

GINA project launches large scale trials in the Netherlands

GINA (GNSS for INnovative road Applications) has just entered its second and most critical phase with the launch of the first large demonstrator of a GNSS-based Road User Charging scheme. To be conducted in the Netherlands over an overall period of six months, this demonstration's objective is to show how and with what performance GNSS technology based on European GNSS infrastructure can support the implementation of a RUC scheme and justify its added value as compared with GPS-only. The trials consist of two parts, i.e. the exhaustive trials and the end-to-end trials.

An Exhaustive Trial

The **exhaustive trials** will be carried out over a period of 4 weeks, whereby 2 vehicles equipped with I-20 OBUs and high performance reference equipment will follow pre-determined routes defined by the project. Each route will be repeated approximately 20 times in order to enable the gathering of data for statistically significant results. The objective of the **exhaustive trials** will be test the performance of EGNOS in terms of accuracy and integrity compared to a GPS system. Additionally, aspects such as the distance measurement accuracy, the performance in the identification of geo-objects and the overall charging accuracy of the system will be also analysed.

The **end-to-end trials** will last six months, during which 100

vehicles fitted with I-20 OBUs will be driving around the Netherlands freely, i.e. without a pre-determined route.

The objective of the **end-to-end trials** will be two-fold:

a) to perform an overall assessment of capabilities of the system from different perspectives (including capability to generate invoices, evaluation of drivers reaction and feedback, provisioning of added-value services, effects of interferences in system performance etc.)

b) to carry out exhaustive performance analyses for those variables with no need of a reference system (including estimation of overcharging performance, capability of getting repeatable results for same conditions etc.



Route 1 - Motorway, Urban



Route 2 - Urban



Route 3 - Urban, Motorway

Type of trials	Number of vehicles	Duration	Vehicle & Drivers	VAS	Reference System needed	CANBUS connection	Evaluation	Scenarios
End to end	100	6 months	Volunteers (ARVAL customers)	Yes	No	No	Application level	Uncontrolled, not fixed
Exhaustive performance	2-3	4 weeks	Controlled by project	No	Yes	Yes	GNSS performance	Defined by the project

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The first preliminary data from the **exhaustive trials** is expected to be available by mid-May, while the data analysis of the **end-to-end trials** will be available once the trials are concluded in September.

Additional Trial in Portugal

In addition to the trials being carried out in the Netherlands, the GINA project will undertake a complementary trial in Portugal during the summer months. Performed by AENOR, a Portuguese Highway Operator, the trials objective will be:



a) to demonstrate how GINA and GNSS technology could be used for event based charging, such as motorway toll roads.

b) to make a **comparison** of the

performance of GINA with existing **DSRC**-based Road tolling solutions

c) to test the use of GNSS for **other VAS that could be of interest for** highway operators and drivers

GINA present at the Galileo Application Days

Held in Brussels on 3-5 March at the heart of the European quarter, the Galileo Application Days represent an important forum for



stakeholders and policymakers alike, to discuss of EGNOS/Galileo and its related applications.

During the three day conference, the GINA project coordinator Sara Gutiérrez had the opportunity to deliver a presentation about the state of the GINA pro-



ject, as the launch of the trials draws closer and closer.

Furthermore, GINA dissemination leader, Konstandinos Diamandouros, was at the GINA project stand, providing information on the project to a multitude of interested parties.

You will meet the GINA team at:

- **X Spanish ITS Congress**, Madrid 11-13 May
- **IRF World Meeting**, Lisbon 25-28 May
- **Transport Research Arena**, Brussels 7-10 June
- **Toulouse Space Show**, Toulouse, 8-11 June



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