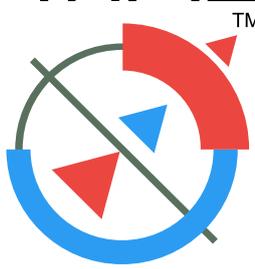




GEOSPATIAL
WORLD
FORUM 

23-27 April, 2012

RAI Convention Centre, Amsterdam
The Netherlands

REPORT

SPONSORS

STRATEGIC SPONSOR



PRINCIPAL SPONSOR



CORPORATE SPONSORS



ASSOCIATE SPONSORS



CO-SPONSORS



STRATEGIC PARTNERS



ASSOCIATE PARTNERS



STRATEGIC INSTITUTIONAL PARTNERS



MEDIA PARTNERS



CO-ORGANISER



ORGANISER





Moving forward with sustainability is no more a subject matter of intellectual discussion. Instead it has become a harsh reality in evolution of human civilization. However, scope and definition of sustainability has constantly expanded manifold to include essential utilities and requirements of day to day life. Inherent consumerism of growth/development has constantly evolved luxuries into commodities causing incremental consumption per capita.

The process of globalisation is moving at an ever faster pace and the world is shrinking to form a closed network of businesses that are inter-dependent. Thus, the effect on one business has a direct or indirect impact on another and ultimately has a profound impact on the world economy. Geospatial technologies, in today's world are playing a pivotal role in strengthening the business networks, enabling the convergence of information and linking the stakeholders. Thus, geospatial technologies have ushered in a culture of mutual trust and sharing between organisations, stakeholders, regions and nations. This makes this industry very dynamic in nature and requires its constant interaction with the user community to know their needs and empower them to perform better and more efficiently.

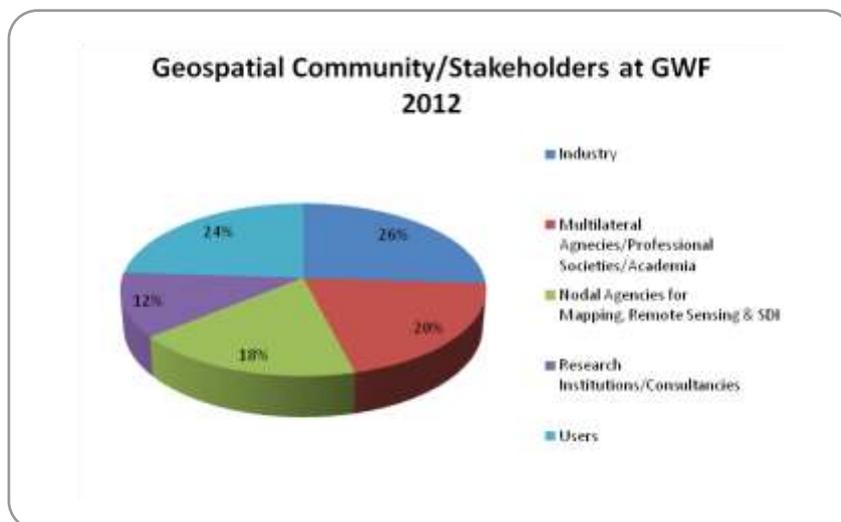
To facilitate this interaction, Geospatial World Forum provided a platform of convergence for all stakeholders of global geospatial community, policy makers and end users of geospatial information. In order to address the emerging issue of easy and accurate geospatial data sharing and to create a level-sharing platform for easy exchange of knowledge and ideas among various stakeholders, Geospatial Media & Communications in collaboration with Cadastre, Land Registry & Mapping Agency, The Netherlands, organised a 5 day conference -cum- exhibition from 23 to 27 April 2012 in Amsterdam, The Netherlands. With its theme "Geospatial Industry & World Economy", it aimed at promoting and projecting the utility and relevance of geospatial industry and connecting the same with major economic driving industries.



