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NORTHROP GRUMMAN

Two production RQ-4A Global Hawks deploy in global war on terror

The month of January marked a 'first' for a desert base location in the Middle East. A production version RQ-4A Global Hawk unmanned aerial vehicle landed on the runway of a forward operating location. Its sister landed just a few days later, bringing a new era of intelligence collection to the warfighter.

Just 36 hours after arriving on station, the RQ-4A Global Hawk, designated AF-5, flew its first combat sortie, which lasted nearly 24 hours. During this initial aerial reconnaissance flight, the Global Hawk's new production integrated sensor suite performed flawlessly, booting up in half the time of the advanced concept technology demonstration sensor.

These intelligence, surveillance, and reconnaissance assets boast a sensor suite that is fifty percent more capable that the advanced concept technology demonstration version of the Global Hawk that is currently deployed.

"We are extremely excited to have these two aircraft in the hands of our warfighters," said Randy Brown, Global Hawk Systems Group director. "This is a major milestone in the program and one that is historical for the future of Air Force reconnaissance. There have been a number of improvements to the program, and I'm very proud of the work that everyone here has done to make this a reality."

"The Air Force is committed to bringing real-time reconnaissance information to the commanders and is confident that Global Hawk is the right high-altitude asset to provide persistent surveillance over the battlefield," said Jerry Madigan, vice president of the company's High Altitude Long Endurance programs.

Madigan noted that during a combat situation, "Global Hawk can loiter over an assigned area for more than a day or can be re-tasked to gather information over hot spots at a moment's notice. Once the Global Hawk is over the specific area, commanders can view problem areas quickly and make crucial decisions within minutes."

The Global Hawk program reached the

See GLOBAL HAWK, page 3

U.S. Air Force: Tech. Sgt. Glynis Fresia

Senior Airman Richard Griego, an avionics technician with the 380th Expeditionary Aircraft Maintenance Squadron at this undisclosed desert air base, put chocks in place under the Air Force's first production Global Hawk after it landed. The unmanned aerial vehicle represents an upgrade from the previous prototype model in use and is the first to be deployed into service. Airman Griego is deployed to Southeast Asia from Beale AFB, Calif., with the 9th Aircraft Maintenance Squadron.

STAR program gives employees opportunity to shine

Making its return to the spotlight and looking to add another group of talented employees to its already stellar roster is the 2006 Short Term Audit Rotation (STAR) program. In this career development program, select high-potential employees spend nine months to one year learning the corporate audit function. Following their STAR sabbatical, employees return to their regular work duties.

Sponsored and supported by all eight sectors, the program provides a mini-MBA experience by delivering a foundation in business principles through the audit process. Participants also gain experience in team problem solving and in applying new techniques, strategies, and skills under expert guidance. And because auditors are encouraged to broaden their overall working knowledge of how the entire company operates, the STAR program includes a chance to make two or three trips to help conduct audits at Northrop Grumman sites away from the participant's home site.

In essence, the program imparts a broader knowledge of the company to the employee who, in turn, can promulgate the knowledge following the program. In addition to the benefits derived for the employee, the Internal Audit organization also gains from their "borrowed" employees' innovative and impartial feedback.

"STAR participants are selected because they have proven to embody the desire and capacity to be the next generation of leaders at Northrop Grumman," said Mike Nielson, corporate director, Internal Audit. "The program gives these employees not only a great view of the organization as a whole, but tangible and real-time skills to immediately participate in the internal audit process."

"Even though the employees' experiences with STAR can vary depending on the sector, the one constant is that the program's critical elements continue to resonate even after they return to their regular work duties," he added.

STAR program participants begin work with sector audit directors or managers by reviewing the calendar for the year to determine which audits they will work on. Then they are matched with an experienced auditor and support staff members to perform the audit statement of work. Participants truly experience the full realm of the sector as their involvement includes exposure to multiple sector functions.

"You can't beat the exposure to the corporate office, sectors and business areas that I've been able to experience as a STAR participant," said Western Region's Art Arsenault. "Currently, as the black belt of a Corporate Financial Process Excellence (FPE) team, I'm working to improve the annual audit planning process and reporting progress to the corporate chief financial officer, the corporate vice president, FPE, and the corporate director, FPE. This type of executive-level reporting has been invaluable."

