QUILTY SPACE

MACH-FIVE MONTHLY HYPERSONIC NEWSLETTER

UPDATES & QUICKTAKES ON HYPERSONIC DEVELOPMENTS

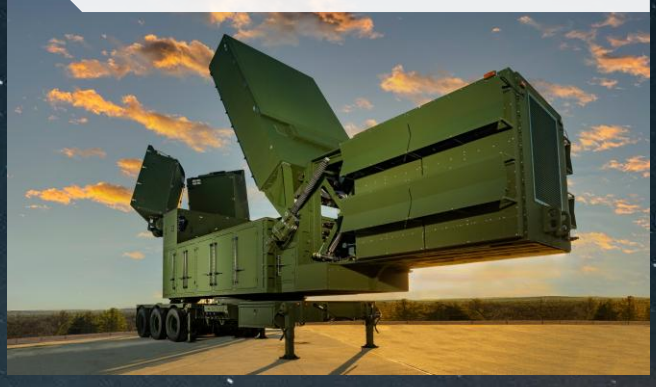
AUGUST 2025

08.01

Guam Gets New Missile Defense Radar

DefenseNews

Raytheon shipped a new missile defense radar to Guam as part of an effort to create a shield around the island. The Lower Tier Air and Missile Defense Sensor, or LTAMDS, arrived in July and will "improve the range and lethality of our weapon systems," per Army Secretary Dan Driscoll. With a population of roughly 170,000, Guam is closer to Beijing than Hawaii, and possesses significant military assets, making it a potential target in a conflict with China. Guam is supposed to get a second LTAMDS radar in 2027. On Aug. 28, Raytheon received a $1.7B contract modification to build more LTAMDS radars, bringing the total value of its contract to $3.8B.



08.04

P.E. Rollup Rebrands as Space & Missile Defense Company

WASHINGTONEXEC
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Four small space and missile companies merged by private equity firm Godspeed Capital have rebranded under the name Aurex Defense, with a focus on hypersonic technologies, missile defense and space domain awareness. Based in Huntsville, Alabama, with offices in Colorado and California, Aurex is comprised of the former companies Special Aerospace Services, Willbrook Solutions, Quintron Systems and Concordia Technologies.

Aurex employs more than 250 people and is nearing $100M in revenue. Nathaniel T.G. Fogg, partner of Godspeed Capital, said the rebranding reflects the "successful integration of numerous companies into one unified strategic platform capable of supporting advanced mission solutions at scale."

08.05

Lockheed Martin Eyes 2028 Space-Based Interceptor Demo

SPACENEWS

Defense prime Lockheed Martin has several pathways into the Golden Dome program, from supplying ground-based radars, missile warning satellites, and THAAD interceptors, The company now set an internal goal to demonstrate the most ambitious portion of Golden Dome within three years. Lockheed Martin is exploring a range of ideas to down a highly maneuverable hypersonic missile by 2028, with concepts including lasers or satellites that turn into projectiles. To accelerate development, Lockheed Martin created a "prototyping hub" for virtual tests of space-based missile defense systems. The company also said it is open to partnerships with other companies.

08.05

U.S. Ships Dark Eagle to Australia for Joint Exercise

USNI News

Australia and the U.S. added a Dark Eagle hypersonic missile system to a joint exercise in northern Australia last month, which the U.S. Army disclosed Aug. 3rd. The Talisman Sabre exercise marked the first overseas deployment of Dark Eagle. With an estimated range of 1,700 miles, the missile could reach the disputed South China Sea in 30 minutes. There is no indication the missile was fired, but the exercise showcased the ability to "project power," per Adm. Samuel Paparo, head of U.S. Indo-Pacific Command.

Chinese analysts viewed the missile's deployment as provocative, especially since it occurred while Australian prime minister Anthony Albanese was visiting Beijing. Zhou Bo, of Tsinghua University's Centre for International Security and Strategy, said China has equal, if not better, hypersonic missiles, such as the DF-17, which has been in service since 2019. Dark Eagle is slated to enter operations in the coming months.

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MACH-FIVE MONTHLY HYPERSONIC NEWSLETTER

08.05

Army Deploying New Patriot Battalions

DefenseNews

U.S. Army is adding four new Patriot battalions – three at undisclosed locations, one in Guam. The air and missile defense systems will provide increased resiliency. The Army's official Patriot battalion count will grow from 15 to 18, excluding the unit devoted to Guam. New Patriot defense systems will include LTAMDS radars and IBCS command and control systems. Per CIS, these upgrades double Patriot's effectiveness, supporting greater range, altitude and field of view.

08.06

No Golden Dome Talk at Missile Conference

BREAKING DEFENSE

What's the purpose of a missile defense conference where people can't talk about Golden Dome? That was what attendees tried to ascertain at the Space and Missile Defense Symposium in Huntsville, Alabama, following a decree from the Office of the Secretary of Defense barring military personnel from discussing the initiative. The move, and an antecedent Pentagon ban on military appearances at think tank functions, resulted in "widely expressed bafflement" among USG and industry officials present. Participants sometimes tried to speak around the ban, referencing the January executive order, which created Golden Dome, instead of referencing the program by name.

