

The Business Daily of the Global Aerospace and Defense Industry Since 1963

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Daily Briefs

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U.S. STATE DEPARTMENT approved \$580m U.S. Foreign Military Sale to Norway of M142 High Mobility Artillery Rocket Systems and related equipment.

BOEING has \$2.56b U.S. Air Force contract for two E-7A Rapid Prototyping aircraft (See story p. 4.).

SIERRA NEVADA will return six PC-12 aircraft to service for Uzbekistan under \$64.2m U.S. Air Force contract.

L3HARRIS TECHNOLOGIES promoted Christoph Feddersen to vice president, general counsel and secretary, moving up from vice president and general counsel of space and airborne systems.

SPACE PROPULSION SYSTEMS market grew from \$9.66b globally in 2023 to \$11.26b in 2024, for a CAGR of 16.6%, according to **THE BUSINESS RESEARCH COMPANY**.



FUNDING & POLICY

What's Next For Ukraine's Mighty Drone Industry?

STEVE TRIMBLE, steve.trimble@aviationweek.com

With Ukraine having grown within 2 1/2 years into one of the world's largest producers of military drones, government officials in Kyiv now openly contemplate export possibilities for one of the country's most innovative and fastest-growing industries.

For now, drone exports by Ukraine are not legal. The output of 87 domestic drone manufacturers now qualified for receiving defense contracts remains exclusively reserved for supplying Kyiv's troops fighting Russian forces in eastern Ukraine and—since Aug. 6—inside Russia's Kursk oblast.

But Ukrainian government officials are already looking to a future beyond the decade-old conflict with their Russian neighbor—and opportunities to sustain the country's rapidly evolving drone industry when domestic demand shifts.

"Our Ukrainian lead in drones cannot only be the factor that brings a just end to the war, but will also make Ukraine a security provider for other countries," Ukraine President Volodymyr Zelenskyy said Aug. 6.

Locally built drones and missiles have played major roles in some of the most successful Ukrainian military operations, such as the maritime assault on the Kerch Bridge in the Black Sea and aerial strikes on Russian air bases far beyond the front lines.

Since the Russian invasion began on Feb. 24, 2022, Ukraine's drone production output has risen by 100 times, according to an Aug. 8 update by the Ministry of Digital Transformation. The number of qualified military drone manufacturers has increased by more than 12 times over the same period.

"And now 96% of drones purchased by the state are Ukrainian-made. That is, Ukraine is already fighting with its own innovations," says Mykhailo Fedorov, minister of digital transformation.

The delivery numbers could still mask foreign dependencies with key components, such as microchips, sensors and motor controllers.

But growth in the drone sector comes along with a rejuvenation of the Ukrainian defense industry, which has struggled since

DEBRIEF, P. 2

OPERATIONS

U.S. F-35Cs To Join F-22s Amid Middle East Tensions

BRIAN EVERSTINE, brian.everstine@aviationweek.com

The Pentagon has now surged its two fifth-generation fighters to the Middle East as it awaits an attack from Iran targeting Israel and potentially U.S. troops—one that the White House says is “increasingly likely.”

Defense Secretary Lloyd Austin on Aug. 11 ordered the USS Abraham Lincoln carrier strike group to accelerate its deployment to the region, joining the USS Theodore Roosevelt. The Lincoln is carrying F-35Cs, according to U.S. Central Command. Austin also ordered the USS Georgia guided missile submarine to the region.

The F-35Cs will arrive to a region where the U.S. Air Force has already deployed its F-22 Raptors to an undisclosed base.

John Kirby, the White House’s national security communications advisor, told reporters Aug. 12 that the potential response by Iran is growing increasingly likely. Iran is expected to target Israel along with potentially U.S. operating bases in the region in response to the July 31 assassination of Hamas leader Ismail Haniyeh in Tehran. If Iran does respond, it is likely to look similar to the April 13, 2024, attack on Israeli bases involving hundreds of drones, cruise missiles and ballistic missiles—almost all of which were downed by Israel and the U.S., along with Jordan, France and the UK.

Kirby says the attack could come this week. The White House is “continuing to watch very, very closely and it is difficult to at this particular time, if there is an attack ... what that could look like,” he says. “We have to be prepared for what could be a significant set of attacks.”

Austin spoke with Israeli Minister of Defense Yoav Gallant on Aug. 11, detailing the new deployments in addition to urging Israel to limit civilian harm in Gaza.

