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DOWNLOAD
All five issues of the GEOINT 2012 Show Daily are available online.
CLOSE TO HOME

I’VE TAKEN PART in a number of humanitarian and disaster relief operations, both domestically and abroad, throughout my career. As an Army officer, I participated in a humanitarian service operation for the people of Haiti. As a government executive, I engaged in a number of operations, most memorably supporting the aftermath of Hurricanes Katrina and Rita. It never occurred to me that I’d be in the midst of such a disaster, and though Hurricane Irene hit my community last year, it paled in comparison to what I and many others in the New York metropolitan area experienced during Hurricane Sandy.

This storm was not only remarkable in its size and intensity, but also for its ‘perfect’ confluence of weather phenomena and location, making it particularly destructive. As I write this, my family has been without power for about a week and there’s talk of an impending snowstorm. While my family and I are safe and the downed trees missed our house, we are cognizant of the great suffering that is ongoing along the New Jersey shore, in Staten Island, and in other parts of New York City and surrounding areas.

I’m also aware of the irony that the NGA’s DMICS is set up in support of a FEMA operations center adjacent to the USGIF offices in Herndon, Va. I’m comforted that although I am on the other end of a relief operation for the first time, there are trained, capable GEOINTers, enabled with world-class technology, among the thousands of people from government, military, NGOs, and industry working on relief and recovery. I’m also comforted that leaders like FEMA Administrator Craig Fugate, a keynote speaker at GEOINT 2011, truly understand the power of GEOINT.

Which brings me to the ongoing importance of the work of USGIF, our events and programs, our committees and working groups, and our outreach activities. Our recent GEOINT Symposium, with 4,300 attendees and 265 exhibitors, was yet another important step forward. The unique opportunity for government, military, industry, and academic representatives to meet, speak, and explore emerging ideas and technologies will ensure that in future relief operations, and on future battlefields, the GEOINT Community will be even better prepared to save lives and enhance decision making. That’s what USGIF is all about.

Finally, in the midst of Sandy’s aftermath, the Custom Content Council held its 2012 Pearl Awards event in New York City, and I’m pleased to share that trajectory was awarded the Gold Award for the Best New Magazine Launch. I’m very proud of Kristin Quinn, our managing editor, as well as our partners at GLC Custom Media. We at USGIF pledge to continue to work diligently to bring you compelling, relevant content via trajectory’s print, online, and tablet platforms, our award-winning website, and our multiple social media outlets.

Best wishes for a safe holiday season and a happy, healthy, and prosperous 2013. We look forward to another exciting year working with you building the community, advancing the tradecraft, and accelerating innovation!
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The power of space and time, and its ability to enable more accurate predictions emerged as a key theme during GEOINT Foreword, the pre-symposium science and technology-focused forum. The program featured keynote speeches, networking opportunities, and panel discussions.

Ted Cope (pictured above), director of basic and applied research at the National Geospatial-Intelligence Agency (NGA), provided the morning keynote.

“I think we need GEOINT ‘fast forward’ to deal with all of the changes that are out there,” Cope said.

Cope attributed these changes to the explosion of new geospatial imagery information and sources, from UAVs to social media.

“In the past, GEOINT was propelled by unique content we had access to from outer space,” Cope said. “Going forward it is going to be our unique content from inner space.”

This, he said, is about making sense of all the available geospatial data so that we don’t just see the Earth, we understand it. He said the future is a shift from target to activity-based intelligence.

Jeff Jonas, an IBM Fellow and chief scientist for IBM Entity Analytics, gave a lunchtime keynote address, during which he discussed his theories for the physics of big data and proclaimed “when” and “where” as the highest-order data.

“So much of this data is out there and so much of this data is coming, and it’s going to be extraordinary what it’s going to do,” Jonas said. He explained that more data—even bad data—means faster and more accurate predictions.

“Space-time-travel data is the ultimate biometric,” Jonas said.

USGIF held the first official meeting of its new Modeling and Simulation Geospatial Working Group at the GEOINT 2012 Symposium.

The working group’s mission is to facilitate information exchange across the two communities and identify opportunities for improved interoperability of geospatial data for M&S users. Orlando was an ideal location to kick off the group, given that the city is home to both the Army and Navy’s major training and simulation offices, as well as to numerous defense contractors specializing in the technology.

The focus for this first meeting was to discuss cost saving opportunities that might be gained from improved efficiency in generating geospatial data, as well as some of the technical impediments to achieving the efficiencies and interoperability envisioned, according to Daniel Maxwell, co-chair of the working group.
NGA STRATEGY

NGA held a panel discussion at GEOINT 2012 featuring four of the agency’s Strategic Objective Champions. In May, NGA Director Letitia Long released the agency’s 2013-2017 Strategy and appointed Strategic Objective Champions to coordinate implementation efforts across the agency. The panel discussed how the strategy continues to drive NGA toward achieving its vision for online, on-demand access to GEOINT for its customers via a flexible IT platform that enables users to access NGA products and services whenever and wherever necessary.

YOUNG INNOVATORS PANEL

A Young Innovators Panel was held for the first time during the general session at the GEOINT 2012 Symposium.

The first panelist to speak was Alex Cooper, senior systems engineer with SAIC.

“We’ve all talked a lot about open source. It’s been a big discussion, but it does drive innovation, it does drive young engineers.”

He likened it to a playground in which new solutions can be explored, though it’s only one piece. The other piece is process framework, to do agile development in a way that is controlled chaos.

Shay Har-Noy, CEO of Tomnod, offered his recipe for innovation: 1) Understand your user; 2) Follow your passion; 3) Listen to your individuals.

Shadrock Roberts, a senior GIS analyst with USAID, discussed how volunteers and community participation is vital to accomplishing USAID’s mission. Crowd-sourcing solutions are central to workflow, as well as the resources shared by other agencies such as NGA, Roberts said.

The fourth panelist featured was Elizabeth Lyon (pictured above) of the Army Corps of Engineers, who addressed the “cool” convergence of geospatial, technological, and cultural revolutions.

“We’re all here because we believe in the power of GEOINT and the power of geography and the power of geospatial sciences, but we also have some challenges,” she said. “We’ve heard about resources going down, well I say that’s great. That’s a new challenge. That means we can drive innovation further up.”

PREDICTIVE ANALYTICS

Startup company Recorded Future displayed its predictive analytics capability at the GEOINT 2012 Symposium.

Recorded Future has carved out a niche in the open source intelligence market, separating temporal information from the noise of more than 150,000 sources to create a calendar that includes everything from planned unrest to high-level international meetings.

The company focuses on what’s ahead, using the past primarily for context. The concept is to find people who are talking about the future. Analysts can use that information, fused with their own data, to predict the future in recommendations to decision makers. Government officials can monitor protests in other countries or meetings between other governments’ officials. The business community can investigate risks, such as leaked news about upcoming product releases.

The company’s process of separating intelligence is complex, using a relationship between the past and future.

“We can basically roll the clock back,” said Matt Kodama, vice president of products for Recorded Future. “We know this particular event did happen in this time at this place. Now let’s go back a week before that and look at publications. Who was predicting that accurately? Who wasn’t?”

It’s part of the puzzle of open source information, a growing capability in government and commercial planning, and one which is generating increasing technological capability.

