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Aussie Launch

Gilmour Space Technologies is gearing up for the inaugural launch of its three-stage Eris launcher, with the window for what it calls TestFlight1 opening March 15. It would mark the first orbital flight of an Australian-made rocket. The launch will use the Bowen Orbital Spaceport in the Australian state of Queensland. "This will be the first attempt of an Australian rocket to reach orbit from Australian soil," company CEO Adam Gilmour said in a Feb. 24 statement. Designed to carry a payload up to 305 kg into low Earth orbit, the 25-m-tall rocket will carry a test microsatellite bus that the company has built. "Our team will use the data collected to improve the reliability and performance of the Eris rocket for future commercial launches," the company said.

Daily Briefs

SES announced multiyear extension of its agreement with **PROSIEBENSAT.1**, which will continue to distribute its programs in Germany and Austria using SES's satellites at its prime video neighborhood of 19.2 deg. East.

LOCKHEED MARTIN has \$12.3m U.S. Navy contract modification for Navy hardware spares to support SONAR systems.

L3HARRIS has \$33.5m U.S. Space Force contract for Counter Communication System Meadowlands development.

KYMETA appointed Tom Jackson, former president at **STONEWALL AEROSPACE & DEFENSE**, as chief revenue officer.

XTI AEROSPACE hired Len Urbas, former managing director at **SDR VENTURES** and **WAYMAKER CAPITAL**, as senior vice president of corporate development.

FUNDING & POLICY

U.S.-Ukraine Critical Minerals Deal Put On Hold

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A highly anticipated agreement that would give the U.S. access to Ukraine's vast mineral resources has been put on hold following a contentious Oval Office meeting.

The deal, under which Ukraine would contribute 50% of future proceeds from state-owned mineral resources into a reconstruction fund that it would jointly own with the U.S., was set to be signed Feb. 28 after a meeting at the White House between U.S. President Donald Trump, Vice President JD Vance and Ukrainian President Volodymyr Zelensky.

But disagreement between the U.S. and Ukrainian sides over how to end Ukraine's war with Russia escalated rapidly into a confrontation that highlighted underlying tensions in the bilateral relationship. Trump and Vance repeatedly questioned Zelensky's gratitude for U.S. support. Trump told the Ukrainian leader, "You've got to be more thankful because, let me tell you, you don't have the cards."

The White House later said that Trump has not ruled out a strategic metals agreement but "not until Ukraine is ready to have a constructive conversation," according to a Reuters report. It is unclear whether the two sides could come back to the table during Zelensky's current U.S. trip.

The U.S. is eager to diversify its suppliers of critical minerals as China steadily

restricts exports to gain leverage in its techno-industrial competition with Washington. The metals are crucial inputs for a wide variety of defense systems, and the U.S. has limited domestic reserves and stockpiles. China accounts for 60% of global supply and 85% of processing.

Ukraine has 22 of the 34 minerals the European Union considers critical, including titanium, uranium, graphite and lithium, as well as rare earths like neodymium and yttrium.

The deal that was set to be signed Feb. 28 establishes a joint U.S.-Ukraine reconstruction investment fund. Under the agreement, Ukraine would contribute 50% of revenues earned from the future monetization of all Ukrainian state-owned natural resource assets into the fund, according to a new analysis by the Center For Strategic and International Studies (CSIS).

Investments from the fund aim to catalyze additional private sector interest in reconstruction of Ukraine and development of its resources. CSIS emphasized that “the response of private industry is key to the success of the fund and will determine how much value the United States ultimately derives.”

A Feb. 27 CSIS critical minerals event in Washington attended by two U.S. senators highlighted how the strategic metals have come to the fore amid intensifying competition between the U.S.

and China. Likening the minerals’ importance to that of oil, Sen. Todd Young (R-Ind.) said in remarks to the audience that China’s ruling Communist Party is weaponizing the important resources with its export bans. “The CCP cannot become the OPEC of the future,” he said in a reference to the Baghdad-based Organization of Petroleum Producing Countries.

In a panel conversation, Sen. John Hickenlooper (D-Colo.)—who has led bipartisan efforts to introduce critical minerals legislation in Congress—noted that one of the biggest challenges the U.S. faces is that “China has cornered the [minerals] market” and periodically flooded it to keep prices down and reinforce its strategic metals hegemony.

“If you care about aerospace and national defense, these minerals are going to be essential,” he said, highlighting the stakes for national security.

Hickenlooper said that the U.S. is in discussions with different countries to secure more critical minerals and reduce dependence on China. While expressing confidence in Trump’s ability to negotiate deals, he noted that Ukraine has sought an American security guarantee as part of any minerals agreement.

