

RESULTS 2013

www.copernicus-masters.com



The European Earth Monitoring Competition is annually awarding prizes to innovative solutions for business and society based on Earth observation data.

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Today we are witnessing another crucial milestone in Europe's Earth observation activities. The European flagship programme Copernicus, jointly implemented by ESA and the European Union, is about to enter its operational phase by next January, and the first Copernicus Sentinel satellite is nearing completion in view of its launch in spring 2014 from Europe's spaceport in Kourou.

The five families of Sentinel satellites and the Jason-CS series – the backbone of the Copernicus space component which is developed under ESA's responsibility – will support European policies by using accurate, timely and uninterrupted data to provide key information services to improve the way the environment is managed, help mitigate the effects of climate change and ensure civil security.

Not surprisingly, the Sentinels and Copernicus contributing missions from Member States are also at the centre stage of the European Earth Monitoring Competition – the Copernicus Masters – which awards prizes to innovative solutions that use Earth observation data. Looking at the winning ideas of this year, it is difficult not to be impressed. I have seen many interesting and “out-of-the-box” ideas for downstream services in various service domains of the Copernicus programme. I have found it also positive to see ideas rewarded which concentrate on the benefit for society, in addition to those that focus on the commercial success. The winning ideas supporting sustainable agriculture certification, urban development analysis and mobile crowdsourcing for secure food delivery in Africa have tremendous potential to be developed to market maturity at one of ESA's Business Incubation Centres.

I am also pleased to learn that participants of previous competitions are currently finalising their winning applications. Some of them have already transformed their ideas into fully operational services, which is good news. I know what it takes to get an idea from a piece of paper to a functioning technology and then to an operational service. It demonstrates the value and relevance of this competition. It reflects the enormous potential Earth observation has in creating innovative, added-value products and stimulating economic growth in Europe.



I wish to express my sincere congratulations to this year's winners of the Copernicus Masters and also to its organisers, who have, once again, surpassed the success achieved in the previous years.

A handwritten signature in black ink, reading "Morday".

Jean-Jacques Dordain
Director General, European Space Agency (ESA)

The Copernicus Masters 2013 has once again impressively demonstrated its great innovation potential. The solutions submitted this year show the growing importance of Earth observation in nearly every area of public life, as well as in increasing economic growth and employment in Europe.

The aerospace sector is of special interest to the Free State of Bavaria. It is well established in terms of research and the commercial use of space technologies and seeks to support Copernicus by contributing its own particular strengths. In doing so, we are focusing on close collaboration between science and the economy – an aspect actively supported by the Copernicus Masters.

To support start-ups in making effective use of the potential of space technologies and considerably shorten their time to market, the Free State of Bavaria established the first German incubator for space applications at Anwendungszentrum GmbH Oberpfaffenhofen in 2001. Due to its great success, the European Space Agency (ESA) and the German Aerospace Center (DLR) came on board in 2009, thus incorporating the incubator into the ESA Business Incubation (BIC) programme. This summer, we celebrated the 1,000th high-quality job created in Bavaria through this incubation programme. I am now more than pleased to announce that the Bavarian ESA BIC programme is to be extended to 2019. As with the Copernicus Masters competition, we are seeing interest grow in the commercialisation of Copernicus services at ESA BIC Bavaria. This affirms that the European Earth monitoring programme Copernicus is creating a market for new applications and business models, especially for young scientists, engineers, and entrepreneurs. With its focus on space-based applications, the European Space Solutions conference will provide the ideal setting for this year's Copernicus Masters Awards Ceremony. I am proud to be hosting the second iteration of the conference, whose location in Munich speaks to the international significance of Bavaria's space activities. I would like to thank all of the participants and our partners for their contributions to this successful competition. Finally, my sincere congratulations to this year's winners – I wish you all the best in making your innovative solutions a reality!



A stylized, handwritten signature in black ink that reads "Ilse Aigner".

Ilse Aigner
Bavarian State Minister of
Economic Affairs and Media,
Energy and Technology

ABOUT THE COMPETITION

For the third year running, the 2013 European Earth Monitoring Competition has been looking for innovative solutions for business and society based on Earth observation data. When the Global Monitoring for Environment and Security programme (GMES) was renamed Copernicus early this year, the competition followed suit with a new look and a new name – Copernicus Masters. It has since become more successful than ever before. This year's edition welcomed more than 144 submissions from 23 countries, representing a 30% increase over 2012. This demonstrates the growing significance of the Copernicus programme as a driving force for business in Europe.

The partners of the Copernicus Masters – the European Space Agency (ESA), the German Aerospace Center (DLR), T-Systems International GmbH, European Space Imaging GmbH, and Astrium Services, which were joined this year by the BMW Group Research and Technology – are awarding prizes valued at a total of EUR 350,000 in nine categories.

