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THE UPM MARKET INFORMER



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Airbus on Track to Deliver 700 Aircraft in 2022

Fifty years ago today, the first Airbus aircraft, the A300B, the world's first twin-engined widebody commercial aircraft, took off on its maiden flight. Today Airbus CEO Guillaume Faury presented the company's results for the first nine months of 2022, revealing Airbus has a backlog of 7,294 commercial aircraft. On the financial front, the Airbus group earned consolidated revenue of €38.1 billion (\$37.8 billion), an increase of 8% year-on-year. Adjusted earnings before interest and tax (EBIT) for the first nine months amounted to €3.48 billion (\$3.45 billion), a 3% gain over 2021. Airbus (the commercial aircraft division) contributed €26.65 billion (\$26.47 billion) in revenue and an adjusted EBIT of €2.87 billion (\$2.85 billion). Commercial aircraft delivered 70% of the combined Airbus group revenue and 83% of the EBIT.

Airbus reported that net orders for 9m 2022 totaled 647 aircraft, an impressive change from the 133 ordered in the same period last year. The production backlog reached 7,294 at the end of the first nine months of 2022. There were 437 aircraft delivered by the end of September, compared to 424 in 9m 2021. Showing just how vital the single-aisle segment is to Airbus, there were 340 A320-family deliveries, followed by 42 A350s, 34 A220s and 21 A330s. The revenues generated by commercial aircraft activities increased by 8% year-on-year due to 13 more aircraft, a favorable product mix and the strengthening of the US dollar.

Large corporations like Airbus are very wary of making financial predictions to the market, with so many punished by the uncertainties of the pandemic. However, Airbus reaffirmed its current market guidance, which is: "The company maintains its targets to achieve around 700 commercial aircraft deliveries and around €5.5 billion of EBIT Adjusted in 2022." A bit of mental arithmetic highlights that with 437 aircraft delivered by the end of September, Airbus has to get another 263 out the door by December 31st. That means an average delivery rate of 88 aircraft a month for October to December, whereas the average rate from January to September was 48. Faury is well aware of what he is signing off on, commenting: "The commercial aircraft delivery and earnings targets are maintained. Our teams are focused on our key priorities and, in particular, delivering the commercial aircraft ramp-up over the coming months and years."

While that's reassuring, there's nothing about how Airbus will meet the target of 700, nor comment of any doubt on delivering the commitment. Every business sprints to the end of the year finish line, and Faury would know exactly what the plan is, but it will be fascinating to see how the next three months pan out delivery-wise. Airbus did talk about A320 production rates, reaffirming it is progressing towards a monthly rate of 65 aircraft in early 2024 and 75 in 2025. One element is that with the A321 becoming more popular, all A320 family Final Assembly Lines (FAL) are being adapted to be A321 capable. This involves an upgrade to the second A320 FAL in Toulouse. Airbus says that all 321XLRs have flown, and the aircraft's entry into service is expected in Q2 2024. Widebody aircraft have not been forgotten, with Airbus working with its supply chain on production rate increases to meet growing demand as international air travel recovers. At the end of September, Airbus has 420 A350s and 213 A330s in backlog, and with some uncertainty around the launch date of Boeings' 777X, widebody demand might even grow higher. *Source: Michael Doran, Simple Flying, 2022*

Surcharge Totals August 2022 - January 2023



	Aug	Sep	Oct	Nov	Dec	Jan
15-5	0.9428	1.1041	1.1043	0.9821	*	*
15-7	1.4584	1.5035	1.534	1.4687	*	*
17-4	0.9196	1.1187	1.1194	0.9957	*	*
17-7	1.2406	1.2318	1.2299	1.099	*	*
201	1.0305	1.0091	0.9963	0.8327	*	*
301 7.0%	1.2251	1.1991	1.1978	1.0707	*	*
302/304/304L	1.3419	1.3143	1.314	1.1836	*	*
304-8.5%	1.3923	1.3639	1.3639	1.2336	*	*
305	1.7533	1.7188	1.7214	1.5908	*	*
309	1.8087	1.7753	1.7784	1.6354	*	*
310	2.5465	2.5012	2.51	2.3623	*	*
316/316L	1.8431	1.7628	1.7951	1.7299	*	*
316LS/316LVM	2.91	2.83	2.88	2.83	*	*
317L	2.1413	2.0354	2.0847	2.0414	*	*
321	1.4457	1.4109	1.4079	1.2773	*	*
347	1.7358	1.7064	1.7068	1.5805	*	*
409/409 Mod	0.4357	0.4161	0.4058	0.2948	*	*
410/410S	0.4319	0.4166	0.4093	0.2991	*	*
430	0.5031	0.4893	0.4826	0.3565	*	*
434	0.6274	0.5953	0.6004	0.4958	*	*
439	0.544	0.5239	0.5128	0.3775	*	*
440A	0.5031	0.4893	0.4826	0.3565	*	*
2205	1.6409	1.5896	1.6341	1.5655	*	*
263	17.888	16.37	15.0165	11.9584	10.7724	10.9832
276	14.0451	12.4194	11.0588	9.506	9.5601	10.1487
A286	4.9578	4.2697	3.7093	3.0669	3.1578	3.194
330	6.2587	5.2845	4.5889	3.6909	3.8501	3.9296
400	11.42	9.5045	8.2954	6.6443	6.9718	7.1931
Custom 455	1.64	1.61	2.50	1.84	*	*
Custom 465	2.09	2.05	2.96	2.64	*	*
600	12.3716	10.3161	8.9053	7.3446	7.6239	7.8565
601	10.5005	8.8208	7.6205	6.1229	6.3546	6.4998
617	16.148	14.4168	13.0248	10.5673	10.019	10.3713
625	13.8411	12.1373	10.8391	9.6866	9.8369	10.2096
Custom 630	1.42	1.37	1.31	1.26	*	*
718	12.234	10.7918	9.7184	8.6636	8.8356	9.0313
X-750	13.0288	11.0237	9.5815	7.7941	8.0417	8.2187
825	7.8044	6.6992	5.8342	4.9306	5.0611	5.1995
HX	10.2434	8.8909	7.8235	6.7705	6.8404	7.1842
188	23.115	23.0095	22.247	17.6141	14.6262	14.555
CCM	23.83	20.26	21.15	20.97	*	*
L-605	25.0684	25.3164	24.6902	19.4244	15.6932	15.5614

