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SPOTLIGHT:

“Doomsday Plane” contract highlights importance of mid-tier primes



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Midsized companies offer advantages in flexibility while keeping the IP with the government.

BY CASEY LAUGHMAN

The US defense industrial base has been traditionally dominated by large prime contractors. But with new threats requiring faster, more agile responses, mid-sized companies offer new capabilities such as autonomous operation, artificial intelligence (AI), and digital engineering-driven processes to speed up production and fill critical gaps in the industrial base.

The importance of smaller and midsized companies in the industrial base is also being implemented into policy, as the Pentagon recently announced a new acquisitions policy that is focused on speed and agility. Defense Secretary Pete Hegseth announced the policy with remarks focused on the need to break down a culture that too often avoids taking necessary risks to achieve breakthroughs.

“This relates to the whole industrial base, and most importantly, to the large primes that we do business with today,” Hegseth said. “These large defense primes need to change, to focus on speed and volume and divest their own capital to get there.”

Revamping the industrial base to meet both current and future needs will require identifying weak points and working to shore them up, said Jerry McGinn, director, Center for the Industrial Base, Center for Strategic and International Studies. McGinn said the US has the strongest industrial base in the world, but has traditionally struggled to bring in new entrants. The industrial base has also faced a number of challenges over the last few years, such as supply chain shortages during COVID and ramping up production to replenish stockpiles depleted by support of Ukraine



SNC’s work on the SAOC is notable for being a departure from the traditional practice of granting similar contracts to OEM prime contractors. (Photo courtesy of SNC)

“We have adopted a lot of commercial practices – just-in-time manufacturing and delivery – which work OK when you don’t have stressors,” McGinn said. “COVID obviously showed that model has limitations and that has been a challenge in the defense industrial base. There already are a lot of single and sole-source suppliers because some of these parts for specific systems are military unique or unique for a specific system. We’ve gotten somewhat better at identifying the challenges, but we’re not fundamentally better at fixing the overall capacity issues on parts and subcomponents.”

Fixing those capacity issues will require support from traditional primes, of course. But it is also an opportunity to integrate smaller companies, or expand their already existing roles, into the defense industrial base.

Lessons learned from the Doomsday Plane

In 2024, the Air Force awarded a contract for the Survivable Airborne Operations Center (SAOC) to replace the National Airborne Operations Center, an E-4B aircraft commonly known as the “Doomsday Plane,” which is designed to be a mobile command post in emergency situations.

The contract was awarded to Sierra Nevada Corporation (SNC), a midsize defense company that has a long history of providing defense capabilities, but is not a traditional prime. The decision to award the contract to SNC marked a significant milestone for mid-size companies across the defense industrial base, as one of their own was deemed capable of ›

ON THE COVER: The $13 billion contract to deliver a replacement for the Survivable Airborne Operations Center (SAOC), commonly known as the “Doomsday Plane,” was awarded to SNC, a mid-tier prime that built its case for the contract on avoiding proprietary data and vendor lock-in. (Photo courtesy of SNC)

building a replacement for an aircraft that would provide airborne command and control during a nuclear war.

Tom Andersen, senior vice president of SNC's Washington, D.C. operations, said that one of the key factors the company could offer to bolster its case for the SAOC was the importance of avoiding proprietary data.

"If OEMs control data, that's where all the sustainment escalation comes because that's a gift that gives for the next 30 or 40 years of the lifecycle. I think they're seeing that in the F-35 program, and you're seeing that in some of the other big ACAT programs.

"Now, data is interesting. Over the last 10 or 15 years, we've had to invest hundreds of millions of dollars in our IT system so that we could do the digital twinning and the digital engineering that the government requested. We realized you can use that same data to create your own technical data packages and you don't have to depend on an OEM anymore."

By adopting this strategy, the company gave the Pentagon confidence that the aircraft would not suffer from vendor lock, where only a single source can provide upgrades or new capabilities because they are the only company that has access to the necessary data. That philosophy dovetails with the new acquisitions strategy, which is focused on speed and innovation regardless of the source, and tools such as digital engineering and modular open systems architecture (MOSA) allow for faster development and implementation of new capabilities.

"'Demand signals' is the big term," said McGinn. "If the government sets demand signals that allow for more competition, recurring competition throughout the life cycle of the program, companies are going to respond. They're going to find ways to be competitive throughout the life cycle of a program."



***Tom Andersen**, senior vice president, SNC*

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Technology driven advancements

The rise of digital tools for engineering, testing, and implementation of new technologies is opening up a broad range of possibilities for the defense industrial base, in both development of new systems and upgrading or overhauling current systems. When a system can be tested thousands of times in a simulation as opposed to having to be tested in a field, problems can be identified and fixed more quickly, allowing for less time from concept to production and sustainment.

Digital tools also help break down barriers for smaller and mid-size companies. As Andersen said, having access to data allows for companies who are not the original manufacturer of a system to modify and improve on it with new capabilities. More companies having that capability leads to competition for the best ideas to solve a problem, which drives innovation.

"If you have common interfaces, it allows the contractors to keep their black boxes, but allows the government to maintain operational control so they change out vendors over the course of a program," said McGinn. "That's what MOSA is all about and that's going to create opportunities for all kinds of companies, for new entrants, for small companies, for mediums."

Ultimately, having more companies in the mix leads to more innovation, more speed and fewer bottlenecks, all of which are priorities for the Pentagon as it implements its new acquisition strategy. Regardless of whether companies are traditional primes or not, they all face the same challenges when it comes to surging production or quickly developing new capabilities.

"When we talk about scaling and surging everybody's in the same boat," Andersen said. "The OEMs don't have a warehouse full of widgets or people to throw on a new project when they also have to search and start from square one. The issues of surge and revitalizing the industrial base puts us all into the same boat. We're probably more willing to invest early and take some risk if we have to do something just because we don't have quarterly reports we have to fill out."