Global Outreach



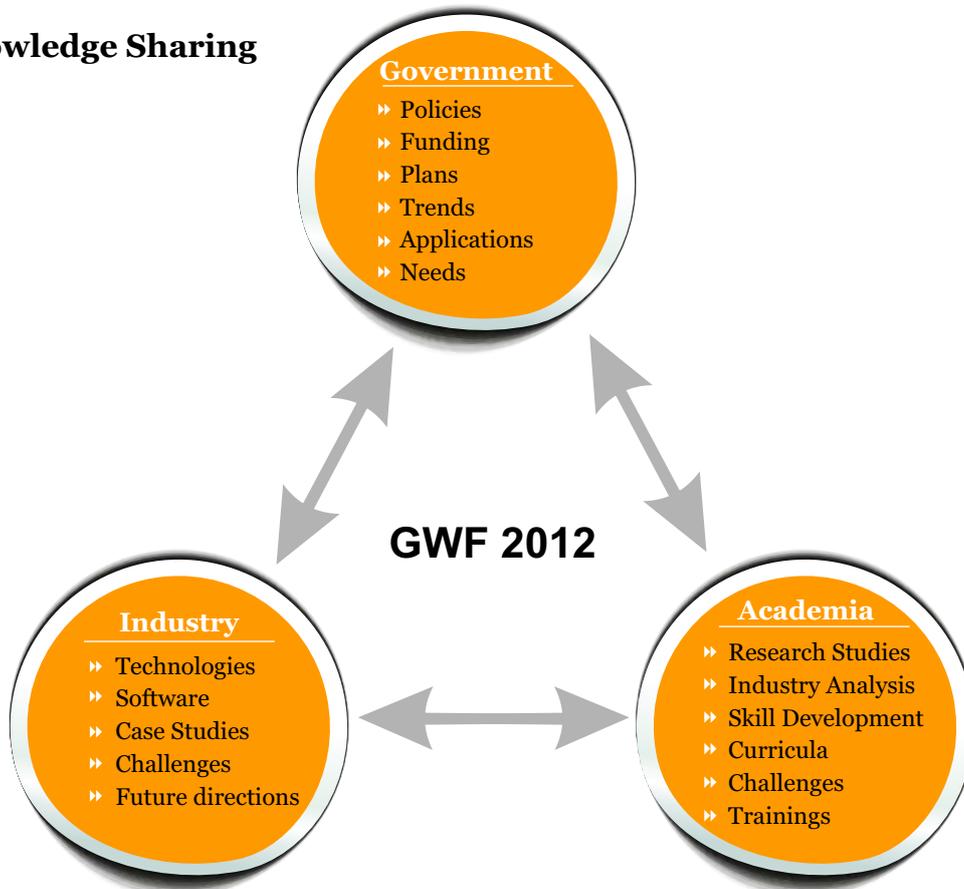
Connecting Communities



Geospatial World Forum 2012 was a platform to connect communities and stakeholders of the geospatial ecosystem. On one hand it connected several constituents' of geospatial industry like GIS, Positioning, GNSS, Imaging and Photogrammetry, and on the other hand, it also connected geospatial community with other user communities of global economy. It provided a perfect platform to share and learn from each other & work together to serve each other's business interests and purposes.



Knowledge Sharing



Business Development





Spanning over five full days of activities, the conference covered as many as 4 exchange forums, 4 plenary panel sessions, 2 guest addresses, 6 symposia, 9 seminars, 5 technical sessions and a well laid-out exhibition on latest Geospatial Technologies running throughout on all five days. With plenary sessions and parallel tracks scheduled for each day, a plethora of issues pertaining to multiple aspects of Geospatial technologies and their applications in various sectors were meticulously deliberated, discussed and debated by the speakers as well as the audience.

KEY OUTCOMES FROM GEOSPATIAL WORLD FORUM 2012

- *Geospatial technology is a powerful tool to empower the world economy*
- *Geospatial technologies are playing a crucial role in managing world resources and enabling better decision making*
- *There is a need of defining geospatial industry, which is at the moment compartmentalized between GIS, Surveying, Imaging, Laser Scanning and so on*
- *Major economic industries of today are beginning to make use of geospatial technologies for better understanding of their business domains, processes and assets and subsequently deploying geospatial tools at an enterprise level to make their processes more efficient, productive and economically viable*
- *Latest and innovative technologies are revolutionizing the way we live and work*
- *There is a need to build capacity for enhanced integration of geospatial technologies into the mainstream education by means of partnerships between the industry, government and academia*
- *Policy makers need to play a leading role in enabling geospatial technologies to thrive in each region and in promoting the use of geospatial technology across all domains*
- *In order to work more efficiently and in a unified manner, there is an increased need to have more integrated and active SDIs and standardization of data to facilitate interoperability*
- *Industry leaders from various vertical domains still need to realise the full potential of and better use geospatial technologies for creating more efficient and profitable businesses and in turn, creating a better world*
- *There is a need for greater collaboration and association between industry and government to develop a global platform for sharing geospatial knowledge*



The opening session of the conference saw some very high level dignitaries presenting at the event. During her welcoming note, **Dorine Burmanje**, Chair, Executive Board of Directors of Cadaster, Land Registry and Mapping Agency, the Netherlands, opined, "Developments in the field of mapping, cadastre and land administration have gained pace in the last few years. Geospatial information in all forms is essential to the society in general including business persons, citizens and everyone else. European Union is showing growing interest in location information. The directive of GMES is enabling capacities to be developed across Europe."

