





THE RESULTS EUROPEAN SATELLITE NAVIGATION COMPETITION 2008











Masters



Emilia Müller Bavarian State Minister for Economic Affairs, Infrastructure, Transport, and Technology

Bavaria – An Innovation Forge for Satellite Navigation

Europe's new satellite navigation system, Galileo, promises a wealth of technological and economic opportunities. As a leading location in the aerospace and IT industries, Bavaria is in a prime position to flex its muscles in this cutting-edge field. Our state long since identified satellite navigation as a technology of the future and has supported it from the very beginning as a patron of the European Satellite Navigation Competition.

Every year since 2004, the Bavarian State Ministry for Economic Affairs, Infrastructure, Transport, and Technology has recognised the best application ideas in satellite navigation at the prestigious Munich Residenz and promoted the realisation of these prize-winning innovations at the business incubator run by Anwendungszentrum GmbH Oberpfaffenhofen. Specialising in satellite navigation and located directly adjacent to the German Aerospace Center, this hotbed of company foundations combines competence with innovative potential and productivity and plays a key role in tapping into the virtually unlimited possibilities satellite technology presents in business and technology. In particular, the myriad areas in which satellite navigation can be used – from the automotive industry and environmental protection to the ever more important field of energy – are presenting innovative companies and dynamic research facilities with new revenue opportunities in Bavaria and generating a great many highly qualified jobs in the state.

Congratulations to all of the winners of this year's competition and all the best in your efforts to realise your ideas!

feuilia herter

Emilia Müller

www.stmwivt.bayern.de



Emilia Müller with the triple winners of Sci-Tech Systems



EUROPEAN SATELLITE NAVIGATION COMPETITION 2008

powered by **T**--Systems----

One participation record after another: For the second straight year, the number of those taking part in the European Satellite Navigation Competition nearly doubled.

From May to July, 525 applicants answered the call; 293 of them made it to the international evaluation round. This enormous increase was due in great measure to the innovation competition's expansion to the non-European regions Taiwan and Queens-land/Australia, as well as to the attractive special topic prizes of-fered by research and industry (see the statistics on page 5).

For these reasons, expansion of the competition's international scope and the special industrial prizes to be won will be a major focus of the sixth European Satellite Navigation Competition. At



the kick-off conference scheduled for 16-17 March in Madrid, our Spanish partners will put on the first of a series of numerous international events in the ESNC's partner regions. This initial conference is passed on to a different partner region every year, providing a cross-regional interaction and collaboration platform that complements the traditional regional kick-off events and supports regional participation.

The fact that 80% of all ESNC participants also submitted their ideas for one of the competition's special topic prizes demonstrates the enormous potential satellite navigation has in providing solutions to specific industrial issues. Special thanks is due to ESNC title sponsor T-Systems and the DHL Innovation Center, both of which took advantage of the creative impulses of the competition for the second time to meet technical challenges in the global transport and logistics industry. We would also like to thank the Industrial Technology Research Institute of Taiwan, whose special topic prize for "LBS Mobile Games" met with a virtual avalanche of interest: Nearly a third of the innovations submitted dealt with the hot topic of gaming.

This year's competition provided even more evidence of the immense optimisation potential satellite navigation has in a wide array of industries. Thanks to intelligent navigation solutions, green logistics will be a central theme in the transport and logistics industry. With the widespread establishment of GPS-supported end devices, LBS mobile gaming and mobile entertainment have become major growth areas for mobile service providers and device manufacturers. Meanwhile, police and fire bridge units are set to benefit from the kind of new search-and-rescue solutions presented by this year's GALILEO Master. New satellite-aided infrastructures such as the European Geostationary Navigation Overlay Service (EGNOS) now provide the integrity information required for many safety critical applications in aviation, marine navigation, and rail transport. The special topic prize awarded by the European GNSS Supervisory Authority (GSA) showed that it is only a matter of time until the many applications relying on EGNOS enter the marketplace.

The business-oriented approach of the European Satellite Navigation Competition was reflected in particular by the innovation prize the European Space Agency offered. Its goal is to bring the winning business case to market within the next 24 months – a strategy also being followed by the business incubation centres in the ESNC's 13 partner regions. Together with the competition's international expert network, these regions will help the many applications and business cases submitted realise their full potential as successful products from exciting new companies.



Thorsten Rudolph Managing Director



Ulrike Daniels Project Management



Christian Stammel Business Development

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T••Systems••

Ralf Nejedl CEO, T-Systems Belgium and director of T-Systems' Galileo programme

As the business-customer division of Deutsche Telekom, T-Systems combines the state, society, and the economy with the digital lifelines that make today's business and administrative processes possible. T-Systems offers single-source information and communication technology (ICT) like no other company in the world.

The German Aerospace Center (DLR) relies on T-Systems to provide most of the ICT infrastructure for its new Galileo control centre in the Bavarian city of Oberpfaffenhofen, Germany. Among other elements, this includes the centre's local communication network and the setup and operation of employee workstations, as well as the telephone system and PCs.

In addition, T-Systems is supporting the DLR's efforts in developing a maintenance and logistics system for Galileo that will aid processes like the procurement and delivery of replacement parts.

The satellite navigation system Galileo is scheduled to begin live operations in 2013, but T-Systems' portfolio already contains several initial applications for the system now. For example, Germany's motorway tolling system for freight trucks runs on modern satellite navigation technology. T-Systems solutions` for commercial transport, fleet management, and traffic control are already in use today, as well. As you can see, we view satellite technology as a key driving force behind many ICT topics.

The European Satellite Navigation Competition provides us with an ideal platform for establishing our competencies further in Galileo satellite navigation and logistics. Thanks to our special topic prize sponsorship along with DHL, we have received a great many stimulating ideas from outside the company. One young company with a remarkable flair for creative innovation caught our attention in particular in this process. I would like to congratulate the winner of our special topic prize for freight volume optimisation, the ubigrate company of Dresden, Germany!

We look forward to working with you to make your solution a reality.

Ralf Neiedl





European GNSS Supervisory Authority

Harnessing the Potential of Galileo and EGNOS: GNSS Market Development Activities at the GSA

Some of the most important benefits of the European GNSS programmes will come from the marketplace, and the European GNSS Supervisory Authority (GSA), in cooperation with the European Commission, is actively involved in a range of market development activities aimed at helping Europe get the most out of the systems.

These activities focus on three key areas:

- Preparation of the market entry of EGNOS
- Understanding the potential and main trends of the GNSS market
- Promotion of EGNOS and Galileo applications

The first area aims at early adoption of EGNOS in market segments with the greatest potential. EGNOS enabled chipsets can be found in virtually every receiver. Advanced users in aviation and precision markets, as well as most navigation industry experts, are aware of EGNOS and understand its benefits. Enhanced assisted GNSS infrastructure based on EGNOS is now in operation in several countries. This is encouraging but we still need to see a visible EGNOS market presence. For this we need to promote and generate adoption and application of the system and its unique benefits.

The promotion of new applications for the European GNSS systems plays an important role in helping to ensure the sustainability of the systems and giving an edge to European industry in the global satellite navigation market. Along with supporting successful idea-stimulating initiatives such as the European Satellite Navigation Competition, this promotion will leverage EU 7th Research Framework Programme (FP7) funding for applications development.

The GSA will continue to promote new applications, namely by contributing to key enablers of the market segments with the highest potential for economic value and public benefit, while providing incentive and opportunity for promising innovative ideas, entrepreneurship and SMEs.

www.gsa.europa.eu





German Aerospace Center (DLR)



DLR is Germany's national research centre for aeronautics and space. Its extensive research and development work in aeronautics, space, transportation and energy is integrated into national and international cooperative ventures. As Germany's Space Agency, the German federal government has given DLR responsibility for the forward planning and implementation of the German space programme as well as international representation of Germany's interests.

Aeronautics and space make substantial contributions to the way we live today. Aviation guarantees our global mobility and satellites enable worldwide communication. Remote sensing generates data about our environment, while the exploration of space leads to new knowledge about the origin and development of the Solar System, its planets, and, hence, about the creation of life.

Moreover, key industries, including materials technology, medicine and software engineering, all profit from innovations made by DLR in the fields of aeronautics and space.

DLR's mission thus comprises:

- exploration of the Earth and the solar system
- research aimed at protecting the environment
- development of environmentally-friendly technologies to promote mobility, communication and security.

DLR's research portfolio ranges from fundamental research to innovative development of the applications and products of tomorrow. In this way, DLR contributes the scientific and technical know-how that it has gained, thus enhancing Germany's industrial and technological reputation. DLR operates large-scale research facilities for the center's own projects and as a service provider for clients and partners. It also promotes the next generation of scientists, provides advisory services to the German government and is a driving force in the regions centred on its various locations.

Approximately 5700 people, 29 institutes work for DLR; the center has 28 institutes and facilities at 13 locations in Germany: Berlin, Bonn, Braunschweig, Bremen, Cologne (headquarters), Goettingen, Hamburg, Lampoldshausen, Neustrelitz, Oberpfaffenhofen, Stuttgart, Trauen and Weilheim. DLR also has offices in Brussels, Paris and Washington, D.C.

The DLR budget for in-house research and development work and other internal operations amounts to approximately EUR 450 mill., of which one-third comes from revenues earned by DLR. DLR also administers the space budget of the German government, which totals some EUR 846 million.

