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AN ONI COMPANY

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SAAB Opens New Facility in Indiana to Support T-7A Aircraft Production

Saab announced in May 2019 that West Lafayette would be the location for its expansion in the U.S. aerospace sector and construction of the facility began in 2020. It has been completed on-time and on-budget and will start by being the site for domestic production of Saab's aft airframe section for the T-7A Red Hawk trainer program. It will also support research and development in autonomy, artificial intelligence and advanced manufacturing.

"This opening marks a historic moment for Saab. This high-tech facility and its growing workforce are a result of Saab's continued investment in the United States. Just as the T-7A Red Hawk will train the next generation of fighter and bomber pilots, we look forward to welcoming and training the next generation of aerospace engineers and other skilled employees," said President and Group CEO of Saab Micael Johansson. "As a trusted local partner, Saab is committed to investing in both our West Lafayette community and the research and development for a more sustainable world to keep people and society safe."

"Indiana is a natural home for Saab, and it's exciting to be here today to celebrate the opening of this fantastic facility," said Indiana Governor Eric J. Holcomb. "Saab is putting Hoosiers to work in aerospace and defense, and that's something we can all be proud of. I'm thrilled that Indiana and Purdue University are helping to redefine the future of aerospace with the T-7A Red Hawk program in West Lafayette," said Eric J. Holcomb, Governor of Indiana.

By 2027, Saab expects to hire up to 300 employees for this facility, including assemblers, engineers, system administrators, and more. The West Lafayette facility will also work collaboratively with Purdue on research and development in sensor systems, artificial intelligence and more. Saab plans to export products and technology from this facility. <u>Read more on this story</u> *Source: Colton Jones for Defense Blog, Images Boeing and SAAB*



Surcharge Totals Aug 2021- Jan 2022



| | Aug | Sept | Oct | Nov | Dec | Jan |
|--------------|---------|---------|---------|--------|--------|--------|
| 15-5 | 0.8233 | 0.8464 | 0.8336 | 0.8635 | * | * |
| 15-7 | 1.2887 | 1.3212 | 1.3395 | 1.3402 | * | * |
| 17-4 | 0.8133 | 0.8344 | 0.8208 | 0.8550 | * | * |
| 17-7 | 0.9949 | 1.0341 | 1.0288 | 1.0561 | * | * |
| 201 | 0.8189 | 0.8613 | 0.8645 | 0.9003 | * | * |
| 301 7.0% | 0.9838 | 1.0221 | 1.0164 | 1.0453 | * | * |
| 302/304/304L | 1.0699 | 1.1129 | 1.1092 | 1.1379 | * | * |
| 304-8.5% | 1.1068 | 1.1521 | 1.1494 | 1.1766 | * | * |
| 305 | 1.3709 | 1.4330 | 1.4365 | 1.4552 | * | * |
| 309 | 1.4139 | 1.4760 | 1.4803 | 1.5091 | * | * |
| 310 | 1.9547 | 2.0500 | 2.0673 | 2.0816 | * | * |
| 316/316L | 1.5713 | 1.6204 | 1.6454 | 1.6417 | * | * |
| 316LS/316LVM | 2.0900 | 2.1900 | 2.2200 | * | * | * |
| 317L | 1.8590 | 1.9111 | 1.9512 | 1.9397 | * | * |
| 321 | 1.1324 | 1.1812 | 1.1793 | 1.2028 | * | * |
| 347 | 1.4396 | 1.4874 | 1.4855 | 1.5085 | * | * |
| 409/409 Mod | 0.3918 | 0.3977 | 0.3784 | 0.4098 | * | * |
| 410/410S | 0.4001 | 0.4051 | 0.3858 | 0.4189 | * | * |
| 430 | 0.4553 | 0.4603 | 0.4420 | 0.4881 | * | * |
| 434 | 0.5974 | 0.6011 | 0.5923 | 0.6305 | * | * |
| 439 | 0.4692 | 0.4756 | 0.4577 | 0.5074 | * | * |
| 440A | 0.4553 | 0.4603 | 0.4420 | 0.4881 | * | * |
| 2205 | 1.4921 | 1.5199 | 1.5531 | 1.5701 | * | * |
| 263 | 7.7472 | 7.8493 | 8.3874 | 9.2311 | 9.6255 | 9.7552 |
| 276 | 6.4275 | 7.1446 | 8.2827 | 8.6095 | 8.8924 | 9.0548 |
| A286 | 2.0153 | 2.1878 | 2.3119 | 2.4466 | 2.5086 | 2.5718 |
| 330 | 2.5474 | 2.7587 | 2.8333 | 3.0213 | 3.0857 | 3.1728 |
| 400 | 4.8974 | 5.4125 | 5.4418 | 5.7343 | 5.8405 | 5.9165 |
| Custom 455 | 1.1000 | 1.1500 | 1.1500 | * | * | * |
| Custom 465 | 1.4700 | 1.5400 | 1.5400 | * | * | * |
| 600 | 4.9049 | 5.3459 | 5.5073 | 5.8693 | 6.0048 | 6.1414 |
| 601 | 4.2486 | 4.6100 | 4.7587 | 5.0591 | 5.1704 | 5.3122 |
| 617 | 7.0459 | 7.4162 | 8.1455 | 8.7649 | 9.0879 | 9.2412 |
| 625 | 6.8007 | 7.3522 | 8.1255 | 8.4406 | 8.6431 | 8.807 |
| Custom 630 | 0.9600 | 1.0100 | 1.0000 | * | * | * |
| 718 | 6.4511 | 6.8313 | 7.2706 | 7.5349 | 7.6654 | 7.7940 |
| X-750 | 5.4597 | 5.8895 | 6.1457 | 6.4914 | 6.6284 | 6.7665 |
| 825 | 3.2836 | 3.5974 | 3.8829 | 4.0880 | 4.1968 | 4.3091 |
| нх | 4.4236 | 4.8922 | 5.5163 | 5.7905 | 5.9763 | 6.1173 |
| 188 | 11.7800 | 12.6600 | 12.8700 | * | * | * |
| CCM | 17.5200 | 17.5500 | 17.7500 | * | * | * |
| L-605 | 13.4200 | 14.3700 | 14.5800 | * | * | * |