More than 800,000 pounds of freight were moved to set up the exhibit hall at GEOINT 2012.
YOUNG PROFESSIONALS TAKE TO TWITTER

IN ADDITION to the many activities the USGIF Young Professionals Group (YPG) put on during the GEOINT 2012 Symposium, the YPG also launched its own official Twitter account.

The handle, @USGIFypg, was used throughout the week to spark discussions about issues related to young professionals, update attendees about YPG activities at GEOINT 2012, and inform followers about ways to get involved with the group.

The YPG solicited Symposium highlights with its #PeakOfTheWeek hashtag. The group also featured a “Young Professional of the Day” (#YPOTD) and sent out a TwitPic of a selected participant, along with interesting facts about this person.

“We wanted to highlight the exceptional group of young professionals that participated this year with a fun program that uses social media as a tool for networking on the show floor,” said Carrie Drake, USGIF’s event operations and community relations manager.

DIA ANALYST RECOGNIZED WITH LT. MURPHY AWARD

DONNA BRIDGES, an all-source intelligence analyst at the Defense Intelligence Agency, is the 2012 recipient of the Lt. Michael P. Murphy Award in Geospatial Intelligence. The award recognizes achievement by a Pennsylvania State University graduate student who is serving or has served in the U.S. Armed Forces or with the Intelligence Community.

Bridges was presented the award during the GEOINT Symposium, immediately before DIA Director Lt. Gen. Michael Flynn’s keynote address.

“The Michael P. Murphy Award was started by PSU in honor of someone who made the ultimate sacrifice and I am both very honored and humbled to be recognized with this award,” said Bridges.

Lt. Murphy was a PSU alumnus and U.S. Navy SEAL who was posthumously awarded the Medal of Honor for his actions in Afghanistan. On behalf of USGIF, GeoEye Foundation, and the faculty and staff of PSU, this prestigious award recognizes those who have demonstrated exceptional contributions to the GEOINT discipline.

Bridges is also a recipient of the 2010 USGIF Academic Award. Prior to joining DIA, she provided ricochet analysis and range sustainability planning for the National Guard and served as a Research Assistant at PSU’s Dutton e-Education Institute.

CSARS AND EO WORKING GROUPS HOLD TRAINING AND EDUCATION WORKSHOPS

USGIF’S COMMERCIAL SYNTHETIC APERTURE RADAR SATELLITE (CSARS) AND EARTH OBSERVATION (EO) working groups offered education and training opportunities during the GEOINT 2012 Symposium in Orlando.

Opening up to all GEOINT 2012 attendees training that so far has been restricted to military and government employees, the USGIF working groups offered 22 different sessions over the course of the four-day symposium.

“During the recent workshops in Florida for SOCOM, CENTCOM, and SOUTHCOM, the members of the working groups agreed that it would be an added value they could bring to GEOINT 2012 to provide a number of one-hour sessions on various SAR and EO capabilities and application areas,” said John Moeller, chair of the USGIF Technical Committee.

The training included overview and introduction sessions, where participants were introduced to the capabilities and advantages of commercial space-based SAR. The special topic sessions provided in-depth presentations of selected applications, such as mapping and feature extraction, maritime domain awareness, disaster monitoring, digital elevation models, diplomatic facilities, and crisis response.

Early next year, the EO and CSARS working groups will head to RAF Molesworth in the United Kingdom and Stuttgart, Germany, to provide hands-on training at EUCOM and AFRICOM. The groups will also return to PACOM in the spring. Other training opportunities will be held at NGA Campus East during GEOINT Community Week and at NGA Campus West during the St. Louis Showcase.

DONNA BRIDGES OF DIA, is presented the Lt. Michael P. Murphy Award in Geospatial Intelligence by Lt. Gen. Michael Flynn, Director of DIA, and Dr. Todd S. Bacastow of Penn State.

MEMBERS OF USGIF’S Young Professionals Group gather in the YPG lounge of the GEOINT 2012 Symposium exhibit hall to hear from senior leaders.

JOIN TODAY To learn more about USGIF working groups, visit www.usgif.org/about/committees.
ON THE FINAL DAY of the GEOINT 2012 Symposium, USGIF bestowed the Arthur C. Lundahl Lifetime Achievement Award to Penman R. “Red” Gilliam, a highly recognized leader who laid the foundation for the digital innovations that drive the GEOINT tradecraft today.

“Penman was an exceptionally strong leader who cultivated a true understanding of customers’ needs and fundamentally changed the way we support them,” said Stu Shea, CEO and chairman of USGIF.

Gilliam was recognized for his sustained leadership and excellence throughout his career with the Defense Mapping Agency (DMA), a predecessor of NGA. He served as director of the Special Programs Office for Exploitation Modernization (SPOEM) from 1982 to 1987. He retired in 1991 as the agency’s deputy director.

Leading the DMA’s transition into the digital world, Gilliam’s efforts fundamentally changed the mapping and charting business, and advanced the DMA’s ability to satisfy the growing needs of national and military customers.

“I am very humbled and deeply honored to receive the Lundahl Award, which was totally unexpected,” said Gilliam. “It’s very exciting to be recognized by USGIF and see where the tradecraft is going these days in terms of innovations.”

The Lundahl Award recipient is chosen by the USGIF Board of Directors, and the award recognizes an influential member of the GEOINT Community who has dedicated much of his or her work to advancing the tradecraft. Recognized as the father of imagery analysis, Arthur C. Lundahl dedicated his life to the tradecraft, gaining the confidence of four U.S. presidents and significantly contributing to the security of the United States.
USGIF 2012 AWARDS PROGRAM

EACH YEAR, USGIF highlights the exceptional work of the tradecraft’s brightest minds through its awards program. Developed to recognize the achievements of individuals and teams throughout the GEOINT Community, the annual program distinguishes outstanding contributions of academia, government, military, and industry.

“Our community is driven by passion and we saw this in all of this year’s nominations,” said Kevin Jackson, USGIF Awards Subcommittee chair and SAIC assistant vice president for business development. “No matter what happens, our community remains singularly focused on the mission and we are extremely proud of this year’s award winners who exemplify this.”

The award winners are selected by the USGIF Awards Subcommittee and are presented awards at the GEOINT Symposium.

The 2012 award winners (pictured below) are:

1. Government Achievement Award: Humanitarian Information Unit, Bureau of Intelligence and Research, U.S. Department of State
2. Administrative Achievement Award: Helen “DeeDee” Demes, The SI Organization
3. Academic Achievement Award: The Washington College, GIS Program
4. Academic Research Award: George Mason University, Center for Geospatial Intelligence
5. Industry Achievement Award: DigitalGlobe and the Satellite Sentinel Project

(Not pictured) Military Achievement Award: U.S. Joint POW/MIA Accounting Command, JPAC
TRANSFERABLE SKILLS
U.S. Air Force Academy hones in on military applications for GEOINT

GEOGRAPHY HAS LONG BEEN part of the curriculum at the U.S. Air Force Academy (USAFA), but its USGIF-accredited geospatial science program is vastly different than the geography coursework of the past.

Specifically designed to provide cadets a solid education that supports the increasingly significant role of GEOINT in Air Force operations, the development of the geospatial science program and the subsequent USGIF accreditation in January 2011 were in response to pressing needs within the Air Force to better educate future officers on the capabilities of GEOINT, said Lt. Col. Matthew Tracy, director of the program.