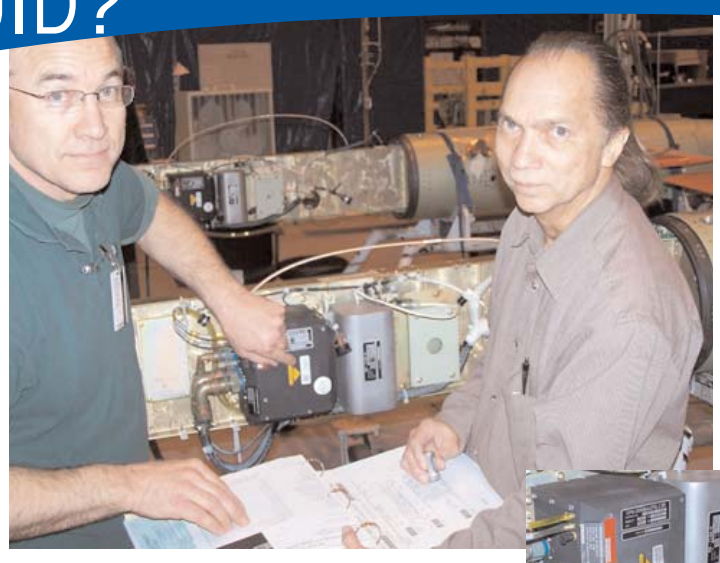
See STAR PROGRAM, page 4

Short Term Audit Rotation program participant Art Arsenault, shown here with a Chukar III subsonic aerial target, served on the team that reviewed the Target Systems Integration Laboratory in Rancho Bernardo, Calif., last year.

Results Sharing payout for 2005 equals 5.6 days' pay

Integrated Systems turned in a performance over plan in 2005 for the fifth consecutive year, yielding positive financial results for the company. The sector's Results Sharing calculations have been completed, and on Feb. 24, eligible employees will receive a Results Sharing payout equivalent to 5.6 days of pay based on their individual eligible 2005 earnings. Distribution is made the same as the regular paycheck is directed.

Why do we need UID?



Northrop Grumman: Brian Harvey

Thanks to the coordinated efforts of UID teams across Integrated Systems, John Isgrigg (left) recently delivered to DCMA representative Rick Hernandez four BQM-74E target drones each marked with UID labels (inset) on the installed Integrated Avionics Unit, considered the target's brain. This is a major milestone in the ongoing process of embedding unique identification into Northrop Grumman products. UID is a government requirement for serially managed components and subsystems.

Unique IDentification (UID) is a "business imperative," according to the Department of Defense, and soon it will be a requirement for nearly every component and subsystem built by Integrated Systems that is serially managed within the government's inventory. Virtually every employee will be affected by the DoD's need for distinguishing one item from another.

Since the requirement was made known, a team from Integrated Systems has been working closely with the DoD, industry partners, and suppliers to make the implementation as easy and smooth as possible. Recently an Integrated Systems team delivered the first Northrop Grumman product embedded with a UID.

It is important to understand why UID is required by our government customers and how it will work at Integrated Systems.

Just as a social security number is unique to an individual, UID is a permanent way to identify a particular DoD item, no matter where it travels or what product it becomes part of. And just as there are some hard and fast rules that apply to a social security number, the DoD has some very definite procedures and regulations that companies must follow when identifying parts and integrating that information into the government's Item Unique Identification (IUID) registry.

Responding to this government mandate, Integrated Systems has developed SQUID (Store and Query Unique Identification), a database and computer system designed to ensure the uniqueness of UIIs (Unique Item Identifiers) and enable that data to be passed on to the government.

According to Jim Weiner, who represents Information Technology on a sectorwide team that is implementing UID, at first each business area was working on its own unique solution. "When we put all of those teams together, we found we could develop a single solution for the sector for less money," he said. "That's how SQUID was born. SQUID is now such a success that other Northrop Grumman sectors are asking how they can leverage what we've accomplished."

Patricia Jacklets, property manager in Bethpage, New York, has played a role in evolving this requirement from the beginning as part of a government-led board that formed UID government property policies. Serving on both the Integrated Systems implementation team and the government-led board, she says, has been one of the best collaborative efforts of her career, despite the urgency and importance of the task.

"We've worked closely with all of our DoD customers as well as other defense contractors and even small mom-and-pop suppliers," she said. "This has been a wonderful experience because we are all striving toward a common goal."

The goal is to help the DoD track items individually throughout their life cycles. The UID will help the government combat counterfeiting, more consistently capture the value of items purchased, and control those items during use. Consider the key benefits for Northrop Grumman's customers – and for the company itself:

- Improved visibility regardless of platform or "owner"
- Lower item-management costs
- Accurate sources for property and equipment valuation and accountability
- Easy access to data for acquisition, repair, and deployment, as well as for system design and top-level logistics or engineering analysis
- Better item intelligence for warfighters planning operations
- Increased productivity and efficiency
- Improved inventory accuracy
- Clean audit opinions on the property, plant, and equipment as well as operating materials and supplies – all a part of DoD financial statements.

