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I write about national security, especially its business dimensions.

WASHINGTON | 7/09/2013 @ 12:34PM | 8,412 views

Raytheon Wins Huge Victory In Jammer Competition

The future of electronic combat came into focus on Monday, and it looks like Raytheon will be leading the way. The Massachusetts-based technology company won a very tough competition to develop the defense department's next airborne jamming system, defeating two other world-class teams. If Raytheon performs as expected, it will dominate the arcane world of electronic warfare for decades to come, generating many billions of dollars in revenues.



The Navy's EA-18G Growler will host the Next Generation Jammer, which was conceived to replace legacy jamming pods carried on the Growler's wings and fuselage centerline. Airborne electronic-attack systems that suppress hostile radars and communications networks are essential to combating the anti-access/area-denial tactics of countries like China. (Photo credit: Wikipedia)

Jammers are tunable, high-power transmitters that deny adversaries use of the electromagnetic spectrum so that friendly forces can operate without having to worry about hostile radars or communications networks. The Next Generation Jammer that Raytheon will develop was conceived to replace a Vietnam-era family of jamming pods carried on the Navy's new EA-18G Growler. Growler is the joint force's principal electronic-attack aircraft, a heavily modified variant of the Boeing-Northrop Grumman Super Hornet. In addition to suppressing hostile radar and communications, airborne electronic-attack systems are also used to defeat improvised explosive devices along routes used by U.S. troops in Afghanistan.

The jammers currently in use on the Growler and legacy combat aircraft are gradually being overwhelmed by new enemy systems such as frequency-hopping radios and agile radars that they were not originally designed to defeat. They lack the power output, spectral coverage, precision and responsiveness to simultaneously suppress all the electronic threats to U.S. forces. In addition, they are increasingly hard to maintain in a high state of readiness, and their emissions sometimes interfere with the electronic operations of friendly forces (a phenomenon known in the electronic-warfare

community as fratricide).

The Next Generation Jammer will deliver major gains in every facet of system performance from power generation to standoff distances to the number of jamming beams, using a modular design that facilitates future upgrades in response to emerging threats. The new capabilities are crucial to coping with the “anti-access/area denial” tactics that countries like China are expected to embrace as they seek to exclude U.S. forces from their regions. It is no exaggeration to say that if the Next Generation Jammer is not fielded in a timely fashion — meaning by 2020 — China may come to dominate the industrial heartland of the new global economy given the inability of U.S. forces to operate safely in Northeast Asia.

As if this were not reason enough for keeping the program on track, there is a gradual convergence under way in the skills associated with electronic warfare, signals intelligence and cyber security that may well define the future of warfare. Fifth-generation fighters such as the Lockheed Martin-Northrop Grumman-BAE Systems F-35 are designed to accomplish both kinetic and non-kinetic operations across the electromagnetic spectrum, and jamming is an essential part of preparedness in this brave new world of post-industrial combat. So the Next Generation Jammer franchise that Raytheon has just secured may lead to future opportunities that are barely imaginable today.

Needless to say, Raytheon’s victory is a crushing defeat for the companies that lost. No other electronic-warfare competitions of this magnitude are on the horizon for the foreseeable future, and the Navy’s acquisition community that oversees the jammer program runs such a tight ship that there is little likelihood the losers can overturn the award. Thus, the outcome of the Next Generation Jammer competition could provide a trigger for sector consolidation in the overcrowded military-electronics market. I predicted two week ago in a commentary for Forbes that Exelis — one of the losers in the jammer competition — could be an early focus of defense-industry rationalization, and yesterday’s announcement certainly doesn’t weaken that assessment.

Raytheon, on the other hand, is under little pressure to make strategic moves given its proven ability to generate new business even in a soft demand environment. With more of its defense revenues coming from overseas than any other major military contractor, Raytheon is looking nicely positioned for the future. (Disclosure: All of the companies mentioned in this commentary give money to my think tank.)

This article is available online at:

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