“We are working to prepare them so when they go out into the active duty Air Force, they are well versed in some of the analytical skill sets to go out and adequately use and apply geospatial intelligence and knowledge,” Tracy said.

In the early 2000s, USAFA leaders decided to steer the program away from traditional geography toward Air Force geospatial intelligence. While cadets are encouraged to explore various ways to utilize GEOINT, the geospatial sciences program at the Academy emphasizes military application of GIS and remote sensing technologies. Examples of specific projects include battle damage assessment in cities around the world, fire scar analysis, and border control.

“Cadets are extremely excited to learn more about the powerful tools, techniques, and analytical perspectives associated with this emerging field and how they form the foundation for countless operations across the Department of Defense,” Tracy said. “And it’s exciting that the number of majors enrolled in our geospatial science program has grown significantly since the inception of the GEOINT certificate program.”

Tracy said the program has flourished since achieving USGIF accreditation in 2011. Today, the department has 107 geospatial science majors out of about 4,000 cadets at the academy. This is up from less than 20 majors in 2005. Nearly 50 percent of geospatial science majors are on track to earn USGIF’s GEOINT certificate. Additionally, about 300 cadets each year learn about the geosciences by participating in the Geospatial Information Analysis course to fulfill requirements for other majors.

Steven Gordon, an associate professor in geospatial science, said the program’s culminating capstone asks cadets to plan some sort of mission or military activity involving GEOINT.

Typically, cadets plan a non-combat evacuation operation in which they are able to see the application of what they’re learning at the Academy to jobs they will be performing in the Air Force after graduation.

“This brings in that intelligence component that we hadn’t had explicitly prior [in the geography major],” Gordon said.

As part of the Cadet Summer Research Program, Cadet 1st Class Mike Cannioto, who is currently pursuing the certificate for completing a USGIF-accredited program, participated in a hands-on internship at the Air Force Institute of Technology at Wright-Patterson Air Force Base in Ohio. He spent five weeks working on a project for the Defense Threat Reduction Agency, with his applied and theoretical research focused on the use of hyperspectral imaging to determine background radiation levels of different materials in different locations around the world. Additional research and development opportunities at world-class organizations like the National Geospatial-Intelligence Agency and the Defense Intelligence Agency are also available to cadets. According to Tracy, these opportunities set apart the USAFA’s geospatial science program.

“I got to apply all the GIS and remote sensing techniques that I’ve learned here [at the Air Force Academy], both with the imagery analysis and also being able to find open source data to help us achieve our goal,” Cannioto said. “All the techniques that I learned in my classes really applied [on base].”

Tracy said cadets have the option to conduct an independent study project, where they work alongside a faculty member on a geospatial problem of concern, either at the Academy or in the local community. For example, some cadets have worked closely with the Colorado Springs Police Department to apply geospatial analytics to issues such as graffiti and gang affiliations.

Cadet 1st Class Chris Huyan said his biggest takeaway from the Academy’s geospatial science program is how to apply his skill sets.

“It doesn’t matter how intimidating a problem is or where to start because I know I have the framework to tackle that problem,” Huyan said. “I take the critical thinking and analytic skills that I’ve learned and am able to apply them to practically any problem.”

BY KATHLEEN HAGAN

THE U.S. AIR FORCE ACADEMY received USGIF accreditation in January 2011. From left to right: USGIF President Keith Masback; USAFA Vice Dean Col. Tom Yoder; USGIF Director of Academic Programs Dr. Maxwell Baber.
ACTIVITY-BASED INTELLIGENCE IS CHANGING THE FACE OF DATA COLLECTION AND ANALYSIS
ANALYTIC METHODOLOGY has evolved significantly since the bipolar standoff between the East and West that was the Cold War, during which intelligence collection targeted specific objects that were easy to find but difficult to stop—tanks and other armored vehicles, naval ships and submarines, and planes.

As intelligence has shifted its focus from these specific objects to the actions and movement of individuals, the emerging concept of activity-based intelligence (ABI) has generated significant buzz throughout the Intelligence Community.
Robert Zitz, a former senior executive with NGA, NSA, and the NRO, described ABI as a “natural evolution” that has taken place since the Cold War.

“In the past you knew what to look for and where to find it,” Zitz said.

With ABI, data on activities and transactions is collected over a larger area, and often stored in a database to be discovered at a later date.

During the Cold War, Zitz said, intelligence methodology was a serial, collection-driven process with analysts at the end of the chain. Today, the methodology has shifted to a non-linear strategy for seeking unknown unknowns, throughout which analysts are significantly more involved in the collection process.

Scott White, vice president for intelligence with Northrop Grumman and the former associate deputy director of the CIA until 2010, explains ABI as a methodology where analysis drives collection focused on activity and transactions.

“ABI is not a new concept,” White said. “It’s been used in the past in the Intelligence Community in pockets.”

Although most Cold War intelligence initiatives were a stark contrast to the modern ABI methodology, the foundation of ABI actually goes back as far as the Cold War, according to White. He referred to the Navy’s pioneering Sound Surveillance System (SOSUS), a persistent underwater sonar system used to track the activity of submarines during the ’70s and ’80s, as an example.

The forward-thinking, persistent technology deployed with SOSUS was a preview of today’s full-motion video (FMV) technology that has brought ABI to the forefront, White said. He added that operational strategy has shifted from an emphasis on reconnaissance to surveillance with the advent of irregular warfare.

As FMV capabilities have become more readily available with the increasing popularity of UAVs, other open source information outlets such as social media have exploded as well, driving an exponential increase in the amount of useful data. Meanwhile, data storage architectures such as cloud computing, and data analysis tools such as high-speed processing and complex algorithms are beginning to catch up with the data deluge.

“The evolution of the needs met the evolution of the technology,” Zitz said.

As this perfect storm brews, ABI was a common theme on the main stage in October at the GEOINT 2012 Symposium, with many in the Community seeking to understand what exactly ABI is, why it is such a hot topic, and how to gear up for this impending sea change.

ANALYSIS DRIVEN

Zitz, who is now senior vice president and chief systems architect with SAIC’s ISR group, points to special operations forces deployed to Iraq and Afghanistan following 9/11 as one of the driving factors to what has evolved into ABI.

“Special operations were not only melding SIGINT and GEOINT, but then bringing in HUMINT and OSINT,” Zitz said. “How they evolved in terms of their needs and uses of integrated intelligence, this has really evolved into this methodology called ABI.”

Meanwhile, a group of GEOINT analysts deployed to Iraq and Afghanistan began pulling intelligence disciplines together around the 2004-2006 timeframe, according to Dave Gauthier, chief of strategic capabilities and human terrain, with much written about ABI, defining it as a discipline of intelligence where the analysis and subsequent collection is focused on the activity and transactions associated with an entity, population, or area of interest.

However, this definition is considered slightly outdated by most experts in the burgeoning field, if only because it refers to ABI as an intelligence discipline rather than an analytic methodology. But what’s the difference?

Jeff DeTroye, who retired in September as the commander of the ground station at the National Reconnaissance Office’s ADF-East facility, views ABI as a new toolbox to tackle any intelligence problem.
From DeTroye’s perspective, ABI is a methodology that can be deployed across disciplines, rather than a discipline in itself.

“If you turn it into a discipline then not everybody’s using it,” DeTroye said.