*Surcharge currently not available

Detailed Image of B-52 With New Engines Revealed by Boeing, Highlights Unseen Details



Boeing has shared a rendered image of the B-52 bomber with new engines, bringing out as-yet-unseen details. The eight-engine aircraft is about to undergo an upgrade process, which includes a new turbofan manufactured by Rolls-Royce and an AESA-type radar.

The illustration (above compared to the current B-52H) reveals how the F130 engines will look installed in the new wing mounts. It is possible to notice that they are wider than the TF-33s currently in use.

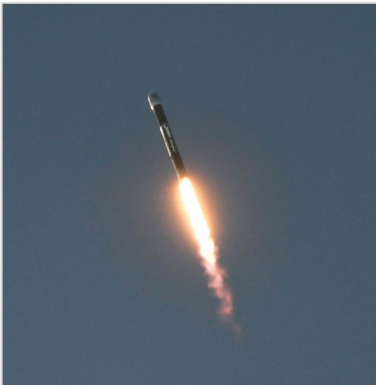
Boeing also showed a new wing gun mount in addition to a nose with fewer antennas and sensors. On the back of the B-52 you can see two large protuberances, which can store new equipment, but whose function was kept secret by the manufacturer.

The US Air Force (USAF) also contracted to install the AN/APG-79 radar, which is used on the F/A-18E/F Super Hornet fighter. Of the AESA (Active Electronically Scanned Array) type, the equipment should significantly improve the range and accuracy of the bomber's missions.

In addition to the two main improvements, the B-52 will also have changes to the cockpit, communication and navigation. Boeing is currently conducting wind tunnel tests to understand the impact of changes to the new nacelles and engines. The amount of changes is so high that the USAF intends to rename the B-52H as the B-52J or B-52K after the update. The Air Force has not revealed how many bombers will be converted to the new standard, although Rolls-Royce has been contracted to supply 608 units of the F130 engine from 2025. A simple division would mean that 76 aircraft could undergo the change of turbofans, however, as there will be a spare amount, it is imagined that the total conversions will be less than that.

Source: Ricardo Meier, Air Data News, 2022.

Rocket Maker Firefly Aerospace Looks to Raise up to \$300 million



FireFly Aerospace, the U.S. rocket builder that reached orbit in space this month, joining the likes of SpaceX and Rocket Lab, is seeking up to \$300 million in a private fundraising round, according to people familiar with the matter. Firefly has yet to specify the valuation it is seeking, the sources said. The space company was valued at more than \$1 billion when private equity firm AE Industrial Partners became its controlling shareholder in March. The Cedar Park, Texas-based company aims to complete the funding round by the end of the year, said the sources, who spoke anonymously because the matter was confidential.

Firefly Chief Executive Officer Bill Weber told Reuters in an interview this month the company was raising funds but did not provide details. A FireFly spokesperson declined to comment when asked about the fundraising, as did a spokesperson for AE Industrial Partners. Weber said in the interview that fresh funding would help the company complete construction of manufacturing facilities for its

Alpha rocket in Cape Canaveral, Florida, and accelerate development of a bigger rocket the company plans to build with Northrop Grumman Corp (NOC.N). Firefly's Alpha rocket reached orbit for the first time on Oct. 1. It is among a handful of U.S. space companies vying to launch small satellites into space.

