

SUCCESS STORIES



EUROPEAN SATELLITE NAVIGATION COMPETITION 2004-2008

18th February 2008 – No. 1/2008

5 Years ESNC - Anniversary Issue

Advanced personal GNSS/GSM electronic equipment designed for personal protection



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5 years of creative entrepreneurship

The European Satellite Navigation Competition starts round 5 with new partner regions

What was started in the Free State of Bavaria in 2004, has, within the last few years, matured into a global network for high-tech regions and international technical experts. The network is strongly geared towards the requirements of the industry and, together with the partner regions, supports rapid implementation of the numerous product and service innovations from the past few years.

The support for the first time by the European GNSS Supervisory Authority (GSA) makes us proud and is recognition for all of our work over the past few years. For this reason the competition has not only become a complete European event, but also opens the doors to the international market for the first time with the participation of Taiwan and Australia.

Under the patronage of the Bavarian State Ministry for Economics, Infrastructure, Transport and Technology and with the support of the German Aerospace Center (DLR) and the European Space Agency (ESA), Anwendungszentrum GmbH Oberpfaffenhofen gave the starting shot for an international ideas competition in 2004, which aimed at the early development of applications that are based on satellite navigation systems available today, like for example GPS,

and which should gain a significant enhancement from Galileo. With the introduction of the special topic prizes together with T-Systems and DHL last year, the ideas competition was furthermore able to establish itself as a think tank for the industry.

Not only the number of partner regions has increased over the last 4 years from 3 to 11, but also the number of participants has risen from 84 in the first year to 258 in 2007. In total 23 idea contributors have already been distinguished as regional finalists, special topic winners or GALILEO masters. We would like to present ten of these contributors and their current situations in the scope of this newspaper. "The large number of contestants is evidence of the attractiveness of satellite navigation. It illustrates the commitment of many European regions towards Galileo", said Emilia Müller, the Bavarian State Minister for Economics, Infrastructure, Transport and Technology and patron of the ideas competition.

The founder region of Nice - Sophia Antipolis has emerged as the most successful region up to now and has managed to take home the coveted title of "GALILEO Master" three times. "Mobility, and more specifically, the convergence of mobility and geo-

localised services is a key issue for all our regions: it will play a fundamental role in the reconversion of competences linked to mature technologies that have participated to build our economic and technological expansion. The competition has proven to be a very efficient tool to develop networks with high tech territories, foster innovation, identify developers of technologies and creators of applications, in one of the most important industry sectors of the near future", reasoned Jean-Pierre Mascarelli, president of Team Côte d'Azur, and Pierre Laffitte, Senator of the Alpes-Maritimes, proud of the involvement of their region.

On 1 May 2008 the ideas database for the application innovations in the area of satellite navigation will be opened for the fifth time under www.galileo-masters.com. With the first edition of "Success Stories" we would like to reveal what has come of the nominated ideas from the last four years and how the winners from the participation in the European Satellite Navigation Competition can benefit.

We hope you enjoy reading these Success Stories and wish you all an imaginative 2008.

Sincerely, **Thorsten Rudolph**
CEO, Anwendungszentrum GmbH Oberpfaffenhofen



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TIMELINE ESNC 2008

Kick-Off Conference Starnberg / Germany	18 th /19 th February
Regional Kick-Off Queenstown / Australia	2 nd /3 rd April
Regional Kick-Off Taipei / Taiwan	8 th /9 th April
Opening of the Database	1 st May
Closing of the Database	31 st July
Evaluation of the Ideas	August
International Expert Meeting Sophia Antipolis / France	September
Awards Ceremony Munich / Germany	21 st October

www.anwendungszentrum.de



ANWENDUNGSZENTRUM
Oberpfaffenhofen

NAVIGATE YOUR BUSINESS





Marking and automated identification – LNP is comparable to RFID

Luminescent Nano Particles

Innovative marking technology to optimize the timber supply chain

GigaTag was founded in 2005 by that years' Bavarian finalist Anton Mayer. He has developed a concept, based on an innovative marking technology making use of the optical properties of "Luminescent Nano Particles" (LNP), to optimize the timber supply chain. GigaTag is right now developing suitable hardware, e.g. marking and identification equipment, to be employed during the harvesting process in the forest and in the production process in the sawmills. First feasibility tests were conducted in

Sweden (Skog Forsk Institute & Stora Enso) and Germany (ITT Waldpflege GmbH) in 2006. The LNP technology is one of the Marking and Identification Technologies (MIT) under evaluation right now with the "Indisputable Key" project, a European Research project (6th Frame Program) aiming at the optimization of the timber supply chain in Europe. Field tests within the IK project frame have already demonstrated that the LNP technology is comparable to RFID technologies and in some

areas, e.g. costing, even superior. In addition, a cooperation agreement with Fraunhofer Association (Fraunhofer-Institut für Fabrikbetrieb und -automatisierung IFF / Magdeburg) was signed in 2007 aiming at using the LNP technology for environmental affairs for the harvesting process out in the forests. The cooperation manifests itself already in a joint research application within the 7th European Frame Program.

www.gigatag.de

"What is this?"

