



DIUx Quarterly Results **Q4 2017**

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October 17, 2017, Mountain View, CA: In the 17 months since its relaunch in May 2016, Defense Innovation Unit Experimental (DIUx), a **Department of Defense entity**, has continued to deliver on its mission of accelerating commercial innovation to solve the Department of Defense (DoD) problems. As of September 30, 2017, with the leadership and support of Army Contracting Command of New Jersey (ACC-NJ), DIUx has awarded roughly **\$184 million for 59 pilot contracts and two follow-on production contracts** in the areas of autonomy, artificial intelligence, human systems, information technology, and space.

DIUx awarded each pilot contract through a **process that usually takes 90 calendar days** from first contact with a company in regard to a specific DoD problem. The majority of funding for these pilot projects comes from DIUx's DoD partners (i.e., the Military Departments, Combatant Commands, the Office of the Secretary of Defense, and DoD agencies): for each \$1 DIUx spends on a pilot project, the DoD partner typically spends ~\$4. Production contracts are funded entirely by DoD partners.

As our portfolio of companies on contract has grown, we've also seen an increase in the amount of private sector research and development (R&D) funding that supports them. DIUx is optimizing taxpayer dollars by leveraging private sector scouting, due diligence, and financial investment.

Creating a DoD-wide Marketplace for Successfully-Piloted Innovation

As of September 30, 2017, DIUx and ACC-NJ have transitioned **two** of the 59 pilot contracts to follow-on production contracts, **marking the first time DoD has ever awarded a production contract under the Other Transaction (OT) authority**. DIUx designed these production OT contracts to allow any DoD entity to buy and use successfully-piloted technologies without each such entity having to allocate time and resources into putting a new contract into place. Moreover, **with a combined purchase ceiling of over \$1 billion, DIUx has ensured these technologies can scale across the Department**.

These production OT contracts would not be possible if it weren't for the foresight of the Senate and House Armed Service Committees. Congressionally-granted authorities in the Fiscal Year 2016 National Defense Authorization Act allow successful OT pilot projects to transition directly into follow-on production contracts without the need for further competition. This enables commercial innovation to survive the "valley of death" that often separates newer capabilities from the men and women in uniform, allowing anyone in DoD to purchase at scale a capability successfully piloted through DIUx.

"In today's cyber environment, the U.S. Army needs near real-time visibility and control of its endpoints to thwart adversary attacks," said Daniel Bradford, Deputy to the Commander and Senior Technical Director, U.S. Army Network Enterprise Technology Command (NETCOM). "DIUx helped NETCOM quickly identify, test, and scale this essential technology to support the size and complexity of Army networks."

Production Contracts - Q4 2017

The following is one of two production contracts that have been awarded in the period between July 1, 2017, through September 30, 2017. If you belong to a DoD entity and are interested in learning how your organization can make an order on a production contract, please contact CSOquestions@diux.mil.



INFORMATION TECHNOLOGY (IT)

Endpoint Security

First Production Partner: U.S. Army Network Enterprise Technology Command (NETCOM)

Company: Tanium (Emeryville, CA), with support from World Wide Technology (Maryland Heights, MO)

Production contract awarded on September 25, 2017, **with a ceiling of \$750 million, and with NETCOM making the first order for \$35 million.**

NETCOM is using Tanium to provide near real-time visibility and control of network endpoints, which when combined with managed service from World Wide Technology scales to support the size and complexity of Army networks.

Pilot Contracts - Q4 2017

The following includes select pilot contracts, some of which fall under the same pilot project and are categorized by focus area, that have been awarded in the period between July 1, 2017 through September 30, 2017.



AUTONOMY

Digital Manufacturing

Partner: U.S. Marine Corps (USMC) Installations & Logistics Command

Company: Local Motors (Phoenix, AZ)

USMC Installations & Logistics Command is working with Local Motors to prototype a digital manufacturing process with the aim of deploying portable microfactories in austere environments.

Kinetic Drone Defeat

Partner: U.S. Army Counter-Rocket Artillery & Mortar Program Directorate (C-RAM)

Companies: Raytheon Missile Systems (Tucson, AZ / Waltham, MA); Airspace Systems (San Francisco, CA); Applied Minds (Glendale, CA); Aurora Flight Sciences (Manassas, VA); Stellar Exploration (San Luis Obispo, CA); Fenix Group (VA)

C-RAM is working with one traditional defense contractor and several non-traditional companies to develop an unmanned aerial vehicle (UAV) to intercept adversarial UAS. The interceptor UAV is based on a standard platform, with various modifications and enhancements to decrease the time to target and increase the likelihood of success.

