

LocON PARTNERS



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A PLATFORM FOR AN INTER-WORKING OF EMBEDDED LOCALISATION AND COMMUNICATION SYSTEMS



For more information visit: WWW.ICT-LOCON.EU.

Embedded Location and Communication ... everywhere



LocON MEANS

- Uniting communication and location technologies
- Maintaining large scale infrastructures and buildings
- Integrating hardware and software for seamless navigation in any context
- Enlarging the market by providing an open technology platform
- Working together, developing, demonstrating new services
- Creating reliable and smart solutions



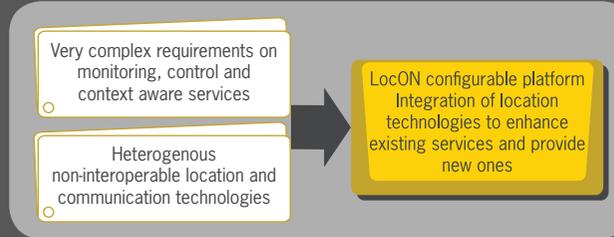
AT A GLANCE

This project aims to integrate in a standardized way embedded location and wireless communication systems developing a new platform in order to maintain large scale infrastructures like airports more efficiently, securely, robustly and flexibly.

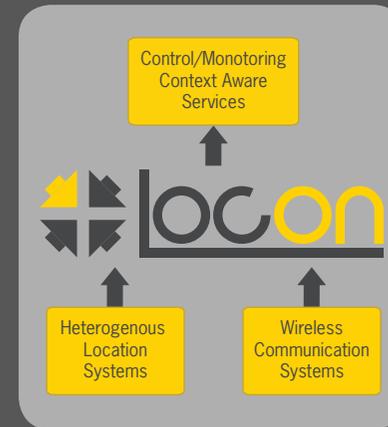


With the implementation of new security control services, the efficiency, the reliability, and the added values of the LocON system will be shown on a Portuguese airport site.

MAIN OBJECTIVES



- Implementation of new control and monitoring services for a critical large scale infrastructure (airport) with new engineering approaches that ensure efficient and robust behaviour of control mechanisms
- Integration of heterogeneous short range-, satellite based- location technologies for indoor/outdoor location and wireless communication technologies based on standards like WLAN, WiMAX, GSM, TETRA as well as sensor networks
- Development of a configurable and scalable LocON Platform integrating embedded location and communication systems



- Increase the reliability of position information through sensor fusion, cooperative localization data fusion and detection of gaps or poor localization zones
- Standardization activities on the European level of a location technology independent layer
- Coexistence issues of wireless systems to avoid degradation of each system in use
- Validate results and benefits in the complex environment of an airport with strong safety and security requirements — Faro airport — by controlling and monitoring vehicles and staff in relevant security areas

R&D CHALLENGES

- Harmonize location technologies to a common LocON European standard for interoperability
- Integration of all kind of location technologies for a seamless indoor/outdoor tracking
- Integration of GNSS signals and inertial sensors in the LocON system concept
- Concept and implementation of new algorithms to fuse data from heterogeneous location systems
- Concept of algorithms to quantify the quality of positioning and of the service itself
- Analyse the coexistence between different localization technologies and wireless communication systems and define rules to avoid any service degradation
- Integrate the LocON platform in an existing infrastructure in a flexible and modular way
- Compute and visualize continuously the positions without gaps or discontinuity in a seamless way
- Quality control through constant benchmarking of the processed data

EXPECTED IMPACT

The LocON platform is a key enabling technology for new services in various market areas.

Through the open positioning information layer, all kinds of localisation systems using the LocON standard can be integrated.

Thus the LocON concept is attractive to all types of large infrastructures which require localisation as a tool for new or better adapted monitoring and control services.

Moreover, through the fusion at a sensor and data level, reliable information can be provided.

In the case of an airport, the aim is to improve user safety, efficiency of operations, and airport safety through surveillance, control, guidance services and decision support.