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THE UPM MARKET INFORMER



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SpaceX Knocks Out Space Coast’s 50th Launch of the Year

A SpaceX launch from Cape Canaveral lit up the Space Coast for the 50th time this year while also achieving a milestone for the company. The Falcon 9 rocket carrying up another 22 of the company’s Starlink satellites made a record 17th flight with liftoff at 11:38 p.m. from Cape Canaveral Space Force Station’s Space Launch Complex 40. The booster previously launched on the GPS III-3, Turksat 5A, Transporter-2, Intelsat G-33/G-34, Transporter-6, and 11 Starlink missions. It made another recovery landing on the drone ship A Short Fall of Gravitas in the Atlantic Ocean.

SpaceX has flown all but three of the Space Coast launches this year with United Launch Alliance sending up two and Relativity Space the only other one. With this mission, SpaceX has flown 37 from Cape Canaveral and another 10 from Kennedy Space Center including all three human spaceflights to orbit from the U.S. this year as well as three powerhouse Falcon Heavy launches. The launch manifest for the remainder of the year should see the Space Coast beat the record 57 launches it saw in 2022. That includes several more SpaceX Falcon 9 missions and at least one more Falcon Heavy next month, targeting as early as Oct. 5 to send up NASA’s Psyche probe to the asteroid of the same name.

SpaceX has become the most prolific launch provider since the first Falcon 1 successfully made orbit in 2008. Including this launch, Elon Musk’s company has now managed 265 successful launches across its Falcon 1, 9 and Heavy rockets with the last launch failure coming in 2015. It will also mark its 227th landing and 199th reuse of a rocket booster. In comparison, ULA has managed 157 launches since it was formed by Boeing and Lockheed Martin in 2006 with its busiest year in 2009 when it had 16 launches. That pace slowed in the last few years with ULA managing only five or six launches from 2019-2021, eight in 2022 and only two so far this year.

After SpaceX and ULA, the next busiest launch provider is Rocket Lab, albeit with smaller rockets. It was on record pace to hit 15 launches in 2023, but suffered an issue during an launch attempt earlier Tuesday from its New Zealand launch facilities resulting in a loss of its customer payload, a satellite for Capella Space. The Electron rocket completed its first-stage burn and stage separation, but suffered an issue at 2 minutes and 30 seconds into flight.

“Tough day. My deepest apologies to our mission partners Capella Space,” Company CEO Peter Beck posted to social media. “Team is already working on root cause. We’ll find it, fix it and be back on the pad quickly.” That mission was its ninth launch attempt for the year, which is how many it had in 2022. To date, Rocket Lab has had 37 successful orbital missions across 41 attempts including flights from the U.S. for the first time this year from Virginia. For now, the next launch is postponed as Rocket Lab works with the Federal Aviation Administration to investigate. Read the full article [here](#).

Nickel/Cobalt & Stainless-Steel Flat Rolled Surcharges



	July	Aug	Sept	Oct	Nov	Dec
15-5	1.0380	0.9852	0.9940	0.9599	*	*
17-4	1.0536	0.9986	1.0078	0.9737	*	*
17-7	1.1300	1.0578	1.0640	1.0218	*	*
201	0.7891	0.7335	0.7302	0.6995	*	*
301 7.0%	1.1045	1.0324	1.0392	0.9980	*	*
302/304/304L	1.2146	1.1360	1.1438	1.0995	*	*
304-8.5%	1.2621	1.1814	1.1897	1.1438	*	*
305	1.6026	1.5061	1.5177	1.4605	*	*
309	1.6553	1.5499	1.5615	1.5050	*	*
310	2.3514	2.2118	2.2303	2.1511	*	*
316/316L	1.8298	1.7535	1.8112	1.7667	*	*
321	1.2984	1.2169	1.2227	1.1750	*	*
347	1.6038	1.5234	1.5322	1.4846	*	*
409/409 Mod	0.3474	0.3194	0.3169	0.2975	*	*
410/410S	0.3557	0.3267	0.3267	0.3074	*	*
430	0.4233	0.3830	0.3830	0.3647	*	*
439	0.4433	0.3989	0.3949	0.3770	*	*
263	10.2646	9.6772	8.9444	8.4765	8.9779	9.0827
276	12.6782	10.9707	10.7136	10.5559	10.5271	10.7552
A286	3.4292	3.3624	3.1591	2.9677	2.9181	2.8866
600	8.1466	8.3296	7.7083	7.2431	7.1216	6.9579
601	6.7394	6.8854	6.3922	5.9930	5.8958	5.7653
617	10.8897	10.0656	9.4894	9.1029	9.3428	9.4716
625	11.7114	10.8917	10.4959	10.1864	10.1222	10.2172
718	9.6864	9.4656	9.0635	8.7390	8.6605	8.6247
X-750	8.4810	8.6586	8.0609	7.6070	7.4798	7.3173
800	3.7000	3.7774	3.5221	3.2999	3.2300	3.1618
825	5.8487	5.5654	5.2746	5.0231	4.9678	4.9676
HX	8.6280	7.7294	7.4375	7.2075	7.1806	7.3057
188	10.1272	10.0419	9.0778	8.6075	9.9286	9.7249
L-605	10.0991	9.9560	8.8933	8.4040	10.0520	9.8839

