# **UNITED PERFORMANCE METALS** AN ONI COMPANY

# THE UPM MARKET INFORMER

APRIL 2025

Boeing	Wins	<b>U.S</b> .	Air	Force's	NGAD	F-47
Fighter	Cont	ract				

INSIDETHIS ISSUE

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Boeing won a contract March 21 to develop a next-generation combat aircraft for the U.S. Air Force that will spearhead future air wars and throw a lifeline to the company's struggling military aviation business.

The White House announcement came after a tumultuous competition between Boeing and Lockheed Martin for the prized rights to build the aircraft that is meant to anchor the Air Force's Next Generation Air Dominance (NGAD) family of systems.

"It will be known as the F-47, the generals picked a title," President Donald Trump said. "It's something the likes that no one has seen before."

During the Oval Office announcement ceremony, Trump displayed a poster showing the first glimpse of the F-47 design, revealing a forward fuselage and sharply swept back wings but no further design features.

The Air Force wants a new aircraft with the range, speed and stealth to operate effectively over the vast Indo-Pacific region and against some of China's most advanced weapons systems, including current and future stealth fighters and surface-to-air missile systems. The requirements dictate an aircraft with performance that defies familiar categories for combat aircraft, such as a fighter or bomber. But Boeing's future aircraft is expected to feature supersonic speed and perhaps a lack of vertical control surfaces, along with a large structure to carry all fuel, sensors and weapons internally.

The cost-plus contract award for NGAD also offers a reprieve for a defense and space business within Boeing that has reported over \$18 billion in reach-forward losses on fixed-price military and NASA programs since 2014, including \$5 billion in new charges from 2024 alone. Despite the losses, Boeing invested heavily to win the NGAD contract, including starting construction nearly two years ago on a new factory in St. Louis to produce the aircraft.

"In preparation for this mission, we made the most significant investment in the history of our defense business, and we are ready to provide the most advanced and innovative NGAD aircraft needed to support the mission," said Steve Parker, interim president and chief executive officer for Boeing Defense, Space & Security.

The development deal could sustain for several more decades Boeing's historic combat aircraft production line in St. Louis, which dates back to the first flight of the FH-1 Phantom in 1945, reached peak output with the F-4 Phantom II and continues today with the F-15EX Eagle II. If the NGAD contract can stay on track, Boeing gains the opportunity to revitalize its defense engineering and operations, advancing on the digital engineering and manufacturing practices pioneered by the T-7A Red Hawk trainer and MQ-25 Stingray, an uncrewed, carrier-based aerial refueling aircraft.

Boeing's victory also prevents a Lockheed monopoly on Air Force fighter production after the end of the decade, with future U.S. orders for the F-35A still uncertain under the new Trump administration. To continue reading, please click <u>here</u>.



## Nickel/Cobalt & Stainless-Steel **Flat Rolled Surcharges**

AN ONI COMPANY

	Jan '25	Feb '25	Mar '25	Apr '25	May '25	Jun '25
15-5	0.8601	0.8407	0.8611	0.8943	*	*
17-4	0.8652	0.8454	0.8654	0.8982	*	*
17-7	0.8489	0.8341	0.8401	0.8749	*	*
201	0.6583	0.6354	0.6529	0.6809	*	*
301 7.0%	0.8212	0.7977	0.8135	0.8465	*	*
302/304/304L	0.8984	0.8722	0.8872	0.9233	*	*
304-8.5%	0.9304	0.9033	0.9183	0.9558	*	*
305	1.1613	1.1273	1.1411	1.1896	*	*
309	1.2441	1.2064	1.2194	1.2684	*	*
310	1.7190	1.6667	1.6769	1.7478	*	*
316/316L	1.4416	1.4034	1.4072	1.4433	*	*
321	0.9490	0.9220	0.9370	0.9762	*	*
347	1.3817	1.3526	1.3673	1.4098	*	*
409/409 Mod	0.3200	0.3148	0.3343	0.3469	*	*
410/410S	0.3364	0.3321	0.3515	0.3640	*	*
430	0.3595	0.3495	0.3679	0.3788	*	*
439	0.3724	0.3612	0.3791	0.3899	*	*
263	6.5253	6.7060	6.8790	6.8894	6.7234	6.5810
276	8.8223	9.1071	9.1020	8.9399	8.8046	8.7732
A286	2.2435	2.3476	2.5149	2.4683	2.4474	2.4683
600	5.1826	5.4655	5.1005	4.9908	4.9442	4.9269
601	4.3564	4.5838	4.3308	4.2429	4.1986	4.1924
617	7.1742	7.4113	7.7311	7.6034	7.4654	7.3765
625	8.4504	8.7179	9.0736	8.9438	8.8589	8.8361
718	7.2582	7.4725	7.9141	7.8212	7.7790	7.7727
X-750	5.6475	5.9138	6.4676	6.3529	6.3177	6.3177
800	2.4255	2.5480	2.3946	2.3460	2.3179	2.3351
825	3.9242	4.0926	3.9824	3.9057	3.8527	3.8600
Alloy X	5.8009	6.0216	5.8846	5.7702	5.6724	5.6565
188	6.8786	6.8581	7.8138	7.7803	7.5605	7.3071
L-605	6.7280	6.6430	7.6025	7.5863	7.2915	6.9437

