

Industry Innovation

A new fellowship program

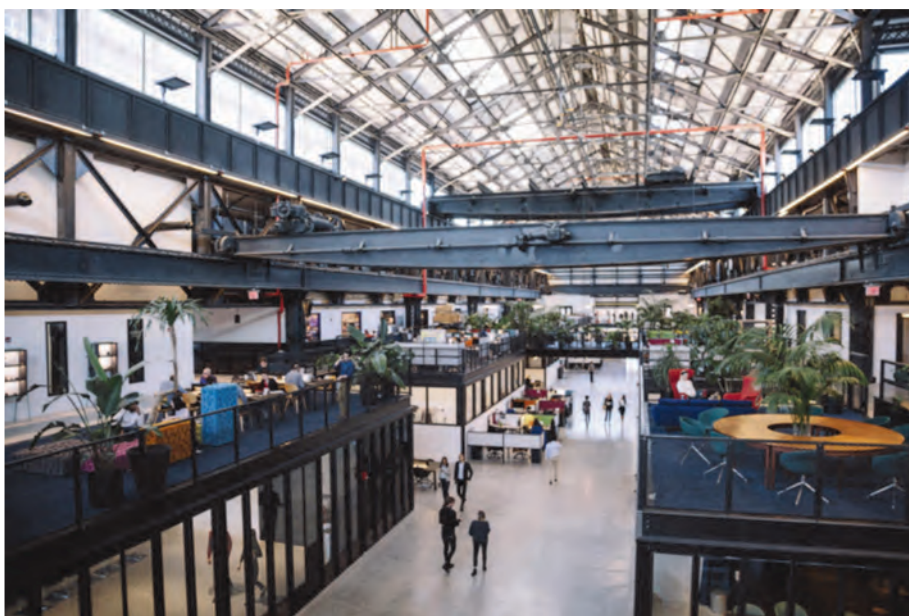
by Maj Reginald Thomas & Capt Anthony L. Shearer

The Deputy Commandant for Installations and Logistics (DC I&L) is aggressively leading the charge to resolve logistics challenges that the MAGTF currently faces whilst ensuring that the Marine Corps is postured for the challenges of tomorrow. A force multiplier in this effort is the vital partnerships formed with private industry. The *Marine Operating Concept* (MOC)¹, the 2018 National Defense Strategy, and the Marine Corps Gap Lists have identified the necessary imperatives of innovating and partnering with private industry to be prepared for the current and future fight. DC I&L turned this guidance into actionable results. HQMC, Installations and Logistics successfully partnered with private industry during the conduct and ongoing activities of the Innovation Challenges and the Hybrid Logistics Symposium. DC I&L identified five innovation thrust areas for the Marine Corps Logistics Enterprise (LogEnt) to provide a focus and unified effort in exploring potential training, education, and technology.

Among the many important innovation accomplishments the Service has seen, DC I&L and Military District 5 (MD5) collaborated to develop a pilot fellowship program designed to equip Marines with cutting-edge innovation and technology training and education. The MD5 National Security Technology Accelerator is a program of office reporting through the Office of the Under Secretary of Defense (Research & Engineering). The mission of MD5 is to create new communities of innovators that solve national security problems. MD5 operates both from its Washington, DC headquarters and through a network of national research universities. MD5 delivers programming de-

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The open New Lab environment facilitates organic conversations and free flow of information. (Photo by New Lab.)

signed to bring innovation methods and practice knowledge to warfighters and to connect the Department to non-traditional problem-solvers in major research universities and the venture community. It is through MD5's defense innovation network and its programs that DC I&L is able to explore the key terrain of this innovation fellowship landscape. The vision and purpose of the DC I&L Industry Innovation Fellowship (I2F) is to ensure Marines are prepared to face the complex challenges regarding the Marine Corps Logistics Enterprise (LogEnt) by partnering with

private industry and academic institutions through innovation-focused fellowships, training, and education. The partnership activities will enable Marines to observe, absorb, and participate in a culture of creative and innovative thinking that improves the LogEnt. The partnership experiences will influence a positive culture change in the Marine Corps and shape an adaptive mindset that Marine leaders need in order to pivot toward the future. Marines will be equipped with the skills necessary to identify and solve tomorrow's problems today.



New Lab uniquely supports entrepreneurs working in these core advanced technology disciplines. (Photo by New Lab.)

To maximize the innovation training and education experience of Marines, the Marine Corps sent their first I2F Marine Fellow to New Lab in Brooklyn, NY. Located in the Brooklyn Navy Yard, New Lab is an innovation-focused community that creates and fosters partnerships between public-private industries. With over 130 member companies in the innovation and tech-space (almost all under the same roof), it was the ideal place for DC I&L and MD5 to develop partnerships and pilot a Marine Fellowship.

The I2F initiative is informed by the innovation objectives and imperatives outlined in Secretary of Defense James N. Mattis' 2018 National Defense Strategy, Gen Robert B. Neller's MOC, and the logistics-related items of the Marine Corps Gap List. The I2F Program is the LogEnt's response to the direction and guidance of its leadership. In addition to tackling complex issues, I2F is designed to: create a positive culture change in the Marine Corps in order to identify and develop creative, innovative, and thought-provoking leaders; reward innovative thinkers and incentivize innovative thinking; and explore innovation and technology while ensuring we seek to achieve a balance between developing an enhanced mindset and developing a new product.

Similar to the Hybrid Logistics Symposium calling message, DC I&L's ideal I2F candidate is not your typical rank and file "Yes-Marine." The leadership specifically screened candidates for their willingness to challenge the traditional way of doing business and search for improvements. The desired candidate was a young, career-level Marine who is unafraid to question traditional methods and look at problems and solutions through an innovative, creative lens. After reviewing several candidates, DC I&L selected then-1stLt Anthony Shearer, an 0402 Logistics Officer from 1st Marine Raider Support Battalion, Camp Pendleton, CA. 1stLt Shearer details his I2F pilot experience below.

Fellowship Experience

What began as a random conversation at the 2017 Marine Corps Logistics Excellence Awards Dinner rapidly transitioned into a two-month fellowship at a civilian industry innovation hub. HQMC I&L and MD5 leaders recognized the opportunities of a fellowship at New Lab and swiftly acted to turn this promising idea into reality. With a unique billet overlap because of a shift in change of station orders, and backed by my Marine Special Operations Command leadership's support, I was available for temporary duty as-

signed. Just over a month after that initial discussion, I arrived at New Lab.

New Lab "curates" their environment with specific technology startups across a range of disciplines, including Internet of Things (IoT), artificial intelligence (AI), robotics, energy, augmented/virtual reality (AR/VR), and additive manufacturing (AM). Being a member at New Lab also enables companies to access a network of potential partners that includes Fortune 500 companies, government agencies, universities, and investors. At just under 20 people, the New Lab staff impressively manages all aspects of the 84,000-square foot space that hosts over 130 member companies, totaling more than 600 people, which provided abundant learning opportunities to a newcomer such as myself.

Upon arrival to New Lab, I began a series of introductory conversations with the staff members and select member companies. Each conversation exposed me to information about startup culture, cutting-edge technology, and unique insights from each person's varied background. Their words sparked countless ideas of how to use the products or processes we were discussing. After a short amount of time, I produced a sizable list of promising technologies, potential uses, and impacts to the LogEnt. I reviewed again the MOC and Marine Corps Gap List and refined my focus toward solutions to the stated goals and gaps.

One of the most valuable lessons I received from my time embedded at New Lab was the unfiltered exposure to the startup mentality and culture. For example, in New Lab's lean staff the "XO" sits right beside the "OpsO," near the "CommO." Ideas, information, questions, and answers are shared quickly and efficiently. The enhanced communication equates to rapid workflow and faster task completion. What about privacy? The ample open space created in lieu of personal offices makes available various spaces to conduct counseling sessions, interviews, and private calls. There are no ranks or visual designators of prestige within the company nor any signs of segregation between seniors and juniors, yet everyone knows their role and performs exceptionally well in their

assigned capacity, often volunteering to take on more responsibilities. Everyone is respected, no person is off limits, everyone is approachable and trusted not to abuse the system. This system works exceedingly well.

How Industry Fellowships Can Bridge Gaps

Based on my time at New Lab, I argue that industry fellowships will help bridge three gaps within the Marine Corps: industry experience, knowledge, and capabilities.

Experience. The highly efficient “machine” that enabled U.S. dominance in the past is no longer suited to tackle the majority of unpredictable problems of today and the future. The last few decades taught us that we must be more flexible, contrary to an efficiency model, which Gen Stanley McChrystal detailed in his book, *Team of Teams*.² Along with adopting the best practices from the past decades of combat, there are many other lessons in versatility we can learn from modern businesses regarding processes, procedures, how they interact, communicate, and collaborate. Industry startups must adapt to the current market or they will fail. They do not have the institutional stability that established corporations and government organizations enjoy when facing difficulties. We must learn from their experiences.

Knowledge. We do not know what we do not know. Fellowships can increase collective knowledge by infusing current industry insights to our culture in a way even the best books, podcasts, or lectures cannot. The lessons gained from exposure to startups, industry, and other commercial cultures is invaluable and equips fellows with novel information and approaches that can be used to address the problems and gaps in the MOC and gap list.

Capabilities. Three areas the Marine Corps will benefit from are automation, autonomation, and AI, which we are currently dabbling in and will need to increase over time. The question we should ask ourselves is, “Does a human need to do this process?” If a machine sufficiently performs a specific task we can reassign our limited human capital. Additionally, humans require substan-

tial resources to simply exist, such as clean air and water, food, sanitation, clothing, salary. These resources are further strained in an austere or unsafe military environment, where safety equipment and processes, force preservation, and security requirements are of the utmost importance to survival and success. In comparison, machines are generally low maintenance, and if they fail a human is able to resume those duties during repair or replacement. An example of autonomous systems being tested for Marine Corps use is the autonomous aerial cargo-utility system which converts a UH-1H/Y helicopter or potentially other aircraft into an autonomous platform. The autonomous aerial cargo-utility system serves as an alternate means to provide time-sensitive

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logistics support to greatly disbursed locations while reducing requirements for air and ground crew to support the logistics operations. Although many more specific considerations need to be taken into account, especially when considering human versus machine assignments, exposure to such cutting edge technology and associated applications will help us evaluate where we go from here. For every minute a machine does work instead of a human, the human has the ability to accomplish higher cognitive tasks, including engaging in creativity, innovation, and improving physical, mental, and spiritual fitness.

Industry Fellowships—Part of the Creative and Innovative Processes

Fellowships are perfect vehicles to fully immerse a Marine in industry, though the most obvious drawback is the lengthy time commitment. Based on my experience at New Lab, any industry interaction is valuable, regardless of the length or capacity. In addition to supporting fellowship opportunities, leaders should support and incentivize their people to attend trade shows, industry conventions, panel discussions,

and similar venues, even when there is no readily applicable connection to unit requirements. To ensure the value gained from these sources is utilized, leaders must facilitate and support on-base events for occupational field and grade-specific gatherings and combine enlisted Marines and officers as much as possible. These events facilitate the exchange of ideas and information collected from external sources, consider this new knowledge in the context of high-priority internal topics, and capture collective input for decision-makers’ usage. Send announcements via Twitter, Facebook, and LinkedIn? Post the event agenda and minutes for viewing on milSuite? It is 2018, and there are options more effective than email and automated message handling system messages to coordinate meaningful professional discussions that introduce ideas from outside the Corps on a frequent basis.

The Corps’ Agile Advantage

The Marine Corps is perfectly suited to lead the creative and innovation charge because we are an agile organization of action; we recognize opportunities and seize them. We thrive while pushing our limits and discovering possibilities as a team. Our adversaries and challenges will continue to evolve, as will we, so long as we remain flexible, focused, and recognize when stagnation challenges these core tenets. After all, one of our fundamental traditions is adaptability. Adapt and overcome, Marines. We will do better, together.

Notes

1. Headquarters Marine Corps, *The Marine Corps Operating Concept*, (Washington, DC: September 2016).

2. Stanley McChrystal, *Team of Teams*, (New York, NY: Portfolio, May 2015).