Thanks to these dedicated supporters, even more applications fields have been addressed this year. Contributions such as Earth observation-based services for malaria forecasts, the green energy revolution, and reliable autonomous driving reflect the high level of innovation encouraged by the competition.

Meanwhile, GEO magazine has joined the competition as a new media partner with the Illustration Challenge "Traces of Humankind", which has already helped promote public awareness of the competition and the Copernicus programme as a whole.

We would like to congratulate all the winners of the 2013 competition. Our thanks also go out to all our partners for their outstanding support – we are already looking forward to an exciting Copernicus Masters 2014, which for the first time will be open to participants from all over the world!



Thorsten Rudolph
Managing Director



Ulrike Daniels
Project Manager



Lara Schaflinger
Project Officer

ABOUT COPERNICUS

Copernicus (previously known as GMES) is the most ambitious Earth observation programme to date. It will provide accurate, timely and easily accessible information to improve the management of the environment, understand and mitigate the effects of climate change and ensure civil security. This initiative is headed by the European Commission (EC) in partnership with the European Space Agency (ESA) and the European Environment Agency (EEA).

ESA coordinates the delivery of data from more than 30 satellites, while the EEA is responsible for data from airborne and ground sensors. The EC, acting on behalf of the European Union, is responsible for the overall initiative, setting requirements and managing the services.

The Space Component – managed by ESA – is in its pre-operational stage, serving users with satellite data currently available through the Copernicus Contributing Missions at national, European and international levels. Copernicus will become operational after the launch of the first Sentinel mission in 2014. The remaining satellites from the five Sentinel families will follow in the years to come, completing a unified system delivering vast amounts of data fed into a range of thematic information

services, benefitting the way we live. The Sentinels will provide a unique set of observations, starting with the all-weather, day and night radar images from Sentinel-1 to be used for land and ocean services. The mission will benefit numerous services. For example, services that relate to the monitoring of Arctic sea-ice extent, routine sea-ice mapping, surveillance of the marine environment, including oil-spill monitoring and ship detection for maritime security, monitoring land-surface for motion risks, mapping for forest, water and soil management and mapping to support humanitarian aid and crisis situations.



Source: ESA

Further information can be found at www.esa.int/copernicus or at www.copernicus.eu

IDEAS CHALLENGE

EYE ON MALARIA

AFRICA-WIDE MONITORING OF ENVIRONMENTAL SUITABILITY FOR MALARIA TRANSMISSION

There is a vital need for new strategies and innovative monitoring services that support the reduction of the burden of malaria and its related negative socio-economic effects. Environmental factors are key in affecting the transmission of malaria, which can be monitored by Earth observation. EyeOnMalaria aims to develop an operational monitoring system to continuously assess the environmental suitability for malaria transmission throughout the African continent based on new European EO capacities and expert epidemiology models. The goal of this service is to provide maps (updated monthly) of environments' aptitude for malaria transmission, which will directly support targeted malaria control at the necessary times and locations while raising public awareness of the malaria season. The service is to be provided via a web portal and mobile applications.