In his introductory remarks, **Sanjay Kumar**, CEO, Geospatial Media & Communications, emphasised on the important role that geospatial technology is playing in the world economy. While talking about the globalisation and world economy, he said, "Today, every local action has a global reaction. So, every global challenge influences local living. Geospatial technology helps understand and manage our resources. I believe geospatial industry has the true potential to be a game changer in the current world order."

"We as a community need to take certain important steps. We, as geospatial community, need to define ourselves better. We need to work together to raise the profile of this industry. Restrictive and restrained policies are limiting the potential of this technology. We need to work towards connecting with mainstream economy. It is time to connect our community with mainstream industries."

During the event, **Steven Berglund**, President and CEO, Trimble Navigation, said, "Geospatial information is becoming more and more central to many capabilities". He added, "The nature of geospatial is a combination of three different technologies – sensors that capture data, software that turns data into information and the wireless communication that enables that information to be used everywhere in relatively seamless manner."

He discussed how geospatial technology is enabling improved productivity, efficiencies and a range of capabilities that did not exist previously in various verticals like agriculture, infrastructure, transportation and business enterprise. "Geospatial may be an industry but is part of every other industry. This is an exciting period for the geospatial industry," he said.



Exhorting that geospatial information will be the next frontier of evolution, **KK Singh**, CMD, Rolta opined that the innovations in geospatial technology will go a long way in addressing the issues and challenges of humanity. "Today, we live in a world that is dramatically transformed with technological advances. The immediate opportunity is to integrate the data residing in disparate places and create value out of it. The convergence of various stakeholders including users, technology providers and the industry will enable us to meet the needs of the future."

In her opening address, **Melanie Schultz van Haegen-Maas Geesteranus**, Hon'ble Minister of Infrastructure & the Environment, the Netherlands, underscored the power of geospatial technology. "Opportunities are tremendous and it is time for a geospatial revolution, but we all face challenges, we need to work together on standardisation and harmonisation on sharing data. That is how we can create a geospatial revolution," she said.

"Spatial planning in the Netherlands is all about precision and one of the major reasons for the same is limitation of space and resources. To keep the city clean, competitive and protect it from climate change and to make the country liveable and comfortable call for a vision and informed decisions. This requires the crucial role of geoinformation. Dutch Master Map is so precise that the location of every house is no more than 20 cm off its precise position."

With rapid technological developments in the last 55 years, geospatial technology is going to be a game changer, particularly in the development of rural and remote places of the world, observed **Dr A P J Abdul Kalam**, 11th President of India, in his keynote address at the Geospatial World Forum 2012 in Amsterdam, the Netherlands. Dr Kalam deliberated upon the applications of geospatial technology for sustainable development of 3 billion people living in rural areas of the world. "India has successfully deployed 12 remote sensing satellites. Data from these satellites and associated applications are being used by millions of people in India, particularly the agriculture and fishing community," he said.



The conference had four plenary panel sessions which focused on various aspects of geospatial technology and its applications.

PLENARY PANEL I

Geospatial Industry: Empowering Billion+ People

This session was designed to bring forward a linkage between geospatial industry and world economy. It successfully provided an overview of the growing size and relevance of geospatial industry in world economy. This Plenary Session also made an excellent attempt at advocating the utility and contributions of geospatial industry as means of empowerment of billions of people who are making or likely to make use of geospatial information in their day to day life.

KEY OUTCOMES

- *There is a need to mainstream geospatial technology with the world economy and empower the society*
- *Geospatial technologies are playing an important role in empowering the lives of billions of people who are using these technologies in their day to day lives*
- *In today's world, it is the information mobility that is empowering the people*
- *We need to integrate statistics and geo-information to form Global Information Infrastructure at national and global level to further empower the people*
- *For open data to reach billion plus, it is important for open data to take form of applications*
- *We need a sustainable model for data management to make accurate decisions which would in turn make the lives of billions easy*





Presenting his vision for the industry, **Jack Dangermond**, Founder and President, Esri Inc., said that geospatial community in general is growing, owing to many influences including cloud GIS, mobile computing, pervasive connectivity, real time measurement, crowd sourcing, big data, developer community and above all, spatially literate population, thanks to initiatives like Google Earth.

Looking at the situation in a 'musical' way, **Ola Rollen**, President and CEO, Hexagon traced the evolution of music industry starting from the invention of phonogram to MP3 players, YouTube and several online tools that allow individuals to listen, share and even create music on their devices. He observed that digitalising the music industry has spread music amongst billions of people.

