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POLICY & PROGRAMMES

Astronauts from Hungary, Poland and India to fly on Ax-4 mission to ISS



Credit: Axiom Space

Astronauts from Hungary, Poland and India will fly on Axiom Space's Ax-4 private mission to the ISS, which will be commanded by former NASA astronaut Peggy Whitson, Axiom announced on August 5th. The Polish astronaut is an ESA reserve astronaut selected in 2022, flying under a contract signed by Poland in cooperation with ESA last year. The Hungarian astronaut is flying through Hungary's own human spaceflight project, outside of ESA, with Hungary reportedly spending \$100 million on the project. Ax-4 will launch aboard a SpaceX Falcon 9 rocket however it still has no launch date. Even though NASA is holding an early November date for the mission, an early 2025 date is considered likely.

Juice space probe flies by Earth and Moon on its way to Jupiter

ESA's Jupiter Icy Moons Explorer (Juice), launched on an Ariane 5 rocket in April 2023, has completed its world-first lunar-Earth flyby, using their gravities to modify its trajectory and get a boost on bound towards Venus, as a shortcut to reaching Jupiter in 2031. The operation, which deflected the spacecraft by a 100° angle and saved around 100-150kg of fuel, also provided with a key opportunity for testing of Juice's scientific instruments in space. ESA now expects to publish collected images and spectra, including from the Earth and the Moon, in the next weeks, following an evaluation by scientists at DLR, the German Aerospace Centre, which is responsible for receiving and converting the raw data collected. Juice is set to meet with Venus in August 2025, return for a boost with an Earth fly-by in September 2026 and January 2029, and arrive at Jupiter by July 2031.

EUMETSAT starts deployment of satellite infrastructure in Africa

This month, the setting up of a network of PUMA-2025 stations in national weather and climate services across countries in Africa started, with the installation of the first of these receiving stations in Nairobi, Kenya. EUMETSAT is supporting the African Union Commission's efforts to set up a network of similar receiving stations in the continent, which will give countries access to data from the Meteosat-Third Generation satellites with the aim of supporting local communities' sustainable development and protect lives and livelihoods. EUMETSAT's Meteosat satellites are the only Earth observation satellites with a constant view of Africa, with the current receiving network in the continent dating back to 2004. The new upcoming stations, which will continue being deployed in the future, will provide more frequent datasets of Africa with a higher resolution.



Credit: EUMETSAT

Norway's Andøya spaceport receives Launch Site Operator license

Norway's Andøya spaceport has received its Launch Site Operator license from the Norwegian Ministry of Trade, Industry and Fisheries. The licensing strengthens Norway's strategic space position in the Arctic and represents a milestone towards the launch of small satellites from Andøya. Isar Aerospace, which has a dedicated launch pad at the spaceport, is scheduled to be its first customer.



NATO to get satellite imagery from Earth imaging company Planet Labs



Credit: Planet Skysat

On August 19th, NATO signed a deal with Earth imaging company Planet Labs, which has a 200-satellite constellation that captures Earth's landmass every day, for the latter to supply it with satellite imagery for the Alliance Persistent Surveillance from Space program. The value of the contract was not disclosed. The APSS programme aims to create a "virtual constellation", with contributions from 17 Member States reaching \$1 billion over the next five years, looking to enhance NATO's ability to analyse intelligence on Land and Sea.

Egyptian Space Agency unveils new plan to grow space capabilities

The CEO of the Egyptian Space Agency, Dr. Sherif Sedky, unveiled plans this month to grow the country's space capabilities through the establishment a joint-stock company with the objective of manufacturing satellite components, together with a marketing company and electronic platform to promote the agency's products and sell and display satellite images. These movements are aimed at advancing Egypt's stated strategic goals to localise space technologies, with the new companies looking to further the achievement of self-sufficiency in space for the African country.

Zambia completes first ground receiving station

Zambia's Minister of Technology and Science announced earlier in August that the building of the nation's first ground receiving station had been completed, allowing the country to advance in its plans to launch its first satellite in the future. Testing of the station is now underway prior to full operation, with the government also focused on human capital development for its future running. Zambia's space plans are expected to focus on Earth Observation to contribute to the resolution of some of the challenges that the country faces, including groundwater management, forestry monitoring, and other environmental and natural resource management.

US Space Force seeks to expand MEO missile-defence network

On August 9th, the US Space Force began a new phase in its missile defence satellite programme, issuing a "request for prototype proposals", for commercial companies to submit designs for satellites for the development of a missile-tracking network in MEO. The Epoch 2 programme builds on Epoch 1, scheduled to be launched in late 2026 and early 2027, and the Space Force aims to invest around \$6 billion over the 2025-2029 period for the Missile Track Custody programme. The MEO satellite constellation, which officials argue has distinct advantages, is to be part of the multi-orbit missile defence architecture by the Department of Defence which also includes satellites in LEO, GEO, and HEO.

Space Systems Command authorises Orbit Fab's refuelling interface

The US Space Force has authorised Orbit Fab's refuelling interface for use in military satellites. The Space Systems Command Review Board deemed that it meets the technical qualifications required to provide support to a wide range of governmental space missions. The refuelling interface, called RAFTI (Rapidly Attachable Fluid Transfer Interface), is to support Space Force's upcoming Tetra-5 mission, with other yet-unnamed governments and commercial customers having signed to the interface, according to the company.



China launches new GEO internet satellite



Credit: Space.com

On August 1st, China launched the second of a new series of GEO satellites, with unclear purposes, while the earlier undisclosed payload, launched in February 2024, is now revealed as the **High orbit internet satellite-02**. No images of the satellite, nor an indication of its potential users/customers or its satellite platform, were disclosed. The launch on August 1st was the 34th of the year for China, with the country expecting to reach 70 before 2025.

NASA selects companies to deliver payloads to the Moon

On August 6th, it was announced that NASA, through its **Commercial Lunar Payload Studies (CLPS)**, has selected Blue Origin's first lunar lander mission to fly a camera system aiming to study **how engine plumes interact with regolith at south polar regions of the Moon**, in support of crewed landing missions. NASA, which has already sent previous versions of the same camera on other landers, selected Blue Origin after it assessed it as the only commercial lander mission meeting the requirement of 8,000 pounds-force of thrust. The date for the launch was not disclosed, though NASA has said that it needs to be by the end of 2025 "to inform Artemis' first [surface] mission".

NASA also announced last August 29th that it has awarded Intuitive Machines a new **\$116.9 million contract to deliver a payload set to the south polar region of the Moon in 2027**. The contract was made through the same CLPS programme for all six payloads to be delivered, including one from ESA, with a combined weight of 79 kg. The award is the fourth for Intuitive Machines.

SpaceWERX awards over \$300 million defence contracts to space companies

SpaceWERX, part of the innovation arm of the US Department of the Air Force within the DoD, has awarded over **\$300 million to companies under a contract called Strategic Funding Increase (