“Are we actually providing insurance to Ukraine that we are going to be there to defend them?” he said. ■

PROGRAMS

MBDA Meteor Makes Long-Awaited F-35 Test Flight

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LONDON—MBDA’s Meteor beyond-visual-range air-to-air missile has been flown on the Lockheed Martin F-35 Joint Strike Fighter for the first time.

A U.S. Marine Corps F-35B from Naval Air Station Patuxent River flew with a clipped-fin variant of the missile in the weapons bay, the UK Royal Air Force (RAF) announced Feb. 28, although the flight took place Nov. 20, 2024.

The trials are using an inert missile to gather environmental data, likely to help understand the impact on the Meteor of carriage inside the aircraft’s weapons bay. Externally mounted, the missile is exposed to extreme cold, but inside the F-35 bay the temperature is considerably warmer thanks to the proximity of the engine. The trials are part of the flight-test campaign to integrate the weapon onto the aircraft.

The UK is funding integration of the ramjet-powered missile onto the short-takeoff-and-landing F-35B variant, while Italy is sponsoring integration onto the conventional-takeoff-and-landing F-35A.

These trials have been long awaited by the UK, not only because of the boost in air defense capability the weapon provides, but also because many F-35 operating nations are interested in acquiring the Meteor for their fleets.

When the UK Defense Ministry signed initial contracts for integration onto the F-35, the expectation was that the weapon would be equipping the aircraft around now. But delays associated with the development of the Technology Refresh-3 avionics update and associated Blk. 4 software have slowed the process of integrating a number of foreign weapons onto the aircraft, including the UK’s Spear 3 mini cruise missile, currently in development.

UK ministers are now expecting both Meteor and Spear 3 to be integrated onto the F-35 by the end of the decade.

“This milestone is a testament to the effective collaboration between the multinational governmental and industrial partnerships that we have in place,” said Air Cmdre. Alun Roberts, the RAF’s head of air-to-air missiles.

“Inclusion of Meteor onto the Lightning II [Joint Strike Fighter] will bring this formidable air combat capability to the UK and to the burgeoning F-35 community, significantly enhancing security among allies,” Roberts added. ■

FUNDING & POLICY

USAF's Special Ops Autonomy Push Looking Toward Air-Launched Swarms

BRIAN EVERSTINE, brian.everstine@aviationweek.com

FORT WALTON BEACH, Florida—U.S. Air Force Special Operations Command is looking to go big with a new autonomy effort, moving from solely focusing on using MQ-9 Reapers as host to its C-130 variants.

The command for the past two years has been working on its Adaptive Airborne Enterprise (A2E) effort, which would use Reapers to air-launch smaller uncrewed air vehicles (UAV) to allow one service member to operate multiple UAVs at once. Command officials say they want to get beyond this “myopic” view and shift A2E to platform-agnostic, with the ultimate hope of air-launching swarms from other platforms, including pallets on MC-130s or wing-mounted pods on AC-130 gunships.

The command last year demonstrated MQ-9s air-launching smaller UAVs, using the Golden Horde autonomy system to control four of the systems. While four is not a full “swarm” yet, it is more than one, officials argue.

“We’ve got to establish some wins and some successes

in what we’re trying to do right now before we go too broad,” AFSOC Commander Lt. Gen. Michael Conley tells Aviation Week at the Special Air Warfare Symposium here.

The goal now is to provide some “limited combat capability” within the next two years, he says.

While the command does not want to get away from using MQ-9s, the size of the Reapers limits what can be carried. Pallets on MC-130s, for example, could air-drop dozens of UAVs to provide surveillance, electronic warfare, electronic attack or other capabilities at a much larger scale. The palletized air-launch focus could look similar to Rapid Dragon, the AFSOC and Air Mobility Command program to air-launch cruise missiles using a pallet in the back of a cargo aircraft.

AFSOC bought three General Atomics Aeronautical Systems Inc. MQ-9Bs in 2023 for its effort. Demonstrations have shown their effectiveness, though the autonomy is not “there yet” and needs to be matured, Conley says.

The effort is a collaboration between AFSOC, U.S. Special Operations Command’s Program Executive Office-Fixed Wing and the Air Force Research Laboratory, which developed the Golden Horde software. ■

OPERATIONS

U.S. Officials: No Real Answer Yet For UAS Threat To Bases

BRIAN EVERSTINE, brian.everstine@aviationweek.com

FORT WALTON BEACH, Florida—The U.S. military does not have an effective, overall answer to the question of how to protect austere locations and aircraft from the threat of uncrewed aircraft systems (UAS), and needs both improved technology and a planning mindset change, officials say.

Both operations in the Middle East and the ongoing war in Ukraine have shown the increasing threat of UAS.

An official speaking under Chatham House rules Feb. 26 at the Special Air Warfare Symposium here warned that UAS are “very clearly the most dangerous threat” to aircraft and personnel.

“Right now, we don’t have a way to stop this threat,” the official warns.

