

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

September 9, 2020

Daily Briefs

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CHINA launched submeter resolution Gaofen 11 02 remote sensing satellite from Taiyuan Satellite Launch Center aboard a Long March 4B rocket on Sept. 7 at 1:57 p.m. Beijing time, Xinhua reports.

BELL has \$272.2m U.S. Navy contract for eight UH-1Y and four AH-1Z helicopters for the Czech Republic.

LOCKHEED MARTIN has \$12.5m U.S. Navy contract for field engineering services for Aegis-equipped guided missile cruisers and destroyers, allied Aegis-equipped ships and Coast Guard Aegis-configured ships.

NORTHROP GRUMMAN has \$33.4m U.S. Air Force contract for Minuteman III general sustainment.

FRENCH NAVY on Sept. 4 officially retired the Westland Lynx Anti-Submarine-Warfare Helicopter from service after 41 years.



PROGRAMS

Civilian Internet-Of-Things Comes To Warfare, But Whither GMTI?

STEVE TRIMBLE, steve.trimble@aviationweek.com

Congress approved with reservations the U.S. Air Force's controversial proposal to scrap the E-8C J-Stars recapitalization program in 2018 and divert about half the \$6 billion budget to the Advanced Battle Management System.

It wasn't clear at the time exactly how the ABMS would replace the E-8C's on-board battle management and command-and-control suite and ground moving target indicator (GMTI) radar, but it would have been hard to imagine that two years later that fateful decision would lead to a joint demonstration in which an Army M109 self-propelled howitzer gunned down a surrogate cruise missile target with a \$2 million high-velocity projectile.

But that seemingly improbable scenario is exactly what happened between Aug. 31 and Sept. 3 during the second ABMS "on-ramp" event.

In all, 70 companies, 65 military organizations and 33 platforms assembled to demonstrate a "dizzying array" of technologies attached to the ever-expanding ABMS concept, said Will Roper, assistant secretary of the Air Force for acquisition, technology and logistics.

Indeed, the proliferating mission of the ABMS program has prompted Roper to reconsider the program's rather limiting title. Most military programs are about delivering a new capability, usually by means of a new, specific weapon system, whether it's an aircraft, ship or tank. The aim of ABMS is now to invent the military version of the civilian world's Internet of Things, which the online Merriam-Webster dictionary defines as a "networking capability that allows information to be sent to and received from objects and devices using the Internet."

DEBRIEF, P. 2

FUNDING & POLICY

U.S. Senators Urge New START Treaty Extension

LEE HUDSON, lee.hudson@aviationweek.com

A bipartisan group of U.S. senators is urging President Donald Trump to extend the New START arms control treaty with Russia for another five years before the agreement expires in February.

Transparency between the U.S. and Russia on nuclear force structures is decreasing and could potentially increase crises similar to those during the Cold War like the Cuban Missile Crisis, Senators Dianne Feinstein (D-Calif.), Rand Paul (R-Ky.), Chris Van Hollen (D-Md.) and Susan Collins (R-Maine) say in a Sept. 8 letter.

"Losing New START's extensive and effective verification regime would create greater uncertainties about Russia's current and future nuclear plans, intentions, and capabilities," the letter reads.

Extending the current treaty until at least 2026 would allow the Pentagon to make informed decisions as the U.S. modernizes its nuclear arsenal. The Defense Department has plans to

START, P. 7

The Week Ahead

This week in Washington the U.S. Congress returns to work after its summer recess. Also this week the Association for Unmanned Vehicle Systems International's virtual Unmanned Systems conference is underway at auvsi.org. Late Thursday at the Pacific Spaceport Complex on Kodiak Island, Alaska, the launch window opens for the first orbital launch attempt for the small satellite launch vehicle developed by Astra. Launch attempts in August were scrubbed, primarily due to weather. Also on Thursday NASA will hold a virtual town hall with its associate administrator for science, Thomas Zuburchen (www.nasa.gov).

DEBRIEF, From P. 1

"Is this really an advanced battle management system or is it simply a system that's meant to make data produced anywhere discoverable anywhere? And it's really the latter," Roper said during an "Ask Me Anything" event on YouTube Aug. 25.

