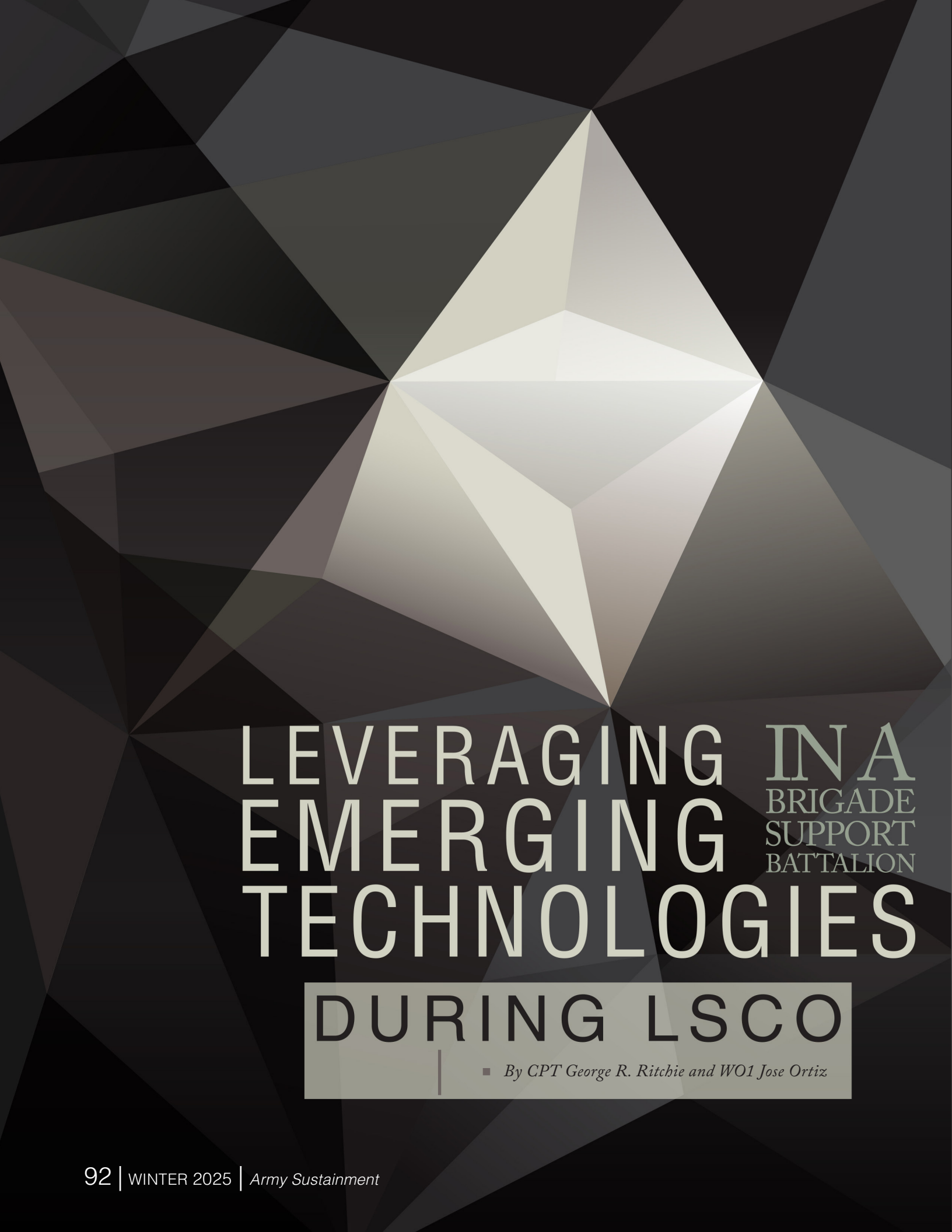

LEVERAGING EMERGING TECHNOLOGIES IN A BRIGADE SUPPORT BATTALION DURING LSCO

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During large-scale combat operations (LSCO), ammunition managers are responsible for their distinctive skill set of operational planning, explosive safety, logistics coordination, and meticulous inventory accounting. However, they must do so in a degraded environment with a peer or near-peer enemy looking for the Modular Ammunition Transfer Point (MATP) and having the capabilities to strike it. Recent technological advances present an opportunity for the Army to refine its logistics processes and stay one step ahead. This is particularly important in environments where rapid decision making and adaptability are crucial. Integrating tools like cloud-based systems, real-time communication platforms, and advanced data analytics can significantly improve the management of resources and personnel.

During National Training Center (NTC) rotation 24-09, the 1st Armored Brigade Combat Team (1ABCT) participated in comprehensive training to validate mission-essential offensive and defensive operations tasks. This also marked the first time a brigade support battalion (BSB) used the Standard Army Ammunition System (SAAS) at NTC since October 2020. The MATP introduced Starlink, a cutting-edge remote internet provider. This provided three positive benefits: it increased the MATP's expeditionary capabilities, allowed the use of Army logistics systems, and offered another means of communication to make information flow more robustly. For the Army to enhance its logistics system, embracing technology and programs like Starlink rather than restricting them is imperative.