The Winners

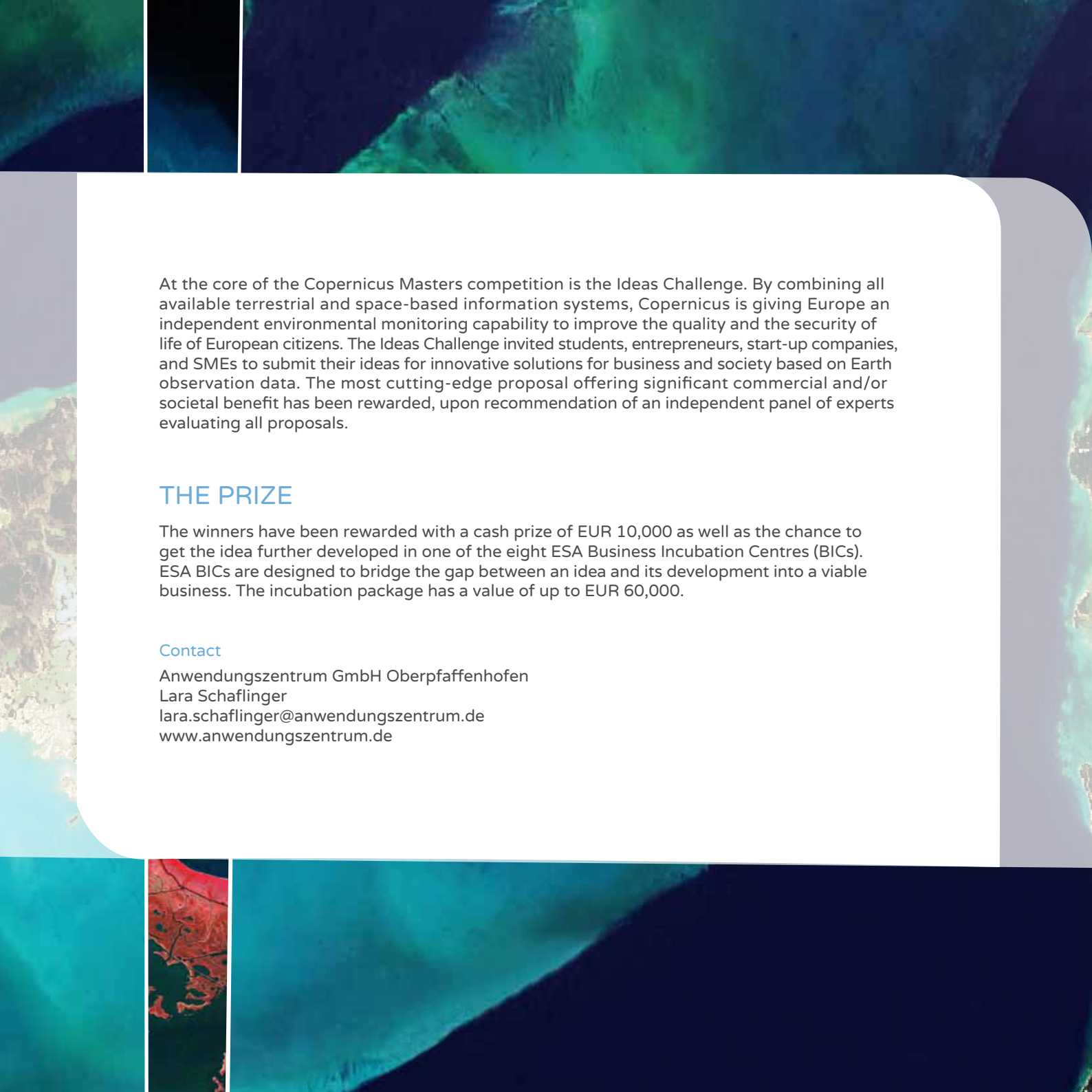
RSS – Remote Sensing Solutions GmbH
Dr Jonas Franke and Team
www.rssgmbh.de

Swiss Tropical and Public Health Institute
Dr Penelope Vounatsou and Team
www.swisstph.ch

The Expertise

“EyeOnMalaria provides a novel Earth observation-based service for malaria forecasts. The monitoring system assesses the environmental conditions for malaria transmission and provides accurate and timely risk information through the cloud. This will be a first step towards an early-warning system for malaria.”

Dr Sebastian Carl
GAF AG
Head GeoData and Data-Products



At the core of the Copernicus Masters competition is the Ideas Challenge. By combining all available terrestrial and space-based information systems, Copernicus is giving Europe an independent environmental monitoring capability to improve the quality and the security of life of European citizens. The Ideas Challenge invited students, entrepreneurs, start-up companies, and SMEs to submit their ideas for innovative solutions for business and society based on Earth observation data. The most cutting-edge proposal offering significant commercial and/or societal benefit has been rewarded, upon recommendation of an independent panel of experts evaluating all proposals.

THE PRIZE

The winners have been rewarded with a cash prize of EUR 10,000 as well as the chance to get the idea further developed in one of the eight ESA Business Incubation Centres (BICs). ESA BICs are designed to bridge the gap between an idea and its development into a viable business. The incubation package has a value of up to EUR 60,000.

Contact

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www.anwendungszentrum.de

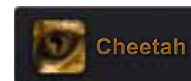
ESA APP CHALLENGE

CHEETAH

TAKING ON A BILLION-DOLLAR PROBLEM IN AFRICA

(Cheetah is an acronym for Chains of Horticultural Intelligence towards Efficiency and Equity in the Agro-food Trade along the Trans-Africa Highway).

Cheetah amplifies the voices of relevant entities (transporters, consumers, growers, officers from public and private agencies) by allowing them to report shortcomings in their value chain. The app also enables these players to tap into chains of horticulture intelligence, which leads to better-informed decisions, reduced costs/higher profits for businesses, lower market prices for consumers, fairer prices for growers, lower post-harvest losses, and better interventions by public/private agencies. Cheetah explores how data collected by the human-vehicle sensor web (on border delays, for example) can be integrated with new information obtained by Copernicus. By helping to voice spatial and temporal issues in agro-food value chains, the app exemplifies the usefulness of Copernicus and crowdsourcing in post-harvest assessment and aids in reducing related losses.



The Winners

Alain van Hanegem, Decos Information Solutions B.V.
 Alexander Popp, Technical University of Munich
 Stephen Trainor, Crookneck Consulting LLC
 Valentijn Venus, University of Twente

The Expertise

“A full one-third of global food production is lost post-harvest. To address the global food security issue, Cheetah’s novel approach combines crowdsourcing with Earth observation data and a particular focus on the production and transportation of crops in Africa.”

