



**GALILEO**  
Masters



# GALILEO MASTERS 2004

## THE RESULTS

**SYSTEMS**  
IT. Media. Communications

24-28 Oktober 2005



**ANWENDUNGSZENTRUM**  
Oberpfaffenhofen



The Bavarian Minister of Economic Affairs Dr. Otto Wiesheu congratulated the winners and wished them success for the implementation of their business ideas: "This idea competition shows which great potential is included in satellite navigation. Ideas like these assist in making a project like Galileo a success."

Wiesheu encouraged the initiators of this idea competition to invite tenders for the "Galileo Masters" also next year. Plans to extend this competition to the whole of Europe and to Quebec and Russia were fully supported by the minister.

Günther Stamerjohanns, managing director of Galileo Industries: "For me the success of the "Galileo Masters" competition is another evidence of the enormous future potential of the European satellite navigation project "Galileo". It is a great pleasure for me to congratulate the winners of this competition at the SYSTEMS."

Klaus Dittrich, managing director of the Messe München: "The SYSTEMS and Galileo match perfectly: As workroom of this industry the SYSTEMS fair picks up central future topics of the IT, telecommunications and digital media industries such as the satellite navigation topic, which was illustrated at the 2004 fair for the first time by an own area and supplemented by the Europe-wide Galileo Masters competition. Both the satellite areas and the Galileo Masters competition have been highly accepted by the exhibitors and visitors. The SYSTEMS will provide thorough support to these activities, also in the future."



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## Intro

Now where the first Galileo Masters is over, the winner selected and the award ceremony held, we are glad to say, that we can look back onto a very successful event.

When we started our planning in autumn 2003, we were sure that we were about to enter an emerging market, but we did not know, that our concept would gain such an acceptance on the European market.

The main idea of Galileo Masters 2004 was to support Europe-wide persons/companies that have visions of benefiting from, and working with the Galileo system. We have received a multiplicity of good and innovative ideas. Through our highly qualified team of experts from all over the three regions of Göteborg, Sophia Antipolis and Munich, we were able to nominate the best ideas as our Galileo finalists. They had the opportunity to represent their innovation on a booth at our Satellite Navigation Area.

We received nothing but very good feedback from our finalists. All of them were able to make great contacts and even get business partners.

Through our outstanding forum, it was possible to reach the public interests and lead a high number of visitors onto the Satellite Navigation Area. All the highly qualified spokesmen and representatives of many companies did their part to make the area unique.

We had spokesmen from all around the world and they discussed and explained problems around Telematics, LBS, GIS, Galileo and many other topics.

They enlivened our area, because of their fully-fledged teams and the interest in each co-exhibitor. We also met with nothing but approval from each exhibitor. All of them were able to get, as did our finalists, a variety of new contacts and potential business partners. Many of the exhibitors intend to join us again at the SYSTEMS and Galileo Masters 2005.

Here, we would like to thank our title sponsor German Aerospace Center (DLR), main sponsor Infineon Technologies AG and our side sponsors Cobra Automotive Technologies, Fraunhofer Venture Group, Galileo Industries GmbH, Sun Microsystems and Zimmermann & Partner. Thank you very much for your outstanding cooperation. Without the support of so many companies and individuals the whole adventure would not have been realizable. In particular, our personal thanks are due to the two "grandes dames" of Sophia Antipolis and Göteborg, Mrs. Gabrielle Peinado and Mrs. Ulrike Firniss; without their professional support, this competition would not have entered the European stage. Finally, we hope that, all together we will keep on navigating our businesses to an emerging market.

Thorsten Rudolph  
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## **GALILEO MASTERS 2004 OVERALL WINNER**

### **Marine Navigation for Fishermen using GPS and IPWV (Integrated Precipitable Water Vapour) Technique**

Under this title, a team of HCLT headed by Dr. Elmar Paul Selbach designed a technology enabling new applications in fishing techniques and also in environmental protection.

In particular in developing countries, people make more and more use of marine resources like fish populations and aquatic plants (algae) instead of agriculture.

While industrialized countries use latest satellite navigation technologies in connection with sonar und remote sensing technologies for the location of fish populations or algae fields, this can hardly be financed by farmers and fishermen in developing countries, to say nothing of infrastructure problems.

