SPECTRUM

L3Harris Communication Systems Publication | **Spring 2022 Edition**

FEATURED | 10

ACTIONABLE INTELLIGENCE AT THE SPEED OF LIGHT

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L3HARRIS

COMMANDING THE NIGHT

Adversaries Can’t Hide from the ENVG-B

9,000+ U.S. Army soldiers are now armed with the industry’s most advanced mobility goggle. Designed with fused white phosphor and thermal technologies, the ENVG-B is fast and accurate at identifying, assessing and targeting threats, even around corners for added protection. The ENVG-B sees what competitive goggles can’t – day and night – keeping soldiers combat ready for the future fight.

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FAST. FORWARD.

FEATURED ON COVER 10

ACTIONABLE INTELLIGENCE AT THE SPEED OF LIGHT

Scalable to need and modular for future enhancements, L3Harris builds upon decades of technology innovation and system integration to provide nations with C5ISR solutions designed to their unique mission needs.

Spectrum is an L3Harris Communication Systems publication. The magazine provides the most-up-to-date information about innovative technologies, products and customer solutions through interactive features and in-depth story telling.

L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across space, air, land, sea and cyber domains. L3Harris has approximately $17 billion in annual revenue and 47,000 employees, with customers in more than 100 countries. L3Harris.com

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NEWS BRIEFS

USSOCOM AWARDS L3HARRIS $297 MILLION TACTICAL RADIO CONTRACT CEILING INCREASE

L3Harris Technologies has received a $297 million Indefinite Delivery, Indefinite Quantity (IDIQ) contract increase for its Falcon IV® AN/PRC-167 radio systems from the U.S. Special Operations Command (USSOCOM).

USSOCOM increased the initial IDIQ ceiling from $255 million to $552 million. This follows two orders in Q4 2021 totaling $36 million, the latest in a series of full-rate production orders in support of the Next Generation Tactical Communications (NGTC) program.

The AN/PRC-167 enables Joint All-Domain Command and Control (JADC2) through advanced communications. Its extensive capabilities make it an ideal platform integration solution for USSOCOM sea, air and land systems. Ongoing projects for airborne integration provide remote control and seamless incorporation with aircraft avionics, ensuring full interoperability during all-domain operations.

To date, USSOCOM and L3Harris have produced more than 20,000 NGTC systems to connect and empower SOF throughout their missions. The AN/PRC-167 manpack and AN/PRC-163 handheld systems provide secure, scalable networking that is NSA certified, with embedded routing and gateway functions to integrate all domains and enable JADC2.

MCPTT DEVICES SHOWCASED AT IWCE 2022

L3Harris Technologies announced Mission Critical Push-to-Talk (MCPTT) standards capability in 15 devices across its XL series of radios at the International Wireless Communications Expo in March. At the event, the company demonstrated the capabilities in XL series devices that provide nationwide interoperability to fire, law enforcement and emergency medical personnel.

The company demonstrated industry-leading capabilities across a wide range of their communications devices including radios, smartphones and LMR/LTE converged solutions.

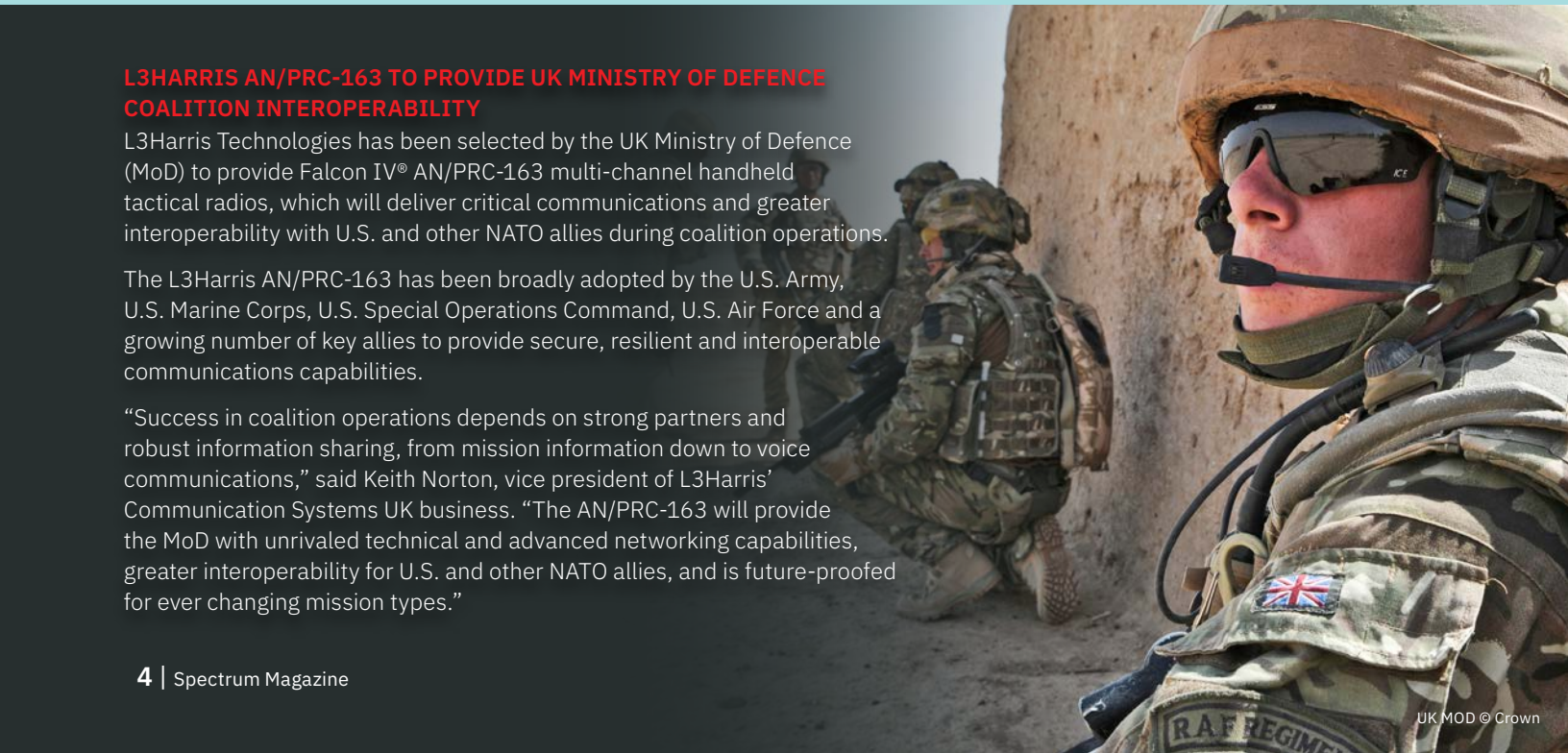
“MCPTT is the new standard for emergency voice communications across nationwide LTE broadband networks; it is a game changer that provides mission critical customers with greater levels of seamless interoperability,” said Nino DiCosmo, president of L3Harris’ Public Safety and Professional Communications business. “L3Harris has been committed to advancing the MCPTT standard from day one. Having the most MCPTT-capable products from a single vendor provides public safety customers with unmatched choice in devices, infrastructure, and business models – nationwide interoperability sized to meet any customer’s need or budget.”