Dr Thomas Beer
 European Space Agency (ESA)
 Copernicus Policy Coordinator

ESA – THE EUROPEAN SPACE AGENCY

The European Space Agency (ESA) is Europe's gateway to space. Its mission is to shape the development of Europe's space capability and ensure that investment in space continues to deliver benefits to the citizens of Europe and the world. To contribute to the success of Copernicus ESA is exploiting its 35 years of expertise in space programme development and management. While the Copernicus programme is politically led by the European Union (EU), ESA is the overall coordinator of the Copernicus Space Component and will, inter alia, ensure the uninterrupted delivery of data from the Copernicus Sentinel satellites and from an important number of Copernicus Contributing Missions at national, European and international level. Today, the Copernicus programme is in its pre-operational stage, serving users with satellite data currently available through the Copernicus Contributing Missions. ESA's coordinator role will continue within the Copernicus operational phase, expected to start in spring 2014.

THE PRIZE

The winners have been rewarded with a cash prize of EUR 10,000 as well as the chance to get his idea further developed in one of the eight ESA Business Incubation Centres (BICs). The incubation package has a value of up to EUR 60,000.

Contact

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DLR ENVIRONMENTAL CHALLENGE

URBAN ANALYSER

YOUR CITY DEVELOPMENT TOOL

In order to avoid infrastructural and environmental problems that can result from the poorly regulated and unplanned growth of suburban regions, timely data on the dynamics of urban development are needed. The proposed service would offer high-resolution information on global urban development based on Sentinel-1 data. The emphasis is on the mapping of fine temporal dynamics, which makes it possible to ascertain changes at intervals shorter than one month.

This would produce the fastest and freshest information source on urban developments. The service would also help to extrapolate and estimate urbanisation trends with high accuracy. Anonymous and mobile location-based service (LBS) data will be used in order to better estimate populations and detect abandoned city blocks.



The Winners

University of Tartu
Kaupo Voormansik and Team
kaupo.voormansik@ut.ee
www.ut.ee

The Expertise

“Copernicus Urban Development Analyser addresses the rapid expansion of settlements and the associated challenges. By taking advantage of Sentinel-1 data and existing methods developed by DLR, it detects new urban areas and combines them with population estimates to inform the public via web applications.”

Gunter Schreier
German Aerospace Center (DLR)
Business Development & Copernicus,
Deputy Director German Remote Sensing Data Center

GERMAN AEROSPACE CENTER (DLR)

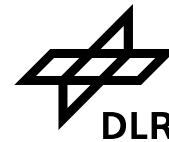
DLR is Germany's national research center for aeronautics and space. DLR also hosts the Earth Observation Center (EOC), comprised by the German Remote Sensing Data Center (DFD) and the Remote Sensing Technology Institute (IMF). EOC works in all fields related to the development of algorithms and data analysis systems, practical implementation of Earth observation applications and services – from satellite data capture and near real-time services to disaster monitoring and environmental mapping. As such, the EOC is involved in many aspects of Copernicus design, implementation, and operations. In determining the focal points of its research, DLR is to a large extent guided by the demand for innovative products and services developed in close cooperation with industry. It also invests in promising technologies and offers its research and development capacities to customers for their own use.

THE PRIZE

DLR has been looking for new applications in Earth observation, with proposals addressing the mapping of the environment and climate, specifically those concerning the sustainable uses of energy and natural resources. The winner will receive a voucher for a workshop or initial coaching according to what further realisation of the idea requires.

Contact

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T-SYSTEMS CLOUD COMPUTING CHALLENGE

OPERATIONAL SATELLITE-DERIVED BATHYMETRY SERVICE

RAPID, SPATIAL, VALIDATED

Mapping bathymetry (water depth) on a global scale would be desirable for many applications, but is not possible due to the limits of traditional methods. This idea focuses on a novel satellite-based approach as a solution for optical shallow-water areas. Recent developments indicate that an operational approach to mapping bathymetry is possible with a cloud-based method that processes repeated satellite recordings. This can also mitigate shortcomings faced in many coastal areas where changing turbidity has impeded the few methods applied so far to derive satellite-based bathymetry. The Sentinel-2 and Landsat 8 satellite missions are most applicable to this approach due to their coverage, repeat cycles, and spectral/spatial resolution. Cloud computing methods with full mission access can map bathymetry continuously all over the world, which is the objective of this service.



The Winners

EOMAP GmbH & Co. KG
Dr Thomas Heege and Team
heege@eomap.de
www.eomap.com

The Expertise

"EOMAP provides an innovative way to ascertain underwater depth in coastal waters as a service for industry and the public sector. It can be made available on-demand anywhere in the world using the dynamic scalability of cloud computing, which could make costly methods using planes and ships obsolete."