#### \*Surcharge currently not available



# Thin Gauge Stainless-Steel and Nickel Alloy Surcharges

	Jan '25	Feb '25	Mar '25	Apr '25	May '25	Jun '25
301 7%	0.9855	0.9572	0.9762	1.0158	*	*
302/304/304L	1.0781	1.0466	1.1392	1.1861	*	*
304 8.5%	1.1165	1.0840	1.1020	1.1470	*	*
305	1.3936	1.3528	1.3693	1.4275	*	*
316L	1.7299	1.8133	1.6886	1.7320	*	*
321	1.1388	1.1064	1.1244	1.1714	*	*
347	1.6580	1.6231	1.6408	1.6918	*	*
201	7.6826	8.1289	7.4372	7.2620	7.2078	7.1692
600	6.2191	6.5586	6.1206	5.9890	5.9330	5.9123
625	10.1405	10.4615	10.8883	10.7326	10.6307	10.6033
625LCF	10.1405	10.4615	10.8883	10.7326	10.6307	10.6033
718	8.7099	8.9671	9.4969	9.3854	9.3348	9.3272
Alloy X	6.9610	7.2259	7.0615	6.9242	6.8069	6.7878
X750	6.7770	7.0965	7.7611	7.6235	7.5812	7.5582

#### \*Surcharge currently not available



# Nickel/Cobalt & Stainless-Steel Bar Surcharges

	Nov '24	Dec '24	Jan '25	Feb '25	Mar '25	Apr '25
316LS/316LVM	2.39	2.27	2.22	2.18	2.19	2.26
Custom 455	1.39	1.32	1.31	1.30	1.33	1.41
Custom 465	2.09	2.01	2.00	1.99	2.00	2.13
Custom 630	0.96	0.91	0.89	0.88	0.93	0.99
ССМ	10.39	10.05	9.51	8.91	8.75	13.16
625	9.96	9.53	9.40	9.30	9.25	9.62
718	7.49	7.13	7.05	6.99	6.96	7.31
718CR	7.49	7.13	7.05	6.99	6.96	7.31
A286	3.68	3.50	3.46	3.44	3.44	3.65
A2861	3.68	3.50	3.46	3.44	3.44	3.65
A2862	3.68	3.50	3.46	3.44	3.44	3.65
A2867	3.68	3.50	3.46	3.44	3.44	3.65
A286R1	3.68	3.50	3.46	3.44	3.44	3.65
A286SH	3.68	3.50	3.46	3.44	3.44	3.65
Alloy X	8.27	7.94	7.83	7.72	7.68	8.10
Wasp6	8.92	8.45	8.24	8.06	7.98	9.23
L605	11.30	10.98	10.57	10.13	10.01	13.54
321	1.43	1.33	1.30	1.29	1.31	1.39
347	1.43	1.34	1.30	1.29	1.31	1.39
Greek Ascoloy	1.34	1.31	1.30	1.29	1.32	1.37