L3HARRIS AN/PRC-163 TO PROVIDE UK MINISTRY OF DEFENCE COALITION INTEROPERABILITY

L3Harris Technologies has been selected by the UK Ministry of Defence (MoD) to provide Falcon IV® AN/PRC-163 multi-channel handheld tactical radios, which will deliver critical communications and greater interoperability with U.S. and other NATO allies during coalition operations.

The L3Harris AN/PRC-163 has been broadly adopted by the U.S. Army, U.S. Marine Corps, U.S. Special Operations Command, U.S. Air Force and a growing number of key allies to provide secure, resilient and interoperable communications capabilities.

“Success in coalition operations depends on strong partners and robust information sharing, from mission information down to voice communications,” said Keith Norton, vice president of L3Harris’ Communication Systems UK business. “The AN/PRC-163 will provide the MoD with unrivaled technical and advanced networking capabilities, greater interoperability for U.S. and other NATO allies, and is future-proofed for ever changing mission types.”



UK MOD © Crown

L3HARRIS NEXT-GENERATION WAVEFORM DELIVERS ANTI-JAM COMMUNICATIONS TO SUPPORT WARFIGHTERS

L3Harris Technologies has introduced the latest next-generation waveform - Wraith™ - to provide secure and reliable voice and data communications at the tactical edge in support of emerging mission needs.

Wraith is a wideband Mobile Ad-hoc Network (MANET) waveform delivering anti-jam communications in contested and congested environments. It is part of the company's growing family of resilient waveforms available on the L3Harris Falcon IV™ product line.

"As the needs of our warfighters continue to evolve, L3Harris is committed to providing a full suite of waveforms to ensure warfighters remain connected, protected and informed with truly resilient modes of communications," said Chris Aebli, president of L3Harris' Tactical Communications business. "Our waveforms cover ground, airborne and beyond-line-of-sight communications, and operate even when faced with sophisticated Electronic Warfare threats."

U.S. ARMY EQUIPPED WITH ANOTHER 1,500 ENVG-Bs

L3Harris Technologies has delivered more than 1,500 combat-ready Enhanced Night Vision Goggle – Binocular (ENVG-B) systems to the U.S. Army's 10th Mountain Division unit, improving the soldiers' situational awareness, mobility and protection.

The ENVG-B provides enhanced capability to the entire force by delivering imagery and data from the battlefield directly to the soldier's eye. The system includes a new, high-resolution display and an embedded soldier wireless personal area network, rapid target acquisition and augmented reality algorithms to interface with the Army's Nett Warrior.

The complete system will interface with the Army's family of weapon sights, while enhancing interoperability and data sharing. The system also integrates with L3Harris' AN/PRC-163 two-channel leader radio, which further extends the network across the battlefield.

USMC AWARDS L3HARRIS $750 MILLION IDIQ CONTRACT FOR MULTI-CHANNEL RADIOS

The U.S. Marine Corps has awarded L3Harris Technologies a competitive 10-year, $750 million single-award IDIQ contract for multi-channel handheld and vehicular radio systems.

"This latest award extends our long and successful partnership with the Marines – we are committed to delivering and supporting battle-proven radios that provide secure and resilient communications to meet their unique mission needs," said Chris Aebli, president of L3Harris' Tactical Communications business. "Our leadership in software-defined communications architecture enables L3Harris to deliver enduring value while consistently meeting rigorous requirements for performance, size, weight and power, and security — including the NSA crypto-modernization standards."

L3HARRIS, INDUSTRY PARTNERS PROVE ITN CAPABILITY AT 75TH RANGER REGIMENT TECH RODEO

L3Harris Technologies and industry partners demonstrated an "unprecedented level of battlespace connectivity" for the hyper-enabled operator at the 75th Ranger Regiment Tech Rodeo at Ft. Benning, Georgia.

L3Harris Technologies' Communications Systems business integrated technologies across its enterprise – from advanced waveforms to multi-transport aggregation and PACE (Primary, Alternate, Contingency and Emergency) communications – to enable a totally interoperable multi-transport Joint All-Domain Command-and-Control network. By embracing modular, open-system approaches, the company and its industry collaborators demonstrated a blend of permissive and non-permissive capabilities operating in harmony to deliver cognitive overmatch and provide a full picture of the distributed, multi-domain battlespace network to a proactive, informed decision-making chain.

"This 75th Ranger Regiment inaugural event is one of many different government venues in which the U.S. defense industry can present new and disruptive technologies delivering multi-path resilience and asymmetric advantage to the U.S. military," said Chris Aebli, president of L3Harris' Tactical Communications business. "The flexibility of the systems-of-systems approach demonstrated at Ranger Rodeo allows the Department of Defense to rapidly adapt to new threats and provides the joint force to share the same Common Operating Picture."

THE EYES HAVE IT

The L3Harris Mission Augmented Vision Information System provides intuitive, augmented reality-enabled battlespace information directly to an operator's eye for expedited tactical decision making and response.

Imagine the scene: it's midday, and, somewhere in eastern Europe, a special operations team patrols through thick woodland to find and fix enemy positions close to a disputed international border.

Silently signaling a tactical pause, the team leader flips down a helmet-mounted, see-through display to confirm position and bearing while maintaining "eyes up" situation awareness. Within seconds, the team leader has confirmed the route to target and signals the team to quickly continue with its mission.

Until now, such a capability has been reserved for armed forces operating at the tip of the spear with leading-edge Night Vision Devices (NVDs) featuring integrated Augmented Reality (AR) capability. Examples include the U.S. Army's Enhanced Night Vision Goggle-Binocular (ENVG-B) solution.

Today, L3Harris Technologies is developing a standalone AR device that will enable more troops to benefit from the same AR iconography without resorting to wearing NVDs during the day.

While still in development, this ground-breaking solution can eliminate the need for longer navigation checks with camouflage screen systems, maps and compasses – and promises a cost-effective solution for armed forces seeking AR iconography overlay capabilities during both day and low-light conditions.

EMERGING CAPABILITY

The L3Harris Mission Augmented Vision Information System (MAVIS) is an unobtrusive, see-through and flip-down display providing the warfighter with an intuitive visualization of mission-specific data.

Projecting positioning and navigation iconography onto a thin, lightweight and rugged monocular lens, MAVIS can be operated as a standalone device during the day or operated in line with Image Intensifiers (I^2) or thermal imaging NVDs in low-light conditions.

MAVIS comprises a user-configurable graphical interface tailored to specific mission and operator preferences, according to Leith Ames, L3Harris Business Development director. The solution extends battlefield connectivity and delivers information to the warfighter across the tactical network.

"This is a relatively new market area for L3Harris as we focus on providing our customers with more of a 24-hour capability," he said. "MAVIS is a helmet-mounted, advanced display providing AR and data overlay for situation awareness that can be used as a standalone day display or coupled with legacy or next-generation, integrated NVGs for low-light operations."

Weighing less than 2 pounds, MAVIS includes a See-Through Head Mount Display (STHMD), displaying positioning and navigation information to the warfighter; a smart battery pack; and an integrated user control.

MAVIS can be attached to advanced combat helmets and modular integrated communications helmets via a secure lock, and integrates with legacy devices including AN/PVS-31 and AN/PVS-31A.

Secured above the eye by an adjustable stow arm, the drop-down STHMD provides a 40-degree field-of-view; 1280 x 720 full color; and a 4,500 cd/m2 display.

An optional wireless remote-control module, featuring WiFi or Bluetooth® connectivity, can be carried or attached to the rail adapter system, dependent upon customer preference.