The Pentagon has brought on several systems to down UAS, which have largely been dealt with as a nuisance. But the proliferation of the systems and changing tactics have kept the threat ahead of protection efforts.

Companies should work to improve detection and characterization of UAS to help protect installations, the official says. At

the same time, within the military there needs to be a different way of thinking that acknowledges that personnel and aircraft will always be under threat.

The world has changed from the mid-2000s operations in the Middle East, during which incoming threats could be dealt with and that was it, one of the officials says.

Broadly speaking, the U.S. military is in what is known as “Phase Zero” operations. In joint doctrine, this means shaping a theater to prepare for a conflict.

The U.S. now needs to work with host nations where troops are deployed to understand what authorities and legal barriers there are to downing UAS, so that if drones abruptly change from a nuisance to a genuine threat to aircraft, there is an understanding of how to operate, an official says.

Another official speaking at the event highlighted operations in Ukraine as an example of how the technology has evolved. For much of the war, UAS operators flew drones the typical ways with remote connections—something that exposed them to detection.

Now drone operators are using fly-by-wire fiber optic controls, so older technology has effectively avoided detection and jamming systems.

“That’s the kind of thing that scares me,” the official says. ■

OPERATIONS

Merck Partners With Sierra Space For Dream Chaser Mission

GUY NORRIS, guy.norris@aviationweek.com

COLORADO SPRINGS—Sierra Space has announced pharmaceutical giant Merck as its first commercial rideshare partner for the inaugural flight of the Dream Chaser spaceplane on a NASA mission later this year.

The Merck payload, which will be an experiment focused on the development of cancer treatments, is one of several due to be carried to the International Space Station (ISS) along with NASA supplies for the astronauts working in orbit.

Merck is among several pharma companies researching breakthrough medical drugs in microgravity and has previously carried experiments to and from the ISS onboard the space shuttle and SpaceX's Dragon.

However, Paul Reichert, Merck principal investigator, says a key part of the appeal of the Dream Chaser will be its ability to "bring samples back very gently," and return from orbit to a runway landing—just as the space shuttle did.

The Dream Chaser is designed to reenter at fewer than 1.5g, and—after landing—provide rapid access to unload critical cargo, which Merck sees as a key advantage when dealing with sensitive biopharma materials.

The experiment will be mounted on a Merck Formulation Research Platform, which was developed in collaboration with the Merck 3D Printing Department and Sierra Space.

"One of the big issues for delivering biologics is their high viscosity and the need to deliver high concentrations of material or large volumes of concentration. So, we're looking at opportunities to make crystalline and amorphous suspensions that can be given as a subcutaneous injection rather than as an intravenous infusion," Reichert says.

Microgravity research

Microgravity research is targeting the development of high-concentration amorphous suspensions that would enable the delivery of cancer-fighting and other drugs with a syringe just like vaccines and other medications. "This would significantly impact the quality of life for the patients, as well as the caregivers," Reichert says.

"We're also hoping that these formulations will have room-temperature stability. One of the big issues with biologics is that they have to be refrigerated. So we're looking at whether with these concentrated suspensions we can maintain stability for months at a time, because there are parts of the globe where you don't have stable refrigeration conditions."

The planned higher mission cadence of Dream Chaser will therefore also be a bonus to the researchers, he adds. "One of the things that has slowed advances in microgravity research is not having the ability to do iterative experiments. Tenacity [the initial Dream Chaser] gives us an opportunity to do multiple follow-up experiments in a more reasonable period of time. Right now, it may take over a year to prepare an experiment, to go through the approval process and everything else," Reichert says.

Ken Shields, senior director in Sierra Space's business development group, says as well as the lower G reentry of the Dream Chaser's lifting body versus the ballistic entry of a spacecraft, the ride through the denser atmosphere will be gentler for the payload because there is no sudden load from the opening of the brake parachutes used by capsules.

"You get this huge shock from the parachute, which a lot of folks don't understand, but it is significant. Both of those loads are very hard to account for from a variable perspective, and what you're predicting in your baseline. Your modeling is very wide, so again, it is hard to control that variable," Shields says.

Unloading payloads

Unloading the payload into an enclosed facility after landing will also reduce variability and ensure the safety of fragile samples, he adds.

"These precious materials are now being recovered in a highly controlled environment, as opposed to a heavy landing in an ocean or on a desert. Then you potentially have to go through several other handling processes, and a lot of other variables go into it."

The Dream Chaser recently completed a series of payload integration tests at NASA's Kennedy Space Center in Florida dubbed the Joint Test 10B milestone, which demonstrated the spaceplane's ability to power on, air-cool and exchange data with multiple powered payloads inside its pressurized cabin.

