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European satellite navigation on course for success

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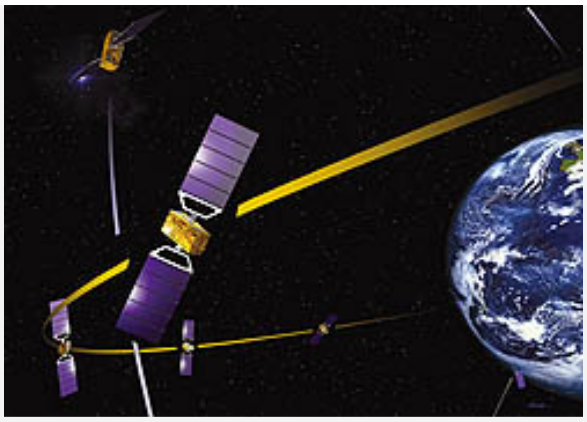

Galileo, the European satellite navigation system

DLR offers consultancy and development services

As part of the European Satellite Navigation Competition, the German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt; DLR) is awarding a special prize to recognise 'Advanced Applications for Industry and Public'. The opening of the online ideas database at www.galileo-masters.eu starts the sixth instance of this international ideas competition, which aims to find the best ideas for applications involving satellite navigation. This calls upon scientists and engineers from around the globe. Project ideas and proposals can be submitted via the Internet up to the closing date on 31 July 2009.

This DLR prize involves the provision by DLR of consultancy and development services to the value of Euro 150 000 for the three best professional applications in the industrial and public sectors. With this invitation to tender, the DLR is seeking to establish the kind of solutions required by end users, as well as by product and service providers, within a defined application segment of satellite navigation. This search is aimed at ideas, technologies and applications where high precision, fault-free operation and security constitute central criteria. The aim is to identify new research and development topics with an application-specific focus, the results of which can successfully be implemented in the form of new products and services through a series of industrial cooperation ventures. These could, for example, include value-added services such as the optimisation of power transport across electrical power lines using the ultra-precise time signals and precision time control of Galileo, the European satellite navigation system. These same signals play a key role in assuring the integrity and authenticity of electronically transmitted data in the finance and communications sector through their ability to provide digital time stamps.

The healthcare sector is currently feeling the dynamic tension between rising pressure on costs, its commitment to high service standards and the process of demographic change. This is causing requirements to become more demanding, especially in the medical technology and pharmaceutical sectors. End users for ultra-precise navigation signals can include doctors, emergency services, clinics, health insurance companies and, of course, last but not least, the individual patient.

New methods for improved signal verification can be harnessed to increase the precision and reliability of positioning and navigation functions. For example, with the help of local add-on systems, this could benefit air travel, maritime shipping and rail transport. Receiver units would need to be shielded to

protect them from interference of the kind caused by reflected signals or by unwanted transmissions. This involves the need for new and effective methods for screening out interference.

The search is also on for new and ultra-precise ways of determining geographical positions and for high-speed data distribution on the ground. These services could be employed to detect collisions involving trains, or to support the ground-based movement control of aircraft. To a very large extent, users in the public sector have now come to rely on the precision, signal quality and reliability of data transmission techniques. This statement is true of the entire transport system, and of civilian and safety-critical tasks faced at all levels: crisis committees, emergency services, humanitarian aid campaigns, the levying of toll charges and the recording of tachograph data.

Here are some of the ideas which have been recognized and honoured by the European Satellite Navigation Competition over the last few years: a rescue system for sailors lost overboard, a mobile, GPS-assisted social network, a mobile phone-based 'manual' on environmentally-aware driving, a remote monitoring system for the rehabilitation of people affected by heart disease, a Web 2.0 platform which delivers location-specific videos in real time and a system for predicting floodwaters.

Related Contacts

Andreas Schütz
Deutsches Zentrum für Luft- und Raumfahrt (DLR) - German Aerospace Center
Corporate Communications, Spokesman
Tel: +49 2203 601-2474
Mobile: +49 171 3126466
Fax: +49 2203 601-3249
E-Mail: andreas.schuetz@dlr.de

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