In order to generate accurate AR iconography, MAVIS is networked to a software-defined radio or soldier modernization software package, including the U.S. Army's Nett Warrior or Tactical Assault Kit.

> **"MAVIS can show the warfighter waypoints and the direction they are facing in addition to projecting routes to target. This capability allows the warfighter to move faster without conducting compass and map checks. The speed of going from one place to another is a huge increase."**
>
> *- Leith Ames, Business Development Director, L3Harris*

"MAVIS can show the warfighter waypoints and the direction they are facing in addition to projecting routes to target," Ames said. "This capability allows the warfighter to move faster without conducting compass and map checks. The speed of going from one place to another is a huge increase."

The system's unobtrusive display minimizes visual and mechanical obstructions, providing intuitive visualization of mission-specific data to reduce cognitive burden, he added. It is meant to be lighter and moved out of the way when not in use.

CUSTOMER INPUT

L3Harris continues to design multiple technology demonstrators based on feedback from potential customer use cases.

"We are in the process of getting potential customer inputs on how they would want to utilize MAVIS," Ames said, adding that, depending on customer requirements, MAVIS can operate directly off an ENVG-B battery pack, negating the need for a separate processor. "Moving forward, we would like to have a universal processor and battery pack for all of the visual augmentation systems that the helmet may be hosting."

As an internally funded research and development project, MAVIS will continue to be "honed" over the course of 2022, Ames said. Areas of interest include extending battery life; improvements to the user interface; and enhanced ergonomics to provide maximum utility to the warfighter.

"In the meantime, L3Harris is getting MAVIS in front of customers from all the different services and organizations across the U.S. Department of Defense to get as much information as possible to really confirm what capabilities potential users might need," he said.

MAVIS features a secure helmet lock, display module, adjustable stow arm with repeatable engagement and a 1280x720 full-color 40-degree FOV day-bright display.

The MAVIS system can be used as a standalone day display or can be coupled with the AN/PVS-31/31A BNVD I2 platform for night operation.

ENHANCING EFFECTIVENESS

National defense operations require agile response to threats in an increasingly dynamic environment. The accelerated demand for more actionable intelligence necessitates added connectivity for voice, video and data to and from the tactical edge.

Scan to learn more about DTCS Mission Modules

Scan to learn more about the RF-9820S Compact Team Radio

The appearance of U.S. Department of Defense (DOD) visual information does not imply or constitute DOD endorsement.

Militaries the world over are leveraging communications capabilities from an increasing number of various assets at higher rates to harness the full power of multi-domain operations. With the increased amount of data streaming across the battlespace, size, weight and power considerations are just as important for the dismounted soldier as they are for vehicular and stationary platforms.

When looking forward to the U.S. Army's Network Capability Set '25 requirements, Col. Shane Taylor, project manager for tactical network within PEO C3T, told *C4ISRNET*: "There's a lot of kit on those platforms and anytime you want to put more kit on them, there's always that challenge of we want to be very, very careful not to overburden the soldier. These are fighting platforms. Probably the biggest challenge in my mind is balancing — ensuring they have the necessary network capabilities that they need but also doing it at a level that minimizes impact on their ability to fight."

Yet having to carry the added weight of two or more devices with similar capabilities, but different functions, for the same mission hinders effectiveness.

That's why L3Harris Technologies' mission modules solve the size, weight and power challenges that arise when adding capability by providing a plug-and-play, add-on functionality of a simultaneous second or third network channel for L3Harris equipment already in the field. These network channels can operate independently or be crossbanded to exchange voice and data between different radio networks.

ENABLING CAPABILITIES

L3Harris mission modules add network extensibility and mission flexibility to the company's latest tactical communications solutions.

"Our mission modules deliver new capabilities, which isn't natively inside your radio, on the fly as mission dictates," said Melissa Daminski, L3Harris senior director of Product Management. "It offers our customers a way to leverage a new piece of functionality instantly and without needing to procure a completely separate radio system with the added logistics of costly and unwieldy cabling, additional battery types and other concerns."

With an already-fielded, compatible L3Harris radio, mission modules reduce the connections required to add device capability, making a more-reliable and compact solution for greater connectivity at the edge. If a particular capability is not required for a mission, or is not needed for the entire team, that particular mission module can be left at base. Further, mission modules facilitate a singular user interface for multiple capabilities, reducing training requirements.

"Mission modules make it easier to add new, unique – and even commercial – technology to your trusted radio," added Ryan McCarty, L3Harris vice president and general manager of U.S. DoD Tactical Communications. "You have a consistent interface for future growth on multiple radio systems simultaneously, opening the doors for a myriad of innovations in battlespace interoperability."

For example, a multiband radio can be enhanced with a ISR or soldier radio capability, immediately connecting all radios and providing enhanced situational awareness with a true third channel of independent capabilities.

Capabilities within L3Harris mission modules provide extensible functionality for its latest offerings, including the AN/PRC-163, AN/PRC-167 and RF-7850D radios.

They provide select L3Harris radios bolt-on accessibility to enhance capability without modifying the host device itself, with the ability to swap capabilities while on a mission. The added capability is fully integrated with the device, and users can access its functions with their host radio's front panel, keyboard display unit or end-user device.

"Not only is situational awareness not as expensive as it was, this saves operators the burden of carrying and managing redundant end-user devices and batteries when out in the field," said Daminski.

A GROWING PORTFOLIO

"There are mission modules we are actively developing and releasing today, but there's no telling what we or industry partners might develop in the future," said McCarty, noting the company is investigating feasibility of higher-capacity line-of-sight and high-frequency communications. "We're just beginning to realize the possibilities of mission modules."

L3Harris' current portfolio of mission modules includes the company's KIV-335A ISR Mission Module, a small form factor tactical Full Motion Video (FMV) receiver with the ability to crossband encrypted video streams over MANET, and the Iridium mission module that leverages 66 low-Earth orbit, cross-linked satellites to provide on-the-move satellite communications without the need to locate a geostationary satellite.

HISTORY AND CURRENT STATE

L3Harris' mission module technology originated out of the U.S. Special Operation Command's (USSOCOM) initial multi-channel handheld radio contract, as part of the Next Generation Tactical Communications program, in 2015.

When USSOCOM awarded L3Harris the initial AN/PRC-163 contract, the command also requested a separate mission module to provide the radios with a full-motion video ISR receiver, which became the original ISR mission module.

The company immediately recognized the capability's applicability on other devices and began concepts for radios including the NSA-certified AN/PRC-167 and CITADEL-equipped RF-7850D. To provide as much commonality as possible, L3Harris mission modules at large share the same footprint, connectors and other accessories. This provides the ability to leverage commercial technology on high-grade secure devices – and vice versa when feasible.

The KIV-335A ISR mission module is production-released and received NSA certification early this year. The Iridium and RF-7850S mission modules are expected to be released early this summer.

L3Harris is also evaluating the feasibility of an international version of the ISR mission module.

LOOKING FORWARD

The potential applicability for mission modules is endless; the only limitation is acceptable power draw and the footprint of the form factor.

Mission modules can support additional waveforms as needs arise. Operators can connect to multiple sensors and aerial ISR video and push the data across a tactical Mobile Ad-hoc Network or other modes of communication.

"Our customers' networking, computing and C5ISR needs evolve in real time, and the flexibility of our designs gives us the agility to meet their ever-changing needs," said McCarty. "As a software-defined radio, a Falcon® IV radio purchased today will meet their needs for years to come."