#### \*Surcharge currently not available



# **Titanium Surcharges**

Form	Grade	Q1 2025 Surcharge	Q2 2025 Surcharge
TI - SHEET	6AL4V	8.23	4.84
TI - PLATE	6AL4V	4.29	4.03
TI - PLATE	6AL4VE	3.18	6.16
TI - COIL	GR 2	8.13	8.97
TI - COIL	GR 3	8.13	8.97
TI - COIL	GR 4	8.13	8.97
TI - SHEET	GR 2	8.13	8.97
TI - SHEET	GR 3	8.13	8.97
TI - SHEET	GR 4	8.13	8.97
TI - BAR	6AL4V	5.19	4.90
TI - BAR	6AL4VE	5.19	4.90

\*Surcharge currently not available

### **Rocket Lab Launches Final Set of Kinéis Satellites**

Rocket Lab has completed the deployment of a constellation of Internet-of-Things satellites for French company Kinéis with a launch March 17.

An Electron rocket lifted off from Pad A of Rocket Lab's Launch Complex 1 in New Zealand at 9:31 p.m. Eastern. The payload of five satellites for Kinéis were deployed by the rocket's kick stage into sun-synchronous orbits at altitudes of 650 kilometers a little more than an hour later.

The launch was the fifth and final mission under a contract signed by the companies in 2021. Each launch carried five satellites, weighing 28 kilograms each, to complete a 25-satellite constellation. Those launches started in June 2024, with subsequent launches in September and November 2024 and on Feb. 8.

The satellites will provide Internet-of-Things (IoT) communications services and



track vessels using Automatic Identification System (AIS) transponders. Kinéis plans to begin commercial services with the satellites on June 1, offering data with a latency of no more than 15 minutes.

"Since 2018, we have led an ambitious project and this launch, the final one in a series of five, crowns an exceptional effort carried out with solid partners like Rocket Lab, enabling the deployment of our IoT-dedicated constellation in less than a year," Christophe Vassal, chairman of the supervisory board of Kinéis, said in a statement. "This achievement marks the beginning of a new era for Kinéis, where the data collected by our constellation will unlock numerous opportunities for our clients and partners."

The company said it expects to be profitable this year and reach annual revenues of 20 million euros (\$22 million) in 2026, growing to 100 million euros in the next eight years.

For Rocket Lab, this was the second launch in a little more than 72 hours, after another Electron launched a radar imaging satellite for Japanese company iQPS March 14. It was the fourth launch so far this year for Rocket Lab, which previously stated it expects to perform more than 20 Electron launches, including of the HASTE suborbital version, this year. To continue reading, please click <u>here</u>.

### Airbus Advances New Technologies For Next-Generation Single-Aisle Aircraft

During the 2025 Airbus Summit, Airbus provided an update on its roadmap to pioneer the future of commercial aviation in the decades to come. The Company outlined potential technology bricks to prepare a next-generation single-aisle aircraft that could enter service in the second half of the 2030s, as well as its revised roadmap to mature the technologies associated with hydrogen-powered flight.

Airbus provided more details regarding the key technology building blocks that could enable the entry into service of a next-generation single-aisle aircraft with an expected 20-30% increase in fuel efficiency compared with the current generation, as well as the capability to fly with up to 100% sustainable aviation fuel (SAF). Airbus also unveiled new design concepts that showcase the different configurations being studied for this future aircraft, highlighting the various potential solutions that are being explored in order to achieve this major leap forward in aircraft efficiency, and support the aviation sector's roadmap towards net-zero emissions in 2050.



Technologies include more efficient engines, including disruptive open fan designs; long foldable wings allowing for significant aerodynamic gains; next-generation batteries to enable hybrid architectures where electricity is increasingly used to support propulsive and non-propulsive functions aboard the aircraft' and lightweight materials and integrated systems for a connected aircraft.

Airbus Head of Future Programmes Bruno Fichefeux says, "Every second, an Airbus aircraft takes off – connecting people, cargo and business around the world. We have the most advanced aircraft portfolio in the market and the A321XLR is at the very forefront of today's single-aisle aircraft technology. Now we are taking the best of what we've done and preparing another jump to make our single-aisle aircraft even better and pioneer the future of flight, when the time is right."

Airbus Head of R&T Karim Mokaddem adds, "Airbus teams are working relentlessly towards the key decisions that will ultimately finalise the choices of the aircraft's engine type, wing design and additional innovations once their maturity is demonstrated."