The Week Ahead

U.S. Strategic Command holds its deterrence symposium in Omaha, Nebraska, this week, with Chairman of the Joint Chiefs Gen. Charles Brown scheduled to present a keynote Wednesday afternoon. Later in the week the National Defense Industrial Association holds its Space Warfighting Forum in Colorado Springs. Meanwhile, SpaceX is not resting after its weekend flurry of launch activity, with two more Falcon 9 flights possible this week—a pair of Worldview Legion remote sensing satellites being orbited from Cape Canaveral Thursday morning, and the Transporter-11 ride-share mission from Vandenberg Space Force Base, California, no earlier than Friday. Also this week, SpaceX may announce the date for its Starship-Super Heavy Integrated Flight Test-5, expected late this month or in early September.

DEBRIEF, FROM P. 1

the breakup of the Soviet Union. The overall defense-industrial complex now numbers 500 enterprises and 300,000 workers, according to a 2023 year-end report by the Ministry of Strategic Industries (MSI).

The soaring growth benefited state-owned enterprises, including Ukroboronprom, but not as much as privately owned businesses.

Nine out of 10 long-range drone makers are produced by private companies, Ukrainian parliamentarian Halyna Yanchenko wrote in a Wilson Center blog post in March.

Ukrainian industry now boasts the capacity to annually produce 1 million of the relatively simple first-person view drones, tens of thousands of medium-range strike drones and 1,000 long-range strike drones, the MSI report claims.

In some ways, drone production capacity expanded too quickly. The Ukrainian government lacks the funding to fully exploit the industrial base.

About half of Ukraine’s \$20 billion annual armaments capacity

is not funded, Strategic Industries Minister Oleksandr Kamyshin said May 6 at the EU-Ukraine Defense Industries Forum.

Ukraine launched the Zbroyari Project to partly address the industrial surplus. The initiative allows foreign governments to purchase Ukrainian weapons for Kyiv’s military. So far, Denmark and Canada have joined the project.

Ukrainian companies are also using joint ventures to generate sales abroad. The Leleka LR, a longer-range variant of a Ukrainian drone, is now produced for export in the Czech Republic by a joint venture, the Kyiv Independent newspaper reported in May.

Apart from industrial issues, Ukraine’s military now claims an advantage in drone warfare over the Russians.

“In July, our warriors have used more drones than the occupier. This should be a steady trend at the front—for all types of drones our units have,” Zelenskyy said Aug. 6. “Our Ukrainian lead in drones cannot only be the factor that brings a just end to the war, but will also make Ukraine a security provider for other countries.”

PROGRAMS

U.S. Space Force Issues RFP For Next-Gen Missile Tracking In MEO

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The U.S. Space Force issued a request for prototype proposals Aug. 9 for the next wave of missile tracking satellites in medium Earth orbit (MEO), with proposals due Oct. 11.

The resilient missile warning/missile tracking (MW/MT) in the MEO Epoch 2 constellation could include up to 18 satellites that will build upon the current Epoch 1 contract.

The government expects to award up to two firm-fixed price agreements, with one award per offerer, per the request for proposals (RFP).

Epoch 2 is considered to be a continuation of the Missile Tracking Custody program, to provide Next Generation Overhead Persistent Infrared capabilities via a multi-plane space segment, an integrated ground segment and constellation-level systems operations, Space Systems Command (SSC) says.

Millennium Space Systems is on contract to build six satellites under the program's Epoch 1 contract, with a projected launch date in 2026-2027.

RTX was previously slated to build three additional satellites for Epoch 1, but SSC discontinued its agreement in late May following cost creep and unresolved design challenges. Millennium passed the space system critical design review (CDR) in fall 2023 and the ground CDR in March, while L3Harris delivered a payload design in May 2024.

The MW/MT constellation will be fielded over the next six years via a spiral acquisition process that would put new capabilities on orbit every two to three years. In two years, the Space Force expects to begin procurement of Epoch 3, which will

replace and support the systems launched in the first wave.

The Space Force launched the MEO-based satellite program to provide persistent tracking of modern asymmetric threats, such as hypersonic glide vehicles currently in development by Russia and China.

The sensors in MEO would bolster constellations with similar mission sets in geostationary Earth orbit and highly elliptical orbits, as well as in low Earth orbit.

The Pentagon's fiscal 2025 budget request includes about \$6 billion for missile warning and missile tracking in MEO across the five-year Future Years Defense Program. The original projection in the fiscal 2023 budget request was about \$1 billion.