Scan to learn more about the AN/PRC-167

The AN/PRC-167 featuring the KIV-335A mission module

ACTIONABLE INTELLIGENCE AT THE SPEED OF LIGHT

Scalable to need and modular for future enhancements, L3Harris builds upon decades of technology innovation and system integration to provide nations with C5ISR solutions designed to their unique mission needs.

Nations around the world – from the Pacific Ocean to the Baltic Sea – are facing increasingly aggressive actions from adversarial superpowers and terrorist organizations alike, from shows of force to direct attacks.

In current and future combat operations, success requires decision advantage over the enemy – the ability to gather information from multiple assets and domains, synthesize it to actionable intelligence and send it to the appropriate personnel so they can quickly counter threats and defend assets.

For example, if the only buffer between a nation and an adversary is a 100-kilometer stretch of water, improvised explosives via unmanned surface or marine vessels is a serious concern; a strong Joint All-Domain Command-and-Control (JADC2) infrastructure facilitates the identification of threats from multiple sources in a timely manner with robust and easily understandable intelligence. This reduces margins of uncertainty, giving operators increased confidence in decision making and achieving the desired operational effects, according to Greg Zoughbi, L3Harris Technologies Business Development director.

Countries large and small are monitoring escalating conflicts in their immediate and broader areas of interest and are reflecting on their readiness to protect their own borders.

“We are already witnessing 'trailers' of future conflicts,” said Indian Army chief Gen. Manoj Mukund Naravne when Speaking at Pragyan Conclave at the Centre for Land Warfare Studies in Delhi earlier this year. “They are being enacted daily on the information battlefield, in the networks and cyber space. They are also being played along our yet unsettled and active borders.”

The “science fiction of yesterday is the reality of today,” the general continued, emphasizing the need for militaries to “leap-frog” technology to meet the requirements of future wars.

L3Harris delivers state-of-the-art C5ISR capabilities, which are scalable to need and modular for future growth, by leveraging decades of designing mission-critical solutions and integrating end-to-end systems based on strong customer engagement and collaboration.

“Knowledge is power, and it is critical that the right information gets to the right person as quickly as possible when seconds count,” said Chris Aebli, president of L3Harris' Tactical Communications business. “Our strength is fusing domain-centric information into a single command system, so personnel receive intelligence that is relevant to their role, and in time to act on it.”

When integrating systems for customers, quality of intelligence and information, ease-of-use and the ability to deploy at a moment’s notice are foremost concerns, according to Zoughbi. When – or where – the next conflict will erupt cannot be accurately predicted, so user information overload, and the ability to automatically generate intelligence from this information, is a paramount concern at any time.

Further, while decision advantage is a priority for every nation, no two countries’ needs or budgets are the same. As such, L3Harris tailors its offerings to meet the unique requirements of specific customers – from less-complex, “message-only” command-and-control systems to larger, full-fledged C5ISR systems. This enables L3Harris to ensure that its solutions are tailored for specific country mission needs, and therefore best value.

“Modular development is a key contributing factor to feasible C5ISR advancement,” said Lisa Davidson, L3Harris senior Software Engineering specialist. “You don’t have to do everything at once, but if you have a modular product that’s interoperable with other systems, then you can upgrade in stages, making it more affordable, testable and deployable.”

C5ISR networks are very complex and continuously evolving, and L3Harris’ strategy recognizes that customers will need to replace and enhance various components throughout the years, added Zoughbi; this open-architecture flexible solution approach facilitates seamless subsystem integration at any time.

CUSTOMER-DRIVEN ECOSYSTEMS

The key to a robust and effective C5ISR ecosystem is how the disparate technologies interoperate to push data – where it needs to be – to form actionable intelligence and enable informed decision making – not the individual products themselves.

“We look at what customers have and what their requirements are, and we develop a way forward for them to create a C5ISR system from what they have, with the ability to incrementally update and take advantage of new technologies moving forward,” said Aebli.

L3Harris makes a concerted effort to facilitate customization into its system integration designs. The baseline capability inherently provides modularity and interoperability to connect all the customer’s data-gathering systems together, even when creating new schemas and mapping to legacy information is required, according to Davidson.

“This allows the customer to pick the best suite of products to include in this system of systems without the dependency of having one product not being able to communicate with another,” said Davidson. “Technology changes quickly – there’s always a better radio, a better Electronic Warfare system, better everything, coming out. When there is a modular system-of-systems architecture, it becomes a lot easier to upgrade to the newer generation of solutions, enabling you to always stay up to date.”

The experience L3Harris brings in system integration well positions the company to leverage and share information amongst disparate solutions – be they third-party or commercial-off-the-shelf – and present them on one display, according to Davidson; “it’s about getting all the pieces together and leveraging their best-of-breed capabilities.”

Continued

GLOBAL SUCCESSES

As a trusted technology disruptor for nations around the world, L3Harris leverages an enterprise-wide suite of solutions to design and deploy scalable and tailorable end-to-end C5ISR systems that propel timely success for its customers. The flexible architectures, providing backward compatibility and future-proof integration, facilitate capability expansion and new infrastructure establishment for defense organizations, large and small.

In the Arabian Gulf region, L3Harris partners with an in-country defense firm to modernize the nation's ground-force C4I capabilities. A key element of this partnership is that L3Harris was able to integrate communication systems, ruggedized networking, displayed, computing and other equipment from over half of a dozen companies, some of which were directed by the customer, according to Zoughbi.

"We truly embrace our customers' requirements and strive to fully understand them, and we recommend optimal solutions as a trusted, honest technical advisor," said Zoughbi. "On the enterprise systems side, it is key to integrate all information coming from various sensors, filter it and project the pertinent intelligence into an operation center with an intuitive interface."

This particular enterprise system is role-based and provides each user a specific interface based on their location, role and daily tasks, according to Davidson. The company solicited user feedback on what types of information each user role needed, what activities are time consuming for them, and what process can be improved upon to create a common, easy-to-use interface that is uniquely tailored for each specific user.

Elsewhere in the Middle East, L3Harris is providing a C4I system as part of a nation's effort to implement enhanced battlefield management and ISR solutions across its ground, air and naval forces. The L3Harris C4I system provides the customer with initial operational capabilities and will integrate its Falcon III® radios to deliver network-centric communications for superior command and control.

In the Pacific, the Australian Defence Force continues its strong partnership with L3Harris Technologies, recently awarding the company contracts totaling $233 million to deliver secure communications and advanced night vision goggle technology to support the country's key modernization initiatives.

As part of the programs, L3Harris will deliver tactical radios, waveforms and ancillaries that support emerging cryptographic modernization standards as well as advanced night vision goggle technology, improving soldiers' situational awareness, mobility and safety.

Both contracts include full in-country support and repair capabilities in Australia and follow the company's successful delivery of night vision technology for Tranche 1 of the Land 53 program in 2020.

The L3Harris Communications Logistics Centre provides the Australian Army with in-country customer support, thereby significantly reducing lead-in times for maintenance, repair and overhaul of equipment. The 9,300-square-meter facility in Brisbane is equipped to support classified work; ongoing work includes sustainment of the Army's inventory of legacy tactical radios and VSAT terminals.

This means radios and other equipment do not need to be repatriated to the United States for repair, providing a more-responsive capability to support any urgent operating requirements of the Australian Army.