That objective recalls a similar effort by the Israeli Defense Forces. As of late 2019, a Rafael-integrated system called Smart Trigger has been demonstrated at the battalion level. The system allows an Israeli rifleman to designate the location with a target. A click of a button on the soldier's rifle scope transports the location data onto a battlefield network. A processor analyses the target data and the assets available, then automatically selects the most appropriate weapon to hit the target within the rules of engagement. The entire "kill chain" is completed within a few seconds.

Israel's needs are relatively simple compared to the U.S. Defense Department. Rafael displays the Smart Trigger concept in the context of a counter-terrorism operation against an insurgent-occupied village. The Pentagon's challenge is to translate that same capability to the realm of a conflict between great powers, with a battlefield stretching thousands of miles and an enemy stocked with weapons of equal or greater sophistication.

So a rebranding is coming for the ABMS program. A prime opportunity to roll out a new name would be at the annual Air,

Sea, Cyber virtual convention, which the Air Force Association will host from Sept. 14-16. But it's possible Roper will need weeks or months to complete the renaming.

The implications of Roper's decision are not small. As originally conceived, the ABMS program touched primarily on the Air Force's intelligence, surveillance and reconnaissance community. The new concept is meant to touch each of the services in every domain, involving scores of potential new product lines ranging from cloud-based data services to air-borne networks to attritable unmanned aircraft systems.

But the Air Force still needs to convince Congress. Both defense oversight committees in the House of Representatives voted to reduce spending on ABMS in the fiscal 2021 budget. The Senate Armed Services Committee commended the Air Force for taking the lead through ABMS within the broader Joint All-Domain Command and Control program, but the members still have a question: How will the re-branded ABMS provide the GMTI capability the Air Force is losing with the cancellation of the E-8C replacement?

The Air Force's next ABMS on-ramp event in four months isn't likely to directly answer the question. The next event will focus on demonstrating new capabilities for U.S. Space Command. By then, the "ABMS on-ramp" itself may have a new name, but still the same questions.

FUNDING & POLICY

UK Defense Chief Hints Review May OK Future Combat Air System

TONY OSBORNE, tony.osborne@aviationweek.com

LONDON—British Defense Secretary Ben Wallace has hinted that the UK's future combat air system initiative, Tempest, could be one of the winners in the government's Integrated Review of defense and foreign policy.

Writing in the Times newspaper on Sept. 6, Wallace said the UK needed products that could be exported to help the country afford the equipment the UK requires for its armed forces. He also cited the UK's aerospace industry as being at the forefront of those efforts.

"Our aerospace industry isn't just a domestic concern," Wallace wrote, noting that aerospace exports amount to £34 billion (\$50.1 billion).

The UK's Tempest already has secured Italy and Sweden as partners, with Saab expected to make investments in an FCAS technology center worth £50 million.

"The defense and security sector is a breeding ground for science, invention and world-beating technology, as the bedrock

of hundreds of thousands of jobs in the UK," Wallace wrote.

While the review will re-examine the UK's foreign policy and defense operations, Wallace says it will also "recognize the importance of research, skills and the aerospace industry. Without them, our forces could risk losing the battle-winning advantage we will need in this evermore insecure and anxious world."

Wallace said he recognized a need to reform and modernize the country's armed forces to meet new threats.

He said the UK had a "sentimental attachment" to a static, armored-centric force that was anchored in Europe, possibly hinting at reports that the UK may do away with its fleet of Main Battle Tanks and instead focus on light armored and airborne capabilities.

Reports also have suggested the UK may not buy its full complement of 138 Lockheed Martin F-35s, and potentially buy as few as 70 airframes over the program's life.

"If we are to truly play our role as 'Global Britain,' we must be more capable in new domains, enabling us to be active in more theaters," Wallace wrote.

Wallace also confirmed that the government would publish a Defense Industrial Strategy alongside the Integrated Review, which is expected in November.

PROGRAMS

India Demonstrates Scramjet-Powered Vehicle At Mach 6

STEVE TRIMBLE, steve.trimble@aviationweek.com

India's defense research organization demonstrated an indigenous, scramjet-powered air vehicle on Sept. 7 from an island launch complex off the east Indian state of Odisha.

During a 20-sec., scramjet-powered flight, the Hypersonic Technology Demonstration Vehicle (HSTDV) reached a maximum speed of Mach 6, the Defense Research and Development Organization (DRDO) said.