Space Force Col. Robert Davis, the program executive officer for SSC's Space Sensing Directorate, recently explained the massive budget increase as a response to the swiftly changing threat environment.

"It requires us to invest in this area to counter that threat—both the target threat, the hyper glide vehicles and other maneuverable capabilities that our legacy systems were designed for, and then the counterspace capabilities that our competitors are demonstrating and fielding every day," he said during a July 25 webinar hosted by the National Security Space Association.

SSC is working closely with the Space Development Agency (SDA) and the Missile Defense Agency (MDA) under a combined program office, with the goal of providing a comprehensive set of resilient missile-warning and missile-tracking capabilities. The Epochs are scheduled to be fielded in between launches of SDA's own tranches of missile-tracking satellites in low Earth orbit, which are in development as part of the agency's Proliferated Warfighter Space Architecture initiative.

OPERATIONS

Australia Air Force Opens Basic Jet Training To German Pilots

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SINGAPORE—The Royal Australia Air Force (RAAF) is opening up its basic jet training to its German counterpart as the two air arms continue to strengthen ties.

RAAF chief Air Marshall Stephen Chappell says he signed a letter of intent with Luftwaffe commander Lt. Gen. Ingo Gerhartz that will see German pilots train in Australia.

A Luftwaffe spokesperson says the RAAF is opening up four positions for basic jet training, and in turn also has requested one German instructor pilot.

He adds that the pilot training is expected to begin in mid-2025.

"This collaboration goes beyond training; it symbolizes the mutual benefits and strong ties between our nations. By working together, we enhance our capabilities and emphasize our commitment to global security," Chappell says in a statement.

RAAF operates basic jet training from RAAF Base Pearce with the BAE Systems Hawk 127.

Germany, France and Spain participated in Exercise Pitch Black held in Darwin, Australia, by deploying Eurofighter Typhoons from Germany via North America and Japan.

The Luftwaffe will share a common platform with the RAAF when it receives its first Lockheed Martin F-35A in 2027.

PROGRAMS

E-7A Deliveries Pushed Back As Boeing, USAF Reach Agreement

BRIAN EVERSTINE, brian.everstine@aviationweek.com

The recently announced agreement between Boeing and the U.S. Air Force for the first two E-7A Wedgetail prototypes reveals another delay for the program, in addition to acknowledged cost growth.

The Air Force announced Aug. 9 the terms of its recently reached agreement with Boeing after months of negotiations following what the service said was an unexpected rise in non-recurring engineering cost estimates. The two sides agreed to a definitized contract worth \$2.56 billion for the two prototypes, about double the undefinitized announcement of \$1.2 billion announced last year.

In addition to the two airframes, the new agreement includes life cycle development, training and E-7A fleet support.

An Air Force announcement says the two prototype aircraft will be delivered in fiscal 2028, a one-year delay from the announcement last year. Additionally, a production decision is now expected in fiscal 2026, also a one-year delay.

"This agreement is a significant win for our warfighters, paving the way for ensuring the Air Force's ability to provide advanced airborne moving target indication in the coming years," Andrew Hunter, assistant secretary of the Air Force for acquisition, says in the announcement.

"It is also an exemplar of our ability to leverage and support

the expertise and investments of our partners and allies to support our common security objectives."

The Air Force expected initial operational capability for the fleet in 2030, and it is not clear if that date has also changed. The service plans to field 26 aircraft. In addition, Boeing is building three for the UK Royal Air Force (RAF) and is planning to build six for NATO.

While the U.S. fleet is based on the RAF's version, it also includes American-specific changes such as satellite communication and military-code GPS, along with cybersecurity requirements and other program protections.

This spurred the nonrecurring engineering increase, along with supply chain issues.

After months of negotiations, which included the Air Force bringing in a special negotiator to focus first on this program, service Secretary Frank Kendall announced in July that the two sides had reached closure.

"I think we've got a reasonable price point now moving forward," Kendall told reporters July 20.

Dan Gillian, Boeing's vice president and general manager for mobility, surveillance and bombers, said at the time that the Air Force had revised requirements during the negotiations.

"We worked together with the Air Force to get the requirements dialed in to the right capability with the right support around it in order to support the Air Force's rapid prototyping program, mindful that production and the full stand up of the fleet will come," he says.

PROGRAMS

New Zealand Receives First C-130J In Fleet Modernization

CHEN CHUANREN, chuanren.chen@informa.com

The Royal New Zealand Air Force took delivery of its first Lockheed Martin C-130J-30 Hercules on Aug. 8 to kick off a much-needed fleet modernization.

