

\*\* Remote Sensing News for and About the Private Sector \*\*

*The Quarterly Newsletter of the IEEE Geoscience and Remote Sensing Society (GRSS)  
Private Sector Liaison Group*

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\*\* 1. THE DECENTRALIZATION OF REMOTE SENSING - brief editorial

Information technologies provide the foundation for society's rapid progress in the 21<sup>st</sup> century. Information about the environment (both natural and human-built!) is central to this progress. The enormity of the required undertaking - observing and understanding our world at all space and time scales - takes your breath away. Remote sensing has traditionally been a centralized activity, sponsored or performed by governments to accomplish largely government purposes. Centralized approaches will not scale to meet society's 21<sup>st</sup> century needs. Fortunately, the convergence of three remote sensing trends will help us resolve this. The first is the growth of networking, both between sensor systems and among remote sensing institutions. Networking exponentially enhances our investments in otherwise stove-piped capabilities, ranging from sensors to people. The second is the rapid growth of community-contributed remote sensing information, itself a consequence of the global internet and easy access to technologies such as GPS and mobile phone cameras. Finally, the market need for information-on-demand is driving more rapid acquisition and distribution of remotely sensed information. Governments will come to rely on decentralized remote sensing for understanding local details of climate change and responding to natural disasters. The private sector will use it to build digitally-augmented worlds that make commerce more efficient and accessible. Within just a decade or so, the mainstreaming influence of decentralized remote sensing will be as profound for society as the satellite revolution has been over the last decades.

\*\* 2. IGARSS 2009 IN CAPETOWN

[IGARSS 2009](#) is being held July 13-17 in Capetown, South Africa. The theme this year is "Earth Observation: Origins to Applications". 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. A variety of tutorial sessions are planned with interest to the private sector. For additional information on the conference and opportunities to exhibit, contact Bryan Stewart ([bstewart@cmsworldwide.com](mailto:bstewart@cmsworldwide.com)). Future symposia include Honolulu (2010), Sendai (2011), Munich (2012), and Melbourne (2013).

\*\* 3. NETWORKED REMOTE SENSING - exponential growth for remote sensing

Social networks such as [Facebook](#) and [LinkedIn](#) have opened our eyes to the power of "network effects" and "viral adoption". Networks are becoming increasingly important to remote sensing. NASA has pursued networked satellite architectures for

well over a decade; the [A-Train](#) is an early implementation allowing multiple satellites in the same orbit to replicate an integrated sensor suite. On an international scale, the [Global Earth Observing System of Systems \(GEOSS\)](#) is creating both sensor and organizational networks that enhance remote sensing effectiveness beyond what individual nations could do on their own. [Wireless sensor networks](#) have tremendous potential for expanding the value of remote sensing data; they enable cooperative strategies among sensors, object tracking, and other capabilities not possible with isolated sensors. More effective integration of spaceborne and ground-based sensing networks will provide powerful new capabilities in the coming decade.

\*\* 4. COMMUNITY REMOTE SENSING - the power of billions

The community of governments that sponsor remote sensing is in the hundreds; the community of the world's people is nearing seven billion. Both are sources for remote sensing information. [Wikimapia](#) and similar projects have shown how community input can help create and maintain the world's maps - particularly in locations where informal "community" names are more common than official names for locations or objects. Michael Goodchild at UCSB has been a leader in this area with work such as [citizens-as-sensors](#) and the [Alexandria Digital Library](#) project. Community remote sensing has value at all scales. At local scales, it can provide the often-missing details for everyday activities (such as "how can I identify front doors on my city's public buildings"). At global scales, it enables projects that are best accomplished through aggregation of local information from localized sources. One example is assessment of global biodiversity change by integrating community-based sampling. Another is inventory/monitoring of forest carbon assets by using detailed community data in sample areas to refine coarse global satellite data. Building the community tools that enable both the remote sensing itself and the easy sharing of sensed information is a major task. The private sector is currently developing many of these, from mobile device sensors to social networks that encourage virtual communities to work toward common interests.

\*\* 5. ON-DEMAND REMOTE SENSING - what we need when we need it

Obtaining timely remote sensing information today still requires luck, but change is coming. The commercial satellite industry has responded with constellations such as [RapidEye](#) to cut revisit times. NASA and other space agencies have worked to create rapid access, such as with the [MODIS Rapid Response System](#). At ground-level, we now routinely use internet-connected highway cameras to monitor real-time traffic or road conditions in urban areas. What if we could have what we need "on-demand", where we want it and when we want it? Real-time information is essential for many decision systems. One is road weather to enhance traffic flow and reduce weather-related accidents. Centralized systems have limited ability to meet these needs. Community networks provide an alternative tool, particularly with the combination of mobile phone cameras and location-aware devices. We've already seen how quickly amateur images and videos of natural disasters and other events can propagate on [YouTube](#) and [Flickr](#). Can we encourage these informal imagery sources to provide quantitative information rather than just "eye candy"? Can we leverage this community network to provide data on request? And how do we combine these rapid-response community sources with more traditional remote sensing data to solve important problems? Perhaps soon satellites will be tasked on eBay, with all interested bidders sharing the cost.