*Surcharge currently not available



Ready Or Not, Here Comes Xpeng's Flying Car—With Wheels, Wings, and a Parachute

Chinese electric-vehicle maker Xpeng has joined the ranks of futurists betting on a market for flying cars, unveiling a design for an electric vehicle with wheels and wings during the company's Tech Day on Sunday.

Xpeng says the unnamed flying car—the X-wing? the Xpeng Locust?—will begin mass production by 2024 and

retail for around \$157,000. But with little regulatory framework in place to manage autos in the air and no roads wide enough to accommodate the vehicle's extendable propeller blades, Xpeng's 2024 deadline looks a little tight.

Remarkably, Xpeng already has numerous competitors in the unmanned aerial travel space, including both startups and legacy airlines. Boeing invested in a "flying taxi" service in 2019, developed by Porsche. Closer to home, Guangzhou-based EHang raised \$40 million in a Nasdaq IPO in 2019 and, as of last year, had sold 70 units of its own "autonomous aerial vehicles."

EHang markets its "autonomous aerial vehicles" as pilotless air taxis, good for ferrying high-flying executives to and from airports, or even as emergency service vehicles, for rescuing people trapped in floods or on other hard-to-reach terrain. The usually single-passenger pods are functionally more like personal electric helicopters than bona fide flying cars.

Xpeng's own flight of fancy, however, is designed to take to the roads as well as the air. Flight on the theoretical marque is powered by twin propellers set on foldable arms that, when primed for flight, extend from either side of the car's body, giving it a wingspan of around 12 meters. The wings retract to a compartment inside the car when it is in car mode. The newfangled flying machine is designed by HT Aero, an "urban air mobility" company backed by Xpeng, which raised \$500 million in Series A funding last week. The Xpeng affiliate has so far devised six generations of flying passenger vehicles. It has sold zero units.

But whether Xpeng's flying car ever really gets off the ground is a little besides the point, says Tu Le, founder and CEO of auto industry consultancy, Sino Auto Insights. The real purpose of announcing a flying car is to define what the future of "mobility" looks like.

