Air Force, Army Using Data, Automation to Drive Efficiency

The services are trying to gain insight into their data with automation to make improvements across the enterprise.

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The U.S. Air Force and Army Communications-Electronics Command are using data in multi-pronged, automated ways to drive efficiency and gain insight into their organizations.
Office of the Secretary of the Air Force Chief Data Officer Col. Christopher Ardent and Army CECOM Software Engineering Center Director Jennifer Zbozny touched upon the importance of data in improving innovation, as well as the steps they’re taking to upskill their data expert workforce during Tuesday’s GovExec webinar.

One of the Air Force's current significant initiatives with data is in trying to access, process and derive insight from unstructured data, Ardent said, as that visibility into the data can inform decisions across the enterprise. The Air Force Office of Scientific Research has been spearheading this effort through its own activities and by investing in university grants to collaborate with data subject matter experts across academia.

“What do subject matter experts and industry experts believe is the wave of the future?” Ardent said. “Where do they believe investments should be made, and how can you gather all those large amounts of data, properly analyze them and use that to inform investments in the future?”

Army CECOM is also trying to gain insight from its data to solve problems across different programs across the Army, bridging information gaps between different sets of users in the command’s enterprise to support the service’s business system environment and tactical systems.

“What are the gaps that we have to solve, and who is going to give us the data that helps us identify those gaps?” Zbozny said, explaining that gaining insight into these “gaps” can help her team see what’s working best with software and how they can improve.

To work with data in more faster, agile ways, Zbozny is investing in a DevSecOps model of work. Not only does the model bring speed to her team’s delivery, but it also more easily enables her to accomplish goals in a more automated fashion.

Agile and automated work with data has helped CECOM improve cybersecurity as well. Within the past few years, Zbozny’s team started putting together software assurance tools to get more data about the security posture of various software across the enterprise. Much of that data was unstructured, however, and her team has been implementing machine learning to accelerate software assurance and authorization processes.
“What used to take them literally two to three months to go through [with] a human analyzing this stuff, they can now do in minutes and provide a report that gives focus on prioritization,” Zbozny said.

Just as automation is helping CECOM sort and learn from its large volume of data, Ardent’s organization is also applying automated tools and strategies, especially with limited manpower and resources to ingest the data his enterprise collects and produces.

“In our data ingestion and some basic data-cleansing efforts, we’ll use a lot of automation,” Ardent said. “If we have the subject matter experts that can create a data workflow once and then use automation tools to apply that data workflow intelligently to recurring events, so that you know if it’s a daily job, an hourly job or an event-triggered job, they can use the template greeted by our one or two subject matter experts to scale their talent and their skill to enterprise-level work.”

The Air Force has used this data workflow and automation strategy to improve hiring processes and identify new data science and services professionals so that it can gather the personnel the agency needs to continue improving data-driven work.