Paul Cheung, Director, United Nations Statistics Division and GGIM Secretariat shared the objectives and provided an overview of UNGGIM. He also outlined the process through which the same has evolved. He emphasised the role of government in developing policies & programmes and responsibility to make accurate, authoritative, reliable geospatial information readily available to support national, regional and global development. He called for greater collaboration and association between industry and government to develop a global platform for sharing geospatial knowledge

Greg Bentley, CEO, Bentley Systems, USA in his speech addressed the premise that was put up as the session theme - if we, as geospatial community are indeed impacting billion plus people and if so, how we could do more. Coming from the view that billions are living on one planet and even though we face economic headwinds, we are surely nowhere near point of diminishing returns in working smarter together for creating safer environment and better living. In his presentation, he provided a glimpse of the future direction this industry can take within our lifetimes, which will lead to better managed, maintained and safer infrastructure to be used by billions around the world. He spoke on how geospatial technologies have become implicit and important in enterprise solutions and iterated that, "single best thing we can do as a geospatial community is help create and maintain 3D as operated models of our infrastructure...(which will help reduce disasters)". Mr. Bentley concluded his presentation by saying that the geospatial industry is already impacting billions of people and is nowhere near the point of diminishing returns.





PLENARY PANEL II

Managing World Resources through Imaging Technologies



This session was designed to bring forward an overview of world resources and its efficient management by effective utilization of Imaging Technologies. Firstly, it made an attempt to provide an overview of the several kinds of world resources and challenges associated with optimum utilization of the same for improving quality of human life.

Secondly the session provided an overview and future directions with reference to imaging technologies and its utility and relevance towards overall management of world resources including minerals, water, forests, and so on.

KEY OUTCOMES

- *The world is facing many challenges due to improper management of resources. One of them is Climate Change and geospatial technologies are playing a role in understanding these problems in detail*
- *Geospatial industry with its powerful sensor technologies, analysis techniques have developed deeper insights into the problems and are providing solutions*
- *Imaging technologies have made the task simpler for the scientific community to deal with natural disasters*
- *Remotely sensed elevation and Image data are being used by various user domains like energy, oil & gas, agriculture etc for enhanced and accurate decision making*

In his presentation, **Fred Hagman**, Managing Director, Aerodata International, Belgium, dealt with some general trends and developments that could be observed in the geospatial industry, showing the increasing importance of imaging technologies.





Brian L. Soliday, Vice President of Sales, Branded Products, Intermap Technologies, USA, took a few examples of how remotely sensed elevation and Image data are impacting the management of sustainable natural resources such as precision agriculture, renewable energy sources such as oil palm, wind and solar energy, water and natural hazard risk assessments, and managing our forests and reducing carbon emissions.

Tony Frazier, Senior Vice President-Marketing, Geoeye, highlighted how Geoeye is using Earth imagery, geospatial expertise and enabling technologies to make the invisible visible, whether uncovering human rights abuses, aiding in emergency disaster relief and damage assessment, or monitoring and managing the world's resources. He also gave examples of how they created geospatial solutions to help people see, understand, anticipate and respond to change.

Prof. Dr. F. J. Radermacher, Director of FAW/n (Research Institute for Applied Knowledge Processing/n), Ulm University, in his guest address highlighted the importance of geospatial and ICT technologies in addressing the global challenges like climate change.

He said "The key to a better future lies in the right combination of innovations in technology and innovations in governance. Innovations in technology have historically always opened up opportunities for a better world. In particular, they have reduced the specific use of resources to create value in the form of products and services. This effect was usually counteracted, however, by the so-called rebound or boomerang effect."



PLENARY PANEL III

Convergence: Enabling Spatial Culture

Plenary Session 'Convergence: Enabling Geospatial Culture' was designed to provide dimensions and directions of geospatial technology and its integration for delivering geospatial information and utility to common man, further in turn enabling spatial culture. Panel Discussion revolved around providing an overview of technology developments in different segments, converging together to commoditize spatial information and location intelligence.

KEY OUTCOMES

- *For enabling a spatial culture, it is very important to have good data management to deal with the enormous amount of digital data generated*
- *To facilitate easy adoption of these technologies by the user community, the industry needs to make the applications cheaper and simpler for them*
- *The policy community needs to play a proactive role in empowering this industry*
- *Standardization & Interoperability play a very crucial role in understanding the problems of the user community in a unified way*
- *Geosciences and geodesy are important pillars of this technology that enable us to understand and to tackle the major challenges of the future*

*In his guest address, **Wubbo Joannes Ockles**, Professor of Aerospace for Sustainable Engineering and Technology, Delft University of Technology, The Netherlands observed "We are at the end of industrial revolution. Our oil resources are getting exhausted. Greenhouse gas concentration is leading to heating up of the earth. These are indicators that humanity is leading itself to catastrophe," he said and added that humanity should learn to play win-win game with nature if it wants to sustain the species on earth. The first Dutch astronaut exhorted humans to turn to sun, which gives light, heat and wind and plenty of energy for everyone, much more than an individual requires.*



This plenary panel saw **Steve Hagan**, Vice President – Server Technologies, Oracle Inc. talking on big data, cloud computing and spatial databases. He said global digital data is growing by leaps and bounds at an average rate of 40+ percent year over year. In 2009, human beings have generated 0.8 zeta bytes. Going by this rate, by 2020, we would be producing 35 zeta bytes of data.