The HSTDV's launch vehicle was a single-stage Agni-I rocket, which lifted the air-breathing vehicle to an altitude of 30-km., DRDO said. The nose fairing containing the HSDTV jettisoned at a "hypersonic Mach number," DRDO added, which was likely around Mach 5.

Once separated from the booster, the air intake of the HSTDV opened. A critical objective of the flight test was to demonstrate fuel injection and auto ignition of the scramjet at a hypersonic speed, which was "performed in a text book manner," DRDO said.

Following the first test of the HSTDV in June 2019, the second flight demonstration marked a "giant leap in indigenous defense technologies," DRDO said.

"This is an important milestone in our quest towards achieving self-reliance," Indian Vice President Shri Venkaiah Naidu said in a statement posted on Twitter.

The flight test follows more than 15 years of development of hypersonic technology in India. A 2007 research paper described another goal of the HSTDV program, which is to demonstrate an air-breathing propulsion system at hypersonic speed with a kerosene fuel.

"This testing paves the way for many more critical technologies, materials and hypersonic vehicle development," said G. Satheesh Reddy, DRDO chairman, in a video posted on Instagram. "This puts India in a select club of nations who have demonstrated this technology."

The U.S. military plans to demonstrate Lockheed Martin- and Raytheon-designed versions of the scramjet-powered Hypersonic Air-breathing Weapon Concept by the end of the year. In 2013, the Boeing X-51 waverider vehicle demonstrated continuous scramjet propulsion for 210 sec. during a hypersonic flight test.

Meanwhile, Russia plans to continue state trials of the ship-launched Zircon missile later this year and in 2021. In 2018, China performed a flight test of the latest known flight test of the scramjet-powered StarrySky-2.

PROGRAMS

China's Reusable Spacecraft Lands After Two Days In Orbit

STEVE TRIMBLE, steve.trimble@aviationweek.com

China's first reusable spacecraft landed back on Earth on Sept. 6 after spending two days in orbit, state media announced.

A brief statement by the Xinhua News agency confirmed that the spacecraft—launched on Sept. 4 from the Jiuquan Satellite Launch Center in northwest China—had returned successfully, but offered no further details on the landing site or the mission.

"The complete success of this experiment marks an important breakthrough in my country's technology research on reusable spacecraft, which will provide a more convenient and cheap way to and from the peaceful use of space," Xinhua reported.

The mission adds China to an exclusive club of countries that have landed an orbital, reusable spacecraft. Other examples include the NASA space shuttle and the U.S. Air Force's unmanned X-37B.

The former Soviet Union's Buran space shuttle completed one landing after an unmanned mission to orbit before the project was canceled. Finally, SpaceX has reflown Dragon cargo capsules to the International Space Station since 2017 and plans to do likewise for Crew Dragon missions beginning next year.

The two-day mission of the Chinese spacecraft, which was manufactured by state-owned Casc, fell far short of the length of the debut mission of the X-37B. The U.S. Air Force landed the first X-37B on Dec. 3, 2010, after a 225-day mission.

China has been working on a reusable spacecraft for at least 15 years. The first glimpse of the program came in 2007, when photos appeared online showing the Shenlong spacecraft attached to the belly of a Xian H-6 bomber.

In 2018, China's Casic displayed a similar-looking, reusable space shuttle at the Zhuhai Airshow. Instead of a launch by a Long March 2F rocket, however, Casic's Tengyun project called for development of a space shuttle and a hypersonic mothership with an air-breathing propulsion system as the launcher.

FUNDING & POLICY

Specter Of No-Deal Brexit Worries UK Aerospace Again

TONY OSBORNE, tony.osborne@aviationweek.com

LONDON—UK aerospace and trade association ADS is again warning of the dangers of a no-deal Brexit after it emerged that the British government plans to renege on elements of the Withdrawal Agreement it previously struck with the EU.

"The economic impact of the pandemic makes the cost of failure in negotiations especially severe," ADS chief executive Paul Everitt said. His comments came after media reports that said the British could tear up elements of the agreement, particularly those relating to trade in Northern Ireland—the only part of the UK that shares a land border with an EU country, the Republic of Ireland.