"While the DoD had many asset management systems, there really was no universal key that provided for parts visibility across multiple information systems or through a part's life cycle," said Jacklets.

Now that key will take the form of a two-dimensional data matrix encoded with a unique item identifier. Globally unique and permanent for the life of the item, the identifier enables the DoD to consistently locate, control, and value its assets. Item identifiers will be stored in a registry along with pedigree data associated with the item. That's where SQUID comes in; SQUID will let the company capture the data and then provide it to the government.

Ann Stansbarger, who directs IS Contracts and represents the corporation on a national, industry-wide advisory group dedicated to UID, says Integrated Systems is one of the biggest players within Northrop Grumman because the sector builds such a broad range of DoD-focused products.

"That's why our Navy customer is as excited as we are about the sector's first successful delivery of target drones embedded with UIDs on the avionic unit," she said. "That means we've delivered a multi-tiered set of UIDs for an end item. This is a significant accomplishment."

Also significant is that this early success represents the coordinated efforts of individuals working across different business areas, functions, and facilities – all without having to reinvent the wheel. "On the highest level, we've been coordinating our efforts with the

See IDENTIFICATION, page 4

New governance council to accelerate future investment in IT infrastructure and tools

The newly formed Integrated Systems Strategic Information Technology Governance Council (SITGC) is chartered to define ways to manage business and technology decisions to realize the best value of IT investments. While focusing on efficiency improvements and effective management of its IT resources, the council will seek ways for employees to receive the best tools available to perform their responsibilities.

The SITGC defines its role as "being the decision-making authority accountable for business technology initiatives" and is currently defining a Business Evaluation Board (BEB) type process, similar to what's used for assessing program opportunities, to establish a robust "business case" approach to prioritization. This consistent process will help guide how an organization will make, track, and enforce key decisions while eliminating redundancy through business area collaboration and ensuring that business value from IT investment is maximized across the sector.

Chaired by Sector Vice President and CIO Art Lofton, the council comprises voting members from across the sector. "The council's structure is designed to help shift our culture associated with strategic ways that the power of IT can be utilized as a benefit to the sector," said Lofton.

The council has initially established a goal of reducing Information Technology recurring costs over a three-year period. These savings will be reinvested to accelerate future enhancements in the IT infrastructure used across the sector. Council members agree that saving on recurring costs will enable some initiatives to gain funding for implementation and contribute substantial value to the enterprise.

"Our role is pretty straightforward," said Wendell Bugg, director of Communications and voting member on the council. "The council will find out if the sector is spending the right money for the right products, and if we're getting the best possible value from our suppliers. Capitalizing on our company's size can be the greatest advantage in leveraging our investments and resources, and the council's collaboration will make sure that occurs."

Look for future articles on the value realized by getting our business and IT leaders together to make the best decisions on current and future IT investment.

— Edward Levy

Two Long Island employees are tops in tech talent

In any field or industry, the person who develops a fantastic new product tends to receive all the credit and publicity. Yet, the real heroes are often the ones who take those new developments and use them to dramatically improve how their organizations function.

In New York, two such heroes from Northrop Grumman recently received well-deserved recognition. Dmitry Bogorodovsky and Jim Montagna, who work for the Northrop Grumman IT sector's Internal Information Services (IIS) group in Bethpage, N.Y., were among the Top Twenty Tecchies honored by the Long Island Software and Technology Network (LISTNet). The two men were feted – along with the other 18 Top Tecchies – at an award banquet in December.

Bogorodovsky is project lead for AEW&EW Systems Web applications, while Montagna is a software engineer supporting the Integrated Scheduling and Resource Planning (ISRP) system. Bogorodovsky and his team of four software developers applied IT technology to a concept that has been discussed for decades but rarely achieved: office automation. Specifically, they developed a workflow and work-folder automation system for the Advanced Hawkeye program – all the while maintaining CMMI documentation-and-testing requirements while meeting the demands of Northrop Grumman engineers for enhancements and performance improvements.

"In a recent CMMI review in Bethpage, Dmitry and his team were recognized with a 'blue' rating – the company's highest – for their accomplishment," said Eileen Clements, manager-Business, Finance, ILS, and Web systems for IIS.

Employees Dmitry Bogorodovsky and Jim Montagna (fourth and fifth from left) were honored recently at a reception recognizing the Top Twenty Tecchies on Long Island. With Bogorodovsky and Montagna are (l-r) John Loonam, manager of Educational Programs for EL&T; Eileen Clements, manager-Business, Finance, ILS, and Web systems for IIS; Pat McMahon, vice president and IPT leader, Electronic Warfare programs; Alex Seefried, IIS director for AEW&EW Systems; and Vince Mauro, IT program manager for AEW&EW Systems.