As the initial flight is a commercial resupply mission under contract with NASA, "they essentially own the mission, and they own the scheduling," Shields says. "Right now, we are in their flight program, and it's looking like the fall of this year. Our goal is to have the vehicle, the entire system, ready to go to flight early this summer. Then we'll be ready to go start our vertical integration on the launch vehicle whenever NASA is ready to pull the trigger," he adds.

Originally due to be launched in 2024, the spaceplane's debut was previously scheduled to take place no earlier than May on a United Launch Alliance Vulcan Centaur vehicle. ■

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OPERATIONS

FAA Clears SpaceX To Resume Starship Flight Tests

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The FAA on Feb. 28 cleared SpaceX to resume flights tests of the Starship-Super Heavy reusable launch system while an investigation into the Jan. 16 breakup of the upper stage remains underway.

"After completing the required and comprehensive safety review, the FAA determined the SpaceX Starship vehicle can return to flight operations while the investigation into the Jan. 16 Starship Flight 7 mishap remains open," the FAA said in a statement.

Propellant leaks in the Starship upper stage led to the vehicle's midair breakup about 11 min. after liftoff from Boca Chica, Texas. The FAA is overseeing the mishap investigation.

"The most probable root cause for the loss of ship was identified as a harmonic response several times stronger in flight than had been seen during testing, which led to increased stress on hardware in the propulsion system," SpaceX noted in a Feb. 24 update posted on its website. "The subsequent propellant leaks exceeded the venting capability of the ship's attic area and resulted in sustained fires."

Starship separated from the Super Heavy first stage as planned, with its six Raptor engines powering the vehicle along its expected trajectory. But about 2 min. into the burn, SpaceX detected a flash in the ship's aft section—known as the attic—near one of the Raptor vacuum engines.

The attic is an unpressurized area between the bottom of the liquid oxygen tank and the aft heat shield. "Sensors in the attic detected a pressure rise indicative of a leak after the flash was seen," SpaceX noted.

Two min. after the first flash, engineers detected a second flash, followed by sustained fires in the attic. "These eventually caused all but one of Starship's engines to execute controlled shutdown sequences, and ultimately led to a loss of communication with the ship," SpaceX said.

Telemetry

Starship's last telemetry was received about 8 min. 20 sec. after liftoff. Postflight analysis showed the vehicle's Autonomous Flight Safety System triggered as designed and the descending ship broke apart about 3 min. after telemetry was lost.

SpaceX said all the debris fell within the preplanned Debris Response Area, and there were no hazardous materials present in the debris and no significant impacts expected to occur to marine species or water quality.

The FAA on Feb. 28 said SpaceX met all safety, environmental and other licensing requirements for its next Starship-Super Heavy flight test, known as Flight 8. SpaceX is targeting launch for no earlier than 6:30 p.m. EST March 3.

The upcoming flight will fly the same suborbital trajectory as Flight 7 and include objectives that were not met during the previous test, including the first payload deployments from the Starship upper stage and experiments during atmospheric reentry to prepare for future returns to the launch site.

Like Flight 7, SpaceX will again attempt to catch the returning Super Heavy booster rocket in the launch tower. Starship is expected to make a controlled descent into the Indian Ocean west of Australia. ■

PROGRAMS

GAO Scrutinizes SDA Approach To Laser Comms Development

VIVIENNE MACHI, vivienne.machi@aviationweek.com

The Defense Department should fully demonstrate that laser communication from space is possible before investing any further in technology programs in process by the Space Development Agency (SDA), a new Government Accountability Office report says.

The agency has faced development challenges and delays as it works to prove out the complex laser communications technology required for its Proliferated Warfighter Space Architecture (PWSA), the GAO said in the Feb. 26 report.

SDA is five years into developing the PWSA as a vast constellation of small satellites in low Earth orbit (LEO) over two-year development cycles known as tranches. The network would provide the U.S. military and allies with a range of space-based capabilities—notably 24/7 data transport and missile warning and tracking—with optical crosslink connectivity at the SDA model's core.

By design, the SDA model and schedule targets are ambitious by acquisition program standards. The first 27 demonstration satellites were launched in 2022-23 to begin to prove out the optical communications capabilities with multiple vendors.

Despite plans to launch the initial operational satellites for the PWSA this spring, the agency has only successfully completed three out of eight desired laser communications capabilities under its Tranche 0 demonstration layer, the report said.

As of December 2024, both SpaceX and York Space Systems had demonstrated space-to-space laser links between their respective satellites in the same plane. SpaceX had also successfully demonstrated data relay between its own satellites, as well as space-to-ground laser data links. The SDA announced in January that a York-built spacecraft successfully completed a laser communication link with a SpaceX satellite on Dec. 18, marking the first LEO inter-vendor laser link for the PWSA.

The other two Tranche 0 contractors, Lockheed Martin and L3Harris, had yet to demonstrate any optical communications

capabilities, the report said.

