5th OREGIN Plenary Meeting Workshop on GNSS Applications

ESA Tender Actions 2000-2001

Ongoing Activities

- <u>ASTE NS 9.1: Low Cost Navigator for Road and Air Traffic</u>, with emphasis in integration of low cost miniaturized inertial sensors.

- <u>ASTE NS 9.6: Integrated Navigation Sensor For Train and Cargo Control</u>, with emphasis in high quality GNSS and Inertial navigation user equipment for trains.

- <u>ASTE NS 9.7: Ship Heading Navigation Sensor</u>, low cost GNSS-Inertial Compass for ships

Activities in preparation (1)

- The overall approach is to develop or integrate technology in an application.

- The overall target application is well defined but broad and open to the initiative of industry, which is expected to propose a specific application for the field demonstration

- The application requires high accuracy, availability, and reliability (i.e. EGNOS) and is to be demonstrated using the ESTB

Activities in preparation (2)

- ASTE NS 1.2: Integration of EGNOS and Terrestrial Regional Augmentation Networks

- <u>Overall Target:</u> Disseminate EGNOS information via existing terrestrial networks

- <u>Options (to be proposed by industry):</u> GSM, Loran-C, FM radio, Tetra Networks, etc.

Activities in preparation (3)

- ASTE NS 9.3: Receiver Processing Techniques for Advance Navigation Applications

- <u>Overall Target:</u> Develop and test DSP know-how for developing receivers able to be have high performance in urban canyon (multipath mitigation, indoors tracking, reduced satellite visibility, etc.).

- <u>Options (to be proposed by industry):</u> It is up to industry to propose concrete techniques, most likely (to be) protected by IPR of the proposer/s.

Activities in preparation (4)

- ASTE NS 9.4: Integrated GNSS and Mobile Communication Receiver

- <u>Overall Target:</u> Develop a miniaturized GNSS receiver to be integrated in a handheld phone terminal for an application to be defined by the tenderer

- <u>Options (to be proposed by industry):</u> Emergency calls location, handicapped people tracking, network operator services, accurate guidance to destination, location based added value services, etc.

Activities in preparation (5)

- ASTE NS 9.5: GNSS-1 Rail User Navigation Equipment

- <u>Overall Target:</u> Integrate rail user GNSS based navigation equipment with a traffic control system complementary to ERTMS.

- <u>Options (to be proposed by industry):</u> design parameters of user equipment (sensors to be integrated and how), communications network (GSM vs. GSM-R, other), design of control center, find concrete operator and concrete railway network convenient for make a good case and demonstration for operators and regulators.

Activities candidates to be included in the Plan (1)

- Title: Intelligent Car Navigation

- <u>Overall Target:</u> Integrate a satellite navigation receiver in a autonomous (handless to a certain degree) navigation system for road vehicles.

- <u>Options (to be proposed by industry):</u> design parameters of user equipment (sensors to be integrated and how), guidance and control system, parameters defining a concrete application and a demonstration which proves the concept and is convincing for road vehicle manufactures and traffic regulators.

Activities candidates to be included in the Plan (2)

- Title: Novel Railway Control

- <u>Overall Target:</u> Establish a consolidated demonstration of railway control systems based on satellite navigation with the possible inclusion of GALILEO

- <u>Options (to be proposed by industry):</u> design parameters of user equipment (sensors to be integrated and how), communications network (GSM vs. GSM-R, other), design of control center, find concrete operator and concrete railway network convenient for make a good case and demonstration for operators and regulators.

Activities candidates to be included in the Plan (3)

- Title: Special GNSS Applications

- <u>Overall Target:</u> These applications need to be truly novel and forward-looking, depend on the EGNOS or GALILEO signal and need to offer good long-term exploitation prospects.

- <u>Options (to be proposed by industry):</u> There is a lot of freedom in this activity to define any application not defined in the previous ones, and within the frame of the overall target. Agriculture, fisheries, road traffic management, road pricing are just some examples.