Combining GPS coordinates with object recognition

It is not only tourists that are often confronted by unknown architectural objects and wonder "what could that be?". Wouldn't it be useful simply to take a picture with your mobile phone, press a button and within seconds receive the explanation: "This object is...".?

SuperWise Technologies' eye phone (preliminary designation), which was an awarded Bavarian finalist in 2007, shows exactly these capabilities. Its core is an innovative software system able to recognize and identify arbitrary objects within digital images. These objects could be architectural, plants, animals or even technical objects or objects of art like paintings and sculptures.

By the end of 2007 the object recognition software was completed. It showed that not only architectural objects could be recognized but even sweet water fish could be reliably identified from small image segments showing the fish from different perspectives.

The way therefore is clear to implement a fully functional prototype by the second quarter of 2008, which will combine image recognition (camera orientation information) and GPS coordinates, thus identifying arbitrary objects at every location with a very high level of reliability.

www.superwise-technologies.com



The eye phone is able to identify buildings, plants, animals or even technical objects and objects of art.

Personal Watcher

Designed for personal protection



Final prototype of Personal Watcher

Vladimir Jansa from ICE Ltd., Czech finalist in 2005, developed an advanced personal GPS/GSM electronic device designed for mass application, especially for tracking and communication with kids, handicapped people and members of security forces. The ICE Personal Watcher is designed as a small personal unit allowing the tracking of the person, who holds it. It continuously monitors certain live parameters and sends them to the surveillance center.

It is the world's first commercial unit using core EGNOS technology and providing real A-GNSS. Its development team was involved in the GJU project SCORE (Service of Coordinated Operational Emergency

& Rescue, using EGNOS) led by ALCATEL ALENIA Space, S.A. and therefore particular project outputs were used in its design.

ICE has already presented final prototypes with great success and new features are currently being added to standard localization and communication features, focusing on widely supported e-health projects and connecting different biometrics sensors such as ECG, body temperature sensors or breathing sensors. At present ICE is also beginning to deal with investors about the production start with regard to current plans to commence mass production.

www.icenet.cz

Timing from Space for the Earth

Seismography using GNSS timing signals

Conor Keegan' has been awarded as GALILEO Master 2006 for his GeoSynch project which is currently in its Proof of Concept phase.

As one of the major applications foreseen in the oil and gas industry, simulations are being performed by the French Oil Institute (IFP) to determine the necessary system characteristics. These results will be compared

with the equipment available on the market to see if specific equipment development will be necessary for oil and gas applications.

Furthermore, it has been confirmed that a second application (groundwater prospecting and management) can be performed with the GeoSynch concept using commercially available components, without any hardware modifications.

Corresponding data processing software is available but has to be modified.

2006



The project has also been submitted to the French Space Agency (CNES) as an innovative satellite navigation application. The initial reaction is very positive and it is likely that the CNES will provide technical and financial support to develop the system.

On the intellectual protection side, an international patent application (PCT) has been submitted to extend the initial protection from the UK patent application.



GeoSynch integrates GNSS receivers in seismic sources and sensors to increase system timing accuracy.



G-WaLe Triangle finances iOpener

Galileo-Based Water Level Measurement



Mock-up of a G-WaLe floater.

The floater floats on the surface of the water and can thereby determine the water level.

This project idea, put forth by etamax space and developed in cooperation with DHI Wasser & Umwelt GmbH, is a system designed to offer improved prediction of high-water events using Galileo measurements. Holger Sdunnus was awarded as the Hessian finalist in 2006 for the concept of G-WaLe.

Flooding represents a worldwide problem that accounts for tremendous economic, ecological, and social devastation each year. All recent flood catastrophes, such as those involving the Elbe River in 2002 and 2006, have led to billions of euros in property damage; lives have even been lost. The frequency of such extreme events will continue to rise in the course of climate change.