"Xpeng clearly wants to be known for pushing the envelope and being the most technologically advanced 'mobility' company," Le says. Producing a flying car, "even if only sold in limited quantities, is still a net positive for them at this point in time." <u>Read more on this story here</u>. *Source: Eamon Barrett for Fortune, Photo: Xpeng*

GE Backs "Near-Term" Jet Output Plans at Airbus and Boeing-CEO

Jet engine maker General Electric Co is aligned with "near-term" plans of both Airbus and Boeing to ramp up production, its Chief Executive Larry Culp said on Tuesday. Culp, however, declined to comment on Airbus' plan to go beyond an immediate ramp-up and almost double production of its best-selling A320 jets by 2025. This plan has drawn criticism from engine makers and aircraft leasing companies about the risk of overproduction during a fragile airline industry recovery from the pandemic.

"We will talk about those conversations with them directly behind closed doors," Culp told Reuters in an interview. "There is no need to have that conversation publicly at this time." In May, Airbus announced a firm target of increasing A320-family production from 40 planes a month to 64 by the second quarter of 2023 and said it was asking suppliers to enable a "scenario" of 70 a month by the first quarter of 2024. The plane maker also said it was investigating rates as high as 75 by 2025.

Industry sources say suppliers have agreed to support the firm goal of 64 a month but have yet to reach agreement on supporting the higher rates, fearing that demand would fail to meet expectations. Earlier, Raytheon Technologies Chief Executive Greg Hayes said he was skeptical whether the market would support Airbus rates as high as 75 a month. Raytheon Technologies owns Pratt & Whitney which competes with GE-Safran venture CFM to supply jet engines for the best-selling Airbus A320 family. *Source: Rajesh Kumar Singh for Reuters*

Green Energy for New York: Siemens Energy Will Connect State's First Utility -Scale Offshore Wind Farm to the Grid

Siemens Energy has been awarded its first offshore grid connection project in the United States. In a consortium with Aker Solutions, the company will supply the high-voltage direct current (HVDC) transmission system that will bring green energy from Sunrise Wind, New York's first utility-scale offshore wind project, to the mainland. It's the first offshore wind project in the U.S. to use HVDC technology. The approximately 924 megawatts wind farm is developed by a joint venture between Danish clean energy company Ørsted and US-based energy provider Eversource. Located about 50 kilometers (30 miles) east of Long Island, Sunrise Wind will supply green energy to nearly 600,000 homes in New York State and support the state's goal to meet its 100 percent clean electricity by 2040 goal. *Source: Business Wire*



Kratos Awarded New U.S. Air Force Program of \$17.6 Million to Develop and Test Jet UAS for Manned-Unmanned Teaming



Kratos Defense & Security Solutions, Inc., a leading National Security Solutions provider, announced today that Kratos Unmanned Systems Division (KUSD) has been awarded a \$17,677,612, 12-month cost plus fixed-fee contract to design and develop an Off Board Sensing Station (OBSS) Unmanned Aerial System (UAS) in support of Air Force Research Laboratory's Autonomous Collaborative Platforms (ACP) technology maturation portfolio. Work under the program award will be performed at secure Kratos engineering and technology facilities located in Texas, California, and Oklahoma over the next 12 months.

The OBSS program includes an optional subsequent 15-month Manufacture and Demonstration period. With the base and option awards, total contract to Kratos would be \$49M.

Steve Fendley, President of Kratos Unmanned Systems Division, said, "Our industry leading high performance per cost family of tactical and target unmanned aerial systems continues to grow, further enabling our economies of scale across the life cycle of our entire unmanned systems portfolio. Kratos' range of UAS and quantities (mass to the fight) will help to maintain American dominance in the air by bending the cost curve to enable the U.S. to acquire and employ large numbers of aircraft that challenge our adversary and force them to recalculate their options. Our team is extremely proud to be selected to design and develop the OBSS platform."

The OBSS vehicle is intended to be an affordable, highly modular conventional takeoff and landing jet-powered UAS. The Kratos OBSS solution incorporates innovative manufacturing techniques that enhance its ability to not only provide significant performance for sensor extension missions for manned jet aircraft, but also will accommodate significant offensive weapons volume to also act as a weapons bay extension for manned aircraft. OBSS is a new addition to the Kratos family of low-cost Autonomous Collaborative Platforms (ACP) designed to employ weapons, sensors, and other effects that generate affordable, force multiplier combat power with a forward force posture. Kratos' industry leading digital engineering (DE) framework for high performance jet UAS will be used to develop, mature, leverage, and integrate system-ready technologies and supplement its DE framework with prudent early ground and flight demonstrations and experiments.