08.11

Castelion Lands Former Navy Hypersonics Leader

TECTONIC

Capt. Greg Zettler, the point person for the Navy's Conventional Prompt Strike (CPS) program, has joined startup Castelion. In an interview, Zettler said the company's focus on intensely reducing the cost of hypersonic missiles lured him in, as opposed to joining a defense prime. Zettler retired from a 30-year Navy career shortly after CPS completed its first ocean-based cold-gas launch. He participated in the CPS program from 2020 to 2025.

Among Zettler's tasks at Castelion is creating a longer-range vehicle. Castelion doesn't reach the speeds of the Navy's CPS or the Army's Dark Eagle and says it's not aiming to replace them. Instead, the company is focused on shorter-range products that beat Dark Eagle's $41M per-unit price tag.

08.13

Belarus, Russia Plan Hypersonic Exercise

REUTERS

Russian neighbor and ally Belarus plans a joint exercise with Russia in September that will utilize Russia's Oreshnik intermediate-range hypersonic missile. Belarusian defense minister Viktor Khrenin announced the exercise two days before Vladimir Putin and Donald Trump met in Alaska to discuss a possible peace deal for Ukraine. Per Khrenin, Russia will collaborate on Oreshnik's use, as well as on nuclear weapons. Russia has agreed to host Oreshnik missiles in Belarus and placed the missile into serial production this year.

Ukraine suffered an attack by an Oreshnik missile in November when Russia fired the weapon into the city of Dnipro. Belarus borders Ukraine and three NATO countries, Poland, Latvia and Lithuania. Khrenin described the exercise as a defensive measure in response to what Belarus views as increased military buildup around its borders.

QUILTY SPACE

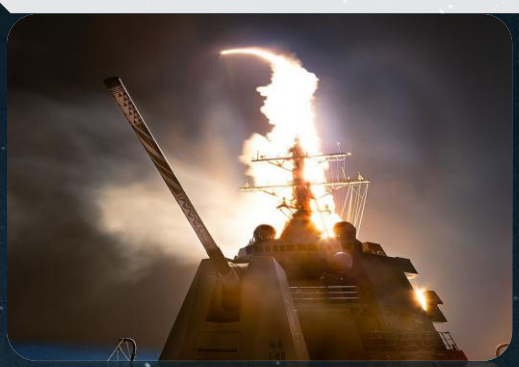
MACH-FIVE MONTHLY HYPERSONIC NEWSLETTER

08.11

Missile Defense Agency Certifies Aegis Anti-hypersonic Upgrade

DEFENCE INDUSTRY EUROPE

Navy ships should be better protected against hypersonic missile attacks after MDA's recent approval of a maritime anti-missile upgrade. MDA certified the SM-6 interceptor's "increment 3," described as the "last look, one shot, it's what you got" option to thwart hypersonics in their terminal phase. The SM-6 missile completed a test against a "threat representative target" off the coast of Hawaii in March 2024.



08.14

AI to Play a Central Roll in Golden Dome

Defense One

Artificial Intelligence will be integral in handling large amounts of data for Golden Dome, including potentially handling responses to large missile salvos, according to slides from an industry day in Huntsville Alabama. At the event, attended by more than 3,000 people, AI was described as useful for networking together radars and missile batteries, bolstering missile tracking. An "AI-enabled fire control concept" was also discussed. The slide deck included ideas for how to use AI for the space-based layers of Golden Dome as well.

08.17

China Researching Wing Design that Could Enable Hypersonic Drones

INTERESTING ENGINEERING

Researchers in China are reportedly seeking to revive a "scissor wing" that could swivel between sitting perpendicular or parallel to an aircraft fuselage, a design that could turn an aircraft into a hypersonic dart. Such an aircraft would maintain a traditional perpendicular wing design for liftoff, then swivel the wing so that it conforms with the fuselage for high-speed flight. NASA attempted such an aircraft in the 1970s with a vehicle called the AD-1, but found it so wobbly it was hard to control.

Chinese researchers, per the South China Morning Post, are using a combination of AI and sensors to calculate air patterns, combined with smart materials and modernized manufacturing for a new attempt and flying a scissor wing. If successful, a scissor wing aircraft could serve as a hypersonic drone mothership, carrying swarms of smaller drones to attack high-value targets.

08.18

Rafael Pitches Hypersonic Missile Shield to South Korea

MAEIL BUSINESS NEWSPAPER

Israeli defense firm Rafael, famous for creating the country's Iron Dome missile shield, is looking East for new business. Yuval Beisky, vice president of Rafael, told South Korean news outlet Maeil Business that Israel and South Korea should work together on a hypersonic missile shield for the Asian country.

