

GRSS Private Sector Newsletter, No. 8

**** Remote Sensing News for and About the Private Sector ****
The Quarterly Newsletter of the IEEE-GRSS Private Sector Liaison Group

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**** 1. REMOTE SENSING: VISUALIZATION OR INFORMATION? - brief editorial**

Remote sensing was once a “mysterious” art practiced by specialists largely for surveillance and scientific applications. Today, people from Peoria to Phnom Penh use it to look at their homes, monitor threatening storms, and explore the ever-shrinking world around them. So, does remote sensing’s primary value arise from being a visualization tool or an information source? Clearly, some of both - but we often underestimate the importance of their combination. Visualization helps put information in context, and understanding context is an essential element of human comprehension. This is why the evening news overlays IR hurricane imagery on visible world imagery rather than just on a lat-lon grid. In many cases, remote sensing data today is overly information rich;

we are rapidly learning how to extract the relevant information for a given use and combine it with visual imagery for context. The emergence of 3D as a visualization medium brings new power to this process, providing context that is immersive for increasingly complex decision-making.

** 2. IGARSS 2008 IN BOSTON

IGARSS 2008 is being held July 6–11 in Boston, MA. The theme this year is “Geoscience and Remote Sensing: The Next Generation”. For those who have attended previously, you know that IGARSS is the premier remote sensing conference for bringing together government, academia, and industry. Historic attendance has been running about 1500. The abstract deadline is coming up fast – 7 January. A variety of tutorial sessions are planned with interest to the private sector. For questions about exhibiting (get the early exhibit rate prior to 1 Feb), please contact Ron Isaacs. For other information or requests, contact either of the conference co-chairs, John Kerekes and Eric Miller. Future symposia include Capetown (2009), Honolulu (2010), and Sendai (2011). See you there.

** 3. PUBLIC VS PRIVATE FINANCING OF REMOTE SENSING – the need for both

Increasingly, remote sensing information is obtained from private sector sources. How is it different from publicly-financed remote sensing? One perspective comes from the source of the funding itself. This influences both the purpose and nature of the funded systems. While publicly-funded remote sensing systems are intended to further the public interest, privately-funded systems aim to make a profit for shareholders through sales of imagery and services to commercial and government customers on a sustained basis. The success of privately-funded systems can be evaluated by spreadsheet, while that of publicly-funded systems must somehow be related to diffuse concepts such as the value of a human life or animal habitat, scientific progress, and national prosperity/security. Privately-financed ventures commonly undergo a sequence of funding rounds or stages: seed money from individual investors (known as angels, increasingly organized into angel networks – see example of Space Angels Network in “company news” below), followed by venture capital through funds that specialize in high-risk early-stage investments, on to mezzanine capital for companies that have proven their business models, and finally stock market funding through an acquisition or Initial Public

Offering. The funding process demands increasing proof of ultimate success; each stage is a test for how well the company has reduced risk and improved its potential to be profitable. Like a funnel, the process ingests many potential good ideas and eliminates all but the best. Could the same model be applied to publicly-funded systems? Organizations such as In-Q-Tel in the intelligence community have indeed attempted to do this. Do public-private partnerships, including those used for remote sensing projects such as NGA's NextView and Germany's TerraSAR, represent the best or the worst of each model? Perhaps we will not know for some time, but achieving the right balance of public and private financing is likely to be a key contributor to remote sensing's success.

**** 4. LANDSAT PROGRESS – slow but meaningful**

After many false starts, the nation is making progress to ensure continuity of the three-decade-long Earth imagery database from Landsat. The Landsat Data Continuity Mission will provide the follow-on to the partially-functioning Landsat 7 and the aging Landsat 5 starting in 2011; Ball Aerospace was selected earlier this year to build the sensor and Lockheed-Martin was recently designated the launch vehicle provider. Long-term commitment to the program is signified by the August OSTP announcement proposing establishment of a National Land Imaging Program to be led by the Interior Department.