www.dlr.de



	Idea	Company	Name	Country			
GALILEO Master & Runners Up							
1.	Real Time Rescue – Personal GNSS Tracker	Sci-Tech Systems Ltd.	Mr. Peter Hall & Mrs. Christine Edwards	United Kingdom			
2.	GreenDrive - Fuel Economy Solution that Helps Vehicle Drivers Save in Average between 15 - 25% of Fuel Costs	Road-Guard	Mr. Alex Ackerman & Mr. Yossef Shiri	Israel & Sweden			
3. 	AGRIBASE - The Hands-Free Farm Registration Tool for Sustainable and Safe Food	Food Process Innovation BV	Mr. Alex Beek, Mr. Jan van Rossum & Mr. Maarten Uyterlinde	The Netherlands			
3.	Cardiomobile - Remote Monitoring System for Cardiac Rehabilitation	Queensland University of Technology & Alive Technologies Pty Ltd.	Dr. Charles Worringham & Mr. Bruce Satchwell	Australia			
4	YouCast - A Real-Time Interactive Global Reality TV Network on Galileo/GPS-Enabled Mobile Devices	Quanta Research Institute, Quanta Computer Inc.	Mr. Terence T. Huang, Mr. Alan CY. Lin & Mr. Ted. CY. Chang	Taiwan			
GSA	GSA Special Topic Prize						
1.	Real Time Rescue – Personal GNSS Tracker	Sci-Tech Systems Ltd.	Mr. Peter Hall & Mrs. Christine Edwards	United Kingdom			
2.00	OEGNOS - Austrian EGNOS Data Server	TeleConsult Austria GmbH	Mr. Klaus Aichhorn	Austria			
3.	Real-Time Data Traffic System		Mr. Dariusz Borowski	The Netherlands			
ESA	Special Topic Prize	·	·				
1. ₂₀ #	MyVisit - Indoor Location-Based Service for Museums	LOCUS Sarl	Mr. Pierre Salmona	France			
2.50	2theSpot [®] - Services Brought to You on Location	0.E.5 business development	Mr. Hub Jongen	The Netherlands			
3.5	Location Based Wine Advisor	Turn To Wine	Mr. Nicolas Martiquet	France			
T-Sy	rstems / DHL Special Topic Prize						
1.25	Load Volume Measurement and Device Integration for Logistics	ubigrate GmbH	Dr. Mario Neugebauer & Dr. Jürgen Anke	Germany			
2.	Efficient Available Truck Volume Measurement	BroadBit	Mr. Andras Kovacs	Hungary			
3.4	DHL-LoadEye - Transport Asset Tracking and Load Volume Optimisation System	Eureka Navigation Solutions AG & superWise Technologies AG	Mr. Victor Behrends & Dr. Ernst Pechtl	Germany			
ITRI	ITRI Special Topic Prize						
1.5	CITITOUR (Connect I To Ideal TOUR)	Industrial Technology Research Institute	Mr. Jung-Huang Liao	Taiwan			
2.5	Unholy Places – The Future of Mobile Gaming will Happen on GNSS-Phones	Orbster GmbH	Mr. Jörn Rehse	Germany			
2.5	GaliGeo		Dr. Thomas Buervenich	Germany			
2.55	Paparazzi - A Revolutionary Game that Connects Different People while Making Dreams Come True		Mr. Ilan Aharoni	Israel			
2.2	Naviciser - Exercise and Game System Utilising GNSS Information	Ming Chuan University	Mrs. Susi Su	Taiwan			
2.00	Mecca Finder - The Way to Your Heart		Mr. Eric Tseng	Taiwan			
Bad	Baden-Württemberg / Germany						
1.00	Multi-Layer Freight Security and Supervision System	AFUSUF I Kommunikationstechnik GmbH	Mr. Erich H. Franke	Germany			
2.5	Generation of Detailed Digital Maps and Precise Localisation of a Vehicle Using GPS and Laser Scanner	Ulm University	Mr. Thorsten Weiss	Germany			
3.	Unholy Places: The future of Mobile Gaming Will Happen on GNSS-Phones	Orbster GmbH	Mr. Jörn Rehse & Mr. Georg Broxtermann	Germany			
3.00	WiFi Based Location Tracking	Ekahau Inc.	Mr. Dirk Lenz	Germany			
Bavaria / Germany							
1.5	GreenDrive - Fuel Economy Solution that Helps Vehicle Drivers Save in Average between 15 - 25% of Fuel Costs	Road-Guard	Mr. Alex Ackerman & Mr. Yossef Shiri	Israel & Sweden			
2.5	GNSS-Supported Optical Geographic Object Recognition & Information System	proTime GmbH & Fraunhofer-Institut für Materialfluss und Logistik	Mr. Otto Dufek, Mr. Gerd Waizmann & Mr. Wolfgang Inninger	Germany			
3.	Tourality - A Multiplayer Location-Based Game for Mobile Phones	creative workline	Mr. Klemens Zleptnig & Mr. Jonas Soukup	Austria			
Hesse / Germany							
1.#	IPAYMO - Enhancing Mobile and Credit Card Payment		Mr. Robert Carter	Luxembourg			
2 .	Systems by Adding Highly Innovative GNSS		Dr. Peter Conradi	Germany			
2.5	Transport Purposes		Mr. Christian Writters	Cormenu			
J., 1		Darmstadt University of Applied Science	Prof. Tom Philipps	Germany			
Lom	Lombardy / Italy						
1.25	Advanced Tracking System	Allix srl	Mr. Ivan Allevi & Mr. Giorgio Soldavini	Italy			
2.55	GALVANI: Digital Receiver ASIC for GPS/EGNOS/GALILEO Signals Acquisition and Tracking	Thales Alenia Space Italia	Mr. Livio Marradi	Italy			
3.25	TAM TAM Game	Allix srl	Mr. Christian Allevi	Italy			

	ldea	Company	Name	Country				
Madrid / Spain								
1. ₂₅ 5	e-WARNING: A System Based on Radio-Galileo to Save Lives on our Roads	Instituto Nacional de Técnica Aeroespacial	Mr. Pablo de Miguel & Mr. Rafael Olmedo	Spain				
2. ,,#	Galileo-Enhanced Microsensors for Fraud Detection and Prevention (GEMs-FD)	Deimos Space	Mr. Dan Isaac	Spain				
3. "#	Message in a Bottle		Mrs. Eyda Moot	Spain				
3. "	EUDAP Engineering and Services		Mr. Luis Pulgar	Spain				
Nice ·	- Sophia Antipolis/ France							
1.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	YT - Yellow Tags		Mr. Lokesh Bitra	France				
2.	MyVisit - Indoor Location-Based Service for Museums	LOCUS Sarl	Mr. Pierre Salmona	France				
3. "#	Novel Delivery of High Accuracy GNSS Corrections for Controlled Traffic Farming in Remote Australia	Department of Sustainability and Environment	Mr. James Millner	Australia				
Niede	ersachsen / Germany							
1. ₅ 5	LogiLoc - The Intelligent Logistics Information System	OECON Products & Services GmbH	Mr. Frank Brennecke	Germany				
North	n Rhine-Westphalia / Germany							
1. ₂₈	A New Localisation Method Enhancing High Precision GPS Sensors with Terrestrial Laser-Scanner Data	Institute of Man-Machine-Interaction, RWTH Aachen University	Prof. Dr. Jürgen Rossmann, Mr. Arno Bücken, Dr. Michael Schluse & Mrs. Petra Krahwinkler	Germany				
2. #	Headquaters Know Where the Police Officers, Fire Fighters and Ambulances are at Any Time		Mr. Konstantin Kersten	Germany				
2.	Using High Precision Location Information in Augmented Reality Applications		Mr. Tino Wildenhain	Germany				
3. 	Solution to "Load Volume Tracking" from a Process Engineering Viewpoint		Mr. Joerg-Walter Klute	Germany				
Pragu	ie / Czech Republic							
1.,#	I-help-You - Complex System for People in Danger Using GNSS	Immobiliser Central Europe, Ltd.	Dr. Jaroslav Jansa	Czech Republic				
2.	Information Support for Visually Impaired People	e4t electronics for transportation s.r.o.	Dr. Jiri Plihal	Czech Republic				
3. 	Proposal of Free Volume Monitoring for Vehicles	Kybertec s.r.o.	Dr. Oto Sládek	Czech Republic				
0	Queensland / Australia							
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1.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Cardiomobile - Remote Monitoring System for Cardiac Rehabilitation	Queensland University of Technology & Alive Technologies Pty Ltd.	Dr. Charles Worringham & Mr. Bruce Satchwell	Australia				
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ESNC 2008

GALILEO MASTER

REGIONAL WINNER :: United Kingdom & Ireland WINNER OF THE SPECIAL TOPIC PRIZE :: GSA

The Winners: Peter Hall Christine Edwards The Idea:

Real- Time Rescue – A Personal GNSS Tracker

3rd Place:

DESCRIPTION

It is recognised that if a person falls into cold water their survival time is very short. There is a concentrated focus on safety issues in the maritime world, as demonstrated by the introduction of the Global Maritime Distress Safety System (GMDSS). This is an internationally agreed set of safety procedures, types of equipment, and communications protocols used to increase safety and aid rescue.

This person-over-board project (POB) aims to exploit a recognised gap in the commercial and marine leisure markets, by combining a crew overboard alarm and a real-time tracking and retrieval system. There are two components to this project, the device worn by the crew and the fixed ship unit. The crew unit is a small electronics device worn by each crewmember, either built into a lifejacket, or with its own float and tether system. The ship unit is seen as 'add-on' electronics mounted permanently on board the boat, compatible and interfacing with existing electronic equipment. Most modern vessels have a GNSS receiver or plotter, a cockpit-mounted GNSS repeater, and a VHF radio. The object of this project is to extend the use of this existing technology without compromising its familiar functionality. The shipboard unit will serve as the medium between the existing on-board GPS receiver and the cockpit repeater. If a crewmember falls overboard, immersion in water activates the personal crew device (POB), and the ship unit logs the position and initiates an audio and visual alarm. The crew unit then obtains a GNSS fix, using aided start-up from the ship if necessary, and transmits its position at regular intervals. The ship unit starts tracking the POB position, and generating instructions for recovery in the form of a heading and distance to the casualty. Should the parent vessel go out of range, the ship unit can detect the loss of POB signal and switch to calculating the expected position using dead reckoning from its previously logged positions. This system is also capable of dealing with multiple casualties in the water.

The future evolution of this unit:

- The ship unit can also function as a position monitor, raising an alarm if a vessel moves unexpectedly.
- The ship unit can feed an alarm directly into the existing emergency GMDSS system.
- As the crew and ship units are based on the same hardware, the unit can evolve into a portable tracking unit with a wide range of applications.
- The fixed and portable units can work towards implementing the features of the SAR/Galileo system as they become available.

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2nd Place:

"GreenDrive - Fuel Economy Solution that Helps Vehicle Drivers Save in Average between 15 - 25% of Fuel Costs" Alex Ackermann & Yossi Shiri, Road-Guard // Bavaria/Germany "AGRIBASE - The Hands-Free Farm Registration Tool for Sustainable and Safe Food"

Alex Beek, Jan van Rossum & Maarten Uyterlinde, Food Process Innovation BV // South Holland/The Netherlands



INNOVATION

Some current devices raise an alarm on the international distress frequency, others employ expensive direction finders that home onto a beacon.

Our system is unique in that it constantly signals the casualty's position back to the vessel and guides the crew to the actual realtime position, thus enabling an effective rescue. The use of intelligent communications by, implementing an ACK/NAK protocol ensures that the signals get through.

Lack of familiarity with boat safety equipment is a major problem. With our system, in an emergency the crew can use familiar equipment mounted in the correct place, displaying familiar data that is to be used for the rescue.

There is nothing new to learn, and therefore no time-consuming hesitation or uncertainty. This is a significant safety improvement for trained professionals and leisure sailors alike.

This is achieved by interfacing with the vessel's navigational system, and feeding in signals that enable it to display the distance and heading to the actual casualty. This is shown in conjunction with the current heading and speed. The display can be numeric or graphic, but the result is always instant information, in a known form right, when it is needed.

TARGET MARKET

Fishing fleets, commercial maritime, rescue services (RNLI), offshore exploration, ferries, leisure fishing, ocean and offshore yacht racing, safety cover of dinghy racing, leisure marine activities (sailing and motorboating), youth activities (canoeing),... \rightarrow Anyone who ventures into a maritime environment.

3rd Place:

"Cardiomobile - Remote Monitoring System for Cardiac Rehabilitation" Dr. Charles Worringham, Queensland University of Technology & Bruce Satchwell, Alive Technologies Pty Ltd. // Queensland/Australia

CUSTOMER BENEFIT

- A major problem in the marine environment is that much of the safety equipment is very rarely used, in an emergency the crew is expected to use unfamiliar objects. The Sci-Tech POB system utilises familiar equipment in a simple but novel way.
- In a fleet of vessels equipped with the system, every vessel monitors the casualty, and can be in a position to perform the rescue.
- Protection of life at an affordable price
- Easily portable between vessels
- In a corporate environment, it could become mandatory health and safety equipment, or be requested by insurance companies.
- It may be seen as a necessary safety device in cases where risk assessment might otherwise preclude the activity or task.