The first of five aircraft was handed over at Lockheed's facility in Marietta, Georgia. Deliveries are set to be completed by September 2025.

In 2020, Auckland signed a deal for the five aircraft worth NZ\$1.5 billion (\$900 million). Foreign Military Sales documents show the aircraft will be equipped with Link-16 data links and AN/AAR-47 missile warning systems.

Photographs also show the installation of Satcoms as well as a chin-mounted electrooptic turret to give the Hercules

surveillance capabilities, complementing RNZAF's Boeing P-8A Poseidons.

The oldest RNZAF Hercules was delivered in 1965. Its retirement had begun in February 2023, well before C-130J-30 deliveries. Aviation Week fleet data shows New Zealand with only one C-130H in active service.

Along with the new Hercules, the RNZAF also will receive a C-130J full motion simulator that will be installed at RNZAF Base Auckland in Whenuapai, which is home to 40 Squadron.

Meanwhile, the RNZAF also has revisited a requirement to replace two Boeing 757-2K2, used for VIP and freight missions.

The urgency to replace the ex-airliners was highlighted when Prime Minister Christopher Luxton had to switch to a commercial flight after his 757 was left unserviceable on a stopover in Papua New Guinea while en route to Japan for a working visit.

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BUSINESS

Boeing Aims To Keep Spirit Defense Work In Wichita, Company Leaders Tell Lawmaker

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WICHITA—Following the upcoming closing of Boeing's acquisition of supplier Spirit AeroSystems, Boeing wants to keep all of Spirit's defense work within Boeing and in Wichita, Boeing's top leaders told Sen. Jerry Moran (R-Kansas) during a tour of Spirit on Aug 12.

"They also committed to me that if there [are] any changes in that, in those contracts, that they would help secure that work for Wichita and for Kansas," Moran told Aviation Week following a tour of Wichita-based Spirit AeroSystems by Moran, Boeing's new CEO Kelly Ortberg and Boeing Chair Steve Mollenkopf. "But their primary interest is maintaining that defense work within what is Spirit becoming Boeing."

That is good news, Moran says. Moran says he asked Ortberg and Mollenkopf whether they would be focused only on commercial aerospace after the acquisition and was pleased by the response, he says.

Ortberg and Mollenkopf accepted Moran's invitation to visit Wichita and the tour. The visit coincided with Ortberg's third day on the job as Boeing's new CEO. The two declined to speak with reporters.

The upcoming Boeing acquisition of Spirit AeroSystems is highly important, Moran says. Spirit AeroSystems is the largest private employer in Kansas. In addition, about 140 suppliers and sub-tier suppliers in south-central Kansas do work for Spirit.

"It is our best interest for Boeing to succeed, as a community, as a state and as a nation," Moran says. "The success of Boeing is important. I committed this community and the state to do everything possible to make sure Boeing is a success in Kansas."

In inviting Ortberg and Mollenkopf to Wichita, "I wanted Boeing to understand the value of our workforce and the value of our companies in the supply chain," he says. It is also about forging a relationship and building trust.

"Everything we heard today was positive," Moran says. Boeing's acquisition could take months to a year to complete, he says. His understanding is that the deal still must secure government approvals.

Ortberg told Moran that Boeing's purchase of Spirit AeroSystems makes sense, Moran says.

"Certainly, the new CEO of Boeing believes that this is a logical, economic and engineering manufacturing requirement. That it just makes sense is what he confirmed to us today—that it makes sense for this to be reintegrated," Moran says, "and particularly from a manufacturing point of view it ought to be together."

Welcoming Boeing

From Moran's perspective, "we just want to make sure that Boeing [knows] we welcome them here. We want them to be good citizens. We want them to treat their employees well. But mostly, we used this visit to get reacquainted with Boeing—reacquainting them with Wichita. The comments by the CEO and the chairman of the board were, 'This not only makes sense, but this is the right thing to do.'"

The acquisition brings Boeing full circle with Wichita. Boeing spun off its commercial aircraft division in Wichita, which became Spirit AeroSystems, its largest supplier, in

BOEING, P. 8

OPERATIONS

SpaceX Launches U.S.-Norway Arctic Broadband Satellites

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LOS ANGELES—A SpaceX Falcon 9 rocket carrying the first U.S. military payloads to be hosted onboard allied commercial satellites launched on Aug. 11 from Vandenberg Space Force Base, California.