Northern Ireland Secretary Brandon Lewis told the House of Commons on Sept. 8 that what the government was planning would "break international law in a very specific and limited way."

Reneging on such an agreement is seen by many as a nuclear option and could result in UK-EU trade talks collapsing. That would leave the UK without a trade deal with its largest trading partner, in turn damaging an increasingly fragile British aerospace and defense industry and its supplier base, which already have been ravaged by COVID-19. Furthermore, undermining an

international accord likely would tarnish the UK's reputation, making it more difficult to broker other trade deals.

"A no-deal outcome to Brexit negotiations is the worst possible result," Everitt said. "Manufacturers in our sectors rely on complex pan-European supply chains, international regulatory arrangements, and access to the EU market as the largest destination for UK aerospace products."

Leaving without a deal with the EU at the end of the year would "bring new costs and delays that harm [the UK's aerospace industry] ability to compete in international markets."

Everitt called on the UK and EU negotiators to take a "pragmatic approach" to delivering a deal.

The UK left the EU in January but remains a part of the EU single market and customs union amid a transition period, which was designed to give the UK time to prepare for changes to travel, trade and regulations that will come with Brexit. The transition period ends on Dec. 31.

The news emerges as the British aviation industry awaits plans from the UK government for a stimulus package like those seen in France and Germany. The British Department for Transport says it is aiming to publish an aviation recovery plan to help the sector over the coming years until 2025.

The plan will look at the growth of the sector, workforce and skills, regional connectivity, consumer issues, health, and innovation, in particular related to climate change and decarbonization.

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Published daily except Saturdays, Sundays and holidays by Aviation Week, 2121 K Street, NW, Suite 210, Washington, DC 20037. (ISSN No. 0193-4597).
Gregory Hamilton President, Aviation Week.

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Vol. 273 • No. 46

AVIATION WEEK
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BUSINESS

Gogo Sells Commercial Aviation Unit To Intelsat In Vertical IFC Deal

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Embattled aircraft connectivity provider Gogo will sell its commercial aviation unit to bankrupt satellite services provider Intelsat for \$400 million in a deal that might help the latter return to a viable business while the former tries to avoid liquidation.

In a late Aug. 31 announcement, Intelsat said the cash deal will combine its high-throughput satellites with Gogo's 2Ku antenna to better position Intelsat in an in-flight connectivity (IFC) market that is expected to grow at double digits in the long term, despite COVID-19.

"The addition of Gogo's commercial aviation business provides compelling strategic value for our stakeholders and makes strong commercial sense," Intelsat CEO Stephen Spengler said.

"Gogo's business is a perfect fit with Intelsat's expansive satellite network and infrastructure due to the breadth of Gogo's technological solutions, global reach and operational excellence."

The U.S. Bankruptcy Court for the Eastern District of Virginia in Richmond approved the deal earlier Aug. 31. Intelsat will fund the purchase through debtor-in-possession financing, which was arranged in bankruptcy court. The company, one of the leading brands for satellite-based communications, filed for bankruptcy May 14 after being unable to keep servicing a long-building debt load and in the face of a need to make new investment to transition spectrum under a federal plan to boost 5G.

The deal was expected after Gogo on Aug. 10 announced it had begun talks to sell its commercial aviation (CA) business, and after Intelsat in recent days filed paperwork in court seeking permission to make an acquisition. The transaction is expected to close before the end of the first quarter of 2021, but remains subject to "customary conditions" and regulator approval. Intelsat said it will operate the CA business as an independent unit led by current president John Wade, and keep it based in Chicago.

When it announced the potential sale on Aug. 10, Gogo CEO and president Oakleigh Thorne said his company was looking to ride the business aviation market as it struggled with commercial aviation's near implosion due to the novel coronavirus. While airliner traffic remains off by at least half or more from 2019 levels, it comes on the heels of a years-long restructuring Gogo had endured as the IFC market already was flagging.

"Following a competitive strategic review process, we're confident this transaction unlocks the full value of the CA business for shareholders," Thorne said Aug. 31. "Combining CA, the leading inflight connectivity provider, with Intelsat, the world's largest global satellite operator, will create the leading vertically integrated IFC business in the world, with the additional resources and scale to support continued growth and innovation as demand for commercial air travel recovers."

