

Leti Develops Ultra-Wideband Communications System To Improve Efficiency, Safety at International Airports

SAN FRANCISCO, California – July 11, 2011 – Working in a pan-European project to increase safety, security and efficiency at busy international airports, CEA-Leti developed an ultra-wideband (UWB) radio chip and location software to help airport operators identify and control the continuous movements of ground crews and their vehicles.

The chip and software performance has been demonstrated at Portugal's Faro Airport as part of the European Commission-funded LocON platform project to install new control-and-monitoring services for large airports. The platform, which integrates different wireless location systems and supports, gives ground-control managers a complete overview of the hive of activity on the tarmac and inside facilities, and allows communication with ground-control personnel.

Following activity on computer monitors, supervisors are better able to manage the often hectic, continuously changing situation on the tarmac, which increases operation efficiency – including the use of idle equipment – and allows them to alert personnel immediately of potential collisions or violations of safety and security rules.

Configurable and scalable, LocON streamlines the integration of single-mode location systems such as WiFi-, UWB- and RFID-based systems with satellite navigation systems into a multi-modal hybrid system. The platform, based on IC tags on vehicles and worn by ground crews, reduces aircraft-loading times to the minimum, improves airplane turnaround time and increases airport throughput.

Working with its sister institute, CEA-List, Leti supplied an accurate and short-range indoor location system based on the UWB radio platform and the embedded low-level software. This system required the development not only of the complete middleware architecture, incorporating its control service, but also:

- four UWB base stations organized in a network, allowing sub-meter location of mobile UWB elements
- a gateway between the UWB network and the LocON middleware
- software to secure the link between the gateway and the middleware, and
- a location algorithm embedded in the mobile UWB elements, designed to operate with limited calculation resources

This solution offers a low-cost UWB location terminal with very low-power consumption (ASIC RF), incorporating a simple and efficient location algorithm. The challenge now is to develop a fully distributed system software based around this platform.

"LocON demonstrates the value of Europe's R&D partnerships in delivering solutions that solve everyday problems and improve quality of life for Europeans, and people all over the world," said Laurent Malier, Leti CEO. "It also highlights Leti's capabilities

in UWB technology, which has many potential applications in both the public and private sectors.”

About CEA-Leti

Leti is an institute of CEA, a French research-and-technology organization with activities in energy, IT, healthcare, defence and security. Leti is focused on creating value and innovation through technology transfer to its industrial partners. It specializes in nanotechnologies and their applications, from wireless devices and systems, to biology, healthcare and photonics. NEMS and MEMS are at the core of its activities. An anchor of the MINATEC campus, CEA-Leti operates 8,000-m² of state-of-the-art clean room space on 200mm and 300mm wafer platforms. It employs 1,400 scientists and engineers and hosts more than 190 Ph.D. students and 200 assignees from partner companies. CEA-Leti owns more than 1,700 patent families.

For more information, visit www.leti.fr.

Press Contacts:

CEA-Leti

Thierry Bosc

+33 4 38 78 31 95

thierry.bosc@cea.fr

Agency

Amélie Ravier

+33 1 58 19 59 30

ravier@loomisgroup.com