The launch vehicle lifted off at 7:02 p.m. from Space Launch Complex 4E, carrying two U.S.-Norway Arctic Satellite Broadband Mission (ASBM) spacecraft into a highly elliptical Molniya transfer orbit.

The first-stage booster landed successfully nearly 9 min. after liftoff onto the SpaceX drone ship, "Of Course I Still Love You."

The first ASBM satellite was deployed 42 min. after launch, and the second spacecraft was deployed 47 min. after launch.

ASBM is a joint effort between the U.S. Space Force, the Norwegian Armed Forces, Norwegian state-owned enterprise Space Norway, Northrop Grumman and Viasat. The two-spacecraft constellation will follow a highly elliptical orbit over the Arctic, providing continuous broadband coverage and protected military satellite communications north of the 65 deg. north latitude. The satellites will operate in the same orbital plane, 8 hr. apart at a 63-deg. inclination.

The Norway-operated ASBM constellation involves the first U.S. military payload hosted on a commercial space vehicle and then operated by a foreign partner. Northrop Grumman supplied

two GEOStar-3 satellite buses under a contract with Space Norway and built the two Enhanced Polar System-Recapitalization (EPS-R) payloads for the Space Force.

Other payloads on board include an X-band payload for the Norwegian Defense Ministry, a Global Xpress (GX) Ka-band payload for Viasat and a European Space Agency-commissioned radiation-monitoring payload built by the Norwegian company Integrated Detector Electronics AS.

The ASBM initiative began in 2019 and is Norway's largest-ever satellite program. According to the Space Force, the joint partnership with Oslo allows the EPS-R payload to deliver capabilities to the Space Force three years faster than via a traditional acquisition process.

The legacy EPS constellation provides protected extremely high-frequency (EHF) satellite communications above 65 deg. north, serving as a polar adjunct capability to the Advanced EHF system. The recapitalization effort aims to extend the EPS services into the 2030s, augmenting the two existing satellites, also built by Northrop Grumman. EPS-R will serve as a bridge to the Space Force's next-generation Protected Tactical Satcom program, per Space Systems Command.

Sunday's liftoff marked SpaceX's 360th successful Falcon 9 launch overall and 76th mission of the year. The mission was the 22nd flight for the first-stage booster B1061, which previously launched Crew-1, Crew-2, SXM-8, CRS-23, IXPE, Transporter-4, Transporter-5, Globalstar FM15, ISI EROS C-3, Korea 425, Maxar 1 and 10 Starlink missions.

FUNDING & POLICY/

Orbit Fab's RAFTI In-Space Refueling Port Qualified By U.S. Space Force

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LOGAN, Utah—The U.S. Space Force has designated Orbit Fab's in-space refueling port as an interface for the in-space fueling of military satellites.

The Space Systems Command's System Engineering Review Board recommended the fueling port after assessing that the Rapidly Attachable Fuel Transfer Interface (RAFTI) met its technical requirements, said Adam Harris, Orbit Fab's chief commercial officer, here at the Small Satellite Conference on Aug. 6.

"This is a great validation for us that this can be used on military satellites," he says.

Orbit Fab aims to eventually equip commercial satellites with

the RAFTI refueling ports as well. It wants to develop in-space refueling depots and fuel shuttles that will carry propellant to spacecraft.

"There were reusable launch vehicles. Now we think there's going to be reusable spacecraft. That's what we're trying to enable," Harris says.

As part of a refueling demonstration in 2025, a U.S. Space Force Tetra-5 spacecraft will carry a RAFTI fueling port and a modified space tug—Impulse Space's Mira—will carry hydrazine fuel with GRIP, a four-finger mechanism developed by Orbit Fab that grabs onto RAFTI and transfers fuel. The U.S. Space Force aims to show up to 50 kg (110 lb.) of hydrazine being transferred.

Orbit Fab priced the RAFTI refueling port at \$30,000. In addition to making the hardware itself, the company is talking to third parties about manufacturing the refueling port under license, Harris says.

PROGRAMS

Poland Signs Patriot Launcher Production Agreement

ROBERT WALL, robert.wall@aviationweek

Poland has signed an agreement for the production of 48 M903 Patriot launchers, part of Warsaw's wider push to enhance its air and missile defense capacity.