Dr Jurry de la Mar
T-Systems International GmbH
Account Director, Global Accounts & International Business

T-SYSTEMS INTERNATIONAL GMBH

T-Systems operates information and communication technology for multinational corporations and public institutions. Furthermore, the Deutsche Telekom subsidiary is a leading supplier of cloud computing, and enables customers to use ICT resources via the Internet as and when they need them, only paying for what they use. Since T-Systems has been selected by ESA to distribute and disseminate the Copernicus satellite data via its secure global network, users and industries will be able to create commercially attractive and sustainable services by combining expertise in data access and cloud computing in new ways.

THE PRIZE

T-Systems will assist the winner in getting the awarded project off the ground. T-Systems will support the implementation of the innovative project and intends to build a long-term partnership with EOMAP.

Contact

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www.t-systems.com

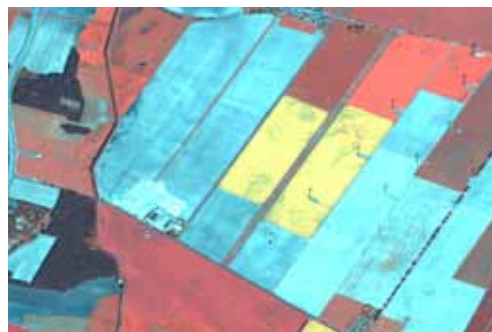


EUROPEAN SPACE IMAGING HIGH-RES CHALLENGE

CAMEA

CERTIFICATION OF AGRONOMY FOR MARKETING ENVIRONMENTALLY FRIENDLY AGRICULTURE

The CAMEA project proposes a certification service for agronomic activities that leave a smaller ecological footprint. Currently, such activities are hindered by the lack of a quality assurance service for agronomy, which prevents their added value from being internalised into crop prices. The CAMEA label will thus be assigned to farmers who follow green practices. The label and the agronomic quality it represents will be supported by Sentinel-1 and VHR remote-sensing techniques, which will monitor 30% of CAMEA farmers every year. If an activity cannot be verified remotely, a field visit will assess whether the farmer should retain the CAMEA label. Meanwhile, parcel maps created from the monitoring datasets will help plan agricultural activities for the future. CAMEA will thus propagate sustainable agronomy and support its spread with quality-based marketing tools.



The Winner

Corvinus University of Budapest
Györk Fülöp
gyork.fulop@uni-corvinus.hu
www.uni-corvinus.hu

The Expertise

“The CAMEA project aims to set up a certification service for environmentally friendly agronomic activities which produce crops with a smaller ecological footprint. Farmers will voluntarily participate in the scheme which uses VHR 8 band imagery to annually certify their better land management practices.”

Adrian Zevenbergen
European Space Imaging GmbH
General Manager

EUROPEAN SPACE IMAGING GMBH

Operating their own ground station, European Space Imaging GmbH (EUSI) based in Munich, Germany, is the leading supplier of Very High-Resolution (VHR) satellite imagery to European users. Working closely with government and industry, EUSI provides optimised VHR imagery solutions to meet the project requirements of their diverse customer base. The company is an active supplier and participant in several Copernicus services providing rapid access to globally acquired imagery and derived information.

THE PRIZE

European Space Imaging GmbH (EUSI) has chosen the best application idea that uses the most advanced VHR satellite data. The winner will be awarded a package of EUSI satellite data worth up to EUR 20,000 for use in developing the winning application further.

Contact

European Space Imaging GmbH
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www.euspaceimaging.com

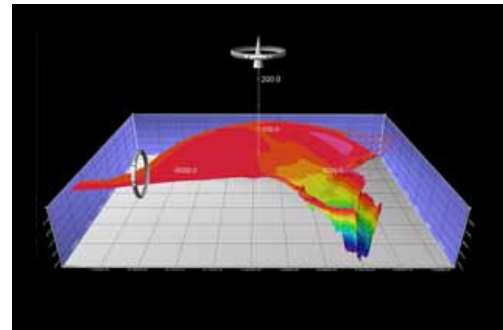


ASTRIUM RADAR CHALLENGE

WAVECERT

WAVE + CURRENT ENERGY REPORTING TOOL

With new renewable efforts focusing on the untapped potential of our seas, wave and tidal technologies are becoming a major source of future energy. WaveCERT extends Astrosat's "CERT Suite" of renewable, low-carbon measurement, verification, and reporting technologies to support this valuable source of renewable energy. The system provides vital remote (space-based) modeling, allowing for prediction, monitoring, and surveying of tidal and wave potential anywhere in the world. The technology and service innovatively fuses bathymetric data from radar altimetry and near real-time or archived SAR data with highly advanced hydro-dynamic modeling. The hydro-modeling reflects the exact topography, fluid flow, and dynamics of the site under observation producing final reports on its potential energy in any season – using a completely remote approach.