In the Army, ABI is yet to be recognized as a doctrinal term, said Maj. Gen. Stephen Fogarty, Commanding General of the U.S. Army Intelligence and Security Command, during a breakout session on ABI at the GEOINT 2012 Symposium.

“Currently, if you look through an army manual or joint pub you won’t see ABI in there,” Fogarty said.

Instead, the principal related issues the Army is focused on are real-time intelligence collection and fusion, Fogarty added.

Whatever we call ABI, it has to sense the activity that is important to us, it has to be delivered in a format and in a timeframe that allows decision makers to decide and be able to act,” Fogarty said. “Otherwise all we’re going to do is shoot behind the rabbit or we’re going to be late with whatever our humanitarian mission is.”

LETTHE DATA FIND YOU

Despite lack of an official and uniform definition, there is a strong consensus emerging throughout the Community as to the components, or pillars, that comprise the ABI methodology.

Dr. Patrick Biltgen, a senior mission engineer for BAE Systems in its GEOINT-ISR sector, said that while the concept of ABI may be difficult to articulate, the approach is much easier to grasp when seen in action.

“I think people are trying to redefine ABI,” Biltgen said. “But the practitioners of ABI say, ‘I know unequivocally what it is because I’ve been doing it.’ If you’re saying we need to define it, I don’t think you understand it. It’s a very simple concept.”

The first main component of ABI is “geo-reference to discover,” which means persistently collecting data on activity and transactions over a broad area or with a variety of sources, then storing it in a database to be discovered later when it intersects with other data.

“The first main component of ABI is “geo-reference to discover,” which means persistently collecting data on activity and transactions over a broad area or with a variety of sources, then storing it in a database to be discovered later when it intersects with other data.
New Analytic Methodology

A variety of emerging technologies are playing a role in advancing the new analytic methodology coined as ABI, according to DeTroye.

The Air Force as her office works with its development at NGA, and the benefits of these key components are beginning to be recognized throughout the service.

“Big data is how we empower non-linear analytics,” Preisser said. “That crazy stuff I collected today in some remote corner of nowhere may be the golden ticket for an analyst in several years or several hours.”

The third component to ABI is “data neutrality,” or the idea that all data is good and not to be biased toward any one data source. Usable data encompasses a full range, from open source intelligence, such as information derived from social media, all the way to the most closely held human intelligence-derived information.

“This is one of the hardest things for the Community to deal with—the notion that all data is equal,” Biltgen said.

With the ABI approach, disparate data is pulled together to understand what’s going on, meaning a particular data point may not reveal itself as “good” or “bad” until later on.

A fourth component that isn’t discussed as often, but is also critical according to Gauthier, is knowledge management. For example, when the ABI methodology is used to uncover associations in data or discover a network, it is important to capture the network in a knowledge system using smart metadata tagging.

“One of the things I’m frustrated with in the intelligence business is we usually capture that knowledge in a written product,” Gauthier said. “You require someone to go read that product to bring it back out…We have technology and software now that lets us do that, so we should be using it.”

**ENABLING THE METHODOLOGY**

The strategy of cross-referencing data from various sources and treating data from all sources as equal is not only inherently multi-INT, but it is also creating a chicken-or-the-egg conundrum with regard to intelligence integration.

Is ABI driving intelligence integration or vice versa? Does the answer even matter?

White predicts the correlation of data from various sources will continue to grow over the next few years, eventually to the point where collection systems will be able to tip one another automatically and sensors will be much more finely tuned.

“ABI is a catalyst for intelligence integration,” White said.

Conversely, DeTroye described intelligence integration as a “major enabler” of ABI, adding that as recently as 10 years ago the Community wasn’t ready to exercise the level of collaboration necessary to execute the methodology.

“If you’re not willing to collaborate across stovepipes, the concepts of ABI simply won’t work,” DeTroye said.

Zitz sees the Intelligence Community Information Technology Enterprise (ICITE), a recapitalization of the intelligence IT infrastructure set to occur between 2013 and 2018, as “absolutely critical” to taking ABI to the next level. ICITE aims to consolidate the architectures of the CIA, NSA, NGA, DIA, and NRO to reduce cost, better protect the data and the network, and deliver a multi-INT-enabled environment.

“ICITE will power multi-INT, and multi-INT powers ABI,” Zitz said.

During his keynote address at GEOINT 2012, Director of National Intelligence James Clapper referred to ICITE and ABI as two big ideas for the future of the Community.

“As we execute [ICITE] we’ll save a lot of money,” Clapper said. “Maybe more importantly, the Intelligence Community will be able to take intelligence integration to the next level as we transition from an individual, agency-centric IT model to an enterprise model that shares resources and data.”

He later added that future generation architecture would enable ABI.

“Instead of predicting where we should look tomorrow, if we can respond on a quick cuing and tipping basis, that is what activity-based intelligence is all about,” Clapper said. “In other words, be cued and then have the agility and capability to respond to those cues.”

**ADVANCING TRADECRAFT**

Perhaps just as important as sharing information across intelligence disciplines is enabling individual analysts to share the traditional paradigm of the tasking, collection, processing, exploitation, and dissemination intelligence cycle. Instead, he said, ABI takes a more analytic-centric approach focused on defining the activity being sought, orchestrating a collection suite, and executing.

In other words, seeking “temporally and spatially what activity is going on in that particular space on earth rather than at just one point,” White said.

Dr. Eileen Preisser, director of the Air Force GEOINT Office at NGA, said

“That’s where industry comes in. The challenge for industry is how do you develop the technology to be able to take all those collection systems, correlate this data, and make it easily available for the analysts.”

— Scott White, vice president for intelligence, Northrop Grumman
intrinsic knowledge with one another, according to Gauthier. NGA is embarking on a quest to store that intrinsic knowledge in a database so that others may discover it and collaborate.

“ABI is a new emphasis on a methodology that people have been using for a long time,” Gauthier said. “We’ve just put the entire burden of doing this on the analysts in the past. Good analysts naturally will study data and make inferences about activity and then use those inferences to understand the behaviors and patterns of what’s going on.”

Over many years, analysts develop inherent knowledge of their targets, as well as a deep understanding of what’s related to what, Gauthier said. Typically, when analysts make a database remark about a significant activity, it is because they’ve witnessed something that crosses their mental threshold for a target they’ve monitored for so long.

“If analysts can consistently record the activity they observe in data or imagery and what they’re focused on mentally, there may be another target and 20 different things they look at every day,” Gauthier said. “If it’s something significant, they write about it, otherwise they don’t. We want to know what those other 20 things are.”

In other words, what was it about those other 20 things that the analysts knew made those targets insignificant? If this is recorded more regularly, a history of such knowledge can be built and handed down over time. This knowledge can also be turned into useful data for the high-powered computing and analytics that industry can now provide, allowing computers to search for the anomalies that humans might overlook.

Mark Lowenthal, president of the Intelligence and Security Academy, which provides education, training, and consulting in analytics, said it is important to dedicate resources to training analysts in how to use ABI methodology and FMV to their advantage, without equally important for analysts to figure out what ABI’s limitations are so they don’t become over-reliant on it or expect it to do things that it can’t do.

PREPARING FOR CHANGE
Many experts say the government is still in the early stages of communicating to industry its needs and expectations for ABI, but that lately that communication is becoming more clear. In particular, the many discussions of ABI at GEOINT 2012 emphasized that the methodology is about the data.