The deal is a key element of the second phase in Poland's expansive Wisla (Vistula) medium-range air defense program. Under the deal, involving Raytheon and Huta Stalowa Wola (HSW), the Polish manufacturer will produce the Patriot equipment for delivery in 2027-29, the Polish Defense Ministry said Aug. 12.

Poland said it also secured Patriot work for several other Polish companies. Among others, Zakłady Mechaniczne Tarnów will supply actuators for the launcher and Wojskowe Zakłady Elektroniczne will provide data link terminal parts.

Poland has made improved air and missile defense a core element of its broad defense modernization push. Almost a year ago, the country disclosed \$15 billion in air defense investment plans at its national defense exhibition MSPO.

HSW said it has invested in a new production and assembly center for the Patriot work. It could become a maintenance, repair, and overhaul service for Patriot launchers for Poland and potentially other users, HSW added.

OPERATIONS

NASA Space Station Research Takes A Cancer Focus

MARK CARREAU, mark.carreau@gmail.com

HOUSTON—NASA and the International Space Station (ISS) National Laboratory have selected five research projects that will be funded with more than a total of \$7 million to leverage the orbital lab's microgravity environment to address cancer and other disease-related health threats.

The selected multi-mission study efforts were announced late last month at the 13th annual ISS Research and Development Conference in Boston.

The studies were selected in partnership with NASA's Biological and Physical Sciences division inaugural "Igniting Innovation" solicitation. More than 2 million cases of cancer will be diagnosed this year and 600,000 patients are projected to die from the disease, according to National Cancer Institute estimates.

"Over the years, the space station has been a catalyst for biomedical research that has profound impacts on patient care on Earth," Ray Lugo, CEO for the Center for the Advancement of Science in Space and manager of the ISS National Lab, said as part of the selection announcement. "We look forward to working with the selected projects as they push the boundaries of research and innovation to develop more effective therapeutics for those impacted by this devastating disease."

The research efforts selected for funding are led by:

- Mari Anne Snow of Boston's Easra Biotech. Using Janus-based nanomaterials (JBNS), the effort seeks to target drug delivery to solid tumors and reduce side effects to other bodily tissues with DNA-influenced JBN formation that enables delivery of larger amounts of therapeutics.

- Arun Sharma of the Cedars-Sinai Medical Center in Beverly Hills, California. The effort supports the growth of cardiac spher-

oid tissues with blood vessels for the modeling of cardiovascular disease and to test how cancer drugs affect the heart. The ISS' microgravity environment has proven effective in producing artificial 3D structure—like those that grow in the human body—for modeling cardiovascular disease and testing cancer drug toxicity.

- Catriona Jamieson, University of California, San Diego. The project's focus is an accelerated development of cancer tissues aboard the ISS using patient-derived stem cells that can survive cancer treatment and remain in the human body, and re-grow by evading the immune system to spread throughout the body. The rate of cancer stem-cell growth in space will be monitored to test whether there are specific enzymes that could be blocked to prevent cancer stem cell growth.

- Cassian Yee, University of Texas MD Anderson Cancer Center, Houston. The effort is focused on how immune system, white-blood T-cell growth is controlled in microgravity to potentially improve immunotherapy medications that use the body's immune system to fight cancer.

- Shay Soker, Wake Forest Institute for Regenerative Medicine of North Carolina. The project will use organoids created from cells recovered from colorectal cancer patients to study whether chemotherapy treatments are more effective in space than on the ground. Changes in gene expression in the organoids will be studied to identify targets for new and potentially more effective chemotherapy drugs. The effort also will attempt to identify more personalized cancer treatment strategies. The institute also is involved in ISS research focused on culturing human tissues in space for transplant on Earth.

"The unique microgravity environment of space offers incredible opportunities for researchers to study the effects of space-flight stressors on human tissue. This research could be used not only to help protect crew health on long-duration missions

NASA, P. 8

FUNDING & POLICY

AUKUS Partners Trial AI Tech In Uncrewed Air Systems

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AUKUS defense pact partners have been testing the integration of autonomy and artificial intelligence (AI) on uncrewed air systems (UAS).

Australia, the UK and the U.S. have been conducting the Resilient and Autonomous Artificial Intelligence Technologies (RAAIT) trials as part of the Project Convergence U.S. Army experimentation exercise. Flown in the U.S., the trials saw several UAS from the three nations—including platforms developed by Saab-owned Blue Bear Systems Research—operating together in the same airspace with AI, with autonomous systems used to identify potential enemy targets, the UK Defense Ministry announced Aug. 9.