Northrop Grumman File Photo

LISTNet Executive Director Peter Goldsmith (center) congratulates Northrop Grumman employees Dmitry Bogorodovsky and Jim Montagna. They were chosen as among the Top Twenty Tecchies on Long Island recently for several internal projects they completed in support of Integrated Systems.

That's not all. Bogorodovsky's team completed a major upgrade to the Quest/Livelink workflow system in a weekend's time. That made the upgrade work transparent to the people who use Quest/Livelink. At the same time, the team installed a system called SiteMinder, which provides single sign-on capability for people who need external access to Quest.

"The feedback we've received indicates that performance improved significantly from the efforts of Dmitry's team," noted Clements. "He really brings a wealth of expertise to our organization, and he makes sure that he and his team stay on top of the latest trends in Web technology."

Montagna worked on a limited-production version of ISRP. The system consists of a Microsoft Project 2003 server in use as an integrated scheduling and resource planning system. It currently supports two IPTs: Electronic Warfare and Maritime Systems Integration.

The ISRP project provides a single point of access to all project information, and enables the monitoring of budgets, schedules, and overall status for each. It gives managers a tool to balance workloads and share resources throughout the enterprise.

In helping the project to go live with accurate information, Montagna developed, tested, and implemented reports using labor data obtained from SAP software used by Payroll in Dallas. He also implemented Structured Query Language (SQL) reporting. He worked closely with IIS consultants in Bethpage, N.Y., and the Dallas SAP team to further test the system and refine the design.

"Jim is very quick to provide assistance to other team members, and is always there with a recommended solution to a problem," said Clements. "Even though he's relatively new to the IT world, his skills far surpass expectations and his dedication provides an example for everyone to follow."

Long Island has become recognized nationwide as a hotbed of IT talent – which underscores the importance of making the list of the Island's "Twenty Top Tecchies." This was the first time Northrop Grumman people have been named to this list, which was launched in 2003. Many, if not most, of the other companies that belong to LISTNet are involved in selling software to the masses.

"So, in comparison, we're a bit more inwardly focused – which makes this recognition for two of our employees all the more gratifying," said Alex Seefried, IIS director for AEW&EW Systems. "Our people support the internal customer – and this is testimony that the contributions they make on a day-to-day basis are important. We already knew that Dmitry and Jim are great at what they do. Now, the entire IT community on Long Island has taken notice of their talent."

— Bob Sample

Sector prepares for Engineers Week 2006

National Engineers Week (EWeek), scheduled for Feb. 19-25, is an annual event that promotes recognition among parents, educators, and students of the importance of a technical education. Special programs will be held at Integrated Systems sites throughout the week.

The EWeek Story — Now in its 56th year, EWeek is among the oldest of the nation's professional outreach efforts. A coalition of more than 70 engineering, educational, and cultural societies – and more than 50 corporations and government agencies – unite for this event. Northrop Grumman and the Society for Women Engineers (SWE) will serve as co-sponsors for EWeek 2006, and Ron Sugar, Northrop Grumman chairman, CEO and president, is the honorary chair.

Looking Ahead — One highlight of EWeek will be a program developed by Northrop Grumman and SWE called "Connecting Educators to Engineering." Designed to enable effective partnering between educators and engineers, the program has four major components that include: training materials related to effective interaction; activities and curriculum for middle-school students; a discussion forum between educators and engineers; and a "Connection Day" for engineers to reach out to teachers. The goal of the program is to increase interest and understanding of engineering and technology careers among young students by promoting pre-college literacy in math and science.

Other activities to take place during EWeek include introduce a girl to engineering day; new faces of engineering; future city competition; discover "E;" and 50 ways one engineer can make a difference.

A Web site at **http://www.eweek2006.org** promotes the exchange of information, questions, and ideas about EWeek. Employees can also go to the intranet at **http://home.is.northgrum.com/data/2006/sector_eweek.pdf** for a schedule of activities at Integrated Systems sites.

U.S. Air Force: Tech. Sgt. Mike Hammond

Global Hawk *(Continued from page 1)*

5,000-combat-hour milestone during the month of November during a sortie over Afghanistan. This accomplishment was achieved by the workhorse of the Air Force, UAV 3. This Global Hawk alone, which was originally built as a test asset, has logged more than 3,500 combat hours in the harsh conditions of the desert. On the current rigorous deployment schedule, which began in May 2004, this Global Hawk has successfully completed more than 200 missions.