Multi Drone Defeat

Partner: U.S. Navy (USN)

Company: Citadel Defense Company (San Diego, CA)

USN is working with Citadel to deliver radio frequency (RF) detect and defeat devices for counter-unmanned aerial systems (C-UAS). RF detect is accomplished through electromagnetic (EM) pattern recognition and RF defeat is accomplished with various levels of EM mitigation.

Passive 3D Sensor

Partner: Joint-Improvised Threat Defeat Organization (JIDO)

Companies: Photon-X (Kissimmee, FL)

JIDO is using Photon-X's patented Spatial Phase Imaging technology to quickly and passively detect, identify, and track small unmanned air systems.



ARTIFICIAL INTELLIGENCE

Machine Learning for Predictive Maintenance

Partner: U.S. Air Force (USAF)

Company: C3 IoT (Redwood City, CA)

USAF is working with C3 IoT to develop algorithms to help DoD transition from standard time-based maintenance practices to more advanced predictive maintenance methods.

Quantitative Augmentation of Enterprise-Level Decision Processes

Partner: U.S. Air Force (USAF)

Companies: Strategic Mission Elements (Chantilly, VA); Rhombus Power (Moffett Field, CA); Spark Cognition (Austin, TX)

USAF is using Strategic Mission Elements, Rhombus Power, and Spark Cognition's machine learning tools to aggregate, analyze and visualize enterprise data to quantitatively augment strategic decision-making.



INFORMATION TECHNOLOGY (IT)

Agile Systems Development Environment

Partner: U.S. Air Force (USAF)

Company: Pivotal (San Francisco, CA)

USAF is using Pivotal to prototype a cloud-native software development platform and to employ modern software development practices in order to rapidly modernize the Air Operations Center.

Cyber Protection Team Toolkits

Partner: U.S. Cyber Command (USCYBERCOM)

Companies: Carbon Black (Waltham, MA) with support from Blue Ivy (Arlington, VA); Logically Secure (Cheltenham, UK)

USCYBERCOM cyber protection teams are using Carbon Black's endpoint detection and response capability to quickly identify and remediate cyber intrusions remotely. Logically Secure's product CyberCPR is being used as an incident response management platform allowing a geographically separated team members to collaborate effectively in a secure way for defensive military operations.

Cyber Threat Intelligence

Partner: U.S. Cyber Command (USCYBERCOM)

Company: Recorded Future (Somerville, MA); Symantec (Mountain View, CA)

USCYBERCOM is using Recorded Future and Symantec to gain visibility into public, private, and open source data associated with cyber intrusions to maintain situational awareness and understanding of hostile threat actors.

Multifactor Authentication for Network Access

Partner: U.S. Army Network Enterprise Technology Command (NETCOM)

Company: Plurilock (Victoria, BC)

NETCOM is using Plurilock to prevent credential sharing and provide continuous authentication based off of various factors including user behavior and device telemetry.

Navy Mission Visualization and Rehearsal

Partner: U.S. Naval Air Systems Command (NAVAIR)

Company: Fjord (Austin, TX), with support from Accenture (Arlington, VA)

NAVAIR is using Fjord's virtual reality (VR) technology to support mission planning visualization, refinement, briefing, and rehearsal.

Supply Chain Analytics

Partner: U.S. Air Force (USAF)

Companies: Transvoyant (Alexandria, VA); Palantir (Palo Alto, CA)

USAF is using both TransVoyant's machine learning algorithms and live data streams, as well Palantir's analytics platform to integrate disparate data sources into an open, scalable, and secure data management platform to support real-time global logistics operations.

VOLTRON

Partner: DoD

Company: ForAllSecure (Pittsburgh, PA)

DoD is using ForAllSecure's MAYHEM Cyber Reasoning System — the technology that won the 2016 DARPA Cyber Grand Challenge — to automate vulnerability analysis and remediation at scale for weapon systems, a Congressionally-mandated focus for DoD. ForAllSecure's MAYHEM technology leverages machine learning to provide a 1,000 fold improvement in time and cost performance of vulnerability detection and mitigation over manual methods.