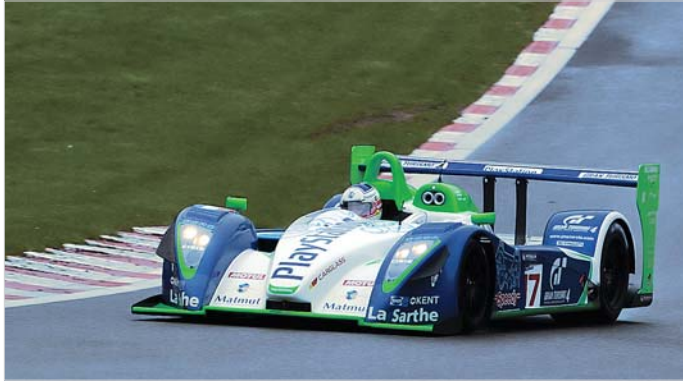
However the lack of highly dense and accurate real-time data on water levels constitutes a major problem: the current array of water measurement stations is too static, inflexible, and imprecise. In addition, experience has demonstrated that these stations are prone to failure during high-water events. Flood protection systems with real-time data deliver significantly better results. The G-WaLe project is currently underway at the Centrum für Satellitennavigation Hessen (cesah) with the support of the European Space Agency (ESA). For the project, which involves employees of both etamax and DHI, etamax has opened a new office at the cesah company foundation center in Darmstadt, Germany.

The goal of the project's first phase is to construct a functional model of a G-WaLe "floater" and carry out initial tests of the system. At the same time, the team will perform a market analysis to gather the data necessary for an in-depth business case.

As part of the corresponding technical feasibility study, various methods of reaching the required accuracy of water level measurement will be examined. The G-WaLe team is confident that it will be able to implement an initial "proof-of-concept" prototype by the end of 2008.

www.etamax.de

Dutch finalist of 2006 receives EUR 4.1 million



iOpener enable gamers to virtually compete with professionals in real-time

iOpener has developed a technology to map real-world competitions such as Formula 1 to an artificial world, allowing gamers to participate in the race virtually and in real time! Their first product is based on "rocket-science" innovations from ESA, which allow the efficient transmission of telemetric data from a plurality of moving objects and their mapping into the game's virtual world.

"Our product enables gamers to race live against professionals - they don't have to be a 'Schumacher' to enjoy it," says Andy Lüring, CEO and co-founder of iOpener, "it is a total immersion experience." "Though the proposition goes far beyond racing,"

remarks Uli W. Fricke, founding partner of Triangle, "the virtual-world participants add an additional dimension to every real-world competition - just imagine the increase in the target audience of traditional sports events - it's the missing link between the old and the new world."

The European Space Agency (ESA) has contributed by providing iOpener with financial and knowledge support from their Business Incubation initiative, after iOpener won the regional Dutch prize of the European Satellite Navigation Competition 2006. The iOpener team is composed of Dutch, French, English and German members providing the international

spirit necessary for success in the gaming industry. iOpener, the first VC-backed ESA spin-off in satellite applications, is now strategically positioned with HQ in Aachen (Germany) and Delft (the Netherlands) to leverage the expertise found at the world-class technical universities in both locations.

Real-time Racing - Crash between real and virtual worlds

iOpener licenses its patented technology, using satellite navigation technology, to the gaming industry. In addition to real-time data, the patent also features storage of live event data, which makes it possible for gamers to play or re-play a real

race after it has finished, at a time convenient to them. The initial focus of the company is on motor sports games. However, the technology can be leveraged for more than ten different game genres in online, PC, video and mobile games.

The technology is defined in the "Real-time live play" feature. This enables the real data (location, velocity, telemetry, and track data) of a race event to be provided in real-time to gamers via the Internet. The feature can be used for simulation games (e.g. F1) and arcade games (e.g. advertisement games). The gamer can compete (and compare him/herself) in real-time directly against professional drivers when an actual live race is going on.

Expected launch of the game

In the year 2007 iOpener successfully developed the Proof of Concept, with the support of Team Bleekemolen and Circuit Park Zandvoort, utilising their Porsches and track respectively. iOpener optimised their business model after intensive research of both the games and race industries as follows: the "Real-time live play" feature addresses several market needs; the major players in the game industry are exploring the market for unique online game content, and gamers wish to have more fun, exciting new features in games. The race industry acknowledges that this new innovative feature will attract more young people to their sport, and that nowadays adolescents desire active participation instead of passively watching a race on TV. A first release of the "Real-time live play" feature in an arcade game is planned for the second half of 2008.

www.iopenermedia.com
www.real-timeracing.com

Eco-friendly smart cars

CitéVU - in free access for citizens

2005



World - VU Log's lab "CitéVU" at www.citevu.com.

"After winning the European Satellite Navigation Competition in 2005, we received incredible Internet press coverage all over the world that clearly helped to push and start the project", says George Gallais, CEO and founder of VU Log.

After one year of development, the product is ready to be put in partnership. A unique package, the VU City Pack, including software and procedures. Several technologies

have been integrated: highly accurate GPS, voice recognition, web services, PDA's and, real time wireless communications.

24/7 access to Urban Vehicles

CitéVU is a service which provides full free access to clean city-cars for downtown citizens. No reservation, one way, no parking fee, no infrastructure. Becoming a member of the service gives 24 hours a day, 7 days a week access to Urban Vehicles (the VU's), that are to be found parked on the city streets.