*Surcharge currently not available

Nickel/Cobalt & Stainless-Steel Bar Surcharges



	May	June	July	Aug	Sep	Oct
316LS/316LVM	3.01	2.94	2.85	2.82	2.88	2.77
Custom 455	1.87	1.80	1.68	1.57	1.57	1.51
Custom 465	2.59	2.52	2.37	2.17	2.19	2.12
Custom 630	1.36	1.30	1.23	1.21	1.20	1.15
CCM	11.18	9.06	10.23	12.56	12.20	9.94
625	11.62	11.21	10.96	10.57	10.78	10.36
718	9.24	8.80	8.58	8.15	8.19	7.85
718CR	9.24	8.80	8.58	8.15	8.19	7.85
A286	4.71	4.50	4.25	3.98	3.99	3.84
A2861	4.71	4.50	4.25	3.98	3.99	3.84
A2862	4.71	4.50	4.25	3.98	3.99	3.84
A2867	4.71	4.50	4.25	3.98	3.99	3.84
A286R1	4.71	4.50	4.25	3.98	3.99	3.84
A286SH	4.71	4.50	4.25	3.98	3.99	3.84
Alloy X	9.49	9.16	9.01	8.65	8.86	8.50
Wasp6	11.04	10.15	10.06	10.20	10.16	9.37
L605	11.87	10.22	11.01	12.84	12.46	10.78
321	2.11	2.00	1.88	1.85	1.83	1.75
347	2.10	1.99	1.88	1.85	1.84	1.75
Greek Ascology	1.50	1.51	1.45	1.46	1.46	1.45

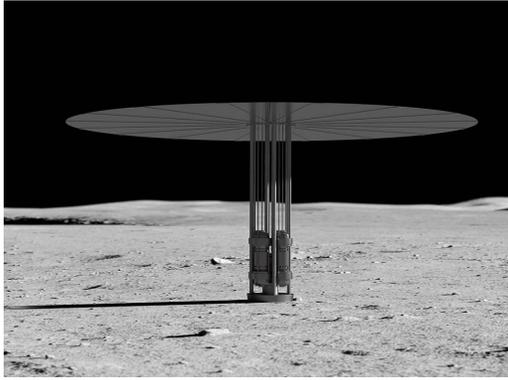
*Surcharge currently not available

Titanium Surcharges



Form	Grade	Q1 Surcharge	Q2 Surcharge	Q3 Surcharge
TISH	6AL4V	5.56	8.8	8.8
TIPL	6AL4V	3.71	5.87	5.87
TIPL	6AL4VE	4.08	6.45	6.45
TIBR	6AL4V	7.5	6.88	6.88
TIBR	6AL4VE	4.45	4.45	4.45
TICO	GR 2	8.33	8.69	8.69
TICO	GR 3	8.33	8.69	8.69
TICO	GR 4	8.33	8.69	8.69
TISH	GR 2	8.33	8.69	8.69
TISH	GR 3	8.33	8.69	8.69
TISH	GR 4	8.33	8.69	8.69

Air Force Research Lab Awards Design Contracts for Nuclear Powered Spacecraft



Intuitive Machines, Lockheed Martin and Westinghouse Government Services won contracts from the Air Force Research Laboratory to advance technologies for nuclear powered space vehicles.

The project is part of an AFRL Space Vehicles Directorate program called Joint Emergent Technology Supplying On-orbit Nuclear Power, or JETSON.

