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THE UPM MARKET INFORMER



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Airbus Buys Firm Behind Futuristic Unmanned Spy Drone with Supreme Capabilities

Airbus Helicopters has completed a takeover of Washington-based long-range robotic aircraft company, Aerovel, and acquired its game-changing unmanned drone.

In a statement issued on January 15, 2024, Airbus said an agreement had been reached for the acquisition of Aerovel and its unmanned aerial system, Flexrotor.

Flexrotor is able to perform a vertical take-off and landing (VTOL) and can then transition into horizontal wing-borne flight. The drone can be used by armed forces to carry out intelligence, surveillance, target acquisition and reconnaissance (ISTAR) missions, and protect military bases with enemy alert capabilities.

“We are looking forward to welcoming Aerovel into the Airbus family. This strategic acquisition aligns with our vision to expand our UAS offering and respond to a growing customer demand worldwide for additional mission capabilities such as manned-unmanned teaming,” Bruno Even, CEO of Airbus Helicopters, said. Even added: “Aerovel’s expertise in autonomous flight technology will undoubtedly complement our UAS development with the VSR700 (unmanned reconnaissance helicopter), as well as the work that we have been doing to develop interoperability.”

With a maximum launch weight of 25kg, Flexrotor can execute missions for more than 12-14 hours in a typical operational configuration. The drone only needs a launch/land area of 12 by 12ft and can operate from both land and sea with a real-time camera. Flexrotor has already been used by the United States (US) Navy so is already mission-proved under challenging conditions. “Joining forces with Airbus will allow us to scale innovation, accelerate our mission to advance unmanned aviation, and maintain our unwavering support for the US military and its allies. We are proud to become part of an organization with a rich legacy of aerospace excellence and we look forward to leveraging our combined strengths to define the future of autonomous systems. It will also be a great tribute to our Founder and Chief Technology Officer, Tad McGeer, who has spent the last 30 years committed to delivering innovative unmanned products,” Ali Dian, CEO of Aerovel, said.

According to Aerovel, Flexrotor can also be used for a variety of other government uses, security operations and law enforcement.

Aerovel will remain a US-owned company and continue collaboration with the US Department of Defense under Airbus’ Special Security Agreement (SSA). Read the article [here](#).

Nickel/Cobalt & Stainless-Steel Flat Rolled Surcharges



--	Nov '23	Dec '23	Jan '24	Feb '24	Mar '24	Apr '24
15-5	0.9103	0.8851	0.8828	0.8570	*	*
17-4	0.9238	0.8985	0.8957	0.8689	*	*
17-7	0.9603	0.9332	0.9085	0.8720	*	*
201	0.6713	0.6614	0.6608	0.6299	*	*
301 7.0%	0.9388	0.9133	0.8901	0.8536	*	*
302/304/304L	1.0315	1.0005	0.9701	0.9316	*	*
304-8.5%	1.0713	1.0378	1.0038	0.9647	*	*
305	1.3566	1.3046	1.2463	1.2031	*	*
309	1.4019	1.3495	1.2901	1.2437	*	*
310	1.9852	1.896	1.7875	1.7319	*	*
316/316L	1.6247	1.4761	1.4247	1.4454	*	*
321	1.0978	1.0616	1.0245	0.9860	*	*
347	1.4074	1.3711	1.3339	1.2954	*	*
409/409 Mod	0.3001	0.3118	0.3390	0.3157	*	*
410/410S	0.3101	0.3217	0.3487	0.3248	*	*
430	0.3686	0.3796	0.4052	0.3769	*	*
439	0.3811	0.3918	0.4170	0.3879	*	*
263	8.9779	9.0827	8.7045	7.9101	7.5289	7.4378
276	10.5271	10.7552	9.8207	9.0944	8.2179	8.2185
A286	2.9181	2.8866	2.7438	2.5129	2.3167	2.2714
600	7.1216	6.9579	6.6048	6.0518	5.5351	5.2968
601	5.8958	5.7653	5.4831	5.0475	4.6399	4.4546
617	9.3428	9.4716	9.0559	8.1737	7.6002	7.5183
625	10.1222	10.2172	9.8207	8.9962	8.3243	8.2410
718	8.6605	8.6247	8.3341	7.8114	7.3599	7.2377
X-750	7.4798	7.3173	6.9845	6.4649	5.9800	5.7573
800	3.2300	3.1618	3.0082	2.7867	2.5825	2.4995
825	4.9678	4.9676	4.7352	4.3011	3.9414	3.8727
Alloy X	7.1806	7.3057	6.9550	6.2032	5.6145	5.5787
188	9.9286	9.7249	9.3558	8.8538	9.0730	8.8891
L-605	10.0520	9.8839	9.5253	9.0231	9.4004	9.2428