Contact:

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4th Place:

"YouCast - A Real-Time Interactive Global Reality TV Network on Galileo/GPS-Enabled Mobile Devices" Terence Huang, Alan C.-Y. Lin & Ted. C.-Y. Chang, Quanta Computer Inc. // Taipei/Taiwan





The region United Kingdom & Ireland

The UK aerospace industry is the second largest in the world with a turnover of EUR 29bn, investment in research and development of over EUR 3.5bn and around 200,000 employees. The space element in the UK accounts for circa EUR 7bn in turnover and is the world's leading capital market for financing satellite applications; it also houses the world's most profitable global mobile satellite communications provider and Europe's most successful satellite based TV broadcaster. Nevertheless the UK space industry has a significant element of smaller enterprising downstream companies that benefit from the European Satellite Navigation Competition and contribute to the creation of new applications. These applications impact on environmental and social problems as well as the capability of the major aerospace companies to enhance their businesses. The environment and transport sector alone are estimated to benefit indirectly by EUR 22bn per annum. UK space is a broad market area that is truly impacting society today and making a better future by the development of innovative ideas throughout the European economy.



The regional organiser HBIC - European Space Incubation Centre (UK)

HBIC is an independent company providing business support, project management and knowledge exchange to knowledge based businesses around ICT, space, and aerospace across the UK and internationally. It is the European Space Incubation Centre (UK) [ESINET], through the European Business Network and European Space Agency; this has seen it establishing collaborations with a diverse range of partners in areas of technology transfer, knowledge transfer and access to finance / funding to assist in the exploitation of space and related ICT technology.

Business development can range from assisting with funding, IP and corporate development to start-up and early stage companies. Also managing EU-wide projects on behalf of the UK to enhance businesses with technological ideas around ICT, environmental, space, aerospace and medical knowledge exchange programmes that utilise a mature network of national and international partners. HBIC manages the purpose built Business & Technology Centre which is currently expanding by 150% and to provide more bases for technology businesses. www.hertsbic.co.uk

The regional partners

EADS Astrium www.astrium.eads.net East of England Development Agency www.eeda.org.uk East Midlands Development Agency www.emda.org.uk South East of England Development Agency www.seeda.co.uk British National Space Centre www.bnsc.gov.uk Scott & York Intellectual Property www.scott-york.com Department for Transport www.dft.gov.uk Location & Timing KTN www.locationktn.com Thales www.thalesgroup.com University of Nottingham www.nottingham.ac.uk Aston Science Park www.astonsciencepark.co.uk







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^{GSA} The Experts



Boris Kennes Galileo Applications Officer European GNSS Supervisory Authority (GSA)



Cedric Seynat EGNOS System Engineer European GNSS Supervisory Authority (GSA)





Prof. Dr. Werner Enderle Head of System Evolution European GNSS Supervisory Authority (GSA)

_{GSA} The Decision

The GSA was looking for an application that exploits the special features of the European Geostationary Navigation Overlay Service EGNOS. In which way does the awarded idea profit from improved integrity and accuracy of EGNOS?

In the open sea, EGNOS may be the only feasible way to provide additional precision to GPS and this will enable a faster and more efficient search for a person overboard, especially in difficult conditions such as rough seas and poor visibility. Plus, these benefits are available at no extra cost, keeping the device affordable for everyone.

Could the POB-system also be transferred to other fields of application?

Yes, it could be used for all types of water sports including close to shore activities like kite-surfing and sailing lessons. In addition, it may be possible to adapt the product to be useful in risky land-based group activities such as off-trail skiing and mountain climbing.

How does this idea support the Galileo programme and EU policies?

The POB-system will make European seas safer and contribute to EU maritime policy. Furthermore it is very complementary to the future Galileo Search and Rescue (SAR) service.

GSA About GSA

By developing a new generation of global navigation satellite systems (GNSS), Europe is opening new doors for high-technology industry development, job creation and economic growth. With Europe in the driver's seat, Galileo has the potential to become a cornerstone of the global radio navigation positioning system of the future. Given the strategic nature of European satellite positioning and navigation programmes, (which include Galileo and EGNOS) the European GNSS Supervisory Authority, a European Community Agency, was established in 2004 to be the regulatory authority for the European GNSS Programmes, while laying the foundations for a fully sustainable and economically viable system.

The GSA will:

- D Ensure the security accreditation of the system and the operation of the Galileo security centre;
- Contribute to the preparation of the commercialisation of the systems with a view to a smooth functioning, seamless service provision and high market penetration;
- Accomplish other tasks entrusted to it by the Commission, in particular the promotion of applications and services and ensuring the certification of the components of the systems.





ESNC 2008 WINNER OF THE SPECIAL TOPIC PRIZE :: ESA

The Winner: Pierre Salmona The Idea:

MyVisit – An Indoor Navigation Service

DESCRIPTION

MyVisit is a location-based guidance service for museums that is displayed on the Web and on end-users' mobile phones. It bundles tourist media content (audio and video), a 3D model of museums (indoor and outdoor), and a location technology that is compatible with standard mobile phones and relies on a smart coupling between WiFi and GNSS pseudolites. WiFi enables MyVisit to locate mobile phones by measuring the power received from neighbouring access points, converting such measurements into a distance, and performing a triangulation. This method necessitates prior measurement of the area of interest, providing the necessary data to fit propagation models of WiFi access points, that depend significantly on the physical environment. GNSS provides location data by measuring the propagation delay between the phone and several pseudolites, acting as "fixed terrestrial satellites". The advantage of pseudolites is their use of a waveform that has been designed specifically for location, thereby ensuring high performance levels, particularly in terms of accuracy.

INNOVATION

The innovation lies in the overall architecture of the solution. This architecture relies on a smart coupling between WiFi and pseudolite signals. It uses a protocol to distribute accurate synchronisation information over a standard network, which minimises installation costs for museums. The architecture also innovates in the process used by the mobile application, which utilises GNSS signals transmitted by pseudolites.

TARGET MARKET

The target market consists of museums and other touristic buildings. The business model relies on visitor payments, in the same way that visitors today pay for audio guides. The revenues will be shared with museums, enabling their directors to consider it as an investment in the location infrastructure and as an enabler of revenues.

CUSTOMER BENEFIT

The benefits for visitors lie primarily in that they can use their own mobile phones instead of a dedicated terminal rented in the museum. They are familiar with their phones' ergonomics, and using the service is actually a continuation of a phone's navigation functions outside the museum. Visitors can also keep the cultural multimedia content, which is stored and made available on the Web after the visit.



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phone: +33 (0) 68 84 54 055 e-mail: psalmona@jp-geo.fr

3rd Place:

"2theSpot® - Services Brought to You on Location " Hub Jongen, 0.E.5 business development // The Netherlands "Location Based Wine Advisor" Nicolas Martiquet, Turn To Wine // France



ESA The Experts



Callum Norrie Technology Transfer Officer *European Space Agency*



Frank Salzgeber Head of Technology Transfer Programme Office *European Space Agency*



Bruno Naulais European Space Incubators Network Manager *European Space Agency*

ESA The Decision

The ESA Innovation Prize goes to a museum guide – at first sight not the newest approach. What are the convincingly innovative features of the idea? *That is right, but the technology approach behind this proposal is great. Indoor navigation with standard devices is a hot subject. Furthermore we think that the prices should be spreaded.*

The most important requirement was the quick marketability of the awarded idea. When do you expect the first commercial success of MyVisit?

We are neither the shareholder nor the management but iOpener set the yardstick so far. A product, which is taking care of indoor navigation, could be out in the next 24 months and we hope to see a prototype next year. It is all a matter of funding and support. Here ESA Business Incubation can help.

Will MyVisit profit from the future navigation system Galileo in spite of its use of pseudolites in combination with WiFi?

Cornelis J. J. Eldering Technology Transfer Officer

European Space Agency

As mentioned before, it is the technology behind MyVisit, which is convincing. A truck will not loose the signal in a huge hall or a tunnel and your phone will be able to use it too. If you have an enhanced signal like that provided by Galileo, even better.

ESA About ESA

The main mission of the Technology Transfer Programme (TTP) of the European Space Agency (ESA) is to facilitate the use of space technology and space systems for non-space applications and to further demonstrate the benefit of the European Space Programme to the European citizens. The Technology Transfer Programme Office is responsible for defining the overall approach and strategy for the transfer of space technologies and systems, including the incubation of start-up companies and it's funding. www.esa.int, www.esa.int/tpp





ESNC 2008 WINNER OF THE SPECIAL TOPIC PRIZE :: T-SYSTEMS / DHL

The Winners: Dr. Jürgen Anke Dr. Mario Neugebauer

ubigrate – Real-Time Load-Volume Tracking for Delivery Trucks

DESCRIPTION

Availability of on-time information on available load volume and its location is a key enabler for improved dispatching and higher returns on assets in logistics. While determining location is relatively easy, measuring available load volume is much more difficult. The ubigrate load-volume tracking system relies on ultrasonic devices to measure available capacity. This system is robust, inexpensive, and can be adapted to the required level of accuracy. Acquired volume data is combined with the current location and transmitted instantly to transport management systems or other logistics software.

The Idea:

INNOVATION

Currently available solutions for load-volume optimisation require the packer to follow certain predetermined packing plans. In practice, however, variations in packing occur, causing the capacity calculated to differ from that which is actually available. ubigrate's real-time load-volume tracking system does not calculate available capacity – it measures it. The system does not require volume information on the freight up-front, works with any packing of freight, and provides an up-to-date view of free capacity and its distribution in the freight area at any time.

TARGET MARKET

The ubigrate solution targets logistics companies of all sizes that, require up-to-date information on available load volume for their fleets, such as for dispatching or billing. This includes small and

midsize businesses like courier services and haulage companies, as well as world-wide logistics providers like DHL.

CUSTOMER BENEFIT

The new system provides a real-time view of free load volume and its location. With this information, new transportation requests can be assigned immediately to the closest delivery truck with enough available capacity. Faster pickup of a parcel reduces the overall time required to deliver it to its destination. Furthermore, the higher utilisation of loading capacity increases return on assets and preserves the environment. It also enables new business models such as usage-based transport billing.



ubigrate smart device integration

Contact:

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3rd Place:

"Efficient Available Truck Volume Measurement - The Right Capacity at the Right Location "

Andras Kovacs, BroadBit // Hungary

"DHL-LoadEye - Transport Asset Tracking and Load Volume Optimisation System "

Victor Behrends & Dr. Ernst Pechtl, Eureka Navigation Solutions AG & superWise Technologies AG // Germany

SPECIAL TOPIC PRIZE :: T-SYSTEMS / DHL



T-Systems / DHL The Experts



Ralf Nejedl Director of the Galileo Programme T-Systems Enterprise Services GmbH



Dr. Keith Ulrich Head of DPWN Technology and Innovation Management Deutsche Post World Net

Alexander Witzke





Michael Lohmeier Project GoGree Deutsche Post AG

Manager Production

Germany DHL Freight GmbH

Karin Lorenz

Boris Paul Project Manager DHL Innovation Center

Thomas Leiber

Services GmbH

Frank Josefiak

Project Manager

Services

International Operations &

T-Systems Enterprise

DHL Innovation Center











Martina Wirtz

T-Systems / DHL The Decision

Which is the decisive advantage of the ubigrate solution that made it outstanding?