The agency's model goes against GAO's leading practices for iterative product development, the office says. "SDA is proceeding through tranches and increasing the complexity of its development based on designs that have not yet met initial capabilities," the report says. "As a result, SDA is at risk of unnecessarily investing in new efforts without yet delivering on promised capabilities intended to support critical missions."

GAO issued four recommendations in its report, including that SDA demonstrate laser communications capabilities before finalizing efforts in Tranche 0, and before making further investments in subsequent tranches. The Defense Department concurred with those recommendations, and said it believes it is already implementing the recommendations. "We disagree," it asserts in the report, saying that the evidence supports the GAO's view that SDA "is not already taking the actions we recommend."

The SDA concurred with GAO's assessment that it has not yet demonstrated the "full range" of laser communications just yet, and is looking at what actions may be needed to address the report's recommendations, a spokesperson tells Aviation Week in a Feb. 27 email. But the agency did meet the baseline objectives established for Tranche 0 to prove out key technologies and provide lessons learned for the government and its vendor teams, they assert.

The spokesperson highlights SDA's successful in-plane laser communication links, and its demonstration of Link-16 tactical data relay from space using York Space Systems Tranche 0 satellites.

The spokesperson adds that SDA is "on track" to utilize in-plane optical links to operate a "fully functional system" under the upcoming Tranche 1 effort, and to ultimately demonstrate the full range of laser communications.

The SDA is already well underway with its next developmental tranches. With Tranche 1 launches expected in spring 2025, Tranche 2 satellite production is underway, and the agency plans to issue a Tranche 3 solicitation this year. The Pentagon has invested about \$11 billion into the architecture since 2020, and the whole constellation is expected to cost around \$35 billion through fiscal 2029, the GAO said. ■

PROGRAMS

Poland Signs Apache Lease Deal

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Poland has signed agreements to lease Boeing AH-64 Apache attack helicopters, as the country awaits delivery of 96 of the rotorcraft it ordered last year.

Eight AH-64Ds will be leased from the U.S. Army under a \$300

million deal that will help train pilots and ground crews on the Apache, ahead of the new-build fleet's entry into the inventory. The leasing arrangement will help Poland "be ready to accept these helicopters faster," Polish Deputy Prime Minister and Defense Minister Władysław Kosiniak-Kamysz said following the signing of the agreement Feb. 27.

Poland ordered the 96 AH-64E Apaches through a \$10 billion Foreign Military Sale finalized last August.

Some 15 of the 96 on order are expected to reach Inowrocław, one of three bases planned to house the Apaches, in 2028. Deliveries will run through 2032. The first Polish pilots and engineers

have already undergone training in the U.S. and will be the future instructors on the fleet. The Apache order will make Poland the second-largest operator of the platform, after the U.S. Army. ■

OPERATIONS

JAXA Scraps March Launch Plans For Epsilon S

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SINGAPORE—The Japan Aerospace Exploration Agency (JAXA) still is investigating the cause of the failed Epsilon S engine test in November 2024 and has abandoned plans for a launch within the current fiscal year, which ends on March 31, 2025.

The agency aims to bring the solid-fuel rocket into service “as soon as possible” to compete in the global launch market.

“The project team is examining every aspect of the incident, and at this moment, JAXA cannot definitively identify the cause. Along with our ongoing investigations, we plan to conduct experiments to verify the true cause,” JAXA President Hiroshi Yamakawa told Aviation Week here in Singapore at the Global Space Technology Convention & Exhibition 2025.

Yamakawa stated that there is no set timeline for the next launch. However, he anticipates that the Epsilon S rocket will distinguish itself through its environmental friendliness and adaptability to customer requirements. While JAXA aims for the launch cost to be internationally competitive, Yamakawa noted

that pricing ultimately will depend on manufacturers—in this case, IHI Aerospace.

In November 2023, Japan introduced the 10-year, JPY1 trillion (\$6 billion) Space Strategy Fund to stimulate the domestic space industry. Yamakawa has observed an increase in government-private and business-to-business collaborations within the space sector. He said one way to foster public-private partnerships is by testing solutions developed by startups in space.

“I think one of the roles of space agencies is to test technological systems in space. For private-sector activities to become viable businesses, their technology must be space-proven. Providing space-testing opportunities is crucial for them,” he said, citing examples of piggyback payloads on JAXA’s H3 rockets.

Yamakawa is optimistic that the SSF will increase Japan’s launch frequencies and is even open to the idea of launching foreign rockets. However, he is hopeful that Japanese platforms will be prioritized first.

The increase in space-related startups in Japan also means stiffer competition for talent in an already shrinking labor force in the country. JAXA is working to attract new hires, looking at sources outside the space industry and even foreign researchers. ■

PROGRAMS

TAI’s Hurjet ‘Well Positioned’ For Spanish Training Need

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The Spanish Air Force says Turkish Aerospace Industries’ (TAI) Hurjet advanced jet trainer is “well positioned” to replace the country’s aging fleet of Northrop SF-5 lead-in fighter trainers.