Global Hawks were deployed shortly after the terrorist attacks of Sept. 11, 2001. Since then, prototype aircraft have flown nearly continuous combat missions in support of the global war on terrorism, logging more than 250 missions and a combined 8,500 flight hours.

— Revelle Anderson

Lake Charles makes donation to Habitat for Humanity

Northrop Grumman: Ray Floyd

David Tracy, (photo, left) site manager for the Lake Charles, La., facility, presents a check for $6,350 to Ginette Evans, director of Habitat for Humanity Calcasieu Area, Inc., for the non-profit's "Operation Home Delivery" program. On the right is James Carpenter, manager of Human Resources.

"Operation Home Delivery" is a three-phase response to help provide assistance and rebuilding opportunities in New Orleans, Lake Charles, and elsewhere along the Gulf Coast in the aftermath of hurricanes Katrina and Rita.

"We are pleased to be able to help the community," said Tracy. "Many of our employees were affected by the hurricane last September, so for us this is a personal cause."

Northrop Grumman Corporation has donated more than $2 million in hurricane relief from employee donations and corporate funding.

Habitat for Humanity International is a nonprofit, ecumenical Christian housing ministry that invites people of all backgrounds, races, and religions to build houses together in partnership with families in need.

— Debbie Bohacs

Identification *(Continued from page 2)*

government and throughout our corporation on every facet of UID, from developing the specifications to reviewing the equipment to certifying our processes," said Stansbarger.

She credits a strong and diverse implementation team for making sure every business area's needs were considered. In addition to Stansbarger, Weiner, and Jacklets, the sector's UID implementation team includes team leader Dave Werkheiser, Dave Craig (for Western Region), and Paul Hensley (for AGS&BMS). Also, the team benefited from the IT expertise of Steve DeWitt and Steve LeMire. With their help and the determined efforts of countless employees across the company, Integrated Systems is well on its way to managing the new government requirement known as UID.

As the UID implementation continues, you'll be hearing more about new encoding technologies and the successes made possible by our employees and suppliers. Be sure to check out the Operations Web site for updates. To learn more about the DoD's requirements, go to **http://www.acq.osd.mil/dpap/UID**.

— Deborah Hawkins

STAR program *(Continued from page 1)*

Arsenault also pointed out that through the course of the program, his travel to various sectors not only allowed for great networking but a few other perks as well. "During one of my assignments, I spent time in Newport News and was taken onboard an aircraft carrier and took a tour of a submarine that was performing a systems test of its sonar and fire controls – something I would never have had a chance to see otherwise. This has truly been a dream opportunity."

Each Northrop Grumman sector will designate one 2006 STAR participant from among nominees named by the sectors' functional area vice presidents. Although most nominees selected to make up the eight STAR participants will represent financial areas, the STAR program is open to employees from all disciplines. Nominees should have a minimum of three years of employment at Northrop Grumman, be in management, or have the potential to be promoted into management within 18 to 24 months. STAR nominations should be submitted to Chris Byrd in El Segundo, by Feb. 28. The 2006 STAR program begins April 1.

— Edward Levy

UMS employees review local college UAV entry for nationwide competition

Northrop Grumman: Louis Peter

Shown during a recent visit to Unmanned Systems in Rancho Bernardo is the UCSD AUVSI team. Sixth from left is John Moynes, EL&T deputy and vice president, and on his left, Rick Ludwig, director, UMS Business Development.

The University of California, San Diego (UCSD) student team for the American Institute of Aeronautics and Astronautics (AIAA) and Association for Unmanned Vehicle Systems International (AUVSI) recently visited the Western Region site in Rancho Bernardo, Calif., and met with several members of the management and engineering staff.

During their visit, the student team presented a technical review of their UAV entry in the 2006 AUVSI student competition this summer at Webster Field, Md. The Unmanned Systems market segment is one of the team's primary corporate sponsors for the competition. This is the first time UCSD has entered this nationwide competition, and they asked for feedback on their vehicle design, communication links, and surveillance and mission capabilities.

According to Nick Yorio, program director, Tactical Systems, "The UCSD team is headed on the right track with a robust air vehicle design, excellent software/hardware selections, and ground support equipment to fulfill the competition's mission requirements."

Aimed at stimulating and fostering interest in the field of unmanned aerial vehicles, the AUVSI competition is provides an opportunity for university engineering students to design, fabricate, and demonstrate a system capable of completing a fully autonomous aerial operation.

Northrop Grumman: Louis Peter

Pictured with an entry in the AUVSI student competition for 2006 is David Klein, University of California, San Diego team lead.

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