Each of these technology building blocks will play a key role in enabling a new generation of commercial aircraft that will deliver step change improvements in all domains for efficiency and productivity and bring a considerable contribution to the decarbonisation of air travel in the decades to come." To continue reading, please click <u>here</u>.

# Isar Aerospace Sets Date For First Launch After Receiving License

Isar Aerospace is ready to perform its first orbital launch attempt as soon as March 20 after receiving a license from Norwegian regulators.

Isar announced March 17 that the Norwegian Civil Aviation Authority (CAA) issued a launch operator license to the company for its Spectrum rocket, launching from Andøya Spaceport in northern Norway.

The launch, called "Going Full Spectrum" by the company, is a test flight of Spectrum with no customer payloads on board. "Our goal is to test each and every component and system of the launch vehicle," Alexandre Dalloneau, vice president of mission and launch operations at Isar Aerospace, said in a statement about the upcoming launch.

Isar Aerospace did not announce a specific time for the launch, noting the timing



would depend on weather as well as range and vehicle readiness. Andøya Space, which operates the spaceport, noted that maritime notices are in effect daily from 12:30 to 4:30 p.m. local time for the launch. The launch period covered by the permit runs through the end of the month.

Isar said in February it had completed testing of the Spectrum ahead of the launch, including static-fire tests of both the first and second stages of the vehicle. The company said the license was the final milestone before a launch attempt.

In its own statement, CAA Norway said the launch permit to Isar Aerospace, the first issued by the agency, followed procedures laid out in the Norwegian Space Act and used the U.S. Federal Aviation Administration's Part 450 launch licensing regulations as a standard. The permit, the agency added, is valid only for the inaugural launch of Spectrum. CAA Norway licensed the spaceport in August 2024.

The launch will not only be the first flight by Isar Aerospace but will also be the first vertical orbital launch attempt from Europe, excluding Russia. Virgin Orbit performed an air launch from Spaceport Cornwall in the United Kingdom in January 2023, deploying its LauncherOne rocket from a Boeing 747 aircraft, but a problem with the rocket's second stage prevented it from reaching orbit.

The launch attempt will be a major milestone for both the company and the European space industry as it seeks to expand its launch capabilities. "In today's geopolitical climate, our first test flight is about much more than a rocket launch: Space is one of the most critical platforms for our security, resilience and technological advancement," Daniel Metzler, chief executive and co-founder of Isar Aerospace, said in a statement. "In the next days, Isar Aerospace will lay the foundations to regain much needed independent and competitive access to space from Europe." To continue reading, please click here.

### Baker Hughes Secures Contract To Power U.S. Data Centers With NovaLT™ Hydrogen-Ready Gas Turbines

Baker Hughes (NASDAQ: BKR), an energy technology company, announced Thursday an award from TURBINE-X Energy Inc. for its NovaLT<sup>™</sup> gas turbine technology to address power demand growth from the data center market. This follows an announcement earlier this month that Baker Hughes will partner with Frontier Infrastructure to provide key carbon capture and storage (CCS) and power generation technologies for data centers and industrial customers.

Part of Baker Hughes established global network of strategic packagers, TURBINE-X Energy Inc. is a supplier of industrial gas turbine packages in combined cycle configurations for U.S. data center project developers and power producers. As part of the award, Baker Hughes is providing TURBINE-X Energy Inc. with its NovaLT<sup>™</sup> gas turbine technology and associated equipment – including gears and power generation generator technology – for multiple data center projects across North America.



The NovaLT™ gas turbine is a multi-fuel solution that can start-up and run on different fuels including natural gas, various blends of natural gas and hydrogen, and 100% hydrogen, providing customers with the flexibility to adapt and meet their specific reliable and sustainable power requirements.

"Due to surging demand for generative AI, we see increasing opportunities for our power generation solutions to support behind-the-meter power requirements for data centers," said Ganesh Ramaswamy, executive vice president of Industrial & Energy Technology at Baker Hughes. "We're ready to drive progress at scale, leveraging our expertise and network of strategic partners to quickly provide market-ready reliable, flexible and efficient solutions to partners in the data center market, as well as broader industrial adjacencies where access to power is business critical."