The service’s statements, published Feb. 28, follow a flight by Spanish air chief, Gen. Francisco Braco Carbo, in the prototype Hurjet on Feb. 26.

In a statement from Spanish Air Force, Carbo describes Hurjet as a “reliable plane, with good acceleration and prepared to transition to a fifth-generation aircraft.”

The flight follows the announcement in December by the Spanish Defense Ministry of a memorandum of understanding with Turkey’s Defense Industries Agency to “develop an advanced training system for Spanish Air Force fighter pilots,” which appeared to essentially select the Hurjet as a replacement for the SF-5. The Spanish Air Force has made it a priority to replace the SF-5 as part of its efforts to “design” the service

to be ready for the “second half of the 21st century.”

Spain has been seeking a replacement for the SF-5 for several years, but the efforts were affected by the 2008 global economic crisis, which did considerable damage to the Spanish economy. The service believes the SF-5 is no longer capable of supporting pilot training for next-generation combat aircraft.

Carbo also says TAI is interested in establishing “possible cooperation with national [domestic] industry,” building on comments by TAI CEO Mehmet Demiroglu, who previously told Aviation Week that Spain will likely want an element of “Spanification” of the aircraft involving local industry. Hurjet had been competing against Leonardo’s M-346 advanced jet trainer, which was proposed by Airbus as a European option.

A Spanish order for Hurjet would be an enormous boost for the program, which is still in the early stages of development following its launch in 2017 and the first flight in early 2023. Hurjet was developed as a replacement for the Turkish Air Force’s fleet of Northrop T-38s. TAI has secured an initial order for 12 Hurjets from that service. A second prototype made its first flight in November in a light combat aircraft configuration. ■



FUNDING & POLICY

Subdued Saudi Arabian Budget Continues Slow Growth Trend

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In December Saudi Arabia released details of its 2025 budget, which includes a 5% hike in defense spending. The military's allocation within the budget will rise from a revised estimate of SAR259 billion (\$69 billion) in 2024 to SAR272 billion this year, equivalent to a real-terms increase of around 3%, or roughly \$1.9 billion year-on-year.

While the levels of growth are far from spectacular, the increase nonetheless keeps the budget rising following an extended period of cuts over the last decade.

The Saudi Defense Ministry's budget was reduced in seven of the eight years between 2015 and 2021, declining by 20.6% in real terms between 2017 and 2021.

Indeed, even with the additional funds planned for 2025, military spending will only have grown by a total of around 3.2% in real terms over the last decade.

Budgetary documentation released by the Saudi Finance Ministry also shows that the military's allocation for 2024 was revised downward by 3.7% over the course of the year and that the defense sector has been tasked with making savings in recent years.

According to that overview, around SAR45.2 billion in savings was made in the sector between 2021 and the first quarter of 2024.

According to the budget overview, a key focus for 2025 will be making progress toward Saudi Arabia's ambitious Vision 2030 goal of indigenizing 50% of defense equipment spending by the end of the decade.

According to the budget, a target to localize 20% of spending this year is in line with the overarching goal.

The apparent reduction in procurement spending over recent years in response to budgetary constraints will certainly help in achieving this benchmark by minimizing large off-the-shelf purchases from overseas suppliers.

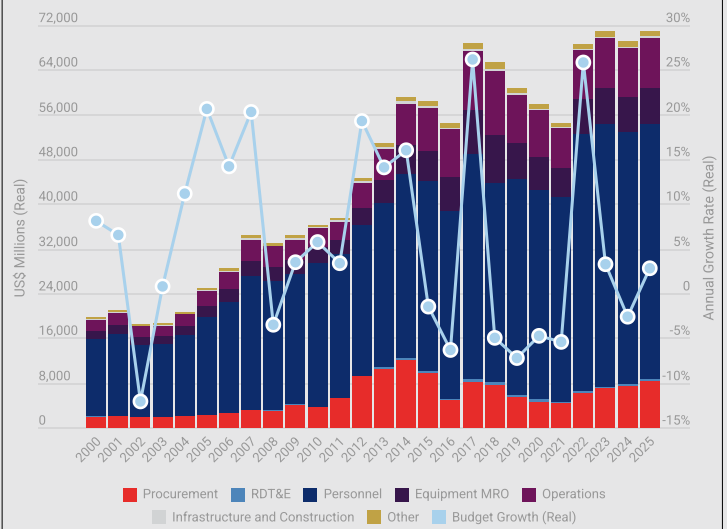
The limited growth in Saudi Arabia's defense budget, partially driven by a longer-term process of fiscal consolidation, is also being reflected elsewhere in the Gulf, with neighboring Oman announcing late last year that it would keep spending static in 2025—in effect resulting in a real-terms cut.

