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From the Washington Business Journal:

<https://www.bizjournals.com/washington/news/2018/03/08/want-to-get-lockheed-martin-s-attention-be-really.html>

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Want to get Lockheed Martin's attention? Be really good at these 4 things.



This artist rendering shows Lockheed Martin's HELIOS system — High-Energy Laser and Integrated Optical-dazzler with Surveillance — bringing the Navy closer to its goal of fielding laser weapon systems aboard surface ships.



By [Robert J. Terry](#) – Senior Staff Reporter, Washington Business Journal
Mar 8, 2018

Lockheed Martin Corp. is making big bets on four technologies it's deemed "transformative" – and is talking them up to Pentagon leaders too strapped with day-to-day leadership challenges to devote much time to seeing around corners.

Not only do they pose opportunities for Bethesda-based Lockheed (NYSE: LMT), but below-the-radar companies doing innovative work in these areas could also catch the eye of the world's largest defense contractor.

CEO Marillyn Hewson detailed the four areas [at the company's media day Monday in Crystal City](#):

1. Hypersonics

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What it does: Powers an aircraft or cruise missile to fly at speeds greater than Mach 5, irrevocably altering the military's ability to deter and respond to conflict.

What Hewson said: "It would unlock a game-changing capability – on par with stealth technology, which changed the definition of airpower by giving the U.S. significant tactical and strategic advantages."

What's next: Michael Griffin, the Pentagon's new undersecretary of defense for research and engineering, said Wednesday that hypersonic tech is his "highest

technical priority,” [Defense News reported](#) – both offensive capabilities and defenses against such a threat. Meanwhile, Lockheed’s SR-72 hypersonic warplane, an unmanned aircraft designed to hit speeds up to Mach 6 – six times the speed of sound – might be further along the development path than industry observers had thought, [according to this report](#). Lockheed has said the plane could be operational by 2030.

2. Laser weapons

What it does: So-called “directed-energy” platforms have been sought by the Pentagon for some time now and are among several key technology areas where Lockheed and its competitors are investing research and development dollars. They’re touted for their surgical accuracy, cost compared with other weapon systems and infinite supply of firepower.

What Hewson said: “Lasers are the best match for high-volume, low-cost threats such as drones, which are becoming increasingly prevalent on the battlefield.”

What’s next: Lockheed has made progress increasing the power of its laser weapons systems while maintaining beam quality and optimizing size and weight. That was demonstrated with the world record-setting 60-kilowatt laser the company delivered to the U.S. Army last year. [And as I recently wrote](#), Lockheed also won a contract from the U.S. Navy to develop and deliver two laser weapon systems for shipboard integration by 2020. The Air Force Research Lab, meanwhile, is working with the company to develop a high-power fiber laser for testing on a tactical fighter jet by 2021.

3. Artificial intelligence and machine learning

What it does: Uses data as a strategic asset, pulling it from sensors and networks then slicing and dicing it to glean insights. Agencies are increasingly looking for products that help them with sophisticated data analytics tasks: How to apply machine-speed processing to mundane human tasks, for instance? How to get

there before the Russians, Chinese and other adversaries, all locked in a fierce artificial intelligence race?

What Hewson said: “By improving human-machine collaboration, artificial intelligence can provide people with the right information to drive better decision-making, which will fundamentally change how our customers operate.”

What’s next: Department of Defense spending on AI, big data and cloud tech that support new weapons and systems reached \$7.4 billion in fiscal 2017, up more than 32 percent from the \$5.6 billion spent in fiscal 2012, according to Arlington market research firm Govini that [delves into the so-called "Third Offset" strategy](#) to preserve the U.S. military's technological superiority on the battlefield. Another challenge: how to accomplish this goal without spooking policymakers worried about robots replacing their constituents' jobs.

4. Electronic warfare

What it does: Counters attempts to jam communications, essential in age when electronic systems are used for situational awareness and critical communications, making dominance of the electromagnetic spectrum essential.

What Hewson said: “Technologies to counter enemies’ attempts to jam communications, as well as offensive capabilities, must be easily integrated on a variety of platforms across every domain.”

What’s next: Companies such as Lockheed, Raytheon Co. (NYSE: RTN) and Northrop Grumman Corp. (NYSE: NOC) – via its proposed \$7.8 billion cash acquisition of Orbital ATK (NYSE: OA), a Dulles provider of everything from launch systems and satellites to tactical missiles and ammunition – are developing the capabilities needed to defend the U.S. from enemies jamming or destroying satellites that are critical to military operations. Indeed, the Air Force’s highest-ranking uniformed leader [recently offered the starkest characterization yet of outer space as an emerging battlefield](#). Open-architecture solutions will

need to be built to accommodate quick integration of new technologies, crucial since electronic warfare threats evolve so quickly.

In other Lockheed news Thursday, the company started to make its public case for the Pentagon to award a single, multiyear contract to help it cut costs from the \$400 billion-plus F-35 joint strike fighter program, [The Wall Street Journal reported](#) – a delicate dance as Defense Department leaders and lawmakers push for the average cost of the jet to come down from its current price tag of \$95 million. Lockheed's goal is to get the cost down to \$80 million per plane by the end of the decade.

Hewson discussed the F-35's costs Wednesday on CNBC:

VIDEO 1:40

Lockheed Martin CEO: Pentagon needs to understand cost of more F-35s

[Lockheed Martin CEO: Pentagon needs to understand cost of more F-35s from CNBC.](#)