Gogo will remain a public company and will use the deal's proceeds to improve its net debt position and continue to invest in growth opportunities such as Gogo 5G. "This transaction creates a stronger and more focused Gogo, with the singular strategic imperative of serving the business aviation market with the best inflight connectivity and entertainment products in the world," Thorne said.

PROGRAMS

Austria Begins Negotiations With Indonesia Over Eurofighter Sale

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Austria has begun negotiating with Indonesia on the possible sale of Vienna's unwanted fleet of Eurofighter combat aircraft.

Austrian defense minister Klaudia Tanner has responded by letter to her Indonesian counterpart, Prabowo Subianto, Austrian media reported Sept. 4, stating that she was "happy to accept [Jakarta's] interest" in purchasing the 15 aircraft.

Subianto had written to Vienna in July, noting Austria's interest in removing the fighter from its inventory.

Air policing

Austria has been looking to offload its Eurofighters, citing the cost of operation of the twin-engine fighters, which were ordered in 2002 as a replacement for its Saab Drakens to serve in the air policing role.

The Austrian government later initiated court proceedings against Airbus in September 2017 to claw back €1.1 billion (\$1.3 billion) in alleged financial damages. The issue came to the fore again earlier this year when court documents—related to the UK Serious Fraud Office, the French Parquet National Financier and the U.S. Department of Justice investigation into Airbus' use of intermediaries to secure aircraft sales—detailed that €55 million had been spent on political grants in Austria.

Tanner said she is committed to withdrawing from the Eurofighter program and intends to be compensated by Airbus

and the Eurofighter consortium.

Austrian media noted that a transfer to Indonesia may face several hurdles, not least securing the approval from all four of the Eurofighter partner nations for such a transfer. Vienna's Eurofighters are Tranche 1 aircraft and so lack the electrical and computing power needed for the retrofit of an active electronically scanned array radar or the integration of air-to-ground weapons like those being introduced onto the Tranche 2 and 3-model aircraft.

Cost cutting

As a cost-cutting exercise, Austria also deleted the electronic warfare systems, and the aircraft are only equipped with short-range infrared air-to-air missiles. Media reports suggested that Austria could either sell the aircraft directly to Jakarta or Airbus could buy the aircraft back from Austria, upgrade them and then deliver them to Indonesia.

Indonesia has expressed interest in Eurofighter before. The type was in the running as a potential replacement for the Indonesian Air Force's Northrop F-5 Tigers and there were proposals for assembly in-country by PT Dirgantara Indonesia, the state-owned aircraft manufacturer.

Austria is looking at how to recapitalize its airspace surveillance capabilities and announced in July it would retire its aging Saab 105 jet trainers without a replacement in 2021. Vienna is awaiting the final decision of the judiciary in the Eurofighter case before any decisions on the future of the country's airspace surveillance can be taken.

PROGRAMS

U.S. Navy MH-60S Helicopters Have Corroded Floorboard Problem

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Over the past year, corroded floorboards on U.S. Navy MH-60S multimission helicopters have interfered with installing auxiliary fuel tanks needed for longer flights.

The Extended Range Fuel Systems (ERFS) fuel tank is mounted on the Seahawk's aft floorboard. The Navy received a new fatigue analysis from the vendor that placed conservative damage limits on the floorboards to comply with crash-load requirements.

"Compounding the problem is that the supply system does not have the aft floorboards in stock, and the estimated deliveries are well into 2021," Helicopter Sea Combat Wing Pacific Maintenance

Officer Cmdr. Rex Puentespina said in a Sept. 8 statement.

Identifying an interim fix, the service developed depot-level repair procedures to the floorboards until the part is available. Last month, Fleet Readiness Center Southwest established an in-service repair on the floorboards and they are undergoing analysis to assess whether the part is a candidate for the fix.

First, personnel will remove corrosion and then determine if enough floorboard material remains to justify the repair. Once the floorboard is cleared for repair, maintenance personnel will apply a corrosion-prevention compound, followed by installing a doubler and shim for ERFS placement.

The service anticipates a repair time of three to four days, but Puentespina said it could take more time because the methods and evaluations are evolving. The Navy has identified 53 floorboards so far that are under consideration for the fix.

OPERATIONS

Norway Begins Testing Drone Traffic Management System

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Avinor Air Navigation Services (ANS) is testing a drone traffic management system at the first two of 18 planned airport towers across Norway.