“We need the standards applied to the data, regardless of what the source or sensor is,” Gauthier said. “We need smart data and I think there are standards that’s helping us solve hard problems.”

Not only can such algorithms used to parse data in ABI help make analysts more efficient and direct their attention toward true analysis rather than research, they can also address the issue of scaling.

“We can no longer hire more analysts just because we have more data,” Gauthier said.

White described ABI as a way to “transfer the workforce to something that’s more 21st century-based given the data sources we have, and the way that IT is able to process the information.”

This can be done through the development of machine-to-machine interfaces that re-task and correlate data automatically without humans in the middle, as well as the metadata tagging necessary for such correlation, he added.

“That’s where industry comes in,” White said. “The challenge for industry is how do you develop the technology to be able to take all those collection systems, correlate this data, and make it easily available for the analysts.”

While industry begins to grasp this analytic methodology and innovate to meet its requirements, it’s up to the ABI leaders in government to drive the cultural conversation about this non-traditional, integrated strategy.

“The government has got to be willing to make changes required for security policies and culture changes to ensure that these needs and this architectural and technological change is not only asked for by decision makers, but is embraced by the managers and the workforce,” Zitz said.

But I will tell you, when folks are seeing change and see what’s being delivered almost on a daily basis, the culture isn’t as hard as you might think.”

— Letitia Long, director, National Geospatial-Intelligence Agency
THERE ARE many reasons why GEOINT Community leaders are turning toward certification as an integral part of their human capital strategy. It is part of the natural evolution of the GEOINT tradecraft, and there is strong interest across government, industry, and academia to take this important next step toward professionalization of the workforce. Despite substantial and ongoing investment in training and education, learning does not always equal competence—and despite universal appreciation for the importance of the résumé, having held a job in the past is less conclusive than a recent, objective demonstration of the ability to perform to a measurable, recognized standard.
A valid certification program can fill that gap, through some combination of “the four Es”—education, experience, examination, and ethics (in this case, the demonstrated ability to consistently add value to society through the exercise of one’s profession). Certification ensures that those hired, assigned, or promoted into positions of organizational or even national importance have demonstrated the competencies those jobs require. For all the value that certification can offer—in government (at all levels), business, and academia—those seeking to reap its benefits often have little idea of how to go about putting a program in place. Many organizations, not wanting to reinvent the wheel, assume the best they can do is to adapt concepts from student assessment and human resource management and hope they get them where they want to go.

However, there is a specific, well-understood process for developing legally defensible, performance-based certification standards. What’s more, this process is scientific—that is, it has been demonstrated to reliably produce the desired results and is backed by decades of valid evidence.

**LAY THE GROUNDWORK**

Why certify? From the classic writings of Carl von Clausewitz, the Prussian soldier and military strategist, to the contemporary wisdom of business gurus like Dr. Stephen R. Covey, history teaches that effective planning begins with understanding the objective—and certification is no different. Even if a certification effort has been mandated, as is the case for GEOINT certification, more can be accomplished if the planning team first steps back to explore the context around that directive. Who are the major stakeholders? What are they trying to accomplish? What will be their roles in the process?

Next comes the business case. Although the business case is obvious for a private sector certification program, it applies equally in government—especially in a time of declining budgets. Developing a business case is like a financial Intelligence Preparation of the Operating Environment: it involves taking stock of the workforce performance factors, challenges, and opportunities surrounding the organization, then exploring alternative courses of action for achieving the organization’s objectives, to demonstrate whether a credentialing program is the best use of the organization’s resources.

For GEOINT certification, the need for agility to respond to budget cuts on the one hand and the next national security crisis on the other, makes a strong financial argument for facilitating movement throughout the profession. Likewise, the availability of a broad base of technical geospatial associations coupled with a unifying GEOINT professional organization—the United States Geospatial Intelligence Foundation (USGIF)—offers opportunities to minimize the taxpayer’s burden through public-private partnership with the broader professional community.

**DESIGN THE PROGRAM**

Once the goals and financing of the certification program are understood, the next step is to define the credential’s standards and requirements. Typically, standards are defined through a job and task analysis—a detailed examination of each professional role and its component tasks. For GEOINT certification, a wide range of government and corporate schoolhouses (NGA, College, the military services, industry) and professional organizations already have competencies and standards in place based on job and task analyses conducted using the same process.

Together, these can be used to define the essential body of knowledge—the competencies one requires to be a professional in a given domain—for an entry-level GEOINT credential without duplicating those efforts. Such sources continue to be useful for certifications at higher levels too, although there is some evidence suggesting that an advanced process called a cognitive task analysis, used to elicit more sophisticated forms of expertise from accomplished professionals, should also be conducted to identify competencies that may not have been thoroughly captured using traditional methods.

After the standards are defined, it becomes possible to select the most appropriate means for assessing each competency—that is, the requirements for a candidate to achieve certification. Attaining a certain level of education most reliably represents some competencies. Others require some degree of experience working in the environment and under the conditions that the job demands. Still others may require objective, third-party validation through an examination, and some may require consistent demonstration of the ability to add value through the exercise of the profession—a practical definition of ethics. The requirements for GEOINT certification will almost certainly include some mix of “the four Es.” However, the weight of each cannot validly be assigned before the standards they must measure have been identified.

**DEVELOP THE ELEMENTS**

One of the most time-consuming aspects of a strong certification program is development of a valid, legally defensible examination. Consequently, it is critical to begin this process as soon as the competencies and standards are defined. Another approach is to design the strategy around initial launch of the program without an examination component, with one being added later. This latter approach may be especially useful when—as for GEOINT certification—there is likely to be some disagreement among significant stakeholders on what belongs in the profession’s unifying essential body of knowledge.

In such cases, expert panels can be formed to judge early candidate materials and build toward consensus on the body of knowledge. Panelists will increasingly gain a sense of what they are focusing on when evaluating each portfolio, and an exam component can be deployed in a subsequent year. Such an approach has been met with notable success in GIS professions, such as the GIS Certification Institute’s GIS Professional credential. However, when considering this option, it is important to keep in mind that some societal or organizational cultures place extreme value on the presence of a solid exam when judging a certification’s credibility.

Also critical to remember when developing a certification program is that specific, objective, and credibly independent procedures must be thought out and formally specified in advance for
the credential to be legally defensible, as well as externally accredited under national or international standards. This includes organizational design, like setting up an autonomous governing body representative of the major stakeholders, including, for GEOINT certification, government at all levels, industry, academia, allies, and even intergovernmental and non-governmental organizations. It is also important to craft procedures for matters like right of incumbency—if certification is required for employment—it adds.

Another critical procedure to address during certification program development is future recertification and renewal. Few fields are sufficiently static to certify professionals for life, and highly technical disciplines like GEOINT are certainly no exception. Sound, performance-based requirements for periodic renewal ensure the credential remains valid and respected as the profession evolves. Well-planned criteria for recertification can address extreme cases, such as when disruptive change has so altered the profession that its practitioners must be recertified on fundamentally altered competencies. The Defense Security Service’s Security Professional Education Development (SPeD) program offers a good example of recertification and renewal criteria.

One more consideration too often overlooked is one near and dear to the hearts of GEOINTers: geography. Modern professions are almost never restricted by geography. They have practitioners worldwide, who could also benefit from a shared credential—as could collaboration among them. Yet it is highly unlikely that a program will be successful outside the cultural or national context in which it is developed without explicit, deliberate attention throughout program development and implementation to issues like cross-cultural validity, divergent legal or regulatory frameworks, information exchange, and communication.