Bahrain is in the process of finalizing its own 2025-26 budget, but is expected to include minimal increases in defense spending, following its own extended period of real-terms cuts.

Major multibillion dollar modernization cycles are also winding down in Kuwait and Qatar.

Limited Growth Continues In Saudi Arabia

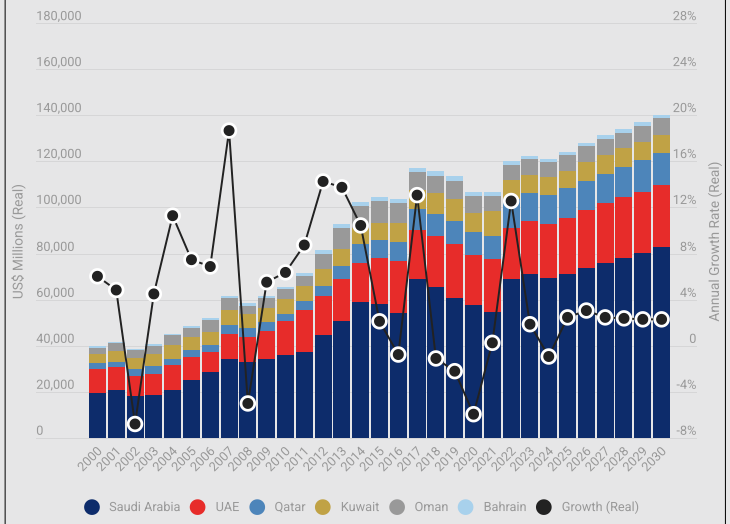
Saudi Arabia defense spending by function since 2000.



Source: Defense Market Analyzer, Aviation Week Intelligence Network © Informa Markets 2024

Gulf Defense Spending Remains Subdued

Total defense expenditure of the states of the Gulf Cooperation Council



Source: Defense Market Analyzer, Aviation Week Intelligence Network © Informa Markets 2024

This briefing was put together using data and analysis from Aviation Week Intelligence Network's Defense Market Analyzer tool. ■

Fleet Snapshot

Polish Air Force Fleets + Deliveries 2025-2035

| Family | Type | Sub-Mission | Current Fleet | Deliveries |
|-----------------------|-------------------------------|-----------------------------|---------------|------------|
| FIGHTER | | | | |
| F-35 | F-35A | Multi-role | 4 | 28 |
| Type Indeterminate | Follow-on Fighter Requirement | Multi-role | 0 | 32 |
| F-16 | F-16C Block 52+ | Multi-role | 36 | |
| | F-16C Block 52+ (V) | Multi-role | 0 | 0 + 36 |
| | F-16D Block 52+ | Multi-role | 12 | |
| | F-16D Block 52+ (V) | Multi-role | 0 | 0 + 12 |
| MiG-29/35 | MiG-29 (9.12A) | Air Combat | 12 | |
| | MiG-29UB (9.51) | Training Version | 3 | |
| Su-7/17/22 | Su-22M4 | Attack | 12 | |
| | Su-22UM3K | Attack | 6 | |
| LIGHT COMBAT AIRCRAFT | | | | |
| T-50 | FA-50 | Light Fighter | 12 | |
| | FA-50PL | Light Fighter | 0 | 36 + 12 |
| TRAINER | | | | |
| M-346 | M-346 | Advanced Flight Trainer | 15 | |
| PZL-130 | PZL-130TC-2 | Basic Flight Trainer | 28 | |
| DA40 | DA40 NG | Basic Flight Trainer | 6 | |
| DA42 | DA42 NG | Basic Flight Trainer | 4 | |
| DA20 | DA20-C1 | Introductory Flight Trainer | 16 | |
| Z-42 | Z-143LSi | Introductory Flight Trainer | 1 | |
| | Z-242L | Introductory Flight Trainer | 1 | |
| C4ISR | | | | |
| Saab 340 | Saab 340 [Erieye] | AEW&C | 2 | |
| Type Indeterminate | AEW Requirement | AEW&C | 0 | 2 |
| TRANSPORT | | | | |
| C-130 | C-130E | General | 3 | |
| | C-130H | General | 5 | |
| Type Indeterminate | Medium Transport Requirement | General | 0 | 6 |
| CN235/C295 | C295 | General | 16 | |
| M28 (An-28/38) | M28B | General | 24 | |
| 737 | 737-800 | VIP | 3 | |
| E-Jets | ERJ-175 | VIP | 2 | |
| G1159 | G550 | VIP | 2 | |

Note: Delivery figures are rendered as new builds + remanufactures. Types within the "Type Indeterminate" family represent official procurement requirements, in which type selection has yet to be made. Both contracted and projected deliveries included.