"We partner with our customers to develop their local defense capabilities, and we then look for opportunities to include them in our supply chain," said Zoughbi. "Each country has its own sovereign capability development needs, which are dependent on the country's overall development vision, strategy and population demographics."

L3Harris has found increasing employment rates to be a larger factor in more populous nations, whereas smaller nations today place increased importance on acquiring intellectual property and developing niche technology capabilities, such as artificial intelligence, added Zoughbi. Further, training and sovereign sustainment capabilities generally tend to be important for most nations.

"Despite this, we are often requested to ensure that L3Harris remains involved to provide the reliability and confidence that our mission critical customers require," said Zoughbi. "We base our localization strategy on the customer's national priorities, and we use that as a competitive advantage in winning new business and extending our partnerships."

THE FUTURE OF LIGHTSPEED C5ISR

Currently, defense organizations are "drowning in data," said Zoughbi. Tactical networks simply cannot support the amounts of raw data collected across the battlespace in an efficient manner. Further, incompatible systems require operators to manually manage information transfers, reducing their ability to focus on decision making.

"Decisions that need to be made in seconds require systems that operate at the speed of light – not the speed of the human brain," said Zoughbi.

Advances in Artificial Intelligence are key to further reducing system inefficiencies and operator workload within C5ISR systems, according to Davidson. AI can identify common patterns, create suggested patterns and reduce human error.

"AI is the future, especially as more capabilities and operators are connected," said Davidson. "It's crucial for any country to be able to predict threats and put pieces together in a more meaningful way and react to the threats as quickly as possible."

PROPER PRIOR PLANNING

Even countries without immediate threats to their borders are evaluating their force postures for sovereign and coalition protection. This includes Canada, which is underway on several modernization efforts to close capability gaps in its current infrastructure.

"Limitations based on incompatibility of systems, inadequacy of data bearers, reliance on manual data entry and communications, and unfriendly user interfaces form the basis for the increasing inability of the [Canadian Armed Forces] deployable C2 system to function effectively, support the C2 cycle, as well as work with its joint and coalition partners," said Maj. Xavier Dubois, the Canadian Army's Joint Deployable Headquarters Signal Regiment Modernization (JDHQSRM) project director, last year at an industry day when discussing potential obsolescence concerns within the CAF's communications and information systems.

Canada's multimillion-dollar JDHQSRM program is one of many global examples of armed forces preparing for the unknown by enhancing its ability to relay data across the echelons for more-informed decision-making.

"When the next large-scale conflict comes, fighting with on-demand ISR information will be critical in winning the fight," said Aebli. "Coalition Joint All-Domain Command-and-Control ecosystems are crucial to enabling that."

"Knowledge is power, and it is critical that the right information gets to the right person as quickly as possible when seconds count. Our strength is fusing domain-centric information into a single command system, so personnel receive intelligence that is relevant to their role, and in time to act on it."

Chris Aebli, President, Tactical Communications, L3Harris

SEEING THROUGH THE NOISE

The superior clarity and signal-to-noise provided by L3Harris night vision products' high Figure of Merit are an operator's best protection during night and limited-light operations.

When driving at high speeds, engaging targets at long distances or performing delicate manual operations, the ability to identify one's objective or a potential hazard faster is paramount to effectiveness – and, at times, survival.

Never is this more evident than at night or in low-light environments.

The key to mission success at night is vision superiority against your adversary. For the modern warfighter, night vision technology enables effectiveness, survivability and overmatch through the inherent challenges of low-light operations.

"The Army is focusing its resources to modernize its close combat force so it can operate semi-autonomously, in highly contested domains, and in a very fast-paced and constantly changing environment," Maj. Dan Varley of the Lethality Branch, Soldier Requirements Division, Maneuver Capabilities Development and Integration Directorate at Fort Benning, Georgia, said in *Infantry Magazine*.

Night vision technology performance – and, in effect, operator effectiveness – is gauged by the vision clarity the device provides, coupled with its ability to visually accentuate objects of interest outside the "noise," otherwise known as Figure of Merit (FOM).

"L3Harris provides the world's best night vision capability with the highest quality low-light performing tubes on the planet," Lynn Bollengier, president of L3Harris Integrated Vision Solutions, said. "No other company can match the American-made performance and reliability built in our Londonderry, New Hampshire and Tempe, Arizona, facilities."

L3Harris engineers and manufactures the industry's only unfilmed Gen III Image Intensification tubes yielding improved resolution and a much higher-quality image. Each year, the company ships tens of thousands for ground, aviation and weapon-mounted systems to government, military and law enforcement customers worldwide.

UNFILMED TUBES, UNPARALLELED RELIABILITY

"You can take a tube we sell you now, and your grandkids can use it with relatively the same performance," Jon Burnsed, L3Harris Engineering Management director, says when discussing the reliability L3Harris unfilmed white phosphor Image Intensifier tubes offer the modern warfighter.

Whereas filmed tubes were invented to protect the image intensifier's performance during operation, unfilmed tubes underwent "significant process development" to allow them to operate without that protective film, according to Burnsed. The ruggedized unfilmed tubes can protect the cathode's performance, including instances of high light exposure, eliminating the need for a suspended ion barrier film buffer.

"L3Harris has done such an amazing job in understanding the physics of how to ruggedize and make ultimately reliable our image intensifier that we now provide the best environmental robustness from a reliability perspective and in terms of long-term light exposure durability," he said. "When you have an ion barrier film and it's subjected to a high shock load, it will touch the photocathode and will stick. It then rips off the Microchannel Plate and the tube is unusable."

Filmed tubes cannot tolerate the recoil from anything larger than 5.56 NATO round and are susceptible to burnt-in images after entering too many highly lit rooms, he added; unfilmed tubes do not have either concern.

Another advantage of unfilmed tube technology is they operate under lower voltage, increasing aural non-detectability during autogating. This is exceptionally noticeable for users with noise-canceling headsets that also amplify the background sounds and pick up the tube's "hum." Avoiding the extra sound is helpful for users trying to hear what is going on around them, Burnsed said.

It took roughly 20 years from the early 1990s to refine the surface treatment techniques to get to this reliability standard, Burnsed said; he credits Naval Surface Warfare Center – Crane Division for "keeping the spirit alive" and supporting the tube development to get it to where it is today.

Scan to learn more about Integrated Vision Solutions

The company has been at the forefront of one-tube, two-tube, four-tube, thermally fused and integrated display systems for decades, according to Tom Horwath, L3Harris Business Development director. L3Harris' unfilmed tubes decrease "halo" effects caused by bright lights, enabling users to see more and make faster, more-informed decisions. This is especially useful in urban environments, where point light sources are common.

The company's leading-edge, ergonomic night vision goggle technology offers flexible designs to meet the needs of a variety of mission sets, which can be customized for specific use cases.

"Clarity and range are paramount for soldiers, sailors, airmen, Marines and special operations forces to accomplish their mission in low-visibility operations," Leith Ames, L3Harris Business Development director, said. "L3Harris continues to drive the top end-of-the-night vision capability, growing the FOM exponentially over the past few years. Higher FOM allows the operator to move faster, safer and more effectively because of greater level of sharpness, contrast and image stability without distortion."

Today's U.S. Army night vision systems, with a minimum of FOM 2304, allow operators to see farther than the previous FOM 1800, enabling more reaction time and standoff range, Ames added. The commitment to drive performance within L3Harris is highlighted with its state-of-the-art production of FOM 2997 systems in 2021.