The Winners

Stevenson Astrosat Ltd
Steve Lee and Team
steve.lee@astrosat.biz
www.astrosat.biz

The Expertise

"Astrosat's WaveCERT auditing tool fuses high-resolution SAR imagery with meteorological data and a FEA analysis tool to predict the wave energy potential at a specific site. This approach supports the enhanced exploitation of sea wave power as an environmentally clean energy source for the future."

Dr Oliver Lang
Astrium GEO-Information Services
Head of SAR-Monitoring Services

ASTRIUM GEO-INFORMATION SERVICES

The GEO-Information division of Astrium Services offers a unique portfolio of Earth observation imagery, geographic information products, and value-added services. Astrium Services operates a multi-resolution/multi-sensor satellite constellation with the Pléiades and SPOT optical satellites and TerraSAR-X & TanDEM-X radar sensors to deliver geo-information solutions to customers in sectors such as agriculture, security and defence, land administration, and resource management. Customers enjoy a simple access to this unique offer: from more than 20 offices worldwide, the company delivers top quality products, solutions and customer service. One unique portfolio, one company, and one point of contact for all geo-information needs!

THE PRIZE

The winner will receive a data package (radar satellite data) worth EUR 25,000 and operational support to help advance the winning idea.

Contact

Astrium GEO-Information Services
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www.astrium-geo.com



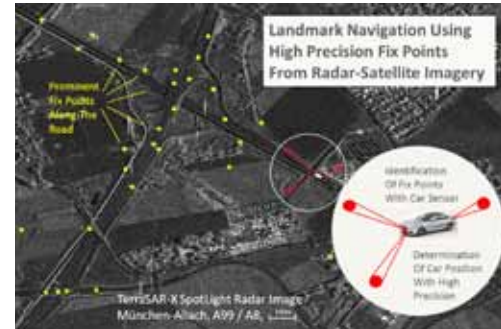


BMW CONNECTED DRIVE CHALLENGE

LANDMARK NAVIGATION

WITH RADAR FIX POINTS FROM SATELLITES

The idea is for a new vehicle navigation system that works independently of Global Navigation Satellite Systems (GNSS). It will navigate by landmarks that are easily visible from the vehicle, whose positions will be derived precisely from radar remote-sensing satellites. Tropospheric delay correction has made it possible to determine the coordinates of radar fix points in the centimetre range. With space radar missions like TanDEM-X and Sentinel-1, a global fix-point database can be set up and kept up to date. Modern cars with driver assistance systems have a variety of sensors on board – cameras, radar, and laser scanners – which could be used to detect these fix points and measure their distance and viewing angle from the vehicle. Using these measurements and the precise coordinates of the fix points retrieved from the database, the exact position of the vehicle can be derived.



The Winner

German Aerospace Center (DLR)
Hartmut Runge
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www.dlr.de

The Expertise

“The winner has successfully merged the two worlds of Earth observation and automotive technology. He proposed a novel solution that utilises innovative remote-sensing mechanisms and crowdsourcing to provide a promising component of high-precision positioning for highly automated driving.”

Benjamin Krebs
BMW Group
Innovation Strategy and Management, ConnectedDrive

BMW GROUP

The BMW Group – one of Germany's largest industrial companies – is one of the most successful car and motorcycle manufacturers in the world. In BMW, MINI, and Rolls-Royce, the BMW Group owns three of the strongest premium brands in the automobile industry. The vehicles manufactured by BMW set the highest standards in terms of aesthetics, dynamics, technology, and quality, as is borne out by the company's leading position in engineering and innovation.

Among other entities, the foundation for these innovations is laid in the BMW Group Research and Technology. The researchers of this think tank develop technologies that shape the individual mobility of tomorrow.

Having long since realised that innovation does not happen by accident, BMW believes that various methods are needed in the search for new ideas. Sponsoring the Copernicus Masters is one way in which the company stays in touch with you – the experts.

THE PRIZE

In addition to the EUR 5,000 prize, the winner will have the opportunity to present his idea to BMW Innovation Management and the relevant development department. He will also get the chance to take a closer look at BMW's development and production processes in Munich.