The AUKUS aim is to “federate AI capabilities across the coalition,” Kimberly Sablon, principal director of Trusted AI and Autonomy at the U.S. Defense Department, said in a video about the exercise. The AI systems are not trained using data from all three countries. The efforts were supported by a team of AI

experts from the AUKUS nations who retrained and deployed the AI on the aircraft.

The trials follow on from initial testing in the UK last spring, which saw the live retraining of AI models in flight and the interchange of AI models between AUKUS nations.

Work on AI is part of AUKUS Pillar 2, which is exploring how to introduce autonomous technologies into military service that are robust, trustworthy and capable of dealing with complex operations—while adhering to responsible AI values.

“Resilient and autonomous [AI] technologies provide the opportunity to develop, test and trial AI models on autonomous systems,” said Royal Navy Commodore Rachel Singleton, head of the UK Defense Artificial Intelligence Center (DAIC) and UK lead for the AUKUS AI and Autonomy Working Group. “The AUKUS partnership is key to ensuring that the systems designed by each nation are interoperable into the future,” Singleton added.

Officials say the autonomy and AI technology has been developing at a “rapid pace,” and once proven will be incorporated onto national platforms, although they do not specify the systems on which it will be adopted first.

BOEING, from P. 5

June 2005. Spirit builds the 737 fuselage and parts of all Boeing aircraft. (In 2012, it announced that it was moving its Defense, Space and Security work out of Wichita to mostly Oklahoma City, San Antonio and Seattle.)

Since the divestiture, Spirit expanded its work profile to include a multitude of programs from Airbus and other contractors.

“In fact, the chairman of the board indicated that the number of companies that Spirit has worked for has improved the quality of the work and created opportunities for Boeing that they otherwise would not have when you just do Boeing work,” Moran said.

The Boeing executives also met with officials from the National Center for Aviation Training, Wichita State University’s National Institute for Aviation Research and McConnell AFB.

Today, about 1,500 to 2,000 Spirit AeroSystems employees work on its defense programs, Moran says. “Almost none of it is work for Boeing,” he says. Spirit has contracts with Northrop on the B-21 Raider, with Lockheed Martin on the CH-53K and with Dynetics on thermal protection systems for the Long Range Hypersonic Weapon, Conventional Prompt Strike missiles and others. Bell has decided not to keep its V-280 program with Spirit, however, upon the sale.

Spirit also is seeking a buyer for work performed at its Belfast, North Ireland, facility for Bombardier.

A source with knowledge of the actions tells Aviation Week there are companies exploring opportunities for Spirit’s defense business, while potential investors are considering whether

they could purchase its defense business and set up a separate company. “Boeing assured me today that they are fully interested in all the defense work that is taking place at Spirit to remain with Boeing and agreed with me that they would do everything to make certain it would stay in Kansas,” Moran says.

Would Lockheed Martin, Northrop Grumman and the other defense contractors be comfortable with Boeing having a hand in their non-Boeing programs? “That’s an issue for them to decide—the two companies,” Moran says. “And if there is this divorce between the company and the defense work at Boeing, then my goal is to say, ‘There’s another path that involves Wichita.’”

Moran says he has raised the issue with Defense Department officials. “I think there’s a Defense Department issue here,” Moran says. “This is not about antitrust. It’s about supply chain. You, Defense Department, need to be paying attention to what’s going on in this merger, this acquisition ... You should want to avoid everything that disrupts an already fragile supply chain. Changes, unless there’s a solid replacement, might be a very damaging thing for the national security of the country.”

NASA, from P. 7

but also to contribute to initiatives like the Cancer Moonshot and improved treatment options for patients here on Earth,” said Lisa Carnell, director of NASA’s Biological and Physical Sciences division.

Contracts

Selected U.S. Military Contracts For The Week Of Aug. 5 - 9, 2024

Aug. 5

U.S. NAVY

General Dynamics Electric Boat Corp., Groton, Connecticut, has been awarded a not-to-exceed \$1,316,877,000 undefinitized contract action modification to previously awarded contract N00024-24-C-2110 for economic ordering quantity material in support of the planned Virginia Class Block VI submarines and in furtherance of the Navy’s commitment to the health and stability of the industrial base. Naval Sea Systems Command, Washington, D.C., is the contracting activity.