*Surcharge currently not available

Thin Gauge Stainless Steel and Nickel Alloy Surcharges



--	Nov '23	Dec '23	Jan '24	Feb '24	Mar '24	Apr '24
301 7%	1.13	1.0959	1.0681	1.0243	*	*
302/304/304L	1.24	1.2007	1.1642	1.1179	*	*
304 8.5%	1.29	1.2453	1.2046	1.1577	*	*
305	1.63	1.5655	1.4956	1.4437	*	*
316L	1.95	1.7712	1.7096	1.7345	*	*
321	1.32	1.2739	1.2294	1.1832	*	*
347	1.41	1.6453	1.6006	1.5545	*	*
201	10.79	10.53	9.96	9.0716	8.2428	7.8586
600	8.55	8.35	7.93	7.2622	6.6421	6.3562
625	12.15	12.26	11.78	10.7954	9.9892	9.8893
625LCF	12.15	12.26	11.78	10.7954	9.9892	9.8893
718	10.39	10.35	10.00	9.3736	8.8320	8.6852
Alloy X	8.62	8.77	8.35	7.4439	6.7374	6.6944
X750	8.98	8.78	8.38	7.7578	7.1760	6.9087

*Surcharge currently not available

Nickel/Cobalt & Stainless-Steel Bar Surcharges



	Sep '23	Oct '23	Nov '23	Dec '23	Jan '24	Feb '24
316LS/316LVM	2.88	2.77	2.43	2.19	1.83	1.83
Custom 455	1.57	1.51	1.39	1.31	1.33	1.29
Custom 465	2.19	2.12	1.94	1.83	1.85	1.83
Custom 630	1.20	1.15	1.04	0.98	1.01	0.98
CCM	12.20	9.94	10.77	10.76	10.16	12.30
625	10.78	10.36	9.40	8.62	8.69	8.84
718	8.19	7.85	7.26	6.75	6.71	6.70
718CR	8.19	7.85	7.26	6.75	6.71	6.70
A286	3.99	3.84	3.52	3.28	3.27	3.25
A2861	3.99	3.84	3.52	3.28	3.27	3.25
A2862	3.99	3.84	3.52	3.28	3.27	3.25
A2867	3.99	3.84	3.52	3.28	3.27	3.25
A286R1	3.99	3.84	3.52	3.28	3.27	3.25
A286SH	3.99	3.84	3.52	3.28	3.27	3.25
Alloy X	8.86	8.50	7.66	7.00	7.11	7.32
Wasp6	10.16	9.37	8.89	8.33	8.16	8.58
L605	12.46	10.78	11.53	11.59	10.95	12.46
321	1.83	1.75	1.58	1.46	1.47	1.43
347	1.84	1.75	1.58	1.46	1.47	1.43
Greek Ascology	1.46	1.45	1.36	1.32	1.34	1.32

*Surcharge currently not available

Titanium Surcharges



Form	Grade	Q1 2024 Surcharge
TI - SHEET	6AL4V	8.23
TI - PLATE	6AL4V	8.08
TI - PLATE	6AL4VE	7.28
TI - COIL	GR 2	8.70
TI - COIL	GR 3	8.70
TI - COIL	GR 4	8.70
TI - SHEET	GR 2	8.70
TI - SHEET	GR 3	8.70
TI - SHEET	GR 4	8.70
TI - BAR	6AL4V	5.45
TI - BAR	6AL4VE	5.45

Boeing's MAX Production Issues Ripple Across Aerospace Industry



BOEING'S troubles with its best-selling single-aisle 737 MAX jets are taking a toll on airlines, which are forced to adjust their fleet and capacity expansion plans and face higher operating costs.

Analysts are warning of more pain for carriers after the FAA late on Wednesday (Jan 24) froze increases in production of the 737 MAX.

The FAA said the order meant Boeing could continue producing MAX jets at the current monthly rate, but it could not increase that rate. It offered no estimate of how long the limitation would last and did not specify the number of planes Boeing can produce each month.