The goal of the project is to advance [nuclear fission technology](#) to produce small power reactors for space vehicles. AFRL is seeking a reliable and constant source of electricity for satellites.

The contracts were [announced Sept. 29](#).

Intuitive Machines, a startup based in Houston that specializes in [space infrastructure](#), received a [\\$9.4 million contract](#) to design a spacecraft concept that employs compact [radioisotope power system](#), electric or hybrid propulsion.

Westinghouse Government Services, based in Hopkins, South Carolina, won a \$16.9 million contract to “mature relevant technologies, conduct analyses, trade studies, and explore risk reduction strategies to investigate how a high power, nuclear fission-system could be implemented from a subsystem, spacecraft, and architecture standpoint.”

Lockheed Martin Space, based in Denver, was awarded a \$33.7 million contract “to mature the technical design of the JETSON spacecraft systems and subsystems to a preliminary design review level of maturity, and to fully develop the overall program development and test program planning through critical design review.”

All three contracts extend through December 2025.

The three vendors were selected by [NASA in June 2022 for phase 1 studies of fission surface power systems](#), small nuclear reactors intended to support later phases of the Artemis lunar exploration campaign. [Each team received \\$5 million](#) for initial design studies. Read the full article [here](#).



NASA Delays Psyche Launch a Week

NASA has postponed the launch of the asteroid mission Psyche a week to update the configuration of thrusters on the spacecraft. NASA announced late Sept. 28 that it has rescheduled the launch of the spacecraft, previously planned for Oct. 5, for Oct. 12. A Falcon Heavy rocket will have an instantaneous launch window at 10:16 a.m. Eastern that day from Kennedy Space Center’s Launch Complex 39A.

NASA said the one-week delay, decided during a flight readiness review for the mission, will give engineers more time to verify parameters used for nitrogen cold-gas thrusters that orient the spacecraft. Those parameters required changes after engineers concluded

that the thrusters would operate at warmer temperatures than previously predicted.

“Operating the thrusters within temperature limits is essential to ensure the long-term health of the units,” NASA said in a statement about the delay, adding that the verification work involves running simulations and making adjustments to flight parameters and procedures.

“It’s so important that we get this right. These thrusters aren’t the main propulsion system, but they matter, especially right after launch, and we want to make sure we are using them in a very robust way when they are needed,” said Laurie Leshin, director of the Jet Propulsion Laboratory, which is leading the mission, in a social media post.

“We are confident the team is on track to mitigate this concern, and we look forward to our launch in just 2 weeks!” she added. The delay takes away one week from a three-week launch period for Psyche. The spacecraft has daily instantaneous launch opportunities from Oct. 12 through 25 that would allow it to fly its trajectory to the main belt asteroid Psyche. That trajectory was revised last year when the spacecraft missed its original launch date of August 2022 because of software testing problems. An investigation into that delay uncovered significant institutional problems at JPL that contributed to the slip, which the independent panel that led that review said in June have since been addressed.

The delay increased the cost of the mission from just under \$1 billion to \$1.2 billion and pushed back the spacecraft’s arrival at the asteroid from 2026 to 2029. Once at the asteroid, it will spend two years in a series of progressively lower orbits to study the structure and composition of the asteroids, the first solar system body made primarily of metal to be visited by a spacecraft. At a Sept. 6 briefing, project officials said they were working no issues with the spacecraft, making no mention at the time of any concerns about the spacecraft’s cold-gas thrusters. The main uncertainty at the time was whether a potential federal government shutdown in October because of a lapse in appropriations might affect the mission.

NASA officials said Sept. 28 that the Psyche launch has been classified as an “excepted” activity and will be allowed to proceed if there is a shutdown. That shutdown looks increasingly likely as neither the House nor the Senate have yet passed a continuing resolution that would fund the government on a temporary basis when the new fiscal year starts Oct. 1. Read the article [here](#).

Space Force Revising Commercial Space Strategy to Make it “Actionable”



The commanding general of the U.S. Space Force says the service is revising a commercial space strategy to offer more specific guidance on what commercial capabilities are needed, particularly in space domain awareness. In a speech at the AMOS Conference on space situational awareness here Sept. 20, Gen. Chance Saltzman, chief of space operations for the Space Force, said a commercial space strategy document is “sitting on my desk” but requires revisions to make it actionable for the service to carry out.