Expeditionary Capabilities

Minimizing the MATP's footprint and reducing its displacement time are keys to making the MATP expeditionary. The current method of using the very small aperture terminal (VSAT) to connect to the Nonclassified Internet Protocol Router Network (NIPR) via satellites has several key drawbacks. First, sections that do not frequently use it may find the setup daunting due to its technical difficulty. These terminals are typically found in the maintenance and supply operations sections. Generally, ammunition specialists receive relatively minimal training on the system. Sections that regularly use the terminals rely on 92A automated logistics Soldiers or subject matter experts may take 30 to 45 minutes to set up the system, time which may not be available during LSCO. Second, the current method occupies too much space for its less-than-optimal output, which may be sluggish and restricted. Furthermore, ammunition sections like the one in 1ABCT support operations (SPO) simply do not have enough authorized VSATs to distribute while performing dispersed operations and must rely on other units within the organization.

Starlink, in contrast, offers unmatched capacity for uninterrupted communications, especially in the harsh desert environment of Fort Irwin, California. Starlink satellites provide superior communications because of their low orbit and coverage. Most satellite internet services use geostationary satellites that orbit above 35,000 km/21,747 miles, causing high latency that impedes high data rate activities. Starlink satellites orbit at about 550 km/342 miles and cover the globe. Their low orbit significantly reduces latency to around 25 milliseconds compared to over 600 milliseconds from geostationary satellites.

Considering this, the MATP section of 1ABCT observed that the Starlink system offers exceptional power and space efficiency. The mobile satellite can be assembled and disassembled by untrained personnel within 10 minutes, fitting into a 24-inch by 16-inch case. Its performance was exceptional during eight tactical displacements, enduring extreme temperatures of 127 degrees Fahrenheit continuously with a strong, uninterrupted signal. Additionally, it survived a wind gust that caused a fall from a 20-foot container, continuing to perform when other systems failed.

Army Logistic Systems

The BSB's ammunition managers coordinate operational strategies with mission requirements, mitigate risks, enforce stringent safety protocols, and oversee training and audits. Additionally, these managers supervise the MATP, which manages, transfers, and distributes ammunition during military operations. Many platforms and programs have been developed over the years to better assist ammunition managers

in streamlining how we sustain logistics operations, such as the Total Army Ammunition Management Information System, a web-enabled system that generates ammunition requirements; the National Level Ammunition Capability, which ensures a global understanding of ammunition quantities and types by storage location; and the SAAS. The SAAS is perhaps the most underused, despite its value to ammunition-management operations. The SAAS enables timely, precise, and nearly real-time Class V information during operations. Key factors in its underuse are accessibility and connection latency.

Due to its initial introduction in 1970, the common misconception is that the SAAS still uses the cumbersome metal briefcase and standalone computer of the past. However, the advent of cloud-based solutions has allowed improved real-time asset visibility. 1ABCT's implementation of Starlink incentivized the SAAS's use even further. With Starlink, accessing the SAAS was straightforward for implementation during both offensive and defensive strategies and in tactical maneuvers throughout the NTC 24-09 rotation. It allowed for real-time updates and coordination despite the conditions of the training environment. It enabled a more adaptive and responsive flow of Class V and information to and from the forward line of own troops.

The MATP section was not the only one using Starlink. The maintenance section used its own Starlink at a separate node to access systems such as the Global Combat Support System-Army and the Army Enterprise Systems Integration Program. This gave SPO unprecedented NIPR access and the tools to make the support and continuous readiness of the maneuver units possible, despite operating out of four geographically dispersed nodes that continuously relocated.

One More Communication Tool

As with any Army system, contingencies must be implemented to ensure information reaches its destination, even when primary means fail. 1ABCT SPO's use of Starlink was another technique besides primary, alternate, and contingencies such as the joint battle command platform, frequency modulation radios, and VSATs. Starlink was an asset because it could be set up quickly and because it matched the speed and reliability of the other methods while adding increased capability through its ability to access Army logistics systems. Additionally, the limited number of VSATs and trained personnel to use them and the geographically displaced nature of 1ABCT's rotation enabled Starlink to shine even when other methods failed. Through this, redundancy was achieved, and the continuous flow of supplies forward was enabled. Ultimately, more reliable, expeditionary, and simple systems will add value to the organization.

Conclusion

Integrating emerging technologies such as Starlink within the BSB during LSCO has demonstrated immense value in surmounting communication and logistical challenges. Starlink's capability to provide continuous, low-latency internet access in austere environments significantly enhanced the operational efficiency of the MATP and other critical systems, including the SAAS. This adaptability and advanced ammunition-management tools have improved real-time coordination, asset visibility, and overall combat readiness. As the Army advances its logistics infrastructure, adopting these technologies will ensure operational success and maintain unimpeded movement during decisive actions.

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