Customers' frustration is mounting.

Alaska Air Group, the operator of the US planemaker's 737 MAX 9 aircraft that suffered a mid-air incident this month, on Thursday forecast a US\$150-million profit hit in 2024 from the more-than-two-week-long grounding of the aircraft.

The carrier also cast doubts on its capacity growth plans for the year, citing "the grounding, and the potential for future delivery delays."

The CEO of American Airlines, another customer, on Thursday said, "we need Boeing to be successful over the long run," and the company needs to "do everything they can to get back on track."

"Boeing needs to get their act together," said American's CEO Robert Isom, calling the issues facing the planemaker unacceptable. "It is hard enough running an airline ... We need quality product, and that's what we demand."

Southwest Airlines altered its fleet plans for 2024 due to Boeing's continued supply chain challenges and uncertainty over certification of the smaller MAX 7.

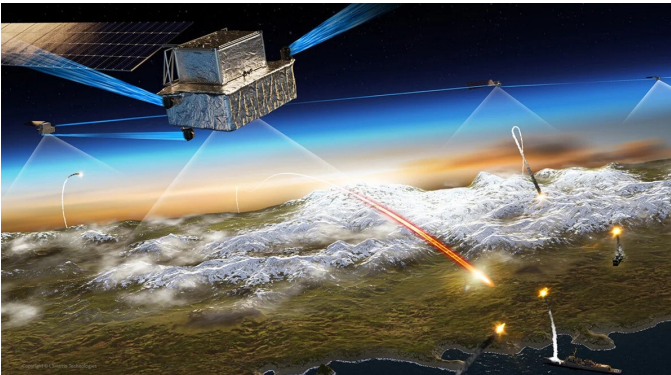
Before the Jan five accident when a cabin panel fell off during Alaska's flight, Southwest was expecting the MAX 7 plane to get certification from the US Federal Aviation Administration (FAA) by this April, allowing it to start flying the aircraft in October and November.

The delivery delays have forced airlines to fly older planes longer than expected, driving up maintenance and repair costs.

Southwest said on Thursday non-fuel operating costs would be up as much as 7 per cent in 2024, in part due to maintenance expenses.

Analysts have expressed concerns that extra scrutiny of Boeing factories following the MAX 9 door plug blowout would temper production increases for the smaller and more widely sold MAX 8, a key source of cash for Boeing and many suppliers. Read the full article [here](#).

Fuel Cell Electric Trucks Are Coming, Ready or Not



The road ahead has not gotten much easier for fuel cell cars, but trucks are a different matter. Just a couple of weeks ago, Isuzu and Honda kicked off a months-long road test of their GIGA FUEL CELL heavy-duty truck, ahead of a commercial launch anticipated in 2027. They better act fast, because more fuel cell trucks are headed for the highways this year. One might wonder why anyone is bothering to introduce fuel cell electric trucks to the market, when battery-electric trucks are already on the way and battery technology is improving practically by the minute.

That's a good question. It remains to be seen how things shake out over the long run, but trucks are going to decarbonize, one way or another. The market research IDTechEx points out that only 10% of vehicles on the road

today are medium- and heavy-duty trucks, but they contribute an outsized share — about 40% — of greenhouse gas emissions in the transportation sector.

"If the global community is going to...limit the impact of climate change then a rapid decarbonisation of the truck sector must be a priority," they add. "Consequently, the days of the fossil fuel powered combustion engine truck are numbered." In a 20-year market outlook report from 2023 to 2043, IDTechEx notes that battery-electric vehicles have already established a foothold, but that "the energy density and specific energy of current lithium-ion battery technologies can mean that the range of battery electric trucks is restricted by both the maximum weight of batteries that can be carried by a truck, and the available space for batteries within that vehicle."

That's where the door for fuel cell electric trucks opens. IDTechEx takes care to note that costs and fueling infrastructure pose challenges, but fuel cells offer "an avenue to greater range, whilst still delivering the crucial reduction in on-road exhaust emissions." Honda has been on a long, elaborate fuel cell journey with many patents in its pocket. That includes a partnership with GM, culminating in the launch of a compact, next-generation fuel cell module last year.