Contact

BMW Group
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**BMW
GROUP**
Research and Technology



BEST SERVICE CHALLENGE

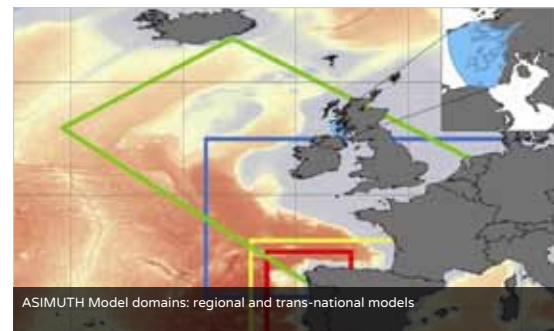
HAB FORECAST

HARMFUL ALGAL BLOOM FORECAST

Harmful Algal Blooms (HAB) are sporadic, unpredictable, and may seriously disrupt the production plans of fish farms. These blooms add costs not only by causing fish to die, but also through prolonged bay closures, subsequent waste disposal of fish, and increased insurance deductibles. Since they are part of nature, they cannot be prevented; with the right technology and know-how, however, they can be predicted. The ASIMUTH project has taken up this forecasting challenge. It hosts a monitoring service that provides a weekly regional alert on HAB via a web-published bulletin (www.asimuth.eu). The service is designed to combine all of the available information from Earth (in-situ monitoring stations), space (satellite data) and in-silico (biological and physical oceanic models) sources for the northeast Atlantic Ocean. ASIMUTH thus provides the aquaculture industry with an overview of areas at risk of a HAB event.

The Winners

Daithi o'Murchu Marine Research Station
Dr Julie Maguire and Team
julie.maguire@dommrc.com
www.asimuth.eu

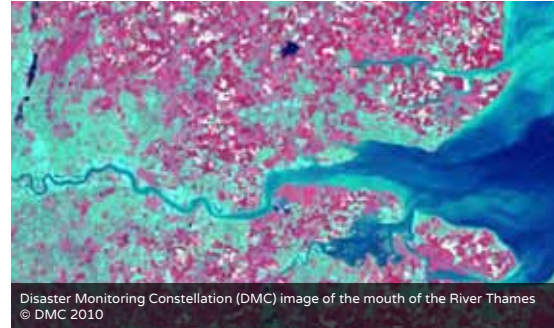


2ND PLACE

LANDMAP – SPATIAL DISCOVERY

Landmap provides web-based access to regular updates of geospatial data. Landmap datasets have been used for many projects funded by research councils, such as EPSRC Urban Futures, ESRC Health Modelling, and the EU-funded MAREN Project. The Sentinel satellites will ensure that this archive of Earth observation data continues to support high-quality research and teaching for the next generation of our users.

The University of Manchester Mimas –
Landmap Service
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www.landmap.ac.uk



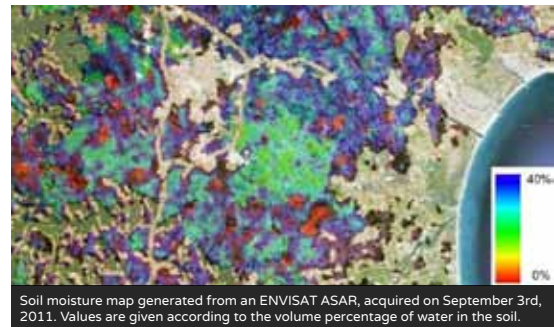
Landmap
SPATIAL DISCOVERY

3RD PLACE

SMART IRRIGATION – SATELLITE MONITORING FOR AGRICULTURE

The SmartIrrigation solution measures soil moisture and plant health by taking satellite data and integrating it with weather information and measurements from in-situ soil moisture sensors. This provides agricultural managers and decision-makers with fundamental information that facilitates better management, optimal production across large spans, and efficient use of water for irrigation.

Starlab Barcelona SL
star2earth@starlab.es
www.star2earth.com/smartirrigation



Starlab[®]

GEO ILLUSTRATION CHALLENGE “TRACES OF HUMANKIND”

AQUA ALTA

This illustration shows a satellite image of Venice in the form of a human footprint. Recent projections assessed by the US National Research Council suggest a possible sea level rise of between 56 and 200 cm over the course of the 21st century due to global warming.

In addition to the many yet-unknown factors that contribute to global warming, it is certain that greenhouse gases conduce a significant part. These are mainly caused by humans. The main intention of the image is to draw attention to this dramatic situation and to make people realise that if nothing is done, Venice will sink, trampled down by humankind.

The image is named after the annually recurring floods in Venice. Regardless of this environmental aspect, Venice itself is a wonderful example of human traces on Earth. This is illustrated by the outline of a footprint.



[The Winner](#)

Alexander Popp

GEO – IN TOUCH WITH THE WORLD

In its Illustration Challenge “Traces of Humankind”, GEO magazine was looking for illustrations that accentuate humankind’s footprint on our blue planet by applying graphical and artistic techniques to satellite imagery.

GEO magazine is published monthly by the German publishing house Gruner + Jahr for 36 years. Its opulent photo coverage and exciting, impeccably researched reports on science, nature, and humankind have made it the most respected German-language reportage magazine and one-of-a-kind in Europe. It currently appears in a total of 20 countries and also sells print and digital versions of its magazine in English all around the world.

