities leading to cooperation between industry, research organisations and universities.
- ▶ Pursue the effort generated in FP6 in preparing the Galileo market by introducing at an early stage Galileo technologies, especially in the mass market receiver area.
- ▶ Ensure a competitive advantage for European players in the area of Galileo receiver and core technologies.

Technical Approach

- ▶ WP1: Market, Commercial and Exploitation
- ▶ WP2: Advanced Hardware
- ▶ WP3: Advanced Algorithms
- ▶ WP4: Presentation and Dissemination
- ▶ WP5: Management



Fact Sheet

Project Name

GRAMMAR - Galileo Ready Advanced Mass Market Receiver

Research Programme

EU Seventh Framework Programme, Galileo GSA

EC Instrument

Collaborative Project

Call

FP7-Galileo-2007-GSA-1 - topic "Mass Market Receiver" (GALILEO-2007-3.1-01)

Contract Number

227890

Project Duration

01.02.2009-31.01.2011

Man-Power Effort

286 Person-Months

Total Financial Volume

2.621 Million Euro

EC Funding

1.999 Million Euro

Project Coordinator

German Aerospace Center (DLR)

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