**DEPLOY THE PROGRAM**

After designing the program and developing the elements, many would consider the hard work complete, yet most innovations that fail do so in or after the deployment phase. In part, this is because an organization that waits to consider deployment until its program is ready for prime time is likely to find its opposition entrenched. Information abhors a vacuum. If an organization isn’t strategizing the implementation of its program and engaging in regular planned communications with its stakeholders from the very beginning, then those harboring concerns will surely fill that vacuum with less favorable communications.

USGIF has begun to address these necessary communication elements for GEOINT certification through informative articles such as this, panel discussions about the impact to the GEOINT Community and the IC and DoD at-large, interviews like those on www.geointv.com, and informational webcasts.

**EVALUATION**

The final major phase in the creation of a solid certification system is measuring its impact. Here, it is again crucial that planning for measurement begin at the outset of development. Without a firm grasp of how success will be defined and evaluated, not only by the credentialing organization but also by its stakeholders, the certification is almost certain to go astray, and find its outcomes ill-suited to a convincing demonstration of the value it adds.

This is being addressed in the GEOINT certification development process through proactive conversations with both evaluation experts and the profession’s many stakeholders, focused on forging a consensus as to how impact will be measured.

Development of a valid and effective certification—like any change—is a process rather than a point in time. While there are many technical and political pitfalls that could snare an unwary traveler, there is also a scientific process backed by a wealth of evidence-based practice available to guide the wise.

As it pursues the creation of a rigorous, third-party accredited system for professional GEOINT certification, USGIF stands ready to assist the Community in consolidating stakeholder feedback, preparing to take advantage of what certification has to offer, and developing or evolving complementary, technical (geospatial discipline-specific) certifications.
THE SIGNIFICANCE OF HUMAN GEOGRAPHY BEFORE AND DURING CONFLICT

BY JIM HODGES

OF ZERO

U.S. ARMY SGT. LEIGHMARIE LAWLESS of Philadelphia, working as a member of a female engagement team, talks to several children in a village in the Deh Yak district of Afghanistan Oct. 19, 2011. (Photo by Sgt. Ken Scar)
At its core, human geography is built on Walter Tobler’s First Law of Geography: “Everything is related to everything else, but near things are more related than distant things.”

identify starving people who haven’t seen rain in years.

At its core, human geography is built on Walter Tobler’s First Law of Geography: “Everything is related to everything else, but near things are more related than distant things.”

Human geography is a term largely generated by the U.S. State Department and is accepted—in some cases grudgingly—by the rest of government and its partners.

It’s an umbrella term for a still-evolving package of skills that includes socio-cultural, economic, political, health, urban, and other types of research. Together, this research can identify groups of people, their leaders, and their interaction with other groups, which are the seeds of potential conflict.

However, human geography is built on a socio-cultural foundation that was once the province of academia, and is often less driven by the research and more by the client.

“The temporality of the information that we’re asking for is different now,” said Dr. Dave Warner, a neuroscientist who, in 19 trips to Afghanistan, has turned unclassified satellite images into currency that buys insight into the local population.

“What we used to call social geography didn’t change a lot in time and space,” Warner said. “Now, there are social dynamics that are happening in a faster time frame … and now we have to process things faster and better.”

Dr. Sam Striker conducts socio-cultural analysis for Hollin-Phoenix Consulting, and has spent considerable time with the Army’s Special Forces and Humanitarian Terrain System. He offers this example: “I had one colonel ask me, ‘Can you find out about those stabilization operations in Maiwand, [Afghanistan]? How much time do you need?’ Striker recalled. ‘I said, ‘Four weeks.’ He said, ‘You’ve got four days.’”

It’s a divide between good and good enough. Academic research is good for a doctoral dissertation. Human geography is good enough to provide a relevant answer for an ever-changing situation.

PHASE ZERO
If you ask military leaders what happened to socio-cultural research between the Vietnam War and the War on Terror, you would receive a range of answers, including that preparation for conventional warfare overrode counter-insurgency training and strategy.

That had to change, according to Lt. Gen. Michael Flynn, who heads the Defense Intelligence Agency.

“We’re in about 139 countries today, so we have to do some things to make sure that we’re present where we need to be,” Flynn said during a keynote address at the GEOINT 2012 Symposium. “It’s about putting our presence forward where it needs to be in a world where we are really having a difficult time understanding and responding to.”

It’s also, he added, about “mitigating risk” to combatants and the population.

Critics have posited that U.S. involvement in Iraq and Afghanistan has been prolonged by a lack of prior knowledge about where the military was fighting and why.

“[The] No. 1 [lesson learned] is our failure to understand the environment we were operating in or the cultures we were operating in or against,” Flynn said.

This statement should reflect a sense of urgency because “we’re in one of those turning moments in history,” he added.

Earlier in 2012, Flynn penned “Left of Bang: The Value of Sociocultural Analysis in Today’s Environment,” which was published by the National Defense University Press.

He wrote, “Once a conflict commences, it is already too late to begin the process of learning about the population and its politics.”

The time prior to conflict is called Phase Zero, and it’s where many in the military want to operate.

“Those of us in the intel world consider [‘Left of Bang’] a bible which takes us from how things were to how things should be,” said Maj. Faye Cuevas, an Air Force reserve intelligence officer for Special Operations Command–Africa and U.S. Africa Command (AFRICOM).
“[Lt. Gen. Flynn’s papers and others] emphasize that there needs to be a shift in the way the intelligence, surveillance, and reconnaissance community does its job. We need to find a way to consider in parallel targeting and counterterrorism, but we also need to emphasize a population-centric strategy.”

LEFT OF ZERO IN AFRICA
The U.S. has had a military presence in Africa for decades without really knowing much about the continent and its people. The military aims to change that with AFRICOM, a Stuttgart, Germany-based command formed in 2008 with socio-cultural research in mind and as a stated goal.

Since AFRICOM was established, there have been Arab Spring uprisings in Tunisia, Egypt, and Libya. U.S. Ambassador Christopher Stevens was killed at Benghazi, Libya. There have been contentious government changes in Kenya and Mali. The world’s newest nation was formed in the South Sudan, and civil wars are being fought amid the growing influence of Al Qaeda and ongoing health issues. All such events are being studied by AFRICOM’s Socio-Cultural Research Center.

“It’s an inter-disciplinary division of intelligence analysts sitting alongside socio-cultural Ph.D.s,” said Cuevas. “They are military and civilian, and the goal of the group is to analyze and research the information we need to support operations in Africa.”

The center also has its own Socio-Cultural Research and Advisement Teams (SCRAT), which work under a code of ethics and with the host country’s permission.

The Socio-Cultural Research Center is part of an effort to better understand the African nations the U.S. works in partnership with. As important, the center can use military intelligence capabilities to identify potential problems.

“From a full-motion sensor, we might see things like cattle herds,” Cuevas said. “Cattle migrations are based on where the water is—especially in Africa. So there’s information and knowledge that’s being collected that might not be of direct intel value, but a socio-cultural analyst can apply his tradecraft to it, and then it might become important to me as an intelligence analyst.”