It showed an innovative approach to measure the available free space and an easy and robust way of device installation. In addition, the system is very scalable and therefore can be used in different trailer and container scenarios. Furthermore, the maintenance effort for this system was quite small.

Does the idea match with all your requirements, e.g. modularity, cost efficiency, company fit?

Yes, it did fit best among the presented approaches. However there is still some improvement potential concerning the measurement quality as well as the total cost of the system. Nevertheless, these are questions, ubigrate, T-Systems and DHL will work out together.

How important was the "green" aspect of the solution for your decision?

By reducing the overall empty space inside a container we increase the overall efficiency of transports and therefore are able to reduce the amount of emissions (incl. CO₂) per transported object. Therefore the best working solution also has the best ecological impact.

T-Systems / DHL About T-Systems/DHL

T-Systems is Deutsche Telekom's enterprise customer unit. More than 160,000 corporations and public institutions use the provider's network-centric information and communications technology (ICT) services - ranging from data center operations and global services based on the Internet Protocol, to the development and management of applications. The company, based in Frankfurt/Main, Germany, serves all industries and is a leading provider for the automotive and telecommunications industries as well as the public sector. With approximately 56,500 employees, T-Systems posted revenue of EUR 12 bn in 2007. www.t-systems.com

The DHL Innovation Center is located on a 3,500 sqm site in Troisdorf, about 15 minutes from the airport Colone/Bonn. The heart of the Center is the showroom, where all elements of the logistics value chain can be experienced interactively. With its hands-on lab, developmental laboratory and conference area, the DHL Innovation Center affirms DHL's role as an innovation leader in global logistics. It is open among others to customers, business partners and employees of DPWN members of the general public. www.dhl-innovation.com





ESNC 2008 WINNER OF THE SPECIAL TOPIC PRIZE :: ITRI

The Winner: Jung-Huang Liao The Idea:

CITITOUR : Connect I To Ideal TOUR

DESCRIPTION

CITITOUR is an excellent tool for backpackers and other tourists, group tours, and professional touring guides. It integrates mobility, locality, touring, and Web 2.0. The CITITOUR device connects to the Web to download files from the CITIWEB website, but does not require an Internet connection while touring. As the traveller moves around, the appropriate voice files are be triggered to provide useful and interesting information relevant to particular areas or sites.

INNOVATION

The website will offer a platform for users to upload, browse, and download voice files, and exchange comments and feedback. Some files will be free to download; other files rated as higher in quality by users may involve a small fee. During the touring guide, travellers can use the device to record their feelings and perspectives to a CITIGO file. The CITIGO could be edited and integrated easily on the device and historic editors can be saved to increase value. The most active and popular users can thus become paid employees of the content providers. Not surprisingly, the higher score a CITIGO has, the more valuable it will be.

TARGET MARKET

The potential customers and users include DIY tourists, backpackers, family tourists, group tours, and professional tour guides. They will be able to easily buy the CITITOUR or CITIBABY hardware in the 3C market and enjoy the services on the CITIWEB. Users can participate as both content providers and downloaders; people can also share their memories on the Web and create a new one to next. A user who starts paying for the service today might be an expert earning money with his or her travel memories tomorrow. The CI-TITOUR company's business model includes two aspects: hardware sales and the CITIGO model. The CITIWEB could bring in a small percentage of each paid CITIGO deal.

CUSTOMER BENEFIT

This integrates the advantages of a DIY tour's flexibility, an expert tour guide, and a WEB 2.0 service. It reduces the stress, time, and expenses involved in tourists' trips. For users it is motivating and fun to make money through indulging their passion for travel and sharing their knowledge and experiences with others. Over time users will add more and higher quality content, covering a wider range of tourist destinations and sites; that will make the service even more valuable and appealing.



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"Mecca Finder - The Way to Your Heart" Eric Tseng & Shu-Hua Pao • "GaliGeo - Bringing down the Heavens to Earth" Dr. Thomas Buervenich & Dr. Marc Thilo Figge // Frankfurt Institute for Advanced Studies, Johann Wolfgang Goethe University • "Unholy Places - The Future of Mobile Gaming will Happen on GNSS-Phones" Joern Rehse, Georg Broxterman, Boerje Sieling, Cem Aslan, Tony Kostanjek, Daniel Pathmaperuma, Goetz Lange & Jonas Voelkmann // Orbster GmbH • "Paparazzi - Connecting Different People while Making Dreams Come True" Ilan Aharoni // Rotterdam School of Management, Erasmus University, Netherlands & Eliav Mendelsohn // Ant Design • "Naviciser - An Exercise and Game System Utilising GNSS Information" Shih Chieh Su & Chen-Ying Hsu // Information and Telecommunication Engineering department, Ming Chuan University



ITRI The Experts



Charles Ho Executive Assistant to CEO Gamania Digital Entertain ment Co. Ltd.



Dr. Keisuke Onishi

NAVITIME JAPAN Co., Ltd.

President



Dennis Yang Senior Director of entertainment and life YAHOO. Inc.

Dr. Shiaw-Shian Yu

Industrial Technology

Research Institute

Deputy General Director



Dr. Bo Ching Lu Chairman Industrial Technology Investment Corporation



Dr. Wen-Jean Hsueh General Director Industrial Technology Research Institute

Dr. Herb Lin President Industrial Technology Investment Corporation

Gerfried Stocker Director Ars Electronica Center



Prof. Mitchel Resnick Professor and Head of Lifelong Kindergarten Group MT Media Lab



Prof. Yi-Bing Lin Chair Professor National Chiao Tuno Universitv

ITRI The Decision

The ITRI was seeking a way to have fun with a satellite which is precise in timing and positioning. With that task one would have rather expected a GPS game to be awarded. What is the decisive fun-factor of CITITOUR?

The winning idea of the ITRI special topic prize "CITITOUR" is an interactive tour guide for backpackers, tourist groups or even professional tour guides. Electronic tour guides are nothing new, but the idea outperformed other competitive applications with two innovative elements. The first one is to have voice files related to points of interest triggered by positioning codes. The second one is its mechanism to make personal engagement financially rewarding.

Did the appeal of Web 2.0 elements influence your choice?

It uses the interactive feature of Web 2.0 and encourages experience sharing among users. The most active users, those who appraise the voice files and feed quality comments or complimentary information, would be paid by the content provider which makes the voice files. It is motivating and fun to make money through a passionate way of travelling and the side effect is that this practice will make the contents more and more comprehensive by and by.

ITRI About ITRI

The Industrial Technology Research Institute (ITRI) is Taiwan's leading institute for technological advance. ITRI is a not-for-profit R&D organisation equally financed by Taiwan's Economics Ministry and the industry. Since its establishment in 1973, ITRI has functioned as a cradle for Taiwan's microelectronic and ICT industries. ITRI has hosted over 300 start-ups since it began its incubating programme and open labs in 1996. In recent years, ITRI has evolved from a pure technology developer towards a value creator. With over 30 companies delivering GNSS products worldwide, Taiwan belongs to one of the most important contributors to the industry. ITRI's rich incubating experiences coupled with Taiwan's unique strength in commercialising R&D results has made the region Taiwan a highly attractive place for those who endeavor to turn their entrepreneurial dreams into business realities. www.itri.ora.tw





ESNC 2008 **REGIONAL WINNER :: Baden-Württemberg / Germany**

The Winner: Erich H. Franke The Idea:

Multi-Layer Freight Security and Supervision System

DESCRIPTION

When it comes to critical transportation tasks, such as in chemical and nuclear freight, standard telemetric supervision systems generally do not provide a sufficient level of reliability and integrity.

The key is the fully automated routing of information on a mobile multi-mode platform. Long-range communication (satellite and land-based mobile communication) is combined with shortrange-radio technology. The truck and the trailer, or the different cars of a freight train, are linked through encrypted and protected short-range-radios, that can be individually addressed and enumerated. Unlike traditional RFID technology, this function will provide comprehensive, automatic freight protection inside containers and trailers.

INNOVATION

To realise this, a flexible, mobile, multi-mode platform is needed. A patented solution extends the sensor capability of the system. More radio-attached sensors can be provided added to fulfil customer needs. Moreover, a specifically designed radio protocol is used to address the important issue of power consumption. Since the amount of data conveyed is very low, low-bandwidth links can be used at relatively low-cost. Special focus is given to the intermodal transportation of swap bodies and containers: Apart from traditional truck trailers, these conveyers generally lack a power source.

TARGET MARKET

The main target for the multi-mode platform is in the transportation business, particularly in protecting the transport of any manner of critical freight, from chemical and nuclear, to valuable goods (tobacco, pharmaceuticals).

CUSTOMER BENEFIT

With the improved redundancy, the solutions targeted are those that require a higher level of security and integrity than traditional telematic systems. The benefit is the reduction in freight insurance cost and risk. The return on investment for the customer depends strongly on how the system is used. As a rule, customers are interested if the break- even point is within 1.5 years. This will first be achieved in critical transportation tasks. In the long run, it will become feasible for more common transportation tasks.

/lfusoft

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3rd Place

"Highly Accurate Host Localisation and Mapping Using Laser Scanners"

Thorsten Weiss, Institut für Mess-, Regel- und Mikrotechnik, Universität Ulm // Germany "Unholy Places - The Future of Mobile Gaming will Happen on GNSS-Phones" Georg Broxtermann & Jörn Rehse, Orbster GmbH // Germany

WiFi Based Location Tracking" Dirk Lenz, Ekahau Inc. // Germany



The region Baden-Württemberg

Internationally renowned corporations such as Daimler, Porsche, Bosch, SAP, Zeiss and Würth and many multi-national corporations have chosen to make Baden-Württemberg the centre of their business operations. Baden-Württemberg also benefits from a powerful backbone of small and medium-sized enterprises. Economic and social development in Baden-Württemberg relies to a large extent on the efficiency and competitive edge of its SMEs. Traditional driving forces behind the economy of Baden-Württemberg have always been the dynamic and export orientation of the state's core industries, such as mechanical and automotive engineering, electrical engineering, information technology and metalworking.



The regional organiser

IHK: The twelve Chambers of Commerce and Industry in Baden-Württemberg represent the interests of around 534,000 companies and are service providers to the regional economy. As a public legal body they also regulate state duties and act as an expert partner and advisor in economic matters for ministries, courts and authorities. www.reutlingen.ihk.de

TTR: The shortest way to get where you want to go. Moving from a brilliant idea to a successful product is not just labour-intensive – it also takes time. At Technologiepark Tübingen-Reutlingen (TTR), we're looking to speed up this process by creating an environment where turning ideas into marketable products is easier and faster than ever. www.ttr-gmbh.de

TZK: At the Technologiezentrum Konstanz (TZK), young start-ups and businesses in the field of technology and innovation will find the opportunity to realise their ideas in inexpensive locations and in an interesting environment. The TZK is the meeting point and information centre for all innovative businesses in the region. It builds networks and enhances business connections. **www.tz-konstanz.de**

<image>

The regional partner

The international region of Lake Constance is considered to be one of the European regions of the future. It is one of the top engineering locations in Europe. A high percentage of small, flexible and highly specialised technology businesses combined with excellent services strengthen the entire region and help create perfect conditions today and in the future. Acting regionally always means acting internationally: cross border co-operations between Germany, Austria and Switzerland are one of the assets at Lake Constance.