This solution shows a way how existing data bases, in connection with GPS, enable a low-price and technologically simple system to locate and identify natural resources. This also allows to provide weather forecasts in a simple way which until now was only possible using expensive technical means. All in all, this system offers to fishermen a higher amount of safety, simple handling and low maintenance efforts, thus opening up fishing for developing countries as an efficient resource.

Also, this system can be used as a low-price surveillance equipment in our part of the world, which enables, through low efforts, to supervise fishing quota as well as an improved protection of populations.

The basic principle may also be extended to other fields of application where it is possible to capture physical parameters in a simple way.

The director of the Hallbergmoos-based company, Dr. Selbach, was surprised by this unexpected success. With a labor force of 70 employees in Germany, the HCLT company develops software technology, embedded control units and ASIC's for the automotive and aerospace industries.



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## **GALILEO MASTERS 2004 REGIONAL WINNER - GÖTEBORG**

### **Guardian Angel - The mobile emergency system**

The regional winner from Göteborg is named "Guardian Angel". It is represented by Hooman Tahamtani from the "Interactive Institute".

Target group of this solution is the growing number of seniors in the western developing nations.

"Guardian Angel" should help older people to continue living their independent life, because they can be sure to get very fast professional help in critical situations.

"Guardian Angel" is a portable tool which sends an emergency signal automatically in case of a critical situation. This signal allows communications with relief organizations as well as display of current position and digital pictures from the "Guardian Angel" owner and his surrounding area. This application uses technologies like GSM, GPRS, 3G, Satellite Navigation Systems and digital image processing.

The tool is worn either on a wrap around the neck or integrated in the users clothing, and combines digital camera, mobile phone and satellite navigation system. The unit is activated via a so-called "Panic Button" or by voice.

So "Guardian Angel" lends itself to use for permanent diseased persons or children.

The device proposed in the presentation uses currently available technologies such as GSM, GPRS, 3G, GPS, Digital imaging to accomplish its task. It will add a layer of security and independence to the life of all who use it. It is simple to use and does not require special skills.

The idea is to combine a digital camera (such as the ones commonly available on phones) with GPS and a limited mobile phone capability.

When the user needs help he can activate the device by pressing a panic button or by just using his or her voice to activate it. The device then dials the rescue center it can maybe use the services of a GPS satellite system such as Galileo to locate the nearest rescue center and establish a connection to it. Two-way communication is established and pictures are sent to the rescue center automatically, depending on the location of the device the picture could be of the user or surrounding to assist the field rescue teams in locating the victim. Pictures can be streamed into a special web page, which is accessible via a handheld device in the field.

Once activated the system will continue to operate until it is turned off. Field agents will be able to follow the signal to the victim at all time.

The overall purpose of this device is for personal safety and protection of our citizens. This product can also be configured for monitoring movements of children and elderly who need it continuously.



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## **GALILEO MASTERS 2004 REGIONAL WINNER - SOPHIA ANTIPOLIS**

### **m-Companion - the mobile electronic companion**

Have you ever been lost in town, desperately looking for your customer's building, and nobody at hand to tell you which way to go? Have you ever been walking in a foreign country, without a city map or guide, unable to ask for directions in the local language? Have you ever been looking for a friend's cottage, wondering why you didn't purchase that smart navigation system with your new car? If this sounds familiar, there may be a solution coming. **Web2tel, a young company from Sophia-Antipolis**, located in the French Telecom Valley, is developing an innovative product specially intended to help you.

**m-Companion is an interactive service designed to help people move within and discover public areas.** It provides walking or driving directions as well as user- and location-dependent information. For example: train or airline departure times, restaurant menus, shop promotions, hotel room availability, or tourist information.

**The core of m-Companion is an Interactive Voice Response (IVR) service** coupled with a Geographical Information System (GIS). Pick up your cell phone, call m-Companion and ask for directions. The IVR includes state of the art Automatic Speech Recognition (ASR) technology and a database of all known streets, roads, places, parks, corners, and other location names. You say where you are and where you want to go. m-Companion then calculates the best itinerary and tells you the walking instructions using best in class Speech Synthesis.

Don't even know where you are? All right, you need an extra device: a satellite positioning receiver. Connect it to your cell phone, and m-Companion will use the satellite data to locate you. The complete solution is comparable to a car navigation system, and substantially cheaper.