**** 5. DO YOUR PHOTONS BELONG TO YOU? – privacy, secrecy, and ownership in remote sensing**

Remote sensing routinely involves gathering information from its "owners" without their explicit permission. The "owners" can be people or property. As technology advances, the issues this raises are increasingly thorny. Prominent recently is "street level" imagery being collected by camera-equipped vans for Internet companies; people can be revealed online going places they don't want to be seen, raising privacy rights questions. Some national laws protect these rights, requiring blurring of faces and license plates, others do not. Secrecy and national security implications arise in street level imagery as well as satellite/aerial. There is a well-intentioned inclination to identify and obscure all such locations, but obscuring imagery is a tell-tale sign of the location's importance and thus often counterproductive. Ownership raises many complex issues. As business-intelligence uses of remote sensing accelerate, Company X may find it irritating that Company Y "owns" the best remotely

sensed data about the health of Company X's operations. And this does not just apply to imagery – rainfall observations and climate measurements are critical to agriculture and many other industries. Today, intriguing issues are being raised by some of remote sensing's cutting-edge uses. With video games and online worlds increasingly incorporating real-world 2D/3D imagery, can anyone claim “property rights” to the virtual representation of your home on your street? What if they use imagery of your home for objectionable virtual purposes? The conflicts between remote sensing's uses and its personal and property rights implications will only grow as the value of remotely-sensed information increases.

** 6. OPERATIONAL REMOTE SENSING BEYOND WEATHER – looking to the future

Committed operational remote sensing for weather has been the policy for many countries going back decades. Operational satellite-based land remote sensing has seen a more limited commitment, anchored through the long but tenuous Landsat program (see Item 4) and the more recent commercial capability for high-resolution land imaging.

But other Earth applications areas, such as oceans and climate, suffer from a lack of reliable remotely-sensed data. Today, there are promising signs that this will change. The NRC Decadal Survey, now available in final form, advocates commitment for further US operational capability. ESA is moving ahead with the Sentinel program to bring expanded operational capability for supporting Earth applications, including SAR and hyperspectral sensors. And numerous commercial or public-private remote sensing systems are being launched, improving coverage and revisit for higher resolution panchromatic and multi-spectral imaging. We are also becoming more sophisticated in the use of operational aerial- and ground-based remote sensing to augment satellites. Growing attention to climate issues will further raise the need for diverse operational capability in the coming years.

** 7. OTHER BUSINESS OPPORTUNITIES

A quick reminder of items mentioned in previous newsletters: A) the monthly GRS Newsletter publishes corporate profiles, B) the GRSS technical committees accept volunteers, and C) short contributions of news or other items for this newsletter will be accepted.

** 8. COMPANY NEWS – To advertise at no cost, please submit short requests to the editor

AWHERE – AWhere, Inc (Golden, Colorado) offers geovisual software (web to desktop) and consulting solutions for visualizing the location component of your data. Our location intelligent software integrates and maps data from many sources; sales performance, POS, marketing research, Census, weather, and scientific studies. The mapped data can then be analyzed and viewed on Virtual Earth. AWhere technology also exploits the spatial enhancements of SQL Server 2008 to provide customers with location based data management, fast visualizations, and decision driving synthesis. Modular in architecture, AWhere recently released, for example, A Climate Change Explorer Tool at the UNFCCC in Bali. For more information contact CEO John Corbett.

SPACE ANGELS NETWORK – Space Angels Network is a national network of angel investors focused on seed- and early-stage investments for aerospace-related ventures. Based in Silicon Valley and Washington DC, Space Angels Network initiated its US and Canadian operations in October 2007. The company's online platform allows individual investors to connect with space entrepreneurs for financing of ventures with strong management teams, solid intellectual property, and products or services with a sustainable advantage in the marketplace. The company is officially launching its 2008 membership drive in January, opening its doors to U.S. accredited investors interested in finding investment opportunities with innovative growth companies. Space Angels Network is particularly interested in identifying promising startup companies within the US and international remote sensing community that are bringing innovative software and hardware technologies and applications to industrial, consumer and government markets, employing either space or aerial platforms. Members of the U.S. remote sensing community who meet SEC criteria for accredited investors are also welcome to join. Through its extended strategic relationships with venture capital firms, federal science and technology agencies, state economic development organizations, research universities, incentive prize organizations, and other partners, Space Angels Network creates a robust ecosystem for remote sensing and earth observation and imaging entrepreneurs and investors to connect for seed and early-

stage financing. For more information contact the Managing Director Dr. Burton Lee or call 703-282-4513.