Contact:

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ESNC 2008 **REGIONAL WINNER :: Bavaria / Germany**

The Winners: Alex Ackerman Yossi Shiri The Idea:
GreenDrive – A Fuel Economy Solution that Helps Vehicle Drivers

Save Fuel Costs and Contribute to Environmental Protection

DESCRIPTION

GreenDrive is a driver-vehicle application that guides drivers develop smart, smooth, and safe driving techniques that lead to an average fuel savings of 15-25% while contributing to environmental protection. GreenDrive's purpose is to minimise fuel consumption by suggesting the most economical driving speed to the driver along the way.

INNOVATION

GreenDrive delivers an innovative driver-vehicle interface system and services to encourage sustained changes to driving styles and behaviours that are safer, cleaner, and more economical. GreenDrive's patented eco-adaptive Horizon Prediction technology learns vehicle parameters and "senses" the nature and significance of impending road attributes that influence fuel consumption, determining what constitutes economical driving. The system provides drivers with real-time indications and historical information about their eco-driving performance.

TARGET MARKET

Road-Guard enables mobile operators, PND makers, and auto manufactures to offer attractive and profitable value-added services in line with customer demands for safer, more fuel-efficient, and greener driving technologies. GreenDrive targets the Fuel Economy and ADAS (Advanced Driver Assistance Systems) sectors within the consumer, automotive, and fleet accessories markets. Our products will be offered on four different platforms: through mobile phones

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nd Place:

"GNSS-Enlargement - GNSS-Supported Optical Geographic Object Recognition-/Information System "Otto Dufek, Gerd Waizmann, pro-Time GmbH // Germany & Wolfgang Inninger, Fraunhofer-Institut für Materialfluss und Logistik // Germany and personal navigation devices, embedded into in-vehicle infotainment consoles, and deployed the auto cruise-control systems.

CUSTOMER BENEFIT

- Driver benefits include fuel savings, increased safety, and a positive contribution to the environment.
- Vehicle fleets reduce operating costs through reduction in fuel expenditures; self-insured fleets benefit from additional financial incentives, based on safer driving programmes meant to reduce operating costs by decreasing accident rates.
- PND makers can use GreenDrive as an add-on layer to their navigation software, positioning it as an enabler and differentiating factor in a very competitive market.
- Automakers can increase sales by offering greater fuel efficiency with their vehicles using GreenDrive.



Contact:

Mr. Alex Ackerman Mr. Yossi Shiri Road-Guard 1 Haerez st., 77267, Ashdod Israel phone: +97 25 25 79 78 11 e-mail: alex.ackerman@road-guard.com, yossi.shiri@road-guard.com www.road-guard.com

3rd Place:

"Tourality – Move your Mobile. A Multiplayer Location-Based Game for Mobile Phones \H

Klemens Zleptnig & Jonas Soukup, creative workline // Austria



The region Bavaria

The economic region of Munich is one of the top business locations in Europe for aviation, astronautics and satellite navigation, boasting 234 companies and 7 renowned research institutes. With a turnover of EUR 4.7 bn in 2006 and over 15,000 employees in industry and research, aerospace and satellite navigation make a major contribution to the economic power of Munich as a business location. Employees in these industries are highly qualified and specialised, 60% of the staff in aerospace and 83% of those in satellite navigation are university graduates. As a classic high-tech, research-intensive industry, aerospace is constantly providing other industries with significant technological impulses. Satellite navigation, while still young as a commercial industry, is emerging as a sunrise industry with the potential of becoming a key player in the coming years.

Besides big system integrators such as EADS, there are well-known suppliers to the aerospace industry as well as to operations in specialised engineering and machining tools at all tiers of the supply chain in the Munich economic region.

The aerospace and satellite navigation companies in the Munich economic region truly live up to the reputation of their field as being highly research-intensive: On average the aerospace comanies invested 18.9% of their turnover in research and development. That puts them ahead of the national average for the aerospace industry, at 15.8%. www.bayern.de

source: IHK für München und Oberbayern



The regional organiser Anwendungszentrum GmbH Oberpfaffenhofen (AZO)

AZO was founded as an incubator to expand Oberpfaffenhofen, an important aerospace location, into a cluster focusing on European satellite navigation. The Free State of Bavaria has subsidised this project with EUR 3.57 m, which included the foundation of the incubator and the construction of a building used by the AZO.

AZO focuses on providing companies with optimal conditions for establishing innovative products and services based on GNSS more quickly on the market. The incubator gives start-ups six months to develop their business ideas into tangible business plans and provides extensive office space at the Oberpfaffenhofen airfield, in direct proximity to the German Aerospace Center (DLR) and the future Galileo Control Centre. Since the creation of AZO, more than 50 company founders have completed the start-up phase, leading to the creation of over 650 jobs. www.anwendungszentrum.de



The regional partners

District Government of Upper Bavaria www.regierung.oberbayern.bayern.de

Invest in Bavaria www.invest-in-bavaria.com





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ESNC 2008 **REGIONAL WINNER :: Hesse / Germany**

The Winner: Robert Carter The Idea: **IPAYMO**

DESCRIPTION

IPAYMO is a solution for electronic mobile (card) payment systems to better combat fraud and minimise abuse using innovative GNSS-derived security.

INNOVATION

Today's financial services industry is increasingly suffering from sophisticated criminal activity. Current card systems are basically still identical to those introduced 40 years ago and have not kept pace with the technology advances made since.

IPAYMO offers an innovative and effective solution, using the timing and positioning features of the current GPS system. In the future, the solution could potentially add Galileo integrity and improved indoor coverage enhancements to provide better protection and improved risk management to operators of payments systems and, ultimately, bank customers.

TARGET MARKET

IPAYMO targets the banking, insurance, card clearing house, card issuer and payment processing, and the payment equipment manufacturing communities in general, particularly the parties directly involved in operating electronic card payment systems.

The level of card fraud in the EU is estimated to be over EUR 6 bn in 2006 alone; these losses are even much higher in the US. IPAYMO will help significantly reduce these levels and stem the flood of criminal activity in this area. In this respect, IPAYMO can be of use for judiciary authorities, financial regulators, and intelligence agencies.

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2nd Place:

"P-I-L-O-T: Package Identification and Locating for Transport Purposes"

Dr. Peter Conradi, ALL4IP TECHNOLOGIES // Germany

CUSTOMER BENEFIT

IPAYMO pro-actively protects payment systems against abuse. By limiting the monetary and reputation damage incurred by card system operators, IPAYMO will help maintain trust and confidence in such systems.

IPAYMO uses existing hard- and software infrastructures, avoiding costly replacement of operational systems and reducing the running cost of IPAYMO-enabled schemes.

Ultimately, customers will pay lower fees and charges, merchants will pay considerably lower transaction fees, and card operators will spend less on combating fraud.



Contact:

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3rd Place:

"SRD - Sea Rescue Device "

Dipl.-Des. Christian Westarp & Prof. Tom Philipps, Hochschule Darmstadt, Industrial-Design // Germany



The region Hesse

Hesse is the fifth largest federal state in Germany and holds the third position with regard to the gross domestic product per inhabitant. Located in the heart of Europe, the region is characterised by an excellent infrastructure with various traffic hubs for air (Frankfurt Airport) road, rail and Internet. The region of Hesse is very strong in logistics, IT, automotive, biomedical, optical and production technologies. Hesse is heavily involved in new media technologies, a considerable amount of IT/software providers are located in Hesse. Hesse is repeatedly the top region in Germany for multimedia. With its high density of innovative IT-companies/enterprises and its unique infrastructure (the central data transfer hub DE-CIX, which carries over 90% of the German and more than 35% of the European Internet traffic is located in Frankfurt), Hesse provides high potential for the development of satellite navigation based applications, services and products. The Hessian Ministry of Economical Affairs supports the development, deployment and usage of new technologies and the technology transfer.



The regional organiser **cesah**

The centre for satellite navigation in Hesse fosters the development of satellite navigation applications. Cesah is a partner of the European Space Agency (ESA) and the European Space Operations Centre (ESOC) in the Technology Transfer Programme and collaborates with the other ESA incubation centres in Noordwijk (The Netherlands) and Frascati (Italy).

The unique selling proposition of cesah is the focus on "positioning/navigation" and "business development" – in terms of technology integration and gross technology transfer respectively. Cesah supports the intelligent linking with other high technologies and the creation of sustainable added value business models. An essential asset of cesah is the expertise and competence network of it's shareholders (State of Hessen, City of Darmstadt, TU Darmstadt, University of Applied Science, VEGA IT, T-Systems Enterprise Services and INI-GraphicsNet Foundation), it's strategic partner ESA as well as key partners from major industries in the Rhine-Main region.



The regional organiser **Hessen-IT**

Hessen-IT is the programme of the Hessian Ministry of Economical Affairs supporting the Hessian information and communication technology (ICT) sector in their market development, as well as small and medium-sized enterprises (SME) in their efficient and creative use of ICT. Hessen-IT provides information via online databases, news releases, brochures and workshops etc. Hessen-IT furthered and accompanied the satellite navigation activities in Hessen from the beginning and continuously supports the space incubator cesah, the centre for satellite navigation Hessen, by organising workshops and congresses, offering an information and communication platform. Together with cesah, Hessen-IT supported and organised the regional participation in the European Satellite Navigation Competition. **www.hessen-it.de**





Contact:

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ESNC 2008 REGIONAL WINNER :: Lombardy / Italy

The Winners: Ivan Allevi Giorgio Soldavini

The Idea: Advanced Tracking System

DESCRIPTION

ATS is a complete platform that seeks to use different technologies to provide valid solutions to problems typical of the transport sector and, more generally, of monitoring systems.

With the ATS platform, achieving a detection accuracy of a few meters is possible using traditional, low-cost GPS receivers: the system captures information (raw data) from the receiver and reprocesses it, integrating this information with corrections provided by the local systems of GPS ground stations and the EGNOS system.

INNOVATION

ATS integrates locational information with information obtained by wireless Zigbee network sensors installed on rover. ATS also improves the security of transmitted information and provides a calibrated ionospheric model.

TARGET MARKET

The importance of goods transport is constantly increasing in our globalised world. Knowing where goods are located in delivery networks is important for customers, but also for logistics companies seeking to reduce shipping costs and time latencies and offer the best service to customers.

ATS is a complete platform that seeks to use different technologies to provide a valid solution to problems typical of the transport sector

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nd Place:

"GALVANI: Digital Receiver ASIC for GPS/EGNOS/GALILEO Signals Acquisition and Tracking" Livio Marradi, Thales Alenia Space Italia // Italy and, more generally, of monitoring systems to reduce shipping costs and time latencies and offer the best service to customers.

CUSTOMER BENEFIT

In the field of goods transport, monitoring a high current limit on "pure" localisation systems involves simply knowing where devices are; through hardware specially designed for ATS, users can add various components to display information in the system, such as the load status of trailers, or the type of transport being performed (i.e. identifying the type of trailer attached to a vehicle).