THE PRIZE

- › Publication in GEO magazine
- › VIP-ticket to Sentinel Satellite launch at Kourou Space Port
- › Chance for commission by GEO
- › Publication in exclusive calendar

Contact

GEO Magazin
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GEOPICTURES

Since last year, this crowd-sourcing app has undergone a technical evolution. The new version recently released for Android, iPhone, and Windows Phone was designed for broad use at the major TRIPLEX exercise, which involves 300 participants from worldwide organisations in the field of humanitarian aid. The system has been sold to Indonesia's civil protection authorities, as well. Meanwhile, the team has prototyped a tablet version that also integrates EO delivery and developed a version tailored for use with UAVs. Its members are following the plans they laid last year – opening an office in Barcelona, for example, where their apps are being adapted further to specific market segments. Finally, the ASIGN system and app have also found a new, award-winning commercial market in the insurance business.

ASIGN/GeoPictures was the winning idea in the ESA App Challenge 2012.

Contact

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The ASIGN crowd-sourcing app is available for Android and iPhone, and allows both early responders, NGOs or the general public to provide and share in-situ observations to global disaster manager.

Try it out yourself by using the QR code.
 Be ready to help next time!



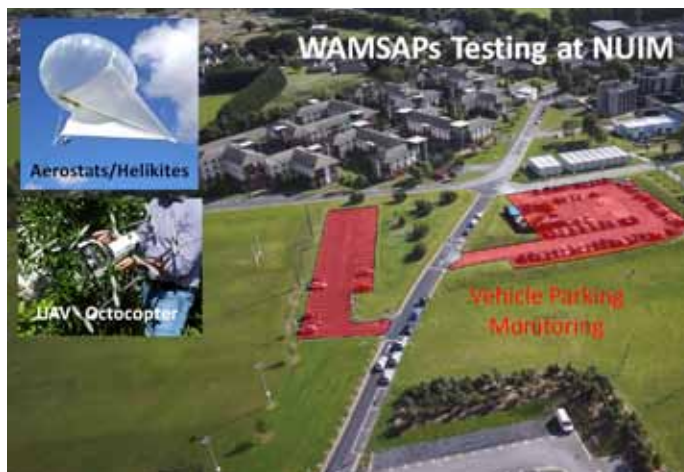
Android



iOS

WAMSAPS

iGeotec has developed the Ubipix platform (www.ubipix.com) to handle near real-time, crowd-sourced geo-media, which comprises GPS-encoded video and image streams. B2B customers, including a number of organisations in transportation and utilities sectors, are now using the cloud-based service for network operations and asset management. Based on the Ubipix platform, meanwhile, Wide Area Monitoring using Space & Airborne Platforms (WAMSAPs) has progressed to initial testing of combined unmanned aircraft systems (UAS) and aerostats/Helikites over campus at the National University of Ireland (Maynooth). Approval for deployment from the Irish Aviation Authority (IAA) of these new and autonomous sensing platforms was granted in August 2013, and initial trials using visible and infrared cameras are due to commence in autumn 2013. Pilot demonstrator sites are planned for maritime ports, transportation hubs, and sensitive coastal habitats over the course of 2014.



WAMSAPs was the winning idea in the T-Systems Cloud Computing Challenge 2012.

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URTHECAST

UrtheCast Corp. is a Vancouver-based technology company that is developing the world's first near-live HD video feed of Earth, streamed from space. Since winning the T-Systems Cloud Computing Challenge in 2011, UrtheCast has grown into an international, publicly traded company with more than 50 employees across three countries: Canada, the United States, and Russia. Working with renowned aerospace partners, UrtheCast is building, launching, installing, and will operate two cameras on the Russian segment of the International Space Station. Once installed, UrtheCast's cameras will provide high-resolution video and imagery of Earth, which will allow for dynamic monitoring of the environment, humanitarian relief, social events, agriculture, and more. UrtheCast plans for its first images to begin streaming to the web in early 2014.

UrtheCast was the winning idea of the T-Systems Cloud Computing Challenge 2011.

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URTHECAST

THE EARTH VIDEO CAMERA

DEFOREST ACTION

The project demonstrates new ways to preserve forests at risk and create livelihoods for local landowners as well as helping animals who are victims of deforestation.

In the presented pilot of Earthwatchers concept near real-time access to EO data was secured through TerraSAR-X ortho-rectified imagery and automatically generated change information. Knowledge and results are shared in a social media environment. The radar satellites are able to reliably provide high-resolution SAR imagery with a resolution of up to 1 m independent of weather conditions and illumination. In addition they exhibit a unique geo-localisation accuracy which is a prerequisite for field teams to find distributed small scale loggings. These facts make the imagery particularly well suited to monitor Borneo's rainforests.

DeforestAction was the winning idea of the Ideas Challenge 2011 and the Overall Winner 2011.

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