Firefly is already taking orders of roughly \$15 million per launch for its 95 foot-tall Alpha rocket, offering governments and satellite companies a medium-sized ride to space. SpaceX's bigger Falcon 9 rocket costs \$62 million and Rocket Lab's smaller Electron rocket costs \$7 million. Firefly was rescued from bankruptcy in 2017 by Ukrainian-born entrepreneur Max Polyakov's Noosphere Ventures. U.S. national security concerns forced Noosphere to sell its majority stake in FireFly to AE Industrial Partners, ending a months-long crisis that prevented the company from launching its rocket. Investments in space companies with capital-intensive projects have fallen in the third quarter, as decades-high inflation and rapidly rising interest rates force investors to focus on companies with viable products. Venture capital investments in space companies fell 44% from a year earlier, according to a quarterly report from VC firm Space Capital.

Source: David Carnevali, Reuters, 2022.

Poland Selects GE's CT-7 Engines for AW149 Fleet



The Polish government has selected GE Aerospace's CT7-2E1 turboshaft engine to power its new fleet of Leonardo AW149 helicopters. As part of the recent contract announcement between the Government of Poland and PZL-Swidnik, the Polish company fully owned by Leonardo, Poland will receive 64 CT7-2E1 engines along with spare engines for its 32 AW149 helicopters on order. Aircraft deliveries will start in 2023.

"After evaluating engine alternatives for the AW149 helicopter, we concluded that the CT7-2E1 engines best meet our needs from all aspects, such as performance, maintenance cost, reliability, and commonality with our existing Black Hawk and AW101 helicopters as well as the future Apache helicopters," said Brig Gen Artur Kuptel, head of Poland's Armament Agency.

The CT7-2E1 engine shares many commonalities with the CT7-8E engine that powers the AW101 aircraft for the Polish Navy and T700-701D engines that power the Black Hawk aircraft in service with the Polish Special Forces and National Police. "The T700/CT7 engine's robust track record as a highly reliable, workhorse powerplant is indisputable," said Ron Hutter, vice president of turboshaft engine sales at GE Aerospace. "We are pleased that the Government of Poland has chosen the CT7-2E1 and will provide world-class support for these engines as well as other T700/CT7 engines that are currently operating in or will be delivered to Poland throughout this decade." GE's CT7-2E1 engines power the majority of Leonardo AW149 and AW189 helicopters in service today.

With more than 25,000 engines delivered to more than 130 customers in more than 50 countries to date, the T700/CT7 turboshaft engine family continues to represent a compelling option for proven, reliable power for dozens of applications around the world. The T700/CT7 family has surpassed more than 100 million total flight hours and demonstrated excellent reliability in all operating environments.

The T700/CT7 engine line has become increasingly more powerful and reliable since its inception. Many technological advances have been incorporated into the subsequent growth versions. Current models in the 2,000-3,000 shaft-horsepower range retain the proven features and operating characteristics of earlier versions while delivering enhanced performance.

Source: GE Aerospace, Vertical Magazine, 2022.

UPM Focus: November Tradeshows



United Performance Metals is excited to say that we will be sending representatives to five tradeshows during the month of November! These shows include: MD&M Minneapolis, ACM Workforce CT, Fabtech, Formnext, and Aeromart Toulouse.

The MD&M show in Minneapolis runs from November 2-3, 2022 and offers companies a chance to show off their innovative medical technologies that are helping change the lives of countless patients in need. Companies dealing in 3D printing, robotics, manufacturing equipment, and medtech components will be exhibiting at this show. As featured in last month's Market Informer, UPM proudly deals in the medical technology industry and hopes to make some great connections at MD&M. Visit us at booth #3711.

ACM Workforce-Connecticut presents a unique opportunity for aerospace suppliers like United Performance Metals to meet with other major players in the industry. This show runs only on November 2 but will be a valuable day of networking for some of the best local aerospace manufacturers and suppliers. Visit us in booth #119.

Fabtech 2022 is occurring in Atlanta, GA, November 8 –10, 2022. UPM attends this show annually and is excited to return this year with some fresh faces. Fabtech is a show designed to bring together hundreds of suppliers, manufacturers, metal formers, and fabricators in one place. It is a metal industry spectacle and showcases the latest developments in the world of metal. Visit us in booth #B5650.

UPM will be going international twice in November! First, we're stopping in Germany to attend the Formnext show, and then at the end of the month, we're off to Toulouse to attend Aeromart! Taking place in Frankfurt, Formnext is the premier event for organizations that play in the world of additive manufacturing. UPM's additive division will be out in full force at this show to connect with other members of the additive manufacturing community. Visit us in stand B41E in Hal 11.0. Aeromart Toulouse offers a unique opportunity for aerospace suppliers and manufacturers from all over the globe to converge, creating even more opportunities for industry growth and innovation. Keynote speakers include leaders from Airbus, Boeing, and Liebherr. We hope to see you at one of these shows. Don't be afraid to stop by the United Performance Metals booth and greet our awesome team!