The unmanned aircraft systems traffic management (UTM) platform provides an operational overview of surrounding airspace and allows two-way communication between controllers and drone operators, according to supplier Frequentis, which announced the project in late August.

Avinor ANS, Norway's state-owned air navigation services provider, has introduced the UTM system at Bodø (BOO) and Kristiansund (KSU) airports.

Frequentis, of Austria, and UK-based UTM platform developer

Altitude Angel are providing the common information services function of the cloud-based system, which includes an operator portal and fleet-management application. Drone flight plans can be automatically created and amended, and flight requests approved or declined. The system also can create temporary or permanent no-fly zones.

"To manage the increasing number of requests from drone operators, we require a digitalized system to replace as much of the manual operations as possible. The ability to implement real-time no-drone zones, provide geo-awareness, flight approvals, and easy access to drone operator contact information will improve safety for both Avinor ANS and all airspace users," Avinor ANS' VP for UTM Axel Knutsen said.

"This phased roll-out of UTM at the first two airports will allow the local drone community to use the applications and provide feedback ahead of a nationwide rollout," Knutsen added.

TECHNOLOGY

Lilium Teams With German Airports On Regional Mobility Study

TONY OSBORNE, tony.osborne@aviationweek.com

German electric aircraft start-up Lilium has partnered up with Dusseldorf and Cologne/Bonn airports to study air mobility networks in the region.

The two airports, among the busiest in Germany, both serve the industrial heartland of North Rhine-Westphalia state. They and Lilium are examining whether electric vertical take-off and landing (eVTOL) aircraft could bolster the region's mobility options.

Munich-based Lilium is developing a fully electric, five-seater aircraft for both intra-city urban and inter-city regional air taxi services, which it is hoping to deliver to the market by 2025.

Lilium's involvement in the study could give it a pivotal role in such a transport network in the future.

"In the federal state with the highest mobility needs, smart ideas for better mobility are always welcome," North Rhine-Westphalia transport minister Hendrik Wüst said.

"We need all modes of transport in order to provide people with a convincingly diverse range of mobility options...we want

digitally networked mobility in North Rhine-Westphalia not only to be researched and developed, but also experienced as soon as possible," Wüst added.

The region has 10 cities, each home to more than 300,000 people, 40 universities and colleges and four international trade fair locations. Combined with the two airports, the region is viewed by Lilium as an "ideal starting point" for the development of networked mobility, including air taxis.

Cities such as Aachen, Bielefeld, Munster and Siegen could be connected to the airports via air taxi, making the journey in around 30 min., Lilium COO Remo Gerber suggested. By comparison, a road journey from Bielefeld to Dusseldorf Airport currently takes up to two hours.

Lilium, one of the best-funded European-based eVTOL developers, already is exploring the infrastructure required to support its eVTOL aircraft operations. In July it revealed ideas for a modular vertiport built using prefabricated facilities.

Aircraft will operate into and out of a touchdown and liftoff area surrounded by a safety zone. They will taxi using electric wheel motors to parking stands where passengers will board and disembark, while the aircraft are checked and batteries recharged.

START, From P. 2

update each leg of the triad to include the Columbia-class ballistic missile submarine, B-21 Raider, Ground Based Strategic Deterrent, B61-12 guided bomb and Long-Range Standoff cruise missile.

The authors agree with the Trump administration that the current New START treaty should be improved. For example, by eventually

including China in nuclear arms control talks and agreements.

"At this juncture it is unlikely significant changes to the New START treaty could be successfully negotiated, nor a new treaty ratified in the Senate, prior to the lapse of the current agreement" in February, the letter reads.

Contracts

Selected U.S. Military Contracts For The Week Of August 31 - September 4, 2020

Aug. 31

U.S. ARMY

Lockheed Martin Missile Fire Controls, Grand Prairie, Texas, has been awarded a \$183,182,541 modification (P00016) to contract W31P4Q1-9-C-0101 for M142 High Mobility Artillery Rocket System launchers. U.S. Army Contracting Command, Redstone Arsenal, Alabama, is the contracting activity.