Alain de Taeye, Board Member at Tom Tom BV traced the history of the art and science of map making right from Mercator in 16th century. In 20th century, much advanced tools have been used for map making and navigation. He pointed out that though the tools have changed and sources have changed, the objectives of map making and navigation still remain the same. Discussing the changing map making environment, he said hybrid map making approach is the way to go forward and that includes field survey, GPS measurements, community input, mobile mapping and data from authoritative sources. Ben Semmes, Group Operating Officer, PB Software enumerated how changing priorities are enabling a mature geospatial world. After Haiti earthquake in 2010, the combination of Twitter and open maps has complemented authoritative data, he said.

There was a time when interoperability was thought to be impossible as everyone looked at world with a different perspective. When Galileo invented the telescope and Gutenberg invented the typewriter, people had an entirely different perspective of things, according to **David Schell**, Founder and Chairman Emeritus, OGC. Geosciences and geodesy are important pillars of this technology that enable us to understand and to tackle the major challenges of the future. He opined that investments are going into developing trivial applications rather than pursuing solemn objectives.

Air Chief Marshal Stuart Peach, Royal Air Force, UK described ways to enable geospatial culture. To realise the vision technology promises, to blend all our thoughts and experiences, training is essential, he opined. “We were working in silos and this is particularly prevalent in intelligence communities. Increasingly now, that is not the way things work. We need to fuse across traditional boundaries, inculcate the culture of sharing and enable the databases to become interoperable. It is also about the interoperability of the mind, he concluded.





PLENARY PANEL IV

Connecting Communities for Enhancement of Geospatial Utility in World Economy

This plenary was designed with a purpose to connect and integrate geospatial industry with major industries of world economy and enhance the utility and relevance of geospatial technology in these industries. The Speakers of the Plenary Panel Session provided an overview containing dimensions and directions the respective industry domains and put forward their challenges and constraints which may find its solutions by making efficient and effective utilization of geospatial technology. Panel Discussion revolved around addressing larger issues of the world economy and dwelling upon how to make optimum and efficient utilisation of geospatial technology in those industry sectors.

KEY OUTCOMES

- *Various user domains like water, mining, energy, construction & Infrastructure are using geospatial technologies to improve their understanding about their domains and make better decisions*



- *There is a felt need within the user communities to work in close association with the geospatial industry*
- *There is also a need to standardise the data and allow it to be used in an interoperable manner by all communities*

Speaking at the plenary session, **Prof Jozef Dubinski**, President IOC, World Mining Congress, Poland, highlighted the role of mining industry in world economy and also threw some light on its future directions and dimensions.

A J Baayen, Managing Director, Deltares, The Netherlands in his presentation talked about the Digital Data Deluge. Talking about Co-creation, he mentioned “We are working together with many clients within communities on a mutually beneficial "co-creation" cooperation basis. We have for instance co-developed the Open Earth community in which we have streamlined the exchange data, information and software tools between scientists, governments, clients (e.g. the major dredging companies) and citizens.”

Talking about the geospatial aspect of Ocean Resource Management and its impact on world economy, **Mitrasen Bhikajee**, Executive Secretary, Inter-governmental Oceanographic Commission, UNESCO, France, mentioned “Satellite technology through online tide gauges and drifting and fixed buoys help in studying ocean processes which provide the information for predicting climate – an important factor in food production. Ocean data transmitted through remote systems allows the monitoring of cyclones and tsunamis, both of which have an impact on our economic resource base.”

Dealing with the Infrastructure sector, **Geoff Zeiss**, Director Utility Industry Program, Autodesk, USA, mentioned an important trend in engineering design technology which is reality capture using new techniques for geospatial data acquisition. Laser scanning (terrestrial, mobile, and LiDAR), satellite photography and radar, high-resolution aerial photogrammetry and radar, oblique photogrammetry, and street-level photography, to name a few of the new geospatial data acquisition types that are being used by infrastructure engineers and designers to improve the productivity throughout the plan, design, build, and maintain infrastructure lifecycle.





CONFERENCE PROGRAMME

Geospatial World Forum 2012, saw some very interesting symposia, seminars, sessions, technology tracks and product demos. These were exclusively designed considering the interest of all the stakeholders- users, industry and academia. One thing that very nicely emerged from these sessions and symposia is the global interest in geospatial technologies. Delegates from around 76 nations participated in these in making the programme a success.

PROGRAMME	COUNTRIES	NUMBER OF SPEAKERS
Exchange Forum on Land Administration for Sustainable Economic Development (Co-organised by Cadastre, Land Registry and Mapping Agency, The Netherlands)	19	22
Exchange Forum on Earth Observation Systems for Nation Building (Co-organised by ITC and co-sponsored by Netherlands Space Office & ISPRS)	13	19
Exchange Forum on Evolving Industry-Institution Network for Capacity Development (Co-organised by EUROGEO)	8	15
Exchange Forum on Public – Private Partnership for SDI (Co-organised by Joint Research Commission)	20	26
Construction & Infrastructure	7	18
Water	7	14
Mining & Exploration	12	15
Business Enterprises (Co-organised by TomTom)	7	16
Defence & Intelligence (Co-organised by USGIF)	9	20
Energy	9	10
Open Source	5	12
Mobile Mapping	5	7
Governance & Planning	10	14
Realtime Geoinformatics-Live Geography	4	5
3D Modeling & Web GIS	10	13
European Digital Agenda	4	8
5D Modeling (Regional focus)	1	5
GIS Ready Information from Imagery	4	7
Next Generation Standards & Interoperability	6	7
Environmental Management	8	12
Cartography	3	3
Surveying & Mapping	6	10
Cloud Computing	4	5



Geospatial World Forum 2012- Catering To The Needs Of All...

For The User Community

For the users, the conference provided ample opportunities to understand the geospatial technology, update themselves on the its applications in their domains and showcase their own application of geospatial technology to other users.

Water

- Water management strategies across the world
- Watershed management
- Drinking water supply management
- Water Resource Assessment
- Efficiency Improvement in water utility
- Water Information System
- Integrating Hydraulic Modeling & GIS
- ROI Study

Mining & Exploration

- General Overview of mining industry and the use of GIS
- Geospatial technology for site location
- ROI study
- Earth Observation for monitoring the societal and environmental impacts of mining
- Overview of the oil & gas industry and the use of geospatial technologies in exploration, maintenance and production etc

Business Enterprises

- Geospatial for improved Decision making
- Geospatial technologies for streamlining the business processes in various sectors like Insurance, real estate, telecom, oil & gas etc
- Asset Management using GIS
- ROI and benefits
- Challenges experienced at the enterprise level
- Way Forward

Defence & Intelligence

- Geoinformation for Command and Control
- Defence and Homeland Intelligence Information Enterprise
- Geospatial to combat future threats
- The GEOINT Dimension of Socio-Cultural Dynamics
- Commercial Imageries for Geo-Intelligence

Construction & Infrastructure

- Geospatial technologies for Infrastructure management
- Integration of CAD and GIS
- Building Information Systems
- Intelligent Construction & Infrastructure
- 3D infrastructure modeling

Energy

- Smart Grids
- Geospatial technologies for RE site selections
- GIS for efficient power production
- ROI Studies
- Smart frameworks in power utilities
- Challenges Faced by the Utility Industry: Moving Towards a GIS-Centric Enterprise



For Policy Community

The conference had some enlightening exchange forums that dealt with policy issues related to geospatial technologies. These exchange forums were designed to meet the needs of the policy community and to enable them to take better and effective decisions. The exchange forums resulted in some very healthy discussions between the various geospatial stakeholders.

Land Administration for Sustainable Economic Development

- Discussed the attributes of some 'best practices' in land administration systems around the world where support in sustainable economic development is concerned
- Brought out the challenges faced while implementing such systems in a transparent and accepted way on a local level in support of improving investment climate
- *Determined processes that could lead to improvements in land administration systems in respective countries*

Earth Observation Systems for Nation Building

- Identified and assessed the role of Earth observation systems in nation building
- Identified and presented best practices of usage of Earth observation data in national programs and activities
- Attempt to understanding policies and the connectivity with national programmes and projects
- Resulted in sharing of knowledge and learning from best practices and policies

Public – Private Partnership for SDI

- Attempted to bridge the gap between the public and private entities who are key stakeholders of PPP model for SDIs
- Identified the road blocks in achieving success within these models
- Identified ways and means of overcoming the above mentioned road blocks
- Identified the steps that government agencies can take to invite or encourage Private Sector participation in SDI
- Outlined benefits for private sector to contribute and participate in SDI





CONFERENCE PROGRAMME

For The Technology Community

For the technology community, the conference had series of technical sessions on latest geospatial technologies like 5D Modeling, Realtime Geoinformatics-Live geography, Cloud Computing, Open Source, Next Generation Standards & Interoperability, Mobile Mapping, GIS Ready Information from Imageries etc. The conference also gave a world-class technology experience with its exhibition, technology tracks and product demos. These provided good technical learning platforms for the industry and also provided insights to the users for applying these technologies.

For The Academic Community

For the academia, the conference provided a good platform in the following way:

- A good learning experience- technical sessions, symposia, seminars etc
- Excellent Networking with the geospatial community
- Opportunity to demonstrate research studies to the geospatial community
- Exclusive exchange forum on “Evolving Industry-Institution Network for Capacity Development” for the academic community





European Digital Agenda

- This seminar threw light on the status and position of European Digital Agenda
- It highlighted the various e-governance and ICT strategies in the region
- Security issues and high costs involved emerged as some of the key challenges
- Need for standardization of data and interoperability
- It emerged very well from the seminar that there is a good policy boost for promoting the digital agenda. However, society needs to be educated more about this agenda and mainstream this with their daily activities

Mobile Mapping

- The concept and practice of mobile mapping has been expanded to all forms of mobile data collection with mobile devices such as mobile phones and UAV's
- Recent disasters such as the Fukushima nuclear accident have shown that (informal) sensor data are an important source of information for citizens and professional decision makers.
- Where Mobile Mapping is most often perceived as mass data collection, derived products are still limited by available tools to view, analyze, measure, calculate or process the raw mobile mapping content.

Realtime Geoinformatics-Live Geography

- Real-time monitoring of urban processes is still widely unexplored and has recently received a lot of attention due to the fast rise of inexpensive pervasive sensor technologies, which made ubiquitous sensing feasible and enriches research on cities with uncharted up-to-date information layers.
- Challenges and opportunities associated with the Sensor Web applied to areas, such as emergency and disaster management and environmental monitoring.

Open Source

- Relevance of open source in today's world
- Roadmap for the future of web cartography and the role of Open Source software
- International efforts to create global data sets that are available and free to use for anyone
- The path of GeoNode, OpenGeo's bottom up SDI solution, which has been a project funded by several early clients and will soon be the basis of a fully supported OpenGeo product
- Some areas where open source is used are spatial databases, spatial data services, workflow management and system design

5D Modeling

This seminar provided an approach for data modelling in five dimensions

- How 5D data models and data structures may solve the issues of redundancy and inconsistency caused by unconnected data sets about the same location at several scales and time periods
- Advantages and disadvantages of integrated 3D space and time representations
- Discussions on the market demand for 4D and 5D Modeling

Next Generation Standards & Interoperability

- A Dutch example of process interoperability between asset management and surveying
- There is strong need to encourage next generation standards and interoperability for uniformity and better decision making in work processes
- Advantages and Challenges in implementations



Geospatial World Forum Awards – Winners 2012

Leadership Awards

CATEGORY	WINNER
Lifetime Achievement Award	David Schell, Chairman, OGC, USA
The Geospatial Ambassador	Jack Dangermond, Founder and President, Esri, USA
Geospatial Entrepreneurship	Kamal K Singh, Chairman and Managing Director, Rolta India
Making a Difference	Ms Aida Opoku-Mensah, Director, ICTs & S&T Division (ISTD), UN Economic Commission for Africa, Ethiopia
The Geospatial Personality of the Year	Ola Rollen, CEO, President and Director, Hexagon AB, Sweden
Corporate Leadership	Steven W Berglund, President and CEO, Trimble Navigation, USA
Premier National Mapping Organization	SWISSTOPO
Popularizing Geospatial Content as a Public Utility	TOMTOM
Fundamental Research and Capacity Development in Geospatial Sciences	Wuhan University





Geospatial World Excellence Awards

CATEGORY	WINNER
Urban Planning	Gothenburg City, Sweden & AGENCY 9 AB, Sweden
Land Administration	Sarawak Information Technology Resource Council, Malaysia and Sarawak Information Systems Sendirian Berhad (SAINS), Malaysia
Health Services	Division of Spatial Information Science, Graduate School of Life and Environmental Sciences, University of Tsukuba, Japan
Virtual Reality	VALE, Brazil
Mining	Coal India Ltd.
Municipal Services	Abu Dhabi Sewerage Services Company, UAE
Utility Services (Power)	Alabama Power, USA
Oil & Gas Production	Qatar Petroleum
Mass Media	VPRO Broadcasting Corporation, The Netherlands
Public Safety	British Transport Police
Facilities Information System	Solidere s.a.l , Lebanon and Khatib & Alami CEC, Lebanon
Transportation Management	Crossrail Ltd, United Kingdom





Geospatial World Policy Awards

CATEGORY	WINNER
Excellence in Geospatial Policy Implementation for 'Bilateral Cooperation'	International Joint Commission - Canada & USA
Exemplary Implementation of Geospatial Policies and Programmes	PSMA Australia Ltd.
Exemplary Implementation of Geospatial Policies and Programs	European Commission eContentplus and EuroGeographics, Belgium
Excellence in Geospatial Standards Implementation	The 'OneGeology' Project

Geospatial World Innovation Awards

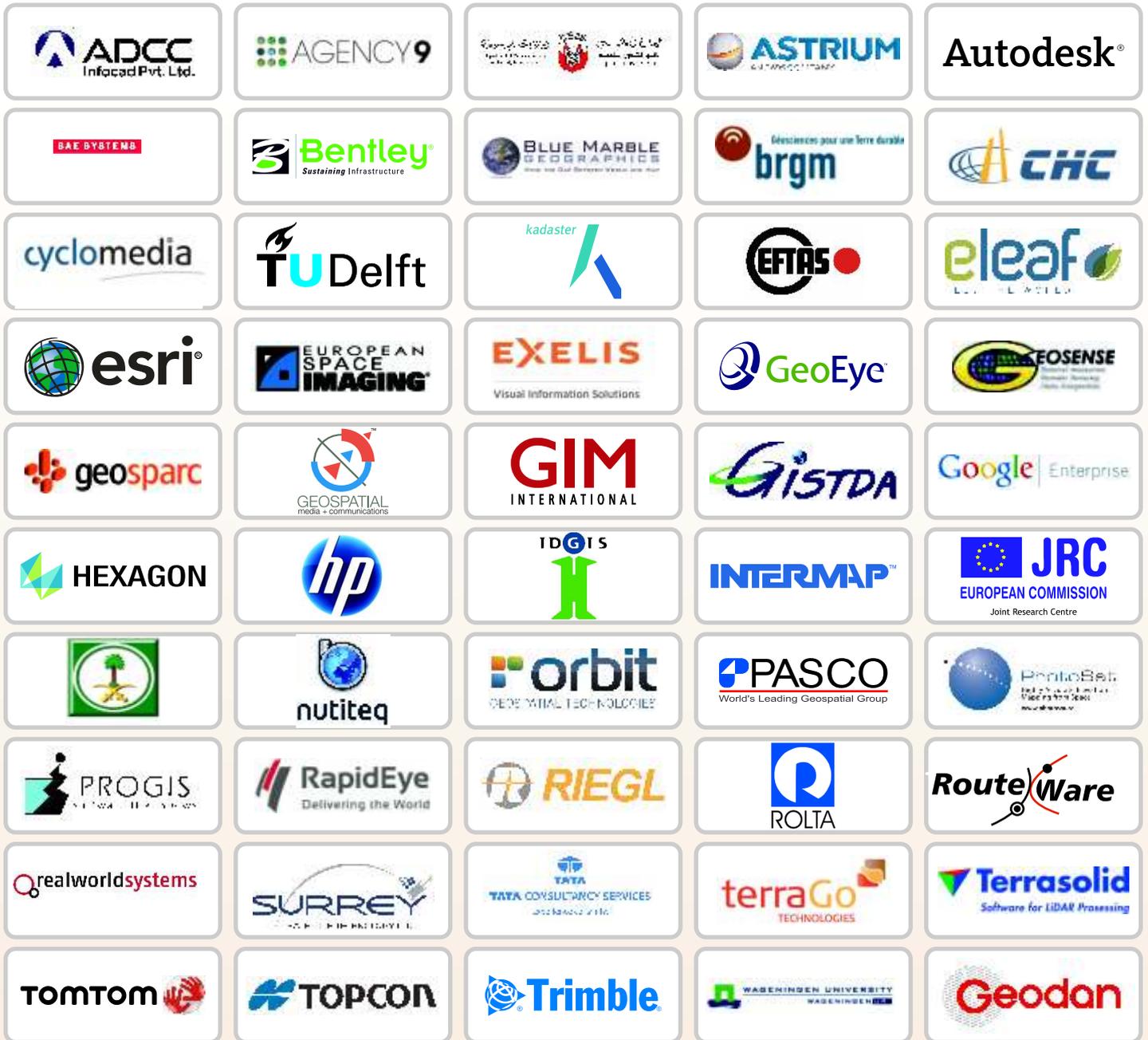
CATEGORY	WINNER
Technology Innovation in for 3D Visualisation and Modeling	SOFTOPIA Japan
Technology Innovation in for Mobile Mapping	Avenza Systems Inc., Canada
Technology Innovation in for LiDAR Data Processing	LASSO, Germany
Technology Innovation in for Photogrammetry	Optech, Canada



EXHIBITION



EXHIBITORS



BEST EXHIBITOR AWARDS



NETWORKING





For Further information, please contact

Email: info@geospatialworldforum.org