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3rd Place:

"TAM TAM Game" Christian Allevi, Allix S.r.l. // Italy



The Lombardy region is one of the 21 regions of Italy, with a population of 9,650,000 (2006) inhabitants and an area of 23,861 sq km . (7.9% of Italy). The capital city is Milan. Lombardy has its own constitution, on which Lombardy's "Consiglio regionale" and Executive Government are based. The Lombardy region has 12 provinces and 1,546 municipalities. Lombardy's GDP is EUR 305.5 m (2006), corresponding to 22.2% of Italy's total GDP. Lombardy is Italy's leading region in terms of innovation and is well situated with respect to the international market:

- ▶ Investment in R&D amounts to 1.27% of the regional GDP
- It is home to 12 universities and the highest number of lecturers and researchers in Italy, amounting to approximately 7,500 people
- D Of Lombardy's investments in R&D, 74% come from private enterprises

D Of the patents filed by Italians with the European Patent Office over the last 10 years, 40% have been from Lombards.

www.regione.lombardia.it

RegioneLombardia

The regional organiser Navigate Consortium

Navigate Consortium, managing new aerospace initiatives and applications, (including "Navigation Innovation"), is Italy's coordinator of the European Satellite Navigation Competition 2008, with the support of Regione Lombardia. Founded in Milan (via Brera 16) in 1989, Navigate Consortium's first mission was to combine its partners' forces in order to compete in international tenders, mainly concerning online database architecture (Engineering Group, Machiavelli Group) and process automation (ABB Asea Brown Boveri).

The aerospace sector was then targeted as Navigate's main area of business, due to new, important initiatives occurring at the international, European, national and local levels. The Consortium started an aerospace task force and opened its membership to the most important Italian aerospace companies .

In 2001, Regione Lombardia gave the Consortium a new formal assignment: to promote regional aerospace initiatives for Northern Italy.

Partner companies of Navigate Consortium: Carlo Gavazzi Space, Elea, Intecs, Engiweb Security, Euroways Orni, Altran Italia, Telespazio, Thales Alenia Space Italia.







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ESNC 2008 **REGIONAL WINNER :: Madrid / Spain**

The Winners: Pablo de Miguel Rafael Olmedo

The Idea:

e-Warning: A System for Saving Lives on our Roads

DESCRIPTION

Every year, traffic accidents kill more than one million people in the world, representing one of the main causes of death in Europe.

Many of these accidents are caused by hazardous obstacles that appear on roads, such as a broken-down car, a slow or special transport vehicle, maintenance work on roads, or even vehicles involved in previous accidents.

In these scenarios, caution and hazard warning lights on vehicles and roads are crucial to alert other drivers to incidents, but are not enough under poor visibility conditions.

e-WARNING is a mature road security system that provides sufficient advance warning to any driver approaching hazardous circumstances.

INNOVATION

The system works in real-time and in any traffic scenario, alerting drivers and providing them information about the location and type of the danger presented on the road, even before the danger becomes visible.

The performance and application of the system are based on integrated navigation technologies and operation independent from communication infrastructures.

TARGET MARKET

With e-WARNING's reinforced warning and caution lights available on vehicles and road signs, every person subjected to the dangers of driving a vehicle or working on or near roads is a potential user of the system.

CUSTOMER BENEFIT

The key benefits are in improved security on the roads and reduction of traffic congestions.

Further applications and benefits are possible considering the automation of the system, integration with vehicle electronic and safety systems and the reliable and accurate navigation information available, and other fields.



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3rd Place:

"Galileo-Enhanced Microsensors for Fraud Detection and Prevention (GEMs-FD)" **Dan Isaac, Deimos Space // Spain** "Message in a Bottle" **Eyda Moot // Spain** "EUDAP Engineering and Services " Luis Pulgar // Spain





The region Madrid

The region of Madrid is the centre of excellence for the aerospace sector thanks to the presence of the leading sector companies and the most relevant research and training institutes. Madrid Regional Government has officially declared the aerospace industry as a strategic sector. 74.9% of Spain's aeronautic engineers work in Madrid. It has the largest Aeronautic Engineering School; top-class non-university programmes and the most prestigious post-graduate and business schools. Over 60% of the aerospace sector employment and 62% of its annual turnover in Spain is concentrated in Madrid, including key institutions that increase technology transfer and leverage technological cooperation: INTA - National Institute of Aerospace Technology; CIEMAT - Centre for Energy, Environmental and Technological Research; aeronautical and telecommunications engineering schools.



The regional organiser

IMADE, the Madrid Development Institute, is an organisation under the aegis of the Region of Madrid Board of Economic Affairs. Its main objective is to promote development in the region through initiatives that encourage economic growth and job creation. The institute also promotes the development of a network of Scientific and Technological Parks in the region of Madrid. The principal objective of these parks is to promote the generation of technological knowledge in different areas, based on the integration of scientific, technological and industrial interests. They also seek to improve company competitiveness through innovation and technological development; in particular through the creation and growth of new technology-based firms.



The regional partners Park and Cluster Network of the Region of Madrid

IMADE implements the Park and Cluster Network of the Region of Madrid. This Network is being institutionalised as the primary tool serving Madrid's companies with a technological base or in strategic sectors for purposes of technology transfer, creation of innovative companies, international projection of the region and its companies, and the development of shared resources. **www.madridreddeparquesyclusters.org**



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ESNC 2008 REGIONAL WINNER :: Nice- Sophia Antipolis / France

The Winner: Lokesh Bitra The Idea: **Yellow Tags**

DESCRIPTION

Posting and tagging with bits of information has become very common in the digital world, and similar behaviour is slowly catching on in the real world, too. The possibility of tagging in the real world forms a link between the two worlds and will increase effectiveness, utility, and profitability. A person could describe his or her address as follows: "Come over to Prado Centre and find my virtual tag; that's the building". The virtual tag of a theatre could provide real-time information, such as showtimes, availability, and so on.

INNOVATION

Using GNSS technology, YTags enables business and individual users to setup visual-virtual tags like 'placeholders' over realworld objects, providing an intuitive and experience-rich medium for location-based information seekers and location-aware service providers. YTags forms a platform that enables anyone with an integrated compass and GPS-enabled camera phone to set up, view, or edit a virtual tag. This vector-based application makes it light and less demanding on resources and data traffic.

TARGET MARKET

YTags is a solution based on GPS-enabled smart phones, which makes it a mass-market application. YTags is designed for smart phone users, commercial players with location-specific interests, and those interested in user-generated content. With the increasing penetration of the mobile Internet and the growing LBS market, the scope for YTags, is quiet vast. In 2007, European mobile LBS revenues amounted to roughly EUR 157 m and are expected to grow to about EUR 421 m by 2012.

CUSTOMER BENEFIT

YTags provides an easy-to-use and intuitive medium for applying the point-and-click metaphor to the real-world. The intuitive interface enables user to place virtual tags easily and assign hyperlinks. YTags can be used for a variety of purposes, such as acquiring information, submitting comments and, recommendations, sharing interests, or providing real-time status information. In addition to these, YTags can make location-based searching visual and at almost no-cost to service providers.



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3rd Place:

"MyVisit - Indoor Location-Based Service for Museums" Pierre Salmona, LOCUS Sarl // France "Novel Delivery of High Accuracy GNSS Corrections for Controlled Traffic Farming in Remote Australia" **James Millner, Department of Sustainability and Environment // Australia**

²nd Place



The region Nice - Sophia Antipolis

The Nice - Sophia Antipolis satellite navigation sector is comprised of dozens of multinational companies, SMEs, research labs and international institutes whose activities range from implementing infrastructures to developing end-to-end applications. The Sophia Antipolis leading science and technology park is home to 1,300 companies and 30,000 employees from 68 different nationalities. Sophia Antipolis has developed strong information technologies expertise, in a wide range of sectors: networks, telecommunications, microelectronics, optics, software engineering, Internet, Earth observation, telecom operators. In Cannes, an important space sector has expanded continuously thanks to the presence of Thales Alenia Space, one of the world's leading names in the space industry. www.sophia-antipolis.net



The regional organiser Team Côte d`Azur

Team Côte d'Azur is the confidential connection to the Côte d'Azur, serving as a personal partner to investors to ensure a smooth start in the region or to accompany their expansion.

Team Côte d'Azur is experienced in helping corporations evaluate the potential of the Côte d'Azur region and the Sophia Antipolis science and technology park for their business set-up and expansion.

Team Côte d'Azur provides investors with assistance related to:

- > A precise evaluation of what the Côte d'Azur can offer with regards to your investment project,
- Free and confidential assistance in preparing your relocation file: feasibility study, identification and follow-up of financial subsidies that could be obtained,
- D More detailed information on the firms involved in the information technologies sector on the Côte d'Azur.

For R&D investment in Europe, think Sophia Antipolis, a worldwide IT cluster, where business, academia and bright talent combine resources to pioneer breakthrough innovation. www.investincotedazur.com

The regional partners

The Alpes-Maritimes County Council www.cg06.fr

Nice Côte d'Azur Chamber of Commerce and Industry www.ccinice-cote-azur.com

La Fondation Sophia Antipolis

www.sophia-antipolis.org



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ALPES-MARITIMES

🖉 CCI

FONDATIO SOPHIA ANTIPOLE





ESNC 2008 REGIONAL WINNER :: Niedersachsen / Germany

The Winner: Frank Brennecke The Idea:

LogiLoc – An Intelligent Hybrid Container Management System for Efficient and High-Precision Container Logistics

DESCRIPTION

LogiLoc is a tool that improves the efficiency of carrier management (carrier = container, trailers, swap-body platforms) based on positioning technologies.

It delivers information about the respective position of containers quickly and with complete reliability, which provides for complete surveillance and full process control. Furthermore, LogiLoc offers the chance to conduct manifold statistical analyses, facilitating sustainable optimisation of process cycles in container logistics.

INNOVATION

The innovation of LogiLoc is the intelligent combination of several positioning and communication technologies (GNSS, GSM, RFID, WiFi) in one multi-sensor box.

Since this technology combines the advantages of in-and outdoorpositioning systems, logistics companies can locate their carriers consistently, at all times, and across geographical boundaries, even if a certain positioning technology should not be available because of environmental or geographical influences.

TARGET MARKET

LogiLoc is primarily focused on all companies that have their own stock of carriers and means of transportation. This target group thus also includes logistics service providers that manage transportation processes on their own. As a result, LogiLoc is especially aimed at companies from the transportation sector (shipping, cargo and manufacturing companies operating, for example, in the automotive or pharmaceutical industries).

CUSTOMER BENEFIT

With LogiLoc, customers gain reliability with the ability to locate carriers even if a certain positioning technology is not available due to environmental influences. This ensures the complete surveillance and documentation of all container positions at any time and around the globe. This information on container flows and idle times can be used as a basis for measures required for effective optimisation and even prognoses about future positions are possible.



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The region Niedersachsen

Within the Federal State of Niedersachsen the Braunschweig Research Airport is the innovative cluster for satellite navigation. The airport's unique selling point is the concentration of major research establishments specialising in more than one type of transportation:

- > Aviation (with the federal office of Civil Aviation Luftfahrtbundesamt)
- D Railway transportation (with the market leader for rail automation Siemens Rail Automation)
- D Road transportation (with safety-critical applications in cooperation with Volkswagen).

Braunschweig Research Airport and the organisations in its immediate vicinity distinguish themselves by the particular concentration of expertise related to multi-modal types of transportation especially in the safety-critical field of GNSS. The airport furthermore serves as a test center for the transportation sector.