U.S. AIR FORCE

Quantico Tactical, Aberdeen, North Carolina (FA8629-20-D-5059); and Rapid Response Defense Systems Inc., Irvine, California (FA8629-20-D-5060), have collectively been awarded a \$950,000,000, 10-year, multiple-award, indefinite-delivery/indefinite-quantity contract to provide equipment, training and product support to about 3,500 Air Force Special Warfare operators, as well as authorized users in support of Special Warfare mission requirements. Air Force Life Cycle Management Center, Wright-Patterson AFB, Ohio, is the contracting activity.

Sept. 1

U.S. NAVY

Parker Hannifin, Irvine, California, has been awarded \$24,971,231 for an indefinite-delivery requirements contract for repair, replacement and program support covering 13 components, including utility hydraulic systems and landing gear wheel assembly. The contract includes a five-year base period with no options. Naval Supply Systems Command Weapon Systems Support, Philadelphia, is the contracting activity (N00383-20-D-W901).

U.S. SPECIAL OPERATIONS COMMAND

Oak Grove Technologies LLC, Raleigh, North Carolina, received a \$10,527,760 ceiling increase modification to fixed-firm price contract H92239-20-C-0002 for role-player training support to the Army component of U.S. Special Operations Command (USSOCOM). This modification raises the contract ceiling to \$24,803,704 and extends the contract by six months for a total performance period of one year. USSOCOM, Tampa, Florida, is the contracting activity. (Awarded Aug. 31, 2020.)

Sept. 2

U.S. AIR FORCE

Northrop Grumman System Corp., Salt Lake City, has been awarded a \$135,000,000 indefinite-delivery/indefinite-quantity contract for remanufacturing efforts in support of the air launch cruise missile inertial navigation element. Work encompasses the disassembly, cleaning, inspection, maintenance, reassembly, testing and finishing actions as required to return the end item to a like-new condi-

tion. Air Force Nuclear Weapons Center, Tinker AFB, Oklahoma, is the contracting activity (FA8128-20-D-0003).

U.S. DEFENSE LOGISTICS AGENCY

Brighton Cromwell LLC, Randolph, New Jersey, has been awarded a maximum \$48,361,061 firm-fixed-price, indefinite-quantity contract for service kits used on vehicles including High Mobility Multipurpose Wheeled vehicles, family of Medium Tactical Vehicles and multiple variants of Mine Resistant Ambush Protected vehicles. The contracting activity is the Defense Logistics Agency Land and Maritime, Columbus, Ohio (SPE7LX-20-D-0209).

Sept. 3

U.S. AIR FORCE

Engineering and Software System Solutions, San Diego, (FA8203-18-D-0003; P00005); and University of Dayton Research Institute, Dayton, Ohio (FA8203-18-D-0004; P00004), have been collectively awarded a ceiling \$277,000,000 indefinite-delivery/indefinite-quantity modification to previously awarded contracts for landing gear engineering services. The purpose of this modification is to increase the total contract estimate for the Atlas 3 multiple award contract with no change to the scope of the contracts. The increase will allow continued execution of work to be performed to support landing gear engineering services, which ensure mission safety, improve system life cycle costs, improve operational capability and performance, improve sustainment including maintainability and support and improve environmental safety and friendliness. Air Force Sustainment Center, Hill AFB, Utah, is the contracting activity.

U.S. ARMY

Longbow Limited, Orlando, Florida, has been awarded a \$164,606,754 firm-fixed-price contract for AH-64E helicopter mast mounted assembly/radar electronics units. U.S. Army Contracting Command, Redstone Arsenal, Alabama, is the contracting activity (W58RGZ-20-F-0464).

Sept. 4

U.S. NAVY

Raytheon Technologies Corp., Pratt and Whitney Military Engines, East Hartford, Connecticut, has been awarded a \$579,837,316 indefinite-delivery/indefinite-quantity contract, which includes \$146,269,941 firm-fixed-price undefinitized line items and \$433,567,375 firm-fixed-price, fixed-price-incentive-firm-target, cost-plus-fixed-fee definitized line items. This contract provides unit and depot level F-135 propulsion system spare parts, spare engines and modules in support of the F-135 propulsion initial spares requirements for the Air Force, Navy, Marine Corps, non-Department of Defense participants and Foreign Military Sales customers. The Naval Air Systems Command, Patuxent River, Maryland, is the contracting activity (N00019-20-D-0013).