\*\* 6. COMPANY NEWS- To advertise at no cost, please submit short requests to the [editor](#)

> [TerraGo Technologies](#) - Geospatial raster imagery can be difficult to easily distribute so that it can be used by those who need it. Many formats require custom viewers and sheer file size makes distribution prohibitive. TerraGo Technologies' Publisher for Raster solution breaks down technology barriers and lets geospatial

professionals easily share and view multiple kinds of raster images all through one standard format with no special tools or software. Users are able to quickly and easily convert several Raster formats to a GeoPDF file and from there, incorporate them into maps and share them with users who can take advantage of rich mapping capabilities with or without Internet connections. TerraGo Publisher for Raster leverages the functionality of the source GIS application and readies it for easy collaboration with non-technical users. For more information, please visit [www.terragatech.com](http://www.terragatech.com), email us [atcustomer@terragatech.com](mailto:atcustomer@terragatech.com) or call 866-453-1609.

\*\* 7. EVENTS

4-6 Feb	<a href="#">GEOSS Asia-Pacific Symposium</a> , Kyoto, Japan
10-13 Feb	<a href="#">Map World Forum</a> , Hyderabad, India
19-20 Feb	<a href="#">North Carolina GIS Conference</a> , Raleigh, NC
8-13 Mar	<a href="#">ASPRS Annual Conference</a> , Baltimore, MD
10-12 Mar	<a href="#">Goddard Memorial Symposium</a> , Greenbelt, MD
15-17 Mar	<a href="#">GISWORX</a> , Dubai, UAE
23-26 Mar	<a href="#">ESRI Developer Summit</a> , Palm Springs, CA
30-2 Mar/Apr	<a href="#">National Space Symposium</a> , Colorado Springs, CO
31-2 Mar/Apr	<a href="#">Civil Commercial Imagery Eval Workshop</a> , Fairfax, VA
14-16 Apr	<a href="#">Map Middle East</a> , Dubai, UAE
19-22 Apr	<a href="#">GITA Geospatial Infrastructure</a> , Tampa, FL
4-8 May	<a href="#">Intl Sym on Rem Sens of Environ</a> , Stresso, Italy
4-8 May	<a href="#">IAA Sym on Small Sat for Earth Obs</a> , Berlin, Germany
19-21 May	<a href="#">Where 2.0</a> , San Jose, CA
20-22 May	<a href="#">Joint Urban Remote Sensing Event</a> , Shanghai, China
24-27 May	<a href="#">American Geophysical Union Spring Mtg</a> , Toronto, Canada
1-4 Jun	<a href="#">GeoTec</a> , Vancouver, Canada
3-5 Jun	<a href="#">GEOINT Tech Days</a> , Reston, VA
25-29 Jun	<a href="#">MAPPS Summer Conference</a> , Brewster, MA
13-17 Jul	<a href="#">IGARSS 2009</a> , Capetown, South Africa
13-17 Jul	<a href="#">ESRI Intl User Conference</a> , San Diego, CA
27-31 Jul	<a href="#">GeoWeb</a> , Vancouver, Canada
2-6 Aug	<a href="#">SPIE Optics and Photonics</a> , San Diego, CA
18-20 Aug	<a href="#">Map Asia</a> , Singapore
26-28 Aug	<a href="#">IEEE GRSS Conf on Hyperspectral</a> , Grenoble, France
9-12 Sep	<a href="#">Sixth Intl Symposium on Digital Earth</a> , Beijing, China
13-17 Sep	<a href="#">GITA GIS for Oil &amp; Gas Conf</a> , Houston, TX
14-17 Sep	<a href="#">AIAA Space</a> , Pasadena, CA
29-2 Sep/Oct	<a href="#">URISA Annual Conference</a> , Anaheim, CA
5-7 Oct	<a href="#">Location Intelligence</a> , Westminster, CO
12-16 Oct	<a href="#">Intl Radar Conference</a> , Bordeaux, France
26-30 Oct	<a href="#">AfricaGIS</a> , Kampala, Uganda
16-19 Nov	<a href="#">ASPRS/MAPPS Fall Conference</a> , San Antonio, TX

\*\* 8. PROFESSIONAL ORGANIZATIONS - see [more orgs](#) (public, private, academia)

[Institute of Electrical and Electronic Engineers \(IEEE\)](#)  
[Aerospace Industries Association \(AIA\)](#)  
[American Astronautical Society \(AAS\)](#)  
[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 \(ISPRS\)](#)  
[International Union of Radio Science \(URSI\)](#)  
[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 \(URISA\)](#)  
[Women in Aerospace \(WIA\)](#)

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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 2000 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](mailto:bgail@microsoft.com)).