A HUMAN FACE ON TERRAIN
AFRICOM’s SCRAT is much like the Army’s Human Terrain System (HTS), which was created in 2007 as a catch-up effort to conduct environmental research in Iraq and Afghanistan. The HTS has been much maligned since its inception, at least in part because its mission was begun mid-war.

“It was a setup for failure,” said Striker, who was part of two HTS teams. “I was prior service, Special Forces, so to me it was no big deal. But to a social scientist … they got bowled over.”

The HTS continues work with 20 teams in Afghanistan, down from 31 teams at the start of the summer, when the program’s budget was cut 40 percent as a result of the troop drawdown.

But HTS may have found its niche in a Phase Zero pilot it conducted with U.S. Army Africa (USARAF), a component command of AFRICOM.

“Based on the results of that success, we will be starting to hire some people to USARAF who are no longer in a...
“If [Iraq and Afghanistan are what] caused us to pay attention to the human complexities that caused the conflict and sustained the conflict, it has to matter. We should be paying attention.”

— Dr. Dave Warner

A MOMENTOUS TASK

In June, a 22-person Human Geography Steering Group was formed with representatives from various DoD and Intelligence Community stakeholders in human geography. The National Geospatial-Intelligence Agency (NGA) was tasked by Director of National Intelligence James Clapper to lead the group, which has the momentous task of orchestrating all of the human geography activities within the Community with representation from around the Community.

Bruce Heinlein was named NGA’s Director of the Human Geography Joint Program Office, which was formed from NGA’s Analysis and Production and Source Operations and Management directorates.

Heinlein said one important task of the steering group is to find subject matter experts in the field of human geography. Those experts will help chart a course through what often looks like a data morass—determining best practices, developing standards, and working up training regimens.

The group has already seen similarities in approaches to human geography and the emerging activity-based intelligence methodology.

“The tradecraft in human geography and the tradecraft, if you want to call it that, of activity-based intelligence will clearly overlap,” Heinlein said. “We’re very early in the process of determining what human geography will become.”

But its value is already clear.

“I think that we have seen the contributions over the past year of human geography to national security and international humanitarian assistance and disaster relief,” Heinlein said. “Opportunities continue to grow in value and importance. We are just beginning and there is much more for us to do.”

pilot,” said Jeff Beatty, HTS’s futures director. “They will be part of the [U.S. Army Training and Doctrine Command] effort to expand human terrain capability to contribute in a post-Afghanistan environment.”

Beatty is spending the next fiscal year touting the capability and potential of HTS to commands around the world.

The approach makes sense, according to Striker.

“A social-cultural team works best in Phase Zero because it has access to the population,” Striker said. “In Afghanistan, I had to take four Stryker armored vehicles out with me, 30 soldiers surrounding me. It’s a million dollars every time you go outside the wire.”

It’s also a hard way to persuade the population that you come in peace.

THE WAY AHEAD

There are several arguments for giving the study of human geography a permanent place in the military and the Intelligence Community.

One is the now ever-present threat of irregular warfare. Over time there have been multiple disparate attempts at raising the profile of human geography. HTS and SCRAT are two examples. NGA has also developed a new Human Geography Steering Group in an effort to coalesce these initiatives in a more cohesive whole, at least within the Intelligence Community.

“If [Iraq and Afghanistan are what] caused us to pay attention to the human complexities that caused the conflict and sustained the conflict, it has to matter,” Warner said. “We should be paying attention.”

The torch is also being passed to a new, more technologically savvy generation.

“I think now there’s a cultural change within the military,” said Warner, himself a former soldier. “The guys (junior officers and NCOs) that have been out and about and learned this—if we actually put those people in charge, they will understand the need. The old folks will eventually leave, and we’ll have the young cyberwarriors, the folks who understand social media intrinsically, who understand how it works with human geography.”

And who understand the need to obtain the rest of the story. □
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At the GEOINT 2012 Symposium in October, leaders of government agencies and the services discussed challenges, including budget cutbacks, and petitioned industry to understand and help them achieve their goals.

As the vice president of Northrop Grumman’s Integrated Intelligence Systems business unit, Shawn Purvis understands well the challenges faced by government, and is developing the tools necessary to help meet mission requirements.

Northrop Grumman is focused on the needs of mission partners for processing, exploitation, and dissemination (PED) capabilities, automating data, and analysis. Its core customers include various intelligence agencies, the Department of Defense, and other federal agencies.

We have the unique opportunity to work across multiple disciplines in the Intelligence Community,” Purvis said. “We’re bringing some of the best-of-breed technology and capability from different sources and cross-sharing that with our customers.”
One of the biggest challenges faced by customers is how to handle the massive amounts of data that analysts must process, Purvis said. Northrop Grumman is working on open source intelligence tools to harvest data from the web, including Twitter and Facebook. These tools will help analysts sift through data to discover the jewels that are true intelligence issues.

“Our goal is to give the power back to the user,” Purvis said.

To accomplish this goal, they are developing open source intelligence tools and applications that can plug-and-play with many legacy systems.

“It’s what the customer is asking for,” Purvis said. “As a user, you say, ‘I need A, B, and C.’ You don’t care who the vendor is, you just want the tools to address your intelligence question.”

Each intelligence community has applications that have been developed within individual pockets, or stovepipes, explained Purvis.

“You get the bigger bang for the buck by consolidating and collaborating, to have applications that can communicate with each other and share data across the full intel spectrum,” she said.

The open source intelligence tools she and her team at Northrop Grumman are developing have application programming interfaces (APIs) on the backend, which enable them to plug-and-play into many different architectures.

“We’re trying to add and augment existing infrastructure,” Purvis said.

This interoperability allows a customer to incorporate new tools into workflow, without the need to replace all of their legacy applications.

Purvis also offered some observations from her experience as an exhibitor at GEOINT 2012.

“What I’ve seen over the last two to three years is a growth of users who understand the power behind geospatial intelligence,” she said.

Directorates, agencies, and the services are now coming to GEOINT, she said, striving to understand GEOINT technology, as well as discussing how to make the technology faster, better, more efficient, and more accurate.

“To see the customers, hear their challenges at the different workshops, and then to see all of the tools and technologies that are out there, [the GEOINT Symposium is] just a great opportunity to expose yourself to all of that at one time,” Purvis said.  — BY BRAD CAUSEY

“We have the unique opportunity to work across multiple disciplines in the Intelligence Community. We’re bringing some of the best-of-breed technology and capability from different sources and cross-sharing that with our customers.”

— Shawn Purvis, vice president of Northrop Grumman’s Integrated Intelligence Systems business unit

JOIN USGIF
To find out more about becoming a member of USGIF, visit www.usgif.org/membership.
Since 2009, the USGIF Young Professionals Group (YPG) has played a major role in advancing the geospatial intelligence tradecraft by empowering the next generation of GEOINT leaders. The YPG develops programs for K-12 and college students, as well as young professionals, with the mission of ensuring that future leaders will have the drive, innovation, and passion to propel the GEOINT tradecraft forward.

One of the YPG’s latest initiatives is launching a new program designed to empower high school students in the Northern Virginia region. The YPG also brought this new initiative to high school students in the Orlando area during the GEOINT 2012 Symposium in October.

Each year at the Symposium, the YPG hosts a number of events and opportunities for young professionals to network, gain access to GEOINT leaders, and give back to the local community through a service project.

At GEOINT 2012, the YPG took it to the next level with its service project by bringing in 60 students from Orlando area high schools to experience GEOINT innovation firsthand in the exhibit hall.