Direct access or by a simple call to the server that gives the exact address in the street within 300m, the vehicle opens with a smart card (RFID). The company is currently increasing its staff to develop several city applications in 2008.

www.citevu.com



The "Voiture Urbaine" in free access



Electronic active seal for ISO containers



Oscar Díaz from Portel, Spanish finalist in 2006, based his project idea on the use of RFID techniques (radio identification) and sensor-based networks. Along with the positioning information obtained by the global navigation satellite system Galileo, it will make up a system for monitoring and controlling the real-time status of both goods and the state of the container and seal. The idea is to ensure the integrity and increase security in shipping and intermodal transport, thereby increasing the benefits derived from certified services associated with this type of transportation.

The system developed by Portel Servicios Telemáticos S.A. is applicable in other sectors such as transport by road, rail and air. Its use in these areas can help to implement notorious facilities for users and operators to conduct consultations on the status of their merchandise at any point in the transport chain.

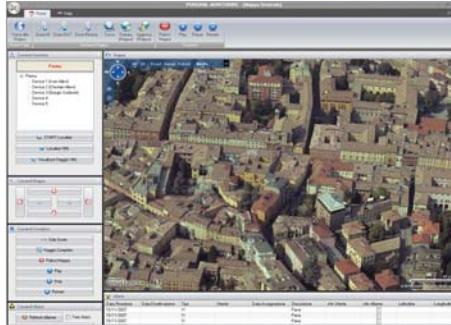
Another approach offered by this tracking system in real time is to work to simplify customs procedures and become a standard of quality that will ensure greater efficiency and better control of security in the freight traffic for so-called motorways of the sea (IMOS).

The project is currently under development and a first prototype is expected to be tested by June 2008. At this moment, Portel is successfully testing the integrity-control system (which checks the container integrity), a new small-sized GPS device for getting the positioning information, and the opening or closing detection system for containers. For the following stages of the project, Portel is developing a new proposal for the Innovation Programme of the Regional Government of Madrid, as well as for other EU programs.

www.portel.es

Hiker Rescue System

Increasing security in dangerous locations



Service support platform for elderly people in Parma

The main idea of the system consists of mobile devices, which hikers carry with them, that send GPS information and/or alarms to the system installed at the rescue centre. This system collects all this information

and makes it available to the rescue team, which has an overview of the real-time situation at all times. In case of emergency, adventurers are able to signal the problem by pressing a button on the device.

Evolved device for mobile telecare

The entire platform has been produced in-house and is continuously under development. The actual platform is evolving into a more generic system of service support to people. For example, the system has already been successfully integrated in Parma to provide elderly people with more security in their daily lives. The elderly people carry the evolved device which has a three axis motion sensor, enabling the device to independently send an alarm request to Parma public administration in case a person falls.

Customization is also planned for particular needs like sport events (candlelight vigils, mountain sky raids, etc.), supervisor agents (security support applications) or animal monitoring. Ivan Allevi and Giorgio Soldavini were the Italian finalists in 2006.

www.atlix.it

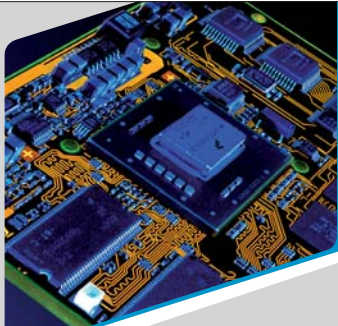


Parcel Live

ubinam Parcel Live is an Internet community for postal services. The basic idea is the visualisation of the postal address, which allows the client to use various delivery addresses for certain times and weekdays without having to notify the sender.

Immediately after being awarded with the ESNC special topic prize, a prototype was realised with the help of DHL and has already been presented to an international press delegation in December 2007. Since then implementation planning has reached the next level for winner Dr. Giuliano Visintini.

www.ubinam.com
www.dhl-innovation.com



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AWARDED COMPANIES 2004-07



- Allix S.r.l.
- Anteq
- BERNDT Information Technology
- bliin BV
- Carbon Hero
- De Montfort University
- eta_max space GmbH
- FH Würzburg-Schweinfurt
- Genesys Consultancy
- GeoTeam
- GeoUtile
- German Aerospace Center (DLR)
- GigaTag GmbH
- GPSAeroborne s.r.l.
- HCL Technologies GmbH
- Immobilien Central Europe, Ltd. (ICE)
- INTA
- iGerner BV
- KomIT
- m-Companion
- Mertino Technology Srl
- Nodbox
- Portel Servicios Telemáticos, S.A.
- Princip a.s.
- superWise Technologies AG
- Tracker<<Back™
- ubinam on demand GmbH
- VU Log
- Web2Tel



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Oberpfaffenhofen, 2008

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