The new fuel cell seems to be heading for the GIGA FUEL CELL heavy-duty truck. Honda has also been collaborating with Isuzu since 2020, and last spring Isuzu tapped Honda to supply fuel cells for its planned line of heavy-duty zero emission trucks. Read the [article](#).

FAA Taking 'Direct Inspection Approach' in Boeing 737 Max 9 Crisis, Chief Says



The Federal Aviation Administration has "boots on the ground" at Boeing's 737 Max 9 factory — and will keep them there until the agency is convinced the manufacturer's quality control system is working, FAA Administrator Mike Whitaker told CNBC.

The FAA earlier in January said it will audit Boeing's Max production line, after an almost brand-new Boeing 737 Max 9's door plug blew out on an Alaska Airlines flight at 16,000 feet, exposing passengers to a force so powerful it sucked out seatbacks and headrests, according to federal investigators.

No one was seriously injured on the flight, and no one had been seated next to the gaping hole left by the blowout. The FAA grounded that model of Boeing's best-selling 737 Max a day after the accident and later said it will increase oversight of the company's production lines.

"We've got a lot of inspectors on the ground, visually inspecting the aircraft as it comes through," Whitaker said Tuesday in an interview at FAA headquarters. "We're shifting from more of an audit approach to a direct inspection approach."

The scale of such a review is a challenge, Whitaker said, citing the manpower required to conduct that many inspections. The FAA has dispatched a "couple of dozen" inspectors, he said.

"Until we're comfortable that the [quality assurance] system is working properly ... we're going to have boots on the ground," he said. Both Alaska and United Airlines said they found loose bolts on several Max 9 planes during preliminary inspections. The National Transportation Safety Board, which is leading the Flight 1282 accident investigation, said the the agency is returning to Boeing's 737 factory in Renton, Washington on Friday so investigators can review documentation related to the aircraft's production, manufacturing and maintenance.

"As part of the investigation, NTSB investigators will build a timeline from the early stages of production of the door plug to the accident flight," an NTSB spokeswoman said in a statement. The FAA is working with Boeing and airlines on inspection instructions that would pave the way for the 737 Max 9 to return to service. Whitaker, who is three months into the FAA's top job, declined to comment on when he expected the planes to return to service. Read the full article [here](#).

UPM Focus: Aero Engine Industry with Curt Gillingham



United Performance Metals serves a number of industries including but not limited to the medical, space, defense, oil/gas, semiconductor, and aerospace industries. Within the aerospace market, there is a segment for just the engines that are engineered for use in aircraft. UPM plays a role in the creation of these engines by providing the unique metals required to assemble such complex machines. This month, we decided to ask Curt Gillingham, the Director of UPM's Aero Engine business, about how our products serve this niche segment of the aerospace industry.

To understand how UPM's core product offerings support aero-engine manufacturing, we asked Gillingham about where our metal can be found on an actual engine. He stated, "Our metal is found in the fasteners, clips, clamps, and bolts that support the integrity of the engine. Imagine the temperatures that materials on plane engines are exposed to: they get extremely hot when they are running and exposed to extreme cold when they are in the clouds. A lot of people don't think about the fact that when their flight reaches certain altitudes, the temperature on the outside of the plane is drastically below zero. On the nickel side, most of our stuff ends up in the hot section (mitigating heat)". Additionally, Gillingham explained that many of the processing capabilities UPM offers are just as important for aero-engine creation. "UPM provides laser processing, slitting, water jet cutting, and many other processing services that can customize the metal/material so that it is prepared correctly for engine-makers".

Quality standards are a crucial element of the engine manufacturing process. The industry has countless standards that are in place to ensure the quality of materials used will ensure a safe aircraft or engine. To distribute these metals, UPM has achieved a number of important certifications, including S400, ISO 90001, and LCS certification. Gillingham mentioned that "UPM has to have extensive traceability of our material and having these certifications is paramount to maintaining a supply chain of quality materials for customers."

Looking forward, Gillingham noted that the aero-engine sector is trying to manage their carbon emissions. "Boeing is working on a green loop (a chip-recycling initiative to reduce overall waste) and airlines want to be more conscientious of the environment. A lot of innovators are looking to achieve more efficient fuel systems and are running their engines at even higher temperatures to do this". Several airlines, United being one example, have pledged to zero their carbon emissions within the next twenty years. Time will tell if these promises are kept. To learn more about the products UPM offers that can be used in aero-engine applications, visit our [product page](#)!