Source: Aviation Week Intelligence Network (AWIN) 2025 Military Fleet & MRO Forecast. For more information about the 2025 Forecast and other Aviation Week data products, please see: <https://pgs.aviationweek.com/forecast>.

-Prepared by Sam Archer

Fleet Snapshot

Polish Air Force Fleets + Deliveries 2025-2035 (Continued)

| Family | Type | Sub-Mission | Current Fleet | Deliveries |
|-------------------------|---------------------------|-------------|---------------|------------|
| ROTARY WING - TRANSPORT | | | | |
| AW101 | AW101 600 Series | CSAR | 0 | 22 |
| W-3 | W-3RL | General | 9 | |
| | W-3WA | VIP | 10 | |
| Mi-8/14/17 | Mi-8RL | CSAR | 4 | |
| | Mi-8P | VIP | 1 | |
| | Mi-8S | VIP | 1 | |
| | Mi-8T | VIP | 2 | |
| Mi-2 | Mi-2 | SAR | 10 | |
| Cabri | Cabri G2 | Trainer | 6 | |
| Robinson | R44 Raven II (Clipper II) | Trainer | 4 | |
| SW-4 | SW-4 | Trainer | 24 | |
| Type Indeterminate | Training Helo Requirement | Trainer | 0 | 24 |
| UAV | | | | |
| MQ-9 | MQ-9B SkyGuardian | ISR-Strike | 0 | 3 |
| MQ-9 | MQ-9A Block 5 | ISR | 6 | |
| Grand Total | | | 302 | 153 + 60 |

Note: Delivery figures are rendered as new builds + remanufactures. Types within the "Type Indeterminate" family represent official procurement requirements, in which type selection has yet to be made. Both contracted and projected deliveries included.

Source: Aviation Week Intelligence Network (AWIN) 2025 Military Fleet & MRO Forecast. For more information about the 2025 Forecast and other Aviation Week data products, please see: <https://pgs.aviationweek.com/forecast>.

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Calendar

To list an event, send information in calendar format to aero.calendar@aviationweek.com. For a complete list of Aviation Week Network's upcoming events, and to register, visit www.aviationweek.com/events (**Bold type indicates new calendar listing.**)

March 3-5—AFA Warfare Symposium, Air & Space Forces Association, Aurora, CO, <https://www.afa.org/afa-warfare-symposium/>

March 10-13—VERTICON 2025, Kay Bailey Hutchison Convention Center, Dallas, TX, <https://compass.onpeak.com/e/42HAIHE2025HIR/0>

Mar. 12-13—Aviation Week's SupplyChain Conference, Southlake, TX, <https://events.aviationweek.com/en/home.html>

March 19-20—Farnborough Space Show, Farnborough, UK, <https://farnboroughspaceshow.com/>

Mar. 25-27—Routes Asia 2025, Perth, Australia, <https://events.aviationweek.com/en/home.html>

Mar. 25-27—2025 NBAA Schedulers & Dispatchers Conference (SDC2025), New Orleans, LA, <https://nbaa.org/events/2025-schedulers-dispatchers-conference/>

Apr. 2-3—GAD Americas, Cayman Islands, <https://events.aviationweek.com/en/home.html>

Apr.7-9—ACSF Safety Symposium, Daytona Beach, FL, <https://www.acsf.aero/acsf-safety-symposium/>

April 7-10—Space Symposium, Space Foundation, The Broadmoor, Colorado Springs, CO, <https://www.spacesymposium.org/>

Apr. 8-10—GAD Americas, Atlanta, GA, <https://events.aviationweek.com/en/home.html>

Apr. 8-10—Military Aviation Logistics & Maintenance Symposium, Atlanta, GA, <https://events.aviationweek.com/en/home.html>

Apr. 8-10—Routes Europe 2025, Seville, Spain, <https://events.aviationweek.com/en/home.html>

Apr. 23-24—Aero-Engines Asia Pacific, Hong Kong, <https://events.aviationweek.com/en/home.html>

May 6-8—AOC Europe, Association of Old Crows, Rome, Italy, <https://www.aoceurope.org/>

May 13-14—Aviation Week's Defense Conference, Washington, DC, <https://events.aviationweek.com/en/home.html>

May 14-15—Baltics & Eastern European Region, Prague, Czech Republic, <https://events.aviationweek.com/en/home.html>

May 18-21—GEOINT Symposium, USGIF, America's Center Convention Complex, St. Louis, MO, <https://usgif.org/geo-int-symposium-2025-1/>

June 3-4—Space Tech Expo USA, Informa, Long Beach, CA, <https://www.spacetechexpo.com/>

June 16-18—Milsatcom USA, SAE Media Group, Arlington, VA, <https://www.smgconferences.com/defence/northamerica/conference/MilSatCom-USA>

June 16-22—Paris Air Show, GIFAS, Le Bourget, France, <https://www.siae.fr/en/>

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