As of today, you can purchase a Global Positioning System (GPS) receiver from your local electronics dealer. GPS still has some limitations in some parts of the globe, such as Northern Europe, dense urban areas, and inside buildings. This limitation will be overcome when Galileo, the European satellite positioning system, is launched. This will open a whole range of new applications, such as traveler guides

inside airports, train stations, and museums, or buyer guides inside shopping areas and malls.

Don't even know where you are going? All right, maybe you should try the visitor's guide section of m-Companion...

### **m-Companion: Highly-specific user- and locationdependent information**

m-Companion is an interactive service designed to assist people move around and discover public areas. It provides walking or driving directions as well as user- and location-dependent information. For example: train or airline departure times, restaurant menus, shop promotions, hotel room availability, tourist information.

#### **• The end-user equipment is light and cheap:**

- In its simplest form, the user needs to carry nothing but a standard GSM handset.
- A low-end GSM handset is appropriate, because m-Companion provides information as an audio stream.
- A Galileo or GPS receiver may be added for automatic positioning.
- No database or software license is needed.

#### **• Instructions are highly specific:**

- Information is selected to match user's preferences: business, travel, shopping, ...
- instructions can be very detailed, for example depending on floor and corridor inside a multi-storey building.



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## **GALILEO MASTERS 2004 REGIONAL WINNER - MUNICH**

### **Galileo - optimized Timber Supply Chain**

Forests in Germany cover 30% of the surface and are highly important for recreation, protection of soil, cleaning of air and water and maintaining a balanced climate.

*How can Galileo Satellite Navigation System (GSNS) help to protect this sensible environmental balance and deliver an economical profit on the other hand?*

With this question in mind we started developing the concept for the "Galileo Optimized Timber Supply Chain".

#### **Satellite Navigation and Radio Frequency, a comprehensive combination**

Wood is, on a global basis, to be considered as the most important natural basic resource beside agricultural products. Worldwide harvesting of wood is in the range of 3.5 billion m<sup>3</sup>. In Germany per year approx. 50 million m<sup>3</sup> are harvested, 50% fully machine-operated. The process we are considering starts at cutting the trees in the forest and ends in the sawmill.

The concept is based on environment- friendly identifiers (chip-less transponder) to tag and identify each single piece of cut wood directly at the point of origin in the forest. By applying the GSNS each piece of wood, each pile of logs can be found easily and delivered directly with minimum possible lead time to the sawing mill.

GSNS linked with the GigaTag™ system can help to provide better future management plans and to implement more environment- friendly harvesting methods.

The implementation can be effected phase by phase and very smoothly. Tests according to the implementation plan can start with the existing GPS hardware and software. With the availability of GSNS, the Galileo System will be used for the full roll out.



### **The ideal Win/Win Situation**

**The GigaTag™** – GSNS combination allows an ideal win/win situation for every participant in the Timber Supply Chain. This includes the forest owner who benefits with app. 8€/m<sup>3</sup>, the sawing mill with 5€/m<sup>3</sup> and, of course, the operators of the GSNS and the identification equipment providers (GigaTag™ Label, Sensor Hardware and Software). The primary advantage for tagging each log with an individual ID is the total control of the supply chain. At the point of origin all logs can be tracked and traced through the supply chain until the log is processed at the sawmill. Unnecessary double handling, e.g. double counting is dropped as the whole process is transparent and controllable. The benefit from the GSNS is the reduction of search time in the process, e.g. the forwarder knows in advance where to find the logs. The sawing mill knows where the piles are. Optimization systems can calculate the optimized routes for the transportation tracks. And the truck driver can easily find his way through the forest to the piles. According to a recently done survey the trucks need 31% of all the transportation, loading and unloading time from the point where they enter a forest to the point where they can start loading the piles. The way from the loading point out of the forest only takes 9%, though they carry the heavy load. With GSNS these 31% can be remarkably shortened helping to protect the environment and saving money.

### **A glance into the future**

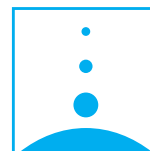
A ten-step approach will bring the concept into life. In a roughly two-year timeframe, through feasibility tests and smooth implementation, the project will deliver the expected results. When GSNS is commercially available, customers are already waiting to switch gears.



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