With a comprehensive portfolio of diverse, reliable and clean power solutions, including natural gas, geothermal, hydrogen, cogeneration, and the Net Power platform, Baker Hughes is able to provide market-ready, efficient and flexible solutions for data center hyperscalers, project developers, packagers and end users. To continue reading, please click <u>here</u>.



## United Performance Metals Focus

## **United Performance Metals Acquires Fabrisonic LLC**

United Performance Metals is thrilled to announce the acquisition of Fabrisonic LLC, a small tech startup based out of Columbus, OH that is inspiring the world with its patented metal fabrication process. This strategic acquisition enhances UPM's capabilities in advanced manufacturing and expands its portfolio of innovative solutions.

Fabrisonic was first founded in 2011, where it developed a patented process to create unique metal materials for industries such as aerospace, defense, space, and the automotive sector. Their technology gives them the capability to join dissimilar metals without metallurgical mismatch issues, enabling the creation of high-performance compnents that increase heat trasfer rates, reduce weight, and allow for the embedding of various sensors, amongst the wide variety of unique applications. This revolutionary technology offers new opportunities and opens the door for continued growth and innovation. To learn more about Fabrisonic LLC, please click here.



This addition will compliment UPM's suite of innovative solutions, high quality materials, and tailored supply chain management. UPM is eager to leverage Fabrisonic's innovative technology to deliver superior solutions and drive transformative progress for its clients and partners.

### **Titanium Solutions Offered At United Performance Metals**

Titanium is known for its excellent strength-to-weight ratio and corrosion resistance. In nature, titanium is an abundant metal, ranking the ninth most plentiful in the earth's crust. Titanium and its alloys possess tensile strengths from 30,000 psi to 200,000 psi (210-1380 MPa), which are equivalent to those strengths found in most alloy steels. Titanium has a high melting point of 3135°F (1725°C), which is approximately 400°F (220°C) above the melting point of steel and approximately 2000°F (1100°C) above that of aluminum. It also has the advantage of having a very thin, conductive oxide surface film and a hard, smooth surface that limits adhesions of foreign materials.

United Performance Metals carries commercially pure titanium (CP-Ti) and titanium alloys. The main differences between commercially pure and titanium alloys include.

Commercially pure titanium's strength increases with the grade number. The higher

the number, the higher the metal's strength endurance. Grade 1 has the highest corrosion resistance, formability, and lowest strength, while Grade 4 offers highest strength and moderate formability.

Grade 2 has higher levels of iron and oxygen than other CP grades, which offers excellent formability and moderate strength with superior corrosion resistance. CP Grade 2 is widely used in heat exchangers. Grade 2 titanium is one of the most common titanium grades, with properties that make it a good candidate for chemical and marine, aerospace and medical applications.

Grade 3 is a general-purpose grade of commercially pure titanium that has excellent corrosion resistance in highly oxidizing to mildly reducing environments, including chlorides, and an excellent strength-to-weight ratio. It has good impact properties at low temperatures. It can be welded, machined, cold worked, hot worked, and cast.

Grade 4 is the strongest of the CP grades, with a minimum yield strength of 480 MPa (70ksi), and has the highest allowable oxygen and iron content of the grades. Grade 4 titanium features excellent resistance to corrosion and corrosion fatigue as well as high strength.

Titanium alloys are created by mixing titanium with other metals to provide additional strength, flexibility, and malleability. UPM offers Ti-6AL-4V and Ti-6AL-4V ELI. Ti-6AL-4V is one of the most popular alloys in the titanium industry and accounts for almost half of the titanium used in the world today. Commonly referred to as Ti-6AL-4V (or Ti 6-4), this designation refers to its chemical composition of almost 90% titanium, 6% aluminum, 4% vanadium, 0.25% (max) iron and 0.2% (max) oxygen. It features excellent strength, low modulus of elasticity, high corrosion resistance, good weldability and it is heat treatable. The addition of aluminum and vanadium increases the hardness of the material in the alloy matrix, improving its physical and mechanical properties. The ELI (extra low interstitials) variant possesses high cycle fatigue strength and is available for fracture-critical applications, such as medical implants or aerospace applications. This material is biocompatible, features moderately high tensile strength, improved ductility, good fatigue strength, intermediate fracture toughness, and high resistance to general corrosion in seawater. To learn more about United Peformance Metals titanium grades and solutions, click <u>here</u>.

