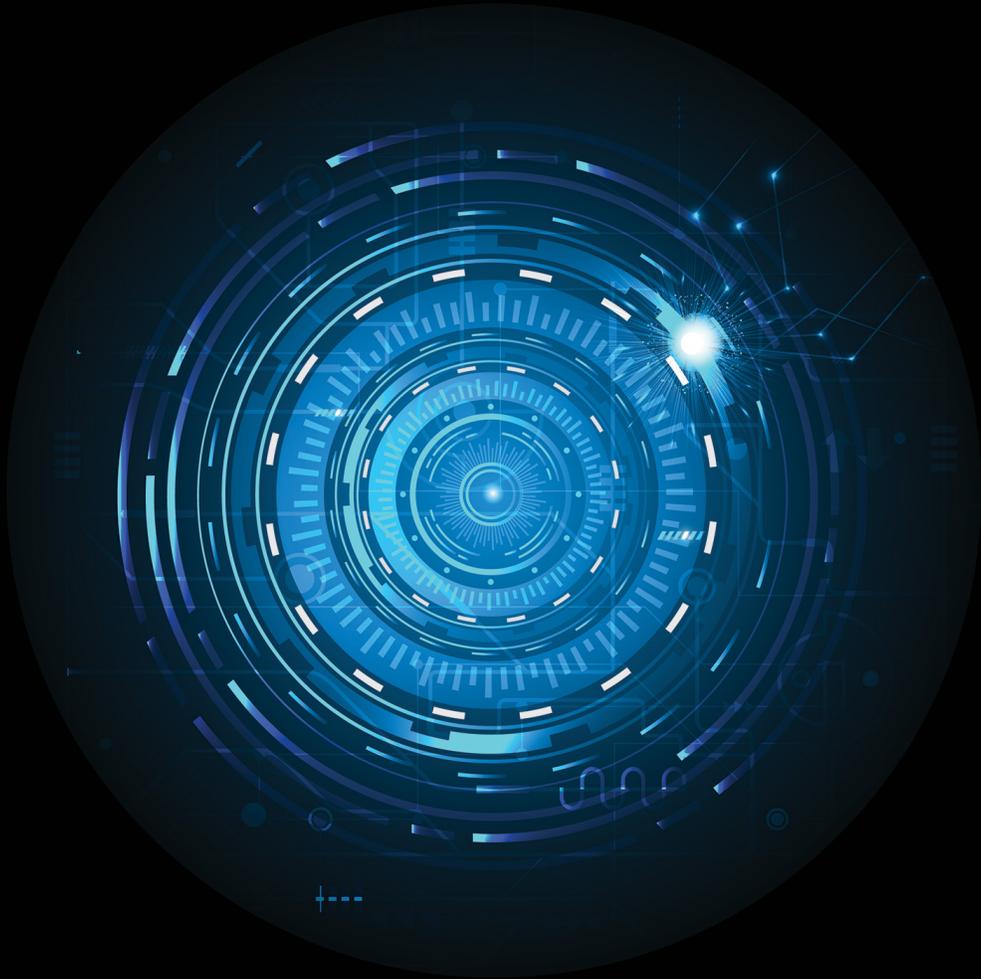# Deloitte.

**2018 Defense and National
Security Industry Outlook**
Interview with Nathan Houser

Deloitte Center *for*
Government Insights

Deloitte Principal and Defense & National Security Leader Nathan Houser sees a focus on three areas in 2018: readiness and the integration of new technologies, space resilience and national security, and technologies to improve operational efficiencies. While specific nuances may differ by agency and mission, each of these objectives is central to meeting challenges to our security.

What are the priority defense and national security opportunities that await in 2018?

The mission of defense and national security agencies requires that they be ready to meet the dynamic challenges of today and the emerging threats of tomorrow. And they must do so in an era of rapid technological advances. So readiness and the integration of new technologies are two major priorities for the year ahead.

At its essence, readiness in the national security environment means having the right people, equipment, and capabilities to counter known threats and respond to contingencies that arise, both now and in the future. This isn't just a matter of whether the nation has the right ships, can defend cyberspace, or is able to detect and respond to incoming threats, be they people and/or cargo – it is all of this and more.

Many of our current and emerging threats involve computer networks and new technologies (e.g., Unmanned Aerial Systems/Vehicles) – considerations that were science fiction only a few years ago. The fundamental landscape is rapidly changing, and keeping up with these changes will be one of our nation's biggest defense and national security challenges. The multitude of possibilities are far ranging, encompassing conversations around creating specialized warfighting organizations such as a Cyber Corps, to creating private - public partnerships to drive innovations.