“These students are special because they are sophomores in high school, which is the perfect age for us to effect change,” said Mike Campanelli, USGIF board member, co-chair of the Young Professionals Working Group, and senior systems engineer with RadiantBlue Technologies. “This opportunity allows them to think abstractly and realize that the GEOINT world is much larger than they think.”

The students who attended GEOINT 2012 were from the Air Force ROTC program at Dr. Phillips High School and the Global Technology Magnet Program at University High School, which prepares youth for career opportunities in technology and the sciences.

Based on the success of the service project at GEOINT 2012, the YPG is confident about its plan to connect with students in Northern Virginia. Initially, the YPG will target a handful of high schools in Loudon County, where they will work with faculty, administrators, and students to develop the most effective student programs.

“Working together with the schools, we’ll determine which classes will be most appropriate, but we anticipate a broad range from history and civics through computer science and physics, and will advocate as such,” said Eric Zitz, USGIF board member and an associate with Booz Allen Hamilton.

This ambitious new program is the YPG’s first foray into the high school classroom, said Carrie Drake, who runs the YPG programs at USGIF.

“We believe it’s important to engage with students before they enter college so that we can share our passion and help build theirs,” Drake said. “By doing so, we hope to influence their courses of study and make them aware of opportunities to enter the GEOINT Community.”

BY MATT LANGAN

60 students from Orlando area high schools came to experience GEOINT innovation.

USGIF’s Young Professionals Group launches a new high school outreach program.
Held annually in the Northern Virginia area, GEOINT Community Week brings together members from the defense, intelligence and homeland security communities, for a week of networking, classified briefings, technology exhibits and learning workshops.
**THE NATURAL NAVIGATOR: THE REDI
dISCOVERED ART OF LETTING NATURE BE YOUR GUIDE**, by Tristan Gooley, takes a look at navigation before the GPS, the compass, or even cartography. Instead, Gooley uses navigational anecdotes to explore the methods of our ancestors, who navigated using the clues in a windswept tree, the sun and moon, changing tides, weather patterns, shadows, and more.

**THE IDEA FACTORY: BELL LABS AND THE GREAT AGE OF AMERICAN INNOVATION**, by Jon Gertner, chronicles the story of Bell Laboratories, funded and built in New Jersey by AT&T. Bell Labs thrived from the 1920s through 1980s, well before the days of the Silicon Valley boom. Gertner describes the thrill of innovation at Bell Labs through the eyes of the scientists who worked there. At its peak, the labs employed nearly 15,000 people, 1,200 of whom had Ph.D.s, and 13 of whom would win Nobel prizes.

**THE START-UP OF YOU: ADAPT TO THE FUTURE, INVEST IN YOURSELF, AND TRANSFORM YOUR CAREER**, by Reid Hoffman, examines the best practices of start-ups and goes beyond the resume to describe how to get ahead in your career. Among the advice Hoffman offers are adapting career plans, developing competitive advantage, taking proactive risks, and tapping your network for information and intelligence.

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**PEER INTEL**

TASC Inc. made five strategic executive movements in October. **John Hynes Jr.** has been promoted to executive vice president and COO. **Bruce Phillips** will serve as senior vice president of the civil and infrastructure security group, reporting to the office of the CEO. He previously served as vice president of the company’s infrastructure protection and security business unit. **Rick Wagner** has been promoted to senior vice president of the company’s defense group, and will also report to the office of the CEO. He most recently served as vice president of the defense business unit. **Tom Killcline** will take Wagner’s place as vice president of the defense business unit. He is a retired Navy vice admiral, and joined TASC in 2011, serving as the company’s vice president of Navy programs. **Terry Roberts** will serve as vice president of intelligence and cyber in the company’s intelligence group. She was most recently executive director for interagency acquisition and cyber at Carnegie Mellon Software Engineering Institute, where she led its technical enablement for the DoD, Intelligence Community, and federal government. **Ellen McCarthy**, who has been serving as executive director of the Intelligence and National Security Alliance, was named COO of the National Geospatial-Intelligence Agency.

**IDV Solutions** announced that **Scott Sieracki** has joined the company as executive vice president of global sales. In this role, his primary responsibilities will be to drive the company’s revenue and develop and manage IDV Solutions’ sales force and global channels to market. Sieracki has previous experience with Tyco/Software House, Quantum Secure, VerticalNet and Open Options Inc. Sieracki’s new position comes as IDV Solutions prepares to launch Visual Command Center version 2.0, an upgrade to its risk awareness and response software used in security operations centers. **David Lacquement** joined SAIC as program development director and senior vice president of the cybersecurity business unit. He recently served as director of operations for U.S. Cyber Command. **Keith Masback**, USGIF president, has been appointed to the National Oceanic and Atmospheric Administration’s Advisory Committee on Commercial Remote Sensing, which evaluates economic, technological, and institutional development relating to commercial remote sensing and makes recommendations for federal policies and programs.
USGIF accreditation of collegiate Geospatial Intelligence certificate programs supports vital national security interests by assuring that students are prepared for careers within the growing GEOINT enterprise. Earning a Geospatial Intelligence certificate from a USGIF accredited institution provides students with the skills required to address national security challenges and delivers employers potential hires of the right caliber.

Want to develop a Geospatial Intelligence certificate program at your university? Visit usgif.org/education/accreditation for more information.
This photo, taken Nov. 1 outside the USGIF office in Herndon, Va., shows the National Geospatial-Intelligence Agency’s (NGA’s) Domestic Mobile Integrated Geospatial-Intelligence System (DMIGS) deployed to support FEMA’s Red Incident Support Team during the aftermath of Hurricane Sandy. DMIGS is manned with up to six analysts who provide GEOINT support for a range of missions through data and voice links. Analysts continuously distributed fresh GEOINT to FEMA and to medical teams operating in some of the areas hardest hit by the hurricane, including Howard Beach and Rockaway, N.Y., and Little Ferry, N.J. While most of America viewed the large-scale National Oceanic and Atmospheric Administration (NOAA) weather satellite images of Sandy in awe on television or via the web, this photo tells the story that many don’t know—the growing importance of, and reliance on, behind-the-scenes GEOINT following natural disasters. NGA also provided GEOINT analysis and products on power outages, cleanup operations, urban search and rescue missions, damage and flood assessments, road closures, and more. Over the past 24 months, NGA has significantly enhanced the availability and usability of its GEOINT analysis and production through the development and distribution of applications for tablets and other mobile devices.
Join us as we celebrate our 10th Anniversary. GEOINT 2013 promises to bring together an unparalleled agenda of keynote speakers, panel discussions, and breakout sessions. Attendees will receive a unique opportunity to learn from leading experts, share best practices and uncover the latest developments from government, military and private-sector leaders in an exhibit hall with over 100,000 square feet of technologies.

You don’t want to miss the largest intelligence event of the year along with a 10th Anniversary celebration you won’t forget.
To solve big problems you need to see the big picture. You also need an eye for detail.

At TASC we deliver the strategic vision and engineering know-how needed to develop next-generation solutions that balance performance, affordability and resiliency in meeting mission requirements.

By combining extensive geospatial intelligence domain expertise with practical insights and proven systems engineering and integration processes, we help our customers develop holistic solutions that extend beyond organizational boundaries to protect the nation and our forces around the globe.