"Since the Enhanced Night Vision Goggle – Binocular was conceived and 2300 FOM was relatively newly available, it has become the default standard minimum for performance expectations for all domestic customers," Jacob Becker, L3Harris Project Engineering lead, said. "We've been able to achieve a full-rate production capability that allows the entire fighting force to work together more effectively than they've ever been when stuck with older equipment."

The overwhelming majority of support-level equipment performance levels have remained unchanged since the 1990s, Becker added; the production capability L3Harris possesses allows access to higher-level FOM, which used to be reserved for tip-of-the-spear operations, to be pushed across the line.

"Our constant, diligent investment in improving our capabilities has made our processes simpler and less costly to produce even higher performance levels," he said. "All operations are critical in combat, and tasks don't wait until daylight. Higher FOM levels allow you to see farther at night and see things coming toward you first. As technology advances, longer-standing programs benefit from higher FOM levels as well, to stay relevant in the fight."

L3Harris' use of white phosphor additionally provides a higher perceived contrast – equating to better depth perception – due to its black-and-white nature, compared to green phosphor tubes.

"For a warfighter who operates in a world where the margin between success and failure can be extremely slim, our tubes widen those margins to ensure our troops come back safe," Bollengier said.

THE SKY'S NO LONGER THE LIMIT

L3Harris' Broadband Resilient Aerial Interoperable Network solution provides a WiFi-like network bubble, giving warfighters resilient, scalable and high-throughput communications at the tactical edge as well as in contested environments.

The U.S. Air Force is on the verge of benefiting from game-changing levels in resilient connectivity following the successful completion of L3Harris Technologies' latest demonstration with industry partners.

In November 2021, L3Harris demonstrated its Broadband Resilient Aerial Interoperable Network (BRAIN™) capability to the Air National Guard – the third time the company's High Capacity Backbone (HCB) solution has been demonstrated to the Air Force since August 2021. Further demonstrations are planned over the course of 2022.

Illustrating how warfighters can benefit from a network with extended levels of Beyond-Line-of-Sight (BLOS) connectivity and secure processing speeds during air operations, the L3Harris demonstration employed a variety of mature technologies to ensure data throughput up to 600 Mbps – the equivalent of streaming 24 4K Ultra-high-definition movies – simultaneously and without interruption.

Key enabling technologies included Ku-band Satellite Communications (SATCOM); Active Electronically Steered Antenna (AESA) apertures to connect to multiple platforms; the Protected Tactical Waveform (PTW); and machine-learning algorithms.

WHAT IS HCB?

High Capacity Backbone delivers "open mission system and open communications system" capabilities required for Joint All Domain Command and Control (JADC2) networks using industry-standard hardware, according to Ron Fehlen, L3Harris vice president of Air Force programs.

BRAIN provides warfighters a WiFi-like network bubble with resilient, scalable and high-throughput communications at the tactical edge as well as in contested environments. Fehlen likened the technology to a personal WiFi network, where one can automatically connect to the internet – and to nearby, accessible networks when needed – and share data with others on the same network.

"Our solution provides a similar capability for air forces allowing the warfighter to move large amounts of data between platforms across the battlespace using SATCOM, Mobile Ad-hoc Networks and other Line-of-Sight and BLOS communications networks," he said. "HCB is all about speed. We're using mature solutions and applying them to a new mission. This is what the government is in the process of securing through HCB."

The solution is intended to enable F-35, F-16, F-22 and F-15 aircraft to communicate and share data in a secure manner, Fehlen added.

FOUNDATION FOR JADC2

HCB is ideally positioned to support the U.S. Department of Defense's JADC2 concept by enabling a single operating environment that connects multi-domain assets and platforms operating in the air, on land, at sea and in space.

"The L3Harris piece provides that connectivity, connecting different elements and moving data around the battlespace securely and resiliently, while also allowing platforms to access sufficient amounts of data to maximize situation awareness and inform decision-making," Fehlen said.

Machine Learning and Artificial Intelligence also play important roles in HCB, with algorithms "churning" through huge amounts of data to assist the warfighter, he said. These algorithms assist in the selection of the most-efficient communication pathways to ensure maximum levels in connectivity, even in degraded environments.

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>
> *Ron Fehlen,*
> *Vice President, Air Force Programs, L3Harris*

L3Harris continues to work with industry partners and the Air Force to develop an HCB-specific airborne pod, expected to be integrated on board the service's tankers as well as other Intelligence, Surveillance and Reconnaissance platforms in the future.

"The pod is the smaller piece of the HCB concept," Fehlen said. "There's a number of pod solutions out there. We are focused on the communications architecture while the government refines its requirements for the pod design."

RESILIENCE WITHOUT SPACE

BRAIN is suited to support contemporary and future military operations in a potential "Day Without Space" – an event in which SATCOM is significantly disrupted and degraded by peer adversaries.

The reliance of satellite communications can pose a risk to U.S. operations in time of conflict, warned the Mitchell Institute in a study published last year: "The U.S. military relies on satellite communications to support the bulk of its over-the-horizon communications, but its current systems are poorly aligned to meet the requirements of its emerging operational concepts and are increasingly vulnerable to adversary counterspace capabilities. Modern military operations are increasingly data intensive and dispersed, requiring secure networks to reliably share large amounts of data with minimal latency over vast distances, across different domains, to large numbers of users."

Such a threat was illustrated on November 15, 2021, when the Russian Federation conducted a direct-ascent, anti-satellite missile test to successfully destroy one of its own geostationary satellites.

"SATCOM has been uncontested for so long, and we haven't thought about what happens if it's gone," Fehlen said. "We're in that day now, hence why we employed PTW to secure SATCOM in our latest HCB demonstration. PTW is one of those capabilities that is critical in providing that aerial network if space assets are disrupted."

As a resilient open-architecture network solution, BRAIN is also ready to support the rapid integration of emerging technologies and capabilities, depending upon demand signals from the Air Force and wider Defense Department community.

"We've already considered the integration of commercial SATCOM, Low Earth Orbit satellite constellations and other emerging waveforms into HCB, which would enable us to add even greater capability in the future," Fehlen said, adding communications-on-the-move will also be demonstrated later in 2022. "This HCB capability could quite easily end up allowing the end user to develop new and emerging concepts, because they have this upgraded capability. It's a pretty exciting time, and we're looking forward to getting it out there as fast as we can."

HIGH CAPACITY FOR THE HIGH SEAS

Specifically designed to meet maritime requirements, L3Harris' Broadband C5ISR Maritime Communications System combines high-capacity radio and Smart Antenna technologies to provide lower latency and higher data throughput in a lightweight solution.

Escalating conflict and extreme weather in coastal regions create increased demand for unmanned surface vessels to perform both traditionally manned missions and newly identified tasks protecting national interests.

Mission success against near-peer and asymmetric threats depends on actionable intelligence available in near-real-time. Additionally, port survey, anti-mine detection and deep-sea survey missions require increased wireless connectivity to support informed decision making.

For example, amidst mounting interference around its shoreline borders last year, the United Arab Emirates stated during the United Nations Security Council's open debate on maritime security: "The UAE is committed to maritime security and the protection of commercial shipping. We are, therefore, seriously concerned by the sharp increase in the number of attacks and threats made against commercial ships in our region, including recent attacks off our coasts and the coastlines of Oman. Attacks on shipping in our region have implications that extend far beyond our waters... The UAE will continue to prioritize de-escalation and work in close coordination with partners to ensure the safety and security of maritime navigation in our region."