Eric DeMarco, President and CEO of Kratos Defense and Security Solutions, said, "Kratos is committed to disrupting the government contractor national security market by providing rapid, agile, affordable, and relevant systems to our defense customers. The recent selection of Kratos to develop next-generation OBSS aircraft for our partner, the U.S. Air Force, re-affirms our approach to treat affordability as a technology. Kratos Ghost Works, which played a significant role in the design of our OBSS system, has once again demonstrated that our real, proven, digital engineering process, methodology, assets, and infrastructure are optimized for affordable system development. At Kratos, we develop products, not just PowerPoint presentations, and we will continue to pursue affordable, innovative solutions to support our USAF customer in the current challenging budgetary environment." <u>Read more on this story</u> *Source: Yahoo Finance, Photo: USAF*

Space Startups Selected for Accelerator Program in New Mexico

A new accelerator program funded by the Air Force Research Laboratory and the U.S. Space Force announced Oct. 27 it has selected six U.S. and international startups for its first cohort.

The program called "Soft Landing" was created to attract space industry startups to New Mexico, where AFRL is based. The lab has been actively supporting the space industry, sponsoring the Hyperspace and Catalyst Campus accelerator programs.

Gabe Mounce, deputy director of SpaceWERX, said these accelerators help businesses figure out how they might work with the federal government. "And we are making it easier for the Space Force and other government partners to learn about emerging technologies," he said.



SpaceWERX is a new Space Force organization that works with small businesses and startups.

The Soft Landing program is run by Q Station, a collaborative workspace in Albuquerque, New Mexico, that is supported by AFRL and the Space Force. The companies will be given free workspace for a year; a paid university intern; and business assistance in government contracting, public relations, marketing and finance.

The startups selected:

Blue Eye Soft, based in South Carolina, develops artificial intelligence models that predict satellite anomalies due to space weather events. Equatorial Space Systems, based in Singapore, develops hybrid-engine rockets and space launch services.
Leaf Space, based in Delaware, provides ground segment solutions as a service. Neutron Star Systems, based in Germany, is developing an electric propulsion system for space vehicles. Rogue Space Systems, based in New Hampshire, is developing a smart spacecraft for in-space services. SPiN Tech, based in Albuquerque, makes a universal adapter for incompatible satellite components to plug-and-play. Source: Space News, Photo: AFRL

Electric Aircraft: GKN to Lead Electric Fan Thruster Development

GKN Aerospace and KTH have signed a partnership to jointly develop fan technology for electric aircraft. Called EleFanT, the project kicked-off in July and is supported by the Swedish Energy Agency. The project underpins GKN Aerospace's sustainability goals and will be delivered from its brand-new Global Technology Centre in Trollhättan, Sweden.

Under the project, which spans over 1.5 years, GKN Aerospace and KTH (the Swedish Royal Institute of Technology) will together develop fan technology for smaller regional aircraft. The project will study aerodynamic design, performance, noise and manufacturing technology for a ducted fan powered by electricity, either from batteries, hydrogen fuel cells or even more conventional hybrid propulsion solutions.

The proposed propulsion solution with a ducted fan instead of a conventional propeller offers significant advantages in three main areas: safety, noise level and engine installation. By rapidly demonstrating fan technology for electric aviation, the EleFanT project will accelerate the pace of electric aviation development and position the participants for international aero-engine and aircraft development projects. Europe's aviation industry has set clear targets and adopted an ambitious roadmap to achieve net zero emissions by 2050. Parallel development of different types of propulsion solutions for aircraft engines is one of the important steps to take.

GKN Aerospace in Trollhättan, Sweden with its innovative aero-engine solutions and KTH with its experience in technology development can make a vital contribution to this technology step.

Henrik Runnemalm, Vice President GKN Aerospace Global Technology Centre in Trollhättan, Sweden, commented: "We are very positive about this initiative, which helps us to become part of the solution to aviation's climate challenge. We will benefit greatly from GKN Aerospace and KTH's long experience in turbomachines, lightweight construction and advanced manufacturing technology. From an electrification and sustainability perspective the project is strongly aligned with our recently announced H2GEAR and H2JET programs." *Source: GKN Aerospace*