The proposed shield would offer protection from regional threats like North Korea and, though not explicitly mentioned, China. North Korea claimed to have launched a hypersonic missile in January. Rafael unveiled a hypersonic interceptor called SkySonic two years ago at the Paris Air Show. South Korea is about five times the size of Israel, and would require a larger missile defense system than Iron Dome. The country is also more mountainous than Israel. Beisky described the need for a "zone defense," similar to a strategy deployed in basketball.

"One interceptor missile tracking down one hypersonic missile is like defending LeBron James alone," he said. "It's not going to stop him from scoring because he's busy following him. We have to think of a different defense strategy. It may be more effective for several people to stand in a specific position on the court and defend."

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08.17

Italy Funds Herakles Hypersonic Railgun Project

Decode39

The Italian Ministry of Defense is funding development of a hypersonic rail gun that could accelerate kinetic projectiles to Mach 6. MoD awarded the company Kairospace the second phase of a contract for the Hypersonic Electromagnetic Railgun for Armor Kinetic Launcher Engine System (HERAKLES), intended for a range of applications including missile defense, long-range artillary, and potentially even space launch for small satellites. Aptly described by publication Decode39 as "high risk, high reward," HERAKLES could bolster Italian defense, or add to the list of ambitious and attempted railgun projects. The U.S. spent $500 million on a railgun before abandoning the project, and while some railguns do exist, questions surround their ultimate utility.

08.18

L3Harris Opens Missile-Warning Satellite Factory

L3HARRIS

L3Harris's Florida presence just got a little bigger. The company announced the completion of a 94,000-square-foot facility in Palm Bay, Florida, designed to build satellites that "identify, track and defend against hypersonic and advanced missile threats." Though the facility was started before Trump's January 2025 Golden Dome announcement, L3Harris described the $100M expansion as intended to support the missile shield initiative. Florida congressman Rep. Mike Haridopolos praised the company as "an instrumental leader, not just in space, but national defense," and described L3Harris as "a vital part of the Golden Dome." L3Harris has five missile-warning satellites in orbit, and 34 under contract for DoD missile and hypersonic tracking.

08.25

Alaska's Spaceport May Have Hosted a Hypersonic Launch

Alaska Beacon
PART OF STATES NEWSROOM

Alaska's state-run Pacific Spaceport Complex conducted a launch Aug. 21 that locals believe was a hypersonic missile. The launch was preceded by road closures and warnings to navigators in a manner similar to what observers saw in 2021 ahead of DoD hypersonic launch attempts. The U.S. government confirmed a launch took place – which locals saw across the Kodiak Island archipelago – but not its purpose. John Oberst, president and CEO of the Alaska Aerospace Corporation, which runs the spaceport, said that while the company "considers transparency with Alaskans a priority. On occasion, there are some launches, like the one last week, that do not permit us this latitude."

08.29

Satellite Photos Spot Chinese Hypersonic Weapons

BUSINESS INSIDER

Satellite imagery and open-source footage suggest China is preparing to display a range of high-tech weapons systems at the country's Sept. 3 Victory Day parade, including anti-ship hypersonic missiles. A staging ground in Northwest Beijing used in previous Victory Day rehearsals was spotted with hypersonic and sub-sonic missiles in stock.

Tianran Xu, a senior analyst for Pax Sapiens' Open Nuclear Network, said the missiles were "clearly developed with the aim to suppress the US Navy in the Western Pacific" or deny access to the region, because they amount to "overkill" for the Taiwanese Navy. The Victory Day parade marks the 80th anniversary of the end of the Second Sino-Japanese War of 1945. Advanced drones and uncrewed platforms were also spotted amongst the preparations.

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QUILTY'S MONTHLY TAKEAWAYS

WHAT WE SAW:

August saw two significant cross-border sharings of hypersonic missiles – the U.S. shipment of the Navy's Dark Eagle for drills in Australia, and Russia's open planning of drills with neighboring Belarus using Oreshnik missiles. Leading countries are increasingly sharing hypersonic resources with allies to bolster regional defense in contested locales.

The pitch by Israel's Iron Dome contractor, Rafael, to create a similar missile shield for South Korea suggests more "domes" might appear globally. This is not a surprise. The U.S. creation of the Space Force spawned dedicated space military branches across Western Europe. Golden Dome will likely do the same for missile defense.

WHAT WE'RE WATCHING:

As always, all eyes are on Golden Dome. We're now halfway through Gen. Michael Guetlein's 60-day window to deliver an architecture to the president (not that this stopped industry from pitching its wares at every possible venue).

The Pentagon hunkered down on Golden Dome talk during August, but some elements of the missile shield's architecture appear to be coalescing around maximizing existing technologies, like ground-based radars, air-defense batteries, and missile-warning satellites. Improving command and control, and shortening sensor-to-shooter kill chains have emerged as a priority. Harder parts of the architecture, like space-based interceptors, remain open items.