Whether in the littoral zone or in the open sea, maritime operations require resilient communication technology to avoid transmission interception.

To this end, the L3Harris Technologies Broadband C5ISR Maritime Communications System enables unmanned surface vessel operators to make more-informed tactical decisions with data from a robust spectrum of sensors, from intelligence, surveillance and reconnaissance; command and control; and telemetry, among others, with a resilient L3Harris high-capacity waveform.

Applicable for both military and commercial use, the combination of the L3Harris Tactical Communications business's Falcon III® RF-78x0W high-capacity radio and the RF-7800W-AT30X electronically beam-steered Smart Antenna provides low-latency, near-real-time data sharing with over 230 Mbps ISR video and IP data throughput during a realistic operational environment. Multi-hop relay capabilities ensure continuous communications at greater ranges by allowing each radio or vessel to serve as both a transmitter and repeater.

"We designed, tested and validated this system specifically to meet the demands of current and future maritime operations," Melissa Daminski, L3Harris senior director of Product Management, said. "Our solution adds an on-the-move capability to our battle-proven Falcon III technology with unparalleled levels of throughput and latency for this type of maritime communication system."

The solution originated out of a current customer's requirement for higher data throughput to push more imagery out to operators who were controlling unmanned boats with the RF-7850W and an omnidirectional antenna.

Falcon III® RF-7850W High-Capacity Radio

ENHANCED SITUATIONAL AWARENESS, FASTER CONTROL

The incorporation of the Smart Antenna to the RF-7850W solution gives operators faster control of the vessel; and FIPS-certified security software and a resilient, anti-jam waveform provide a more-secure solution, reducing the chance of adversarial intercept.

"The RF-7850W and the Smart Antenna give unmanned vessel controllers better picture of their environment," Daminski said. "Because of the massive data pipe, controllers can now view multiple high-definition video feeds with other sensors to get more-complete situational awareness."

When combined further with the L3Harris Automated Surface Vessel (ASV) business's ASView™ Control System and the L3Harris WESCAM MX™-10MS maritime electro-optical/infrared imaging system, as the company has done with strategic partner Al Seer Marine in the United Arab Emirates, operators have the best-in-the-industry control system with added infrared and thermal imagery.

Al Seer Marine last year demonstrated fully autonomous operation of an unmanned surface vessel at speeds over 40 knots with a system including the RF-7800W, Smart Antenna, WESCAM and ASView advanced autonomous control system.

"The high bandwidth and low latency of radio systems such as the L3Harris RF78x0 series offer a game-changing, order-of magnitude-increase in capability to both our commercial and defence customers," said Ben Derrick, Systems Engineering manager for L3Harris' ASV business. "This technology is a critical enabler for increasingly complex, taxing and information intensive missions, allowing far greater levels of situational awareness, live streaming and bulk download of payload data."

MARITIME CAPABILITIES

The L3Harris solution incorporates the specific requirements to operate in a maritime environment.

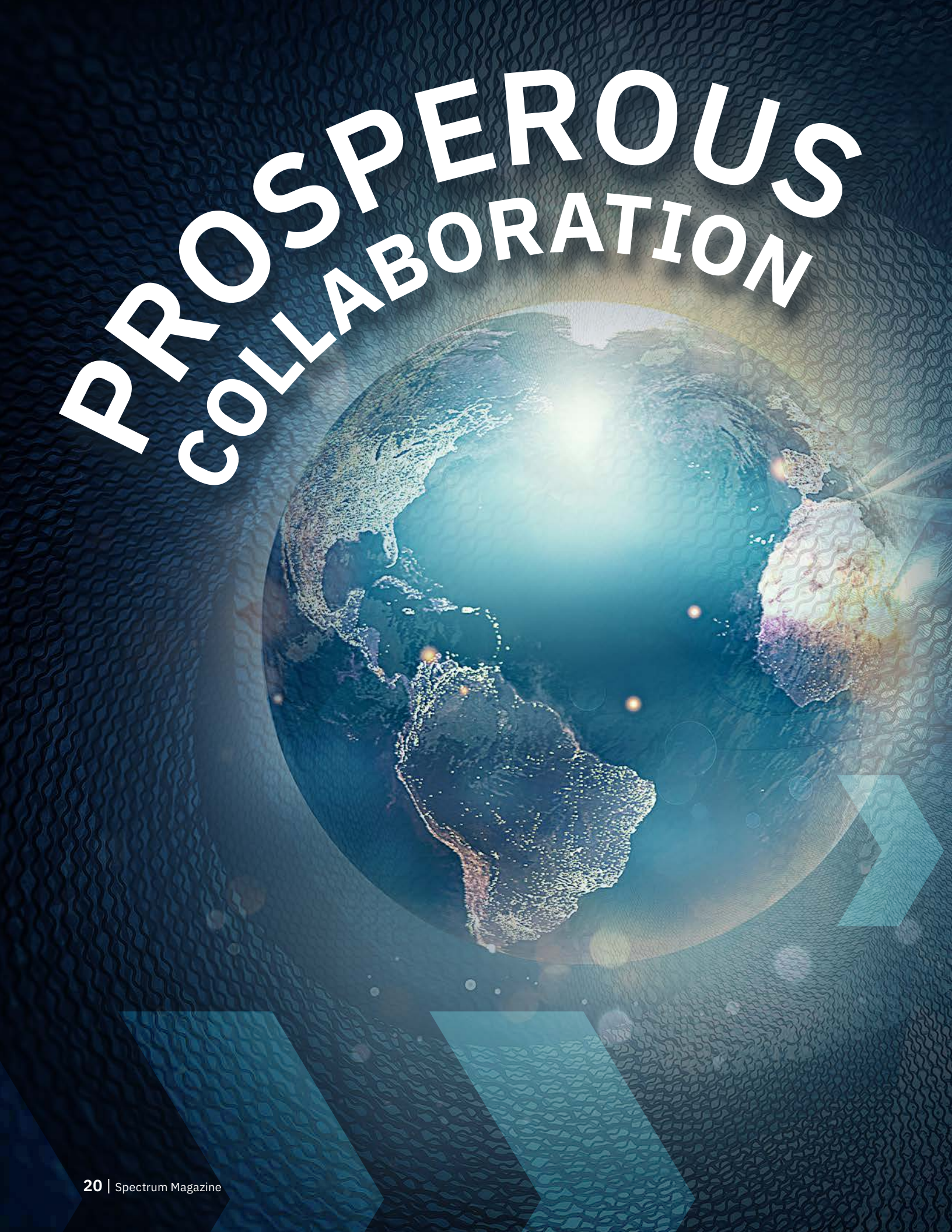
Among other considerations, the engineers made a concerted effort to maintain the Smart Antenna's low center of gravity. The ruggedized hardware withstands vibrations associated with unmanned marine maneuvers – including piercing through waves – and prevents corrosion from salt fog. Further, the radio itself is covered by a frequency band generally unlicensed in most countries, facilitating more expeditious frequency authorization for the system.

The capabilities provided by the system facilitate many current and emerging maritime operational scenarios, from multi-domain anti-submarine warfare to countering surface IED threats from enemy unmanned vessels.