“As I was reading through it, I said, ‘This is not enough,’” he said. “It can’t just be a strategy with aspirational platitudes about how we’re going to work together.” He said the Space Force is now working to revise the document to better define what capabilities can be acquired from the private sector and those that are “inherently governmental.” An example of the latter, he said, was nuclear command and control. “What are the other things that are inherently governmental, that we really need to say, this is an organic military responsibility because of how critical it is?” he said. “Let’s

clearly define those so that we can open up the space for other commercial services.”

“Right now, it doesn’t feel like the words get there,” he said of the current draft of the strategy in a later interview. He noted he wanted to avoid simply calling for buying more commercial data, instead focusing on specific needs that could be filled by commercial providers. “What you have to do is you have to really analyze it and say, what’s going to actually help this mission area and where can we leverage commercial industry?” he said. “That’s just going to take some analysis.” He said he wanted to find “some significant gaps that we think are best filled by commercial data or commercial services or a new commercial capability,” then determine which of those approaches would be best to fill those gaps. “We just don’t have that level of fidelity yet because we haven’t asked all those questions. So that’s why I put it on pause.” Without that more detailed analysis, “this document becomes more aspirational than actionable,” he said in his speech, estimating that a more actionable strategy document should be released by the end of the year.

In his speech, Saltzman emphasized the importance of space domain awareness, calling it “foundational” to the service’s other activities in space. “Success in the space domain also requires comprehensive and actionable space domain awareness,” he said. “We must understand what’s happening in space to ensure safe operations while simultaneously monitoring for behaviors that are irresponsible, even hostile.” There are gaps in space domain awareness, he acknowledged in the later interview. The biggest, he said, is monitoring the geostationary belt and beyond. One effort to fill that gap is the launch of Silent Barker, a joint mission of the National Reconnaissance Office and the Space Force placed into orbit by an Atlas 5 Sept. 8. Officials said before the launch that Silent Barker would monitor satellites in the GEO belt.

A second gap is the limited number of sensors, like radars, in the Southern Hemisphere. That “creates complications” when trying to track maneuvers of satellites in low Earth orbit, he noted. Read the full article [here](#).

UPM Focus: Lauren Scott - Business Development Manager for Space



For this month’s edition of the UPM Focus, we spoke with one of the company’s leaders on the space industry: Lauren Scott. Prior to arriving at UPM, Scott worked at O’Neal Steel for about ten years, holding a myriad of roles including inside sales, outside sales, and business development. Her true passion was “thinking out of the box to discover new ways O’Neal Steel could develop new markets and expand the company’s product portfolio.” After her time at O’Neal Steel, Scott was approached about a business development position specifically geared towards the space industry and decided to join the UPM team.

Scott said that United Performance Metals offered her a unique opportunity to explore the space industry and learn more about its key players and furthermore, how those key players are making a difference in space. One thing Scott has learned is that the space industry is always evolving; technological developments keep the industry fresh and ever-changing. However, one change has shocked the industry into its current state, and that is the privatization of space exploration. “Obviously, technology and innovation is one of the number one factors for the development of this market. It has gotten rid of the idea that only government agencies or NASA deal in space exploration and research and

development. The public sector is now

taking over this space. It is now 80/20 private and public sector companies vs government agencies dealing in this industry. All of these big players have grown so much in the past ten years because the technology has allowed them to come into the fold. Over the next ten years, I foresee that their magnitude in the commercialization of space travel will continue to increase.”

While it is promising to believe that space travel is being heavily commercialized and the industry is being dominated by private and public companies, that raises the question “What is UPM’s place in this evolving industry?” In response to this question, Scott stated, “We have a unique role in that we support a lot of these space-centric companies through supporting their subcontractors, providing guidance in regards to the supply chain, and offering a robust product portfolio. A wide variety of materials is used in the space industry and one of the things UPM does well is working with our sister companies to offer the full ONI portfolio. If we don’t have a specific product, most likely a sister company has it. We dedicate ourselves to building relationships with space companies that they can trust. It’s about the network we have and can create for our customers.” Scott also mentioned that UPM is making strides in expanding our current product portfolio to better serve as a one-stop solution for companies committed to space exploration. To learn more about how UPM serves the space industry, visit our website [here](#).