U.S. ARMY

General Dynamics OTS LLC, Wilkes Barre, Pennsylvania (W15QKN-24-D-0030); Global Military Products Inc., Tampa, Florida (W15QKN-24-D-0031); and Premier Precision Machining LLC (W15QKN-24-D-0041), will compete for each order of the \$211,983,283 firm-fixed-price contract to manufacture, test, package, produce and deliver mortar shell bodies and variants. Army Contracting Command, Newark, New Jersey, is the contracting activity.

Aug. 6

U.S. NAVY

RDA Inc., Doylestown, Pennsylvania, has been awarded a \$35,677,930 cost-plus-fixed-fee order (N6833524F0025) against a previously issued basic ordering agreement (N6833520G3039). The order procures engineering and technical services for research and development (R&D) efforts supporting anti-submarine warfare and undersea warfare advanced sensors and systems (both active and passive) to include undersea advantage, strategic development, multistatic active coherent, and airborne acoustic intelligence. The effort also includes digitization, encryption and assurance of production and future sonobuoys, ongoing fleet training, maintenance of products for deployed systems and system simulators including hardware and software. The R&D effort specifically supports Small Business Innovation Research (SBIR) Phase III efforts under SBIR topic N98-035 entitled “Signal Processing and System Concepts to Exploit Passive Signals in Airborne Active ASW Missions,” SBIR topic N04-247 entitled “Littoral Environment Parameter Estimation from Bistatic and Multistatic Fleet Air Antisubmarine Warfare Acoustic Reverberation Data,” and SBIR topic N06-011 entitled “Multi-Sensor Data Fusion for Littoral Undersea Warfare.” Naval Air Warfare Center Aircraft Division Lakehurst, New Jersey, is the contracting activity.

Arete Associates, Northridge, California, has been awarded a \$12,999,980 cost-plus-fixed-fee contract for Small Business Innovation Research (SBIR) Phase II in support of Office of Naval Research. The Naval Surface Warfare Center Corona Division, Norco, California, is the contracting activity (N6426724C0040).

Aug. 7

U.S. NAVY

Culmen International LLC, Alexandria, Virginia, has been awarded an estimated \$39,957,443 indefinite-delivery/indefinite-quantity contract with cost-plus-fixed-fee and firm-fixed-price ordering provisions to provide bio surveillance and epidemiology research support services required to support the ongoing development, performance, and management of research across the Indo-Pacific region and in collaboration with host-country partners in support of Naval Medical Research Unit Indo-Pacific. The contract will include a five-year ordering period with an additional six-month ordering period pursuant to Federal Acquisition Regulation (FAR) 52.217-8 which, if exercised, will bring the total estimated value of the contract to \$44,328,172. Naval Supply Systems Command Fleet Logistics Center Norfolk Contracting Department, Bureau of Medicine and Surgery/Financial Management and Comptroller Directorate, Philadelphia, is the contracting activity (N00189-24-D-Z020). (The contract was awarded on Aug. 5, 2024.)

AIR FORCE

Dell Federal Systems L.P., Round Rock, Texas, has been awarded a \$109,911,637 ceiling, firm-fixed price blank purchase agreement. The contract provides for hardware to support Enterprise Logging Extra and Small Form Factor efforts. It will support four different hardware form factors: rack-mounted server, mobile server, mobile lightweight sensor, and common hardware switch for both rack-mounted and mobile servers. The Air Force Life Cycle Management Center, Joint-Base San Antonio-Lackland, Texas, is the contracting activity.

Aug. 8

U.S. NAVY

Technical Data Analysis Inc., Falls Church, Virginia, has been awarded a \$43,571,825 cost-plus-fixed-fee, cost, indefinite-delivery/ indefinite-quantity contract. The contract provides engineering and technical services to support aircraft structural life monitoring and air vehicle airworthiness certification to include Structural Appraisal of Fatigue Effects program, strength engineering, and loads and dynamics engineering in support of the Naval Air Warfare Center Aircraft Division (NAWCAD) Structures Division for the Navy. NAWCAD, Patuxent River, Maryland, is the contracting activity (N0042124D0022).

Aug. 9

U.S. AIR FORCE

The Boeing Corp., St. Louis, Missouri, has been awarded a maximum \$53,186,025 bilateral modification (P00006) to previously awarded contract FA8634-24-F-0041 for F-15 Mobile User Objective System/Second Generation Anti-Jam Ultra-High Frequency Radio for NATO (SATURN) Group-A production and sustainment. The Air Force Life Cycle Management Center, Fighter and Advanced Aircraft Directorate, F-15 Division, Wright-Patterson Air Force Base, Ohio, is the contracting activity.