RF-7800W-AT30X Electronically Beam-Steered Smart Antenna

Scan to learn more about the RF-7850W HCLOS Radio

PROSPEROUS COLLABORATION



Faisal Munir

Vice President, International Sales & Business Development, Communication Systems, L3Harris Technologies

As the global leader in tactical radio, broadband networking and integrated vision solutions, L3Harris Technologies is well positioned to provide advanced capabilities to meet mission requirements while also bolstering regional industrial progress. In all corners of the globe, we align ourselves with our partner nations' vision through in-country government, industrial and academic partnerships.

We embrace Transfer of Technology as the new way of doing business. We're open to and are already partnering with nations, teaching defense agencies how to manage projects and empowering them to modify the product to specific requirements.

This type of partnership sets the foundation for a cycle of mutual innovation and growth.

Business disruptions caused by the COVID-19 pandemic are just a recent example of how important in-country maintenance capabilities and resilient supply chains are to national sovereignty. In the Pacific, Europe and Latin America, L3Harris has created organizations with full sovereign capability for the products they repair and maintain, including training skilled in-country personnel to return equipment back into the field in the shortest time possible. Throughout the world, we are building capacity within countries to bring it closer to forces that will be in active combat.

Throughout the world, nations looking to modernize their defense industrial base are realizing the need for localized technology development and production and global transfer of technology.

We continually hire in-country talent to support sovereign engineering innovation for nations to create value-added solutions to meet specific customer requirements. Such modernization programs extend L3Harris' long-term partnership with national defense organizations, supporting mission needs for advanced solutions and leveraging our expanded technical support capability in country.

We recently launched a new joint venture with a Middle Eastern firm to develop advanced communication, sensor and integrated mission systems capabilities in support of its nation's armed and security forces – the first U.S. defense company to establish such a partnership in the country.

Together, we collaborate in areas – including technical and specialized operator and maintenance training, production transfer and technology transfer – through research and development programs in approved technologies.

The collaboration creates a path for the localization of L3Harris' world-leading communication, sensor and integrated mission systems for land, air and maritime domains, in line with the Arabian Gulf nation's long-term goals.

Additionally, L3Harris has a global supplier network, and we look to expand to key markets around the world to provide robustness and resiliency within our supply chain.

We support niche technologies individual nations provide, and we create partnerships with key markets to both enhance our solutions' capabilities and provide job market growth within those countries.

L3Harris Technologies recognizes the opportunities that a robust, global defense industry presents. In L3Harris, nations have a trusted, experienced partner in one of the largest defense contractors in the world.

THE POWER OF CONVERGENCE

The ability for police, fire and other first responders to simultaneously communicate over traditional narrowband networks and LTE broadband networks is becoming a critical element when responding to threats in local communities.

L3Harris Technologies has led the way in offering solutions for converging traditional Land Mobile Radio (LMR) communications and LTE carriers with the latest in converged devices and interoperable infrastructure. Seamless convergence is the model for the future for first responders by offering flexibility, extended range and redundancy in communications.

Constant connectivity is integral to safety operations in the fire service and public safety in general, according to T.J. Martin, Public Information Officer and Communications Coordinator for the Parma, Ohio, Fire Department. Martin's department was one of the first in the nation to establish an inter-radio frequency subsystem interface between FirstNet® and the L3Harris XL Series of Converged Devices.

"LTE has become an outstanding addition to the radio system, because, with a small addition of FirstNet, now you have a national perspective on your communications no matter where you go," Martin said.

Further, converged networks extend critical communication connectivity to support personnel by facilitating connections between their cellular phones with the more-rugged devices used by first responders at the front lines of community response.

"What L3Harris brings to the table are ruggedized radio solutions, hardened for mission-critical use cases, with integrated broadband capabilities embedded," Nino DiCosmo, president of L3Harris' Public Safety and Professional Communications business, said. "You get the device you've trusted for years with the added ability to communicate over a carrier network."

THE FUTURE STARTS NOW

Mission-Critical Push-To-Talk (MCPTT) is the standard for mission-critical users, including law enforcement, for voice communication over a cellular broadband network. This spring, the full L3Harris portfolio of LTE-capable mobile and portable devices will begin certification testing with carriers for MCPTT.

"We have a wide range of products to offer our customers for MCPTT, allowing them to purchase the right fit for their need," Todd Perdieu, L3Harris vice president of Products and Strategy, said. "We have adopted the MCPTT standard and have fully integrated the solution, allowing our customer to pick the broadband network that works best for them."

This becomes a "force multiplier" for customers by providing operators a true mission-critical network with prioritization features that is comparatively on par with the functionality of their traditional LMR networks, according to Jeremy Elder, L3Harris Product Management director.

"In our world, coverage is king," Elder said. "Today, the combination of coverage provided by carriers along with LMR networks creates a strong communications capability that we see operating side-by-side for a long period of time."

L3Harris is focused on technology allowing these two networks to coexist, providing a premium service to first responders.

Such technology within the L3Harris portfolio includes the entire XL Series of Converged Devices, in addition to the company's Push-To-Talk-Over-Cellular solution – BeOn – broadband-managed services, device management and situational awareness-mapping, to name a few.

DELIVERING COMMUNICATIONS THROUGH EVERY STORM

Entry into a converged network is as easy as turning on an L3Harris radio. The company's complete line of XL portable and mobile converged devices has the capability via the radio's embedded broadband modem.

For the last 20 years, the State of Florida has partnered with the company for its Statewide Law Enforcement Radio System (SLERS) using traditional LMR technology. Now, the company will upgrade Florida's system to P25 Phase 2, providing 13,000 new converged devices that will all have FirstNet broadband and LMR network access embedded.

"What we're building today is the largest deployment of converged devices and it will be fully interoperable between broadband and LMR," Perdieu said.

Local law enforcement officers say the system and its updates are "exactly" what officers need to do their jobs.

"For our front-line officers in Bradford County and around the state, the ability to communicate is not just a potentially lifesaving necessity for themselves, but for the citizens they serve every day," Sheriff Gordon Smith said in a recent *Gainesville Sun* column. "Officers will see both increased capacity and coverage with a new upgraded radio system. Future years will bring more benefits as Florida law enforcement users of SLERS will be able to supplement the SLERS network with the new FirstNet federal communications program."

LOOKING FORWARD

The Mission-Critical Push-To-Talk standard will move the industry from what has been proprietary technology to an interoperable ecosystem for first responders. L3Harris is committed to meeting customer requirements and providing market-leading converged solutions through this next era of mission-critical communications.

"Converged architectures will inject new capability enhancing first responders' ability to protect their communities," Perdieu said.

As an established innovator for critical communications, L3Harris is committed to supporting its customers' emerging needs as it has consistently demonstrated for more than 70 years.

"What L3Harris brings to the table are ruggedized radio solutions, hardened for mission-critical use cases, with integrated broadband capabilities embedded. You get the device you've trusted for years with the added ability to communicate over a carrier network."

- *Nino DiCosmo, President, Public Safety and Professional Communications, L3Harris*

Scan to learn more about the XL Series of devices

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Hawkeye™ 4 Lite — Faster. Easier. Lighter.

The success of your communications demands speed and agility without compromising critical beyond-line-of-sight SATCOM. The new Hawkeye™ 4 Lite 1.3 meter Flyaway is the only VSAT available today with L3Harris' latest technologies in a single high-performing terminal. We took the best from the Hawkeye family — including the industry-leading Viewsat-E GUI — and built a rugged, flexible solution light enough to fit in two lightweight cases.

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