As for new technologies, the biggest impact will likely come from leveraging artificial intelligence, virtual/augmentative reality and process robotics. Effectively, these technologies augment the speed in which data can be processed, analyzed, and ultimately decisions for kinetic action. The first wide scale efficiencies with these technologies will likely be seen in the back office – replacing transactional financial and other administrative process. Virtual and Augmentative Reality will play a greater role in training and workforce collaboration. Not far behind, though, machine learning and artificial intelligence will likely begin to augment mission processes, helping speed data gathering and analyses.

What trends are we seeing that result in a shift in thinking around strategic priorities for defense and national security agencies in the coming year?

A renewed interest in space by the current administration, coupled with growing private investments, makes that domain one of the most interesting topics for 2018. The federal government and the private sector will likely start to see an increased reliance on the use of public-private partnerships to realize all of the advantages of operating in space and to leverage the generally lower costs associated with the private sector.

Most importantly, the nation's security interests depend on the resilience of its space systems and associated infrastructure. Both during peacetime and conflict, the critical services that satellite constellations enable, including communications, intelligence, connectivity, warning, remote sensing, navigation & timing, and space situation awareness are the backbone for our defense and national security operations. Resilience in space is a vital and comprehensive effort that expands across measures such as the cybersecurity of ground stations, enhancing the survivability of satellites, and quickly recovering in the event of degraded operations.

The need for increased public-private partnership will specifically focus on new capabilities addressing space vehicle launch and reusability, satellite miniaturization, and on-demand services are introduced. Opportunities also abound in the federal government for transforming the acquisition process, expanding managed services, devising innovative finance models, driving organizational reform, and updating space policy to keep pace with industry advances.

Another trend is the evolution of mission analytics. The defense and national security agencies already possess some very impressive tactical analytical capabilities. But it's also important that the data is presented in a format that is easily digested and can be acted upon. For example, millennials digest data differently from boomers. While text based presentations may work best for one population, it can be an anathema for a different group. Having a data analytics and visualization strategy that caters to the different ways generations process information is important for maximizing the speed and accuracy in how decisions are made.

You mentioned that integrating new technology will be a priority this year. Can you talk a little more about that?

Just a few years ago, technologies like blockchain, process robotics, cloud computing, and machine learning were mostly confined to very specialized communities. But today, they are part of our everyday parlance, and more organizations are using them to optimize operations and improve business processes. Defense and national security agencies stand to benefit substantially from these technologies.

For example, there is more video footage collected by Unmanned Aerial Systems then human analysts could ever examine.[1] As such, the Defense Department is undertaking a major effort to integrate artificial intelligence and machine learning into Unmanned Aerial System operations to exponentially improve analysis of video and imagery. Another example is incorporating blockchain into logistics. Blockchain technology can lead to better management and assurance of the supply chain, ranging from on-demand status reports to reduced financial and administrative burdens. Cloud computing supports our defense and national security agencies at lower costs than traditional network architectures and can improve real-time information sharing and collaborative analysis. These are just a few ways in which new technologies can revolutionize defense and national security operations.

However, in our collective quest towards innovation, there is a rush lately to find the latest new gadget in hopes that it will be the ultimate panacea. Instead, adopting a good process around innovation and its benefit to the enterprise is a more effective and cost-efficient approach. This ranges from having a comprehensive approach to sensing plausible technologies in the market to a flexible acquisition process that allows for rapid prototyping and system interoperability assessment. And let us not underestimate the role of organizational change management. Often the key to adopting new technologies isn't acquiring the technology itself, it's gaining organizational buy-in and support to allow for their use and integration into the daily routine.

What implications do the priorities for 2018 have on the defense and national security workforce?

As intimated earlier, readiness depends on a trained, engaged, and capable workforce. New technologies are only as good as the workforce that employs them. Adapting to changing business landscapes and security environments in space and cyberspace require the best efforts of the top talent the nation has to offer. Simply put, nothing matters more than our people.

The defense and national security workforce of tomorrow will require a new set of advanced skillsets that need to be built into their professional training and career development. One of the more exciting developments is the use of virtual and augmented reality systems. In the security realm, these tools both reduce costs and mitigate risks associated with live action training. And they can be crafted to simulate and visualize events in space and cyberspace to enhance workforce proficiency.

Our defense leaders have said that the world today is more complex than it's ever been. This is taking place at a time when massive amounts of data and information are being produced. As a result, we're asking more of our workforce while increasing their workload. Pairing our people with process robotics and mission analytics helps quickly identify those things that need human intervention while shedding time-consuming repetitive tasks. In this way, by combining talent and technology, defense and national security agencies will be ready for the challenges that lie ahead.

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1.   https://www.arl.army.mil/maven/index.html

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