The Galileo Center for Safety-critical Applications, Certification and Services (GAUSS) combines and concentrates its members' competences concerning safety-critical applications nationally and internationally. It is open for partners, who have special know-how in the field of standardisation und certification of GNSS applications.

As cornerstone for the commercial success of Galileo standardisation and certification represent a unique advantage over GPS. The majority of safety-critical applications need certification to minimise the risk of liability issues and other juridical problems. The significance of certification for safety-critical applications as well as the excellent reputation of GAUSS and its partners is reflected in the fact that the European GNSS Supervisory Authority (GSA) assigned the task of drafting a Green Paper on the "Certification of Galileo" to the GAUSS-team already in the course of their very first tender. www.gzvb.de



The regional partner

NavCert GmbH www.tuev-sued.de/navcert/de





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ESNC 2008 REGIONAL WINNER :: North Rhine-Westphalia / Germany

The Winners:

Prof. Dr. Jürgen Rossmann, Dr. Michael Schluse, Arno Bücken, Petra Krahwinkler

DESCRIPTION

Precision farming is a keyword in today's agriculture. A farmer can operate more economically by using GNSS. But standard GPS-receivers deliver quite imprecise position estimation when used under a forest canopy. Poor satellite coverage, damping, and multipass effects are the main reasons. We have developed a "visual GPS" system that delivers a position fix fat approx. 50 cm precision based on a rough GPS position.

INNOVATION

To achieve this precision, we match a local map generated by local laser scanners with a global map of the forest generated using remote sensing data to improve the initial GPS fix.

Galileo will most likely improve the initial position estimation and thereby decrease the uncertainty involved. A smaller local map will be sufficient to achieve the same precision that we get today, so smaller and lighter scanners will be required. The positioning system will scale from a vehicle-mounted application to a system that can be carried by a forest worker.

TARGET MARKET

Of the land area of North-Rhine Westphalia (NRW), 27% is covered by forests. The forestry and lumber business constitutes about 7.2% (EUR 33.2 bn) of the gross domestic product of NRW, and 3%, (257,000) of the state's workers are in this sector. Equipped with precise positioning systems, our system can help locate and coordinate forest machines and workers. In case of an emergency, paramedics

The Idea:

Precision Forestry – Positioning Systems in the Forest

can be informed of the injured person's location. If there is a forest fire, firefighters and vehicles equipped with a forest-capable precise positioning system can be located by a central coordinator.

CUSTOMER BENEFIT

While farmers deal with entire acres, foresters in central Europe measure and treat each individual tree, for example, while performing thinning – felling only a few trees in a unit. Given the small units in privately owned forests, the ability to identify felled trees and assign them to an owner using a geo-tagit will boost the economy in the forestry business. Different owners will be able to perform a harvest together and still adequately distribute the corresponding revenues. Furthermore, precise localisation is a must for further automation in this field.



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3rd Place

2nd Place:

"Headquaters Know Where the Police Officers, Fire Fighters and Ambulances are at Any Time" **Konstantin Kersten // Germany**

"Using High Precision Location Information in Augmented Reality Applications" **Tino Wildenhain // Germany**

"Solution to "Load Volume Tracking from a Process Engineering Viewpoint - How to Monitor and Maximize Load Capacity Utilisation in a CEP Network " Joerg-Walter Klute // Germany



The region North Rhine-Westphalia

North Rhine-Westphalia is home to over 500 companies involved in satellite navigation. The most populous federal state is also home to the German Aerospace Center, which has some of the most important basic research establishments. The North Rhine-Westphalian association of users for integrated satellite navigation solutions (NAVISAT) wants to pool these skills in the federal state and promote the industry in expanding its activities in the field of satellite navigation. The focus is on the provision of support to commercial applications and services on the basis of existing and future satellite navigation systems (GPS, GLO-NASS, GALILEO) by incorporating satellite positioning technologies into concrete applications. In addition to pooling the skills that exist in North Rhine-Westphalia in the field of satellite navigation, it seeks to promote a cross-sectoral exchange of ideas, knowledge and information among its members.



The regional organiser **NAVISAT**

On 20th March, 2006 NAVISAT was founded on initiative of the Ministry of Economic Affairs and Energy of the State of North Rhine-Westphalia (MWME) by ten industrial enterprises. The association wants to establish the location North Rhine-Westphalia as a constant player in the GNSS scenery.

NAVISAT with headquarter in Herne wants to condense the competences of North Rhine-Westphalia in the sector of satellite navigation and promote its development. The support is primarily directed to applications and services of the satellite navigation systems GPS, GLONASS and Galileo. Therefore the members want to promote the exchange of experiences and intensify the contact to apprenticeship and research. With common research and developing plans the know-how of the measurement branch should be also open up to other technology branches, to use the potentials of satellite navigation. The Ministry of Economic Affairs and Energy of the State of North Rhine-Westphalia (MWME) and the economic promotion Herne support the initiative.

www.navisat.de



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ESNC 2008 **REGIONAL WINNER :: Prague / Czech Republic**

The Winner: Dr. Jaroslav Jansa The Idea:

I – Help – You: A Hierarchical Wireless Rescue System

DESCRIPTION

The unique goal is to closely interconnect persons in danger with rescuers under the principle of "danger is the same, regardless of its origin". The IHY system is based on a simple personal communication and localisation unit, enabling precise localisation and wireless communication, and hierarchical wireless IP infrastructures like GPRS, with DVB supported by intelligent servers. The users are equipped with a personal unit or mobile phone. The basic innovation lies in the communication between the unit and the relevant authorities (police, fire brigade, emergency medical personnel, 112, etc.) without administrative barriers.

INNOVATION

The response of the system is much quicker than calling an emergency line thanks to the instant localisation and identification of the alert emitter and possible rescuers. There are several versions of the IHY system. Its potential lies in medical rescue and monitoring systems, as well as in battlefield information systems. All versions are based on the following principles:

- Personal unit identification in terrain
- Precise localisation
- Instant warning concerning the nature of the danger via a wireless infrastructure

IHY is based on the combination of existing GNSS and IP wireless communication technologies. More advanced versions will use Galileo/EGNOS, DVB, and 4G cellular technologies like Mobile WiMAX and even LTE, in the near future.

TARGET MARKET

Police officers, firefighters, members of medical emergency units, and of course, as many as possible normal citizens as possible, especially seniors. The goal is:

- 1. To equip rescuers with professional personal units, such as adapters for PMR handsets
- 2. To offer simple and cheap personal units to users.

The infrastructure must be part of existing emergency networks or built by private organisations.

CUSTOMER BENEFIT

Benefits will be seen in the much faster responses of rescue squads, regardless of their character (police officers, firefighters, or members of medical emergency teams). The time factor plays an important role in all critical situations, which is why IHY increases the probability of successful rescue actions and victim survival.



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3rd Place:

"Information Support for Visually Impaired People "**Dr. Jiri Plihal**, e4t electronics for transportation s.r.o. // Czech Republic "Free Volume Monitoring for Vehicles" Dr. Oto Sládek, Kybertec s.r.o. // Czech Republic





The region The Czech Republic

Space exploration and research have a long tradition in the Czech Republic. The Interkosmos 1, launched on 14 October 1969, was the first satellite carrying instruments developed in the former Czechoslovakia. Several dozens of Czech instruments and systems have been employed during the following twenty years in space projects containing near Earth environment investigations and planetary missions as well. The Czech Republic is a place of excellence for aeronautics, space technology, satellite navigation, Earth observation / remote sensing, geo information systems and aerospace research. More than 40 Czech companies are engaged in the space and communication business. The key sectors of national space activities are astronomical studies, magnetospheric, ionospheric and atmospheric research, remote sensing and the Earth observation, microgravity research experiments as well as a competitive industry production, including small satellite construction.



The regional organiser Czech Space Office

Czech Space Office is a non-profit association created in November 2003. It acts as the central contact point for the coordination of all space-related activities in the Czech Republic and serves as a national contact point for Galileo. It fulfils tasks of the national information and advisory centre on opportunities to enter the international space scene, but also on space activities in the Czech Republic. CSO also supports the participation of Czech researchers in international space collaborations, and manages the relationship with ESA and contributions of the Czech Republic to ESA programmes. Futhermore, CSO facilitates development and implementation of space applications through provision of dedicated training opportunities. CSO elaborates the Czech Space Programme and represents Czech Republic's interests in official European space-related establishments as GAC, HSPG, FP7-Space Programme Committee, Working Group GEO/GEOSS. CSO is also a member of IAF, ESTP and EURISY organisations or platform, respectively. Education and student activities are also part of the CSO's activities. www.czechspace.cz

The regional partner

Ministry of Transport of the Czech Republic





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ESNC 2008 REGIONAL WINNER :: Queensland / Australia

The Winners: Dr. Charles Worringham Bruce Satchwell The Idea:

Cardiomobile: A Remote Monitoring System for Cardiac Rehabilitation

DESCRIPTION

The idea is to allow heart patients a much more flexible form of supervised exercise rehabilitation. The trialled system combines the Alive Technologies heart and activity monitor with a GPS receiver and programmed smartphone, to transmit a patient's single-lead ECG, heart rate, position and speed to a secure server while they undertake supervised exercise. At the base station, the supervising exercise physiologist oversees the exercise programme, can report ECG abnormalities to the cardiologist, and contact emergency services with the patient's location in case of an emergency.

INNOVATION

The novel aspects are of this idea are twofold: firstly the linking into a single system Alive's ECG monitor, a GPS receiver, a programmed smartphone, and a secure server. This enables the other innovative aspect – offering properly supervised rehabilitation to heart patients who would otherwise not be able to receive it.

TARGET MARKET

The system aims to provide a new tool to providers of cardiac rehabilitation services – public and private hospitals, private practitioners or practices in cardiology and cardiovascular medicine, exercise physiologists, and other relevant professionals. In the future, we see new versions using movement data being of value in rehabilitation for stroke and movement disorders.

CUSTOMER BENEFIT

The benefit to the patient is the ability to take part in supervised rehabilitative exercise after a heart attack or heart surgery if they cannot attend a conventional hospital-based programme, for example, after work and near their home. Patients feel confident about their exercise when they know they are being monitored. For hospitals and professionals, we believe the system will help extend cardiac rehabilitation to the large numbers of patients who either never begin or fail to complete a conventional rehabilitation programme because of time and travel commitments.

ihbi



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Mr. Bruce Satchwell

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phone: +61 (0) 75 56 32 871 e-mail: bruce@alivetec.com www.alivetec.com

of Health and Biomedical Innovation

2nd Plac

"Alerta (Audio Information System) - Complete Solution for Countless Repeated Incidents in Industry"

Steve McLachlan, Suncity Holdings Qld Pty Ltd. // Australia

"SDPS Using TCAR - Standard Decimetre Positioning Services (SDPS) Using Multiple Carrier GNSS Signals" **Dr. Yanming Feng, Cooperative Research Centre for Spatial Information // Australia**



The region Queensland

Queensland covers an area of 1.7 m sq km, ranging from densely populated, well-serviced cities to sparsely populated rural areas with densities below one person per square kilometre. Consequently, Queensland provides opportunities for the development of GNSS applications for both remote areas and cities. GNSS technology is being used in an increasing number of sectors, including industries that underpin Queensland's strong economy. GNSS-related businesses in Queensland currently generate an estimated AUD 350 m annually in goods and services, and employ 750 people, of which 250 are in research and development. Queensland boasts 40 GNSS related businesses, with global significance in GNSS technology for the accurate guidance of machinery used in key industries such as mining, agriculture and infrastructure development, and national significance in vehicle based GNSS, for example intelligent transport systems.



The regional organiser Department of Natural Resources and Water

The Department of Natural Resources and Water (NRW) works together with industry, community, landholders and government to ensure that the management of the state's natural resources is innovative, responsible and balanced. NRW handles complex issues relating to water, salinity, vegetation management, native title, resource security and sustainable development. NRW is responsible for water security, planning and reform; uses cutting-edge technology to better deliver land information; and works with landholders to preserve and enhance landscapes. NRW is the lead agency for GNSS technologies in Queensland, and the Geospatial Technology Applications Centre within the department is responsible for organising the ESNC 2008: Australian Challenge. www.nrw.gld.gov.au



The regional partners

Leica Geosystems Pty Ltd (Silver Sponsor) www.leica-geosystems.com/

i.lab Incubator Pty Ltd www.ilab.com.au/

Position One Consulting www.positiononeconsulting.com/

IGNSS Society (International Global Navigation Satellite Systems Society Incorporated)
www.ignss.org/





Contact:

Australia

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ESNC 2008 **REGIONAL WINNER :: South Holland / The Netherlands**

The Winners: Alex Beek, Jan van Rossum, Maarten Uyterlinde

The Idea:

AgriBase: The Hands-Free Registration Solution for Farmers

DESCRIPTION

Consumers demand that their food to be safe and produced in a sustainable way with respect to the environment. This causes a growing need for documentation that ensures transparency and quality. These administrative tasks take up to 20% of farmers' workloads. AgriBase is a hands-free registration tool that covers all demands from government, the food and retail industries, and consumers by using satellite timing and navigation to authenticate the registration of all crop management activities, from field preparations to harvest.

INNOVATION

An AgriBase registration unit is installed on the farmer's machinery. This unit automatically registers all of the farmer's activities with the aid of GNSS and on-board sensors. The registered data (when, where, who, what) are transferred via GPRS/WiFi to the AgriBase back office. With the aid of knowledge based rules, these sensor events are translated into meaningful registrations and saved to a database.

TARGET MARKET

The primary target market consists of farmers of general field crops and agricultural contractors in the EU27. Around 350,000 farmers and contractors are big enough and willing to take up satellite navigation. They are confronted with heavy competition, rapid economic and technical changes, critical consumers, and increasing demand for documentation and corporate social responsibility. To turn the-

40

2nd Place

"Anismo - A Pro-Active Mobile Game for Exchanging Virtual Pets & Meeting Distant New friends" **Jerome Bertrand, GeoGames // The Netherlands** "NavBall - A Worldwide Connected Multiplayer GPS Gaming Platform, Inspired by Existing Ball Sports" **Thomas Engel, The Saints Content Creators Ltd. // The Netherlands** se challenges into opportunities, information management and cooperation are vital. The GNSS-based AgriBase solution provides a platform that enables farmers to produce excellent data with less effort and a lower cost while sharing knowledge profitably with other elements in the food chain.

CUSTOMER BENEFIT

Farmers enjoy immediate benefits:

- Social: AgriBase farmers have complete, correct, and timely documentation of their produce, restoring consumer confidence in food.
- Ecological: AgriBase increases the accuracy and reliability of production data, leading to more sustainable farm operations.
- Economical: Automating registration work saves up to 20% of working time. Better data will lead to better farm economics.
- Institutional: AgriBase facilitates new ways of collaboration in the food production chain.



Contact:

Mr. **Alex Beek** Food Process Innovations Van Ledenberchstraat 10 2334 AT Leiden The Netherlands phone: +31 (0) 65 42 68 026 e-mail: alexbeek@planet.nl

3rd Place:

"2theSpot®- Services Brought to You on Location" Hub Jongen, 0.E.5 business development // The Netherlands



The region South Holland

Zuid-Holland (South Holland) is a bustling, multifaceted province. It is home to 3.5 m people, who inhabit an area of around 2,900 sq km. This makes it the most densely populated of the 12 Dutch provinces, with 1,220 inhabitants per sq km. The ambition of the province of South Holland is to become an international leader in innovative business. The potential is fully present: the province of South Holland has enough entrepreneurs, research institutions, educational institutions and government institutions with an existing head start in the knowledge arena. South Holland has various centres of knowledge and expertise, including three universities in Leiden, Delft and Rotterdam, the TNO research laboratories, ESTEC and the Innovation Centres. South Holland is the country's most important province in terms of economy, agriculture and the provision of services. It is a hive of activity, criss-crossed by a busy network of roads, railways and waterways. Rotterdam with its mainport is South-Holland's largest city.



The regional organiser **Kennisalliantie**

The purpose of the Kennisalliantie is to add impetus to innovative industry in the province of South Holland. While the entrepreneurs, the research institutions, educational institutions and the government institutions are already operating innovatively in their own respective fields, real progress in the knowledge economy demands real cooperation. The aim of the Kennisalliantie is to bring the group of actors together. Literally and figuratively. The initiatives of the Kennisalliantie generate inspiring interaction between the four partners. And it also creates new initiatives within each of the group of actors. The Kennisalliantie is an independent platform for cooperation between educators, explorers, enterprise, and executives of the authorities. Its independence renders it extremely suitable for acting as an intermediary. **www.kennisalliantie.nl**



The regional partners

Logica www.logica.nl

European Space Agency (ESA) www.esa.int/ttp





Contact:

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ESNC 2008 REGIONAL WINNER :: Taipei / Taiwan

The Winners:	The Idea:
Terence T. Huang, Alan CY. Lin,	YouCast – A Real-Time, Interactive Global Reality TV Net-
Ted. CY. Chang	work on Galileo/GPS-enabled Mobile Devices

DESCRIPTION

Imagine showing the world what you see and seeing the world through the eyes of billions at this very moment. And think about connecting with those who share the same vision and passion in wherever and on whatever matters.

With YouCast, anyone with a GNSS mobile device can broadcast their live videos to the world from wherever broadband mobile Internet is available. The YouCast service platform will help create new genres and applications of social media and online journalism with real-time interactive location-based videos.

INNOVATION

Users of YouCast will be able to explore and search real-time video events by location and, moreover, request live contents from designated areas on a map and interact with the video providers with instant text or voice messages. In addition, users with similar interests over a particular region and/or topic can form communities and receive instant notifications on related live video events. YouCast will support integration with popular social networks to interconnect user networks as well as provide firsthand live footages for TV news networks with royalty rewards for users. Once enhanced by the higher-precision Galileo GNSS, YouCast will assist rescue aids and community patrols with live video streams and accurate locations of incidents, and include dynamic visualisation of the routes of live video sources.

TARGET MARKET

YouCast is an open-service platform that enables user communities to innovate unlimited applications based on real-time, interactive, location-based videos. All global users who have a GNSS phone or mobile device with video input and access to wireless broadband Internet are potential YouCast users.

CUSTOMER BENEFIT

YouCast will revolutionise the space of Web 2.0 media by enabling direct streaming of real-time videos from mobile users at remote locations, as well as interaction with maps and social networks. With both location and context information attached to live videos, SIG (special-interest-group) communities can be formed to share in special events in particular areas.



Contact:

Mr. **Terence T. Huang** Quanta Research Institute, Quanta Computer Inc. 211, Wen Hwa 2nd Rd. (33377) Kuei Shan, Tao Yuan Taiwan, R.O.C. phone: +886 (0) 33 27 23 45 e-mail: youcast.quanta@gmail.com www.QuantaTW.com

[&]quot;Mobile Operation Control System with GPS Mobile Phone Live Tracking" **Tom Lee, Ken Lin, Tony Wang, Sampras Chen // Coptimal Logics Inc.** • "Offering the Blind a Solution in Interaction with the World" **Johnny Shu // Industrial Technology Research Institute** • "Galileo based IEEE 802.16 Network" **Shaojung Lu // TrioSearch Technology Co. Ltd. & Yang Chih-Cheng // National Central University, Department of Communication Engineering** • "Community Patrol - A Service Towards a Safer Life, a Healthier Environment, and a Better Future" **Chih-Yin (Alan) Lin, Terence T. Huang, Ted C.-Y. Chang, // Quanta Research Institute, Quanta Computer Inc.** • "Nice Ball & Nice Hit" **Chin-Kuei Chang // Industrial Technology Research Institute**



The region Taiwan

Taiwan, also known as Formosa (meaning "beautiful"), is located near the southeastern coast of China. Not particularly big in size, Taiwan's pivotal geographic location and excellent infrastructure nevertheless offer an optimal strategic transit point for multinational companies seeking to enter the Asian market.

Thanks to its innovative management and an extraordinary strong backbone of SMEs, Taiwan became a knowledge-based economy in the 90's. Today Taiwan is home to uncountable high-tech necessities of a modern man - notebook pc, digital camera, mobile phone, MP3 etc. Taiwan is a key player in semiconductor, electronics and terminal devices. It is also one of the largest manufacturers of GNSS products. Taiwan is gearing up efforts to further strengthen that position, among others, by joining ESNC and forming a research alliance of the complete navigation industry chain to promote services and applications.



The regional organiser

The regional organiser - Industrial Technology Research Institute (ITRI) - is Taiwan's leading institute for technological advance. ITRI is a not-for-profit R&D organisation equally financed by Taiwan's Economics Ministry and the industry. Since its establishment in 1973, ITRI has functioned as a cradle for Taiwan's microelectronic and ICT industries. ITRI has hosted over 300 start-ups since it began its incubating programme and open labs in 1996. In recent years, ITRI has evolved from a pure technology developer towards a value creator. With over 30 companies delivering GNSS products worldwide, Taiwan belongs to one of the most important contributors to the industry. ITRI's rich incubating experiences coupled with Taiwan's unique strength in commercialising R&D results has made the region Taiwan a highly attractive place for those who endeavor to turn their entrepreneurial dreams into business realities. www.itri.org.tw





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- Germany
- 2 France
- 3 Italy
- Spain
- United Kingdom & Ireland

2

- 6 The Netherlands
- Czech Republic
- 8 Taiwan
- Australia
- Countries from where ideas have been submitted





United Kingdom & Ireland



Tim Just Thales

Richard Peckham EADS Astrium Andrew Fry

BNSC - British National Space Center

Terry Moore University of Nottingham Clive de la Fuente

Integrated Navigation Systems Ltd.

Andrew Mackenzie Scott & York Intellectual Property Ltd.

Ann Sta Department for Transport

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Technical University) Petr Bareš

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(GSA)



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Dr. Herb Lin Industrial Technology Investment Corporation

Dr. Keisuke Onishi NAVITIME JAPAN Co., Ltd.

Prof. Mitchel Resnick MIT Media Lab

Gerfried Stocker Ars Electronica Center

Cheng Wu Azuki Systems Inc.









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- ightarrow Successful competition projects and discussion with experts
- \rightarrow Presentations of the European SatNav community
- \rightarrow Expert panels
- \rightarrow Workshops around the new Special Topic Prizes



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