Data and AI gaining pace

Exclusive interview with Senior Chief Petty Officer James Harvey, Senior Enlisted Advisor, United States Naval Special Warfare Command

SMi Group's highly anticipated Future Soldier Technology conference will convene online as a virtual event on the 9th – 10th March 2021. Ahead of the event, we caught up with Senior Chief Petty Officer James Harvey, Senior Enlisted Advisor, United States Naval Special Warfare Command, to find out more about his role within the United States Naval Special Warfare Command, emerging technology, and why he thinks it's important to keep the soldier technology community connected.

SCPO Harvey will speak on Day Two of the event to present on "Increasing Dismounted Situational Awareness Through the Integration of Robotics into Combat Operations," which will cover:

- Networking Autonomous systems with dismounted soldiers to enhance situational awareness
- Leveraging robotics to support the dismounted soldier
- Discussing Manned-Unmanned considerations for complex operations

Q: How does your role correlate to soldier modernisation and what are your responsibilities as Senior Enlisted Advisor within the United States Naval Special Warfare Command?

A: As the SEA of the Future Concepts and Innovation Directorate, I support Naval Special Warfare in identifying emerging technology concepts. As opposed to an acquisitions officer or the acquisitions process, we do not purchase or develop capabilities for the warfighter based on existing requirements. We canvass industry and laboratories for technology trends that offer unique solutions to inform the acquisitions process.

As the SEA, I also lead low-cost, quarterly experimentation events where contracted vendors, national laboratories, and warfighters collaborate to develop new concepts and test them. We use the information we gain from these events to inform

Photo Credit: U.S. Army

FUTURE SOLDIER TECHNOLOGY
9 - 10 March 2021 | Virtual Conference

www.futuresoldiertechnology.com

the acquisitions process for proactive technological innovation as opposed to reactive requirements driven procurement.

Q: What are you currently working on in the field of dismounted soldier modernisation?
A: We work heavily in data, AI, AR/VR, and 5G. These areas include man-machine teaming and machine learning for data analysis. We view technology holistically as opposed to specifically identified programs. This allows us to confront problems more effectively. For example, as opposed to focusing only on creating 3D images with photogrammetry, we will test the speed with which we can collect a 3D image, process that image, integrate it into a synthetic environment, train an unmanned system, then fly the unmanned system based on that data as one effort at an event. This helps us understand more than just the technology, but the ability for said technology to integrate as a unique modular function to a greater system of systems. Surprisingly, because of advancements in private technology, an effort like this can be done at extremely low-cost.

Q: Following from this, do you have any major priorities going forward?
A: Artificial Intelligence for unmanned systems is one of our greater priorities to learn and develop greater understanding of operational concepts. Our priorities going forward with man-machine teaming, for example, is to decrease warfighter cognitive load and mitigate risk to the warfighter and civilians.

Q: What interesting and emerging technology are you currently seeing that the US Navy could use in its operations?
A: The future of warfare is in data and AI. Gathering and processing data on the edge and in the cloud will enable warfighters to maintain the advantage with AI augmented capabilities. The difficulty will be in identifying how to collect and standardize this data to optimize machine learning models.

Q: Finally, why do you think it is important to keep the soldier technology community connected through this virtual conference?
A: Events like this one allow for organizations to share information regarding the necessity for modularity and standardization and identify effective solutions with industry. Since 2000, private sector technology development has grown exponentially. Most defence systems rely on large contracts with singular vendors to build interdependent systems. In order to adopt a modular model for technology development, it is critical for defence organizations to establish acceptable technology standards. This includes application programming interfaces (API) or Software Developers Kits (SDK) that build off Docker or open-source Kubernetes containers to protect proprietary software. By creating "black boxes", wherein proprietary software can be protected, and standardizing the messaging for APIs, the military will be able to integrate modular components to their system of systems. In doing so, integration of new technology will not require disintegrating the existing one.

For more information or to register, please visit:
www.futuresoldiertechnology.com/dl