**** 9. EVENTS**

7-10 Jan	AIAA Aerospace Sciences Meeting – Reno, NV
20-24 Jan	American Meteorological Society Annual Meeting – New Orleans, LA
31- 4 Jan	MAPPS Winter Conference – Rancho Mirage, CA
6- 8 Feb	Map India – New Delhi, India
18-20 Feb	Intergeo East – Belgrade, Serbia
20-22 Feb	ESRI Federal User Conf – Washington, DC
25-29 Feb	Intl Conf on Radio Science – Jodhpur, India
3- 5 Mar	GEO 2008 – Bahrain, Kingdom of Bahrain
9-12 Mar	GITA Geospatial Infrastructure Solutions – Seattle, WA
17-20 Mar	SPIE Defense & Security – Orlando, FL
8-10 Apr	Map Middle East – Dubai, UAE
28- 2 Apr	ASPRS Annual Conference – Portland, OR
12-14 May	Where 2.0 – Burlingame, CA
27-30 May	American Geophysical Union Joint Assembly – Fort Lauderdale, FL
2- 5 Jun	GeoTec – Ottawa, Canada
2- 5 Jun	European Conf on SAR (EUSAR) – Friedrichshafen, Germany
2- 5 Jun	Intergraph 2008 – Las Vegas, NV
3-11 Jul	ISPRS Congress – Beijing, China
6-11 Jul	IGARSS – Boston, MA
13-20 Jul	COSPAR – Montreal, Canada
19-23 Jul	MAPPS Summer Conference – Sun Valley, ID
21-25 Jul	GeoWeb – Vancouver, Canada
4- 8 Aug	ESRI User Conference – San Diego, CA
10-14 Aug	SPIE Optics & Photonics – San Diego, CA
15-19 Sep	SPIE Europe Remote Sensing – Cardiff, Wales, UK
30- 2 Sep	INTERGEO – Bremen, Germany
7-10 Oct	URISA Annual Conference – New Orleans, LA

**** 10. PROFESSIONAL ORGANIZATIONS – see more orgs (public, private, academia)**

Institute of Electrical and Electronic Engineers (IEEE)

Aerospace Industries Association (AIA)

American Geophysical Union (AGU)

American Institute of Aeronautics and Astronautics (AIAA)

American Meteorological Society (AMS)

American Society for Photogrammetry and Remote Sensing (ASPRS)
Geospatial Information and Technology Association (GITA)
International Society for Photogrammetry and Remote Sensing
(ISPRS)
The International Society for Optical Engineering (SPIE)
Management Association for Private Photogrammetric Surveyors
(MAPPS)
Space Foundation
United States Geospatial Intelligence Foundation (USGIF)
Urban and Regional Information Systems Association (URISA)

The IEEE Geoscience and Remote Sensing Society (GRSS) Private Sector Liaison Group was formed in 2002 to increase collaboration between the private sector, academia, and government in the remote sensing field. The readership of this newsletter now exceeds 1500 people from companies associated with remote sensing, as well as government agencies, international space agencies, professional organizations, non-government organizations, OMB, and Congressional staff. We in the private sector want to help keep our colleagues informed of the activities and capabilities of the private sector – and the role that GRSS plays in supporting and promoting these activities. Should you need further information about the Private Sector Group, require that contact information for you or your organization be updated, or request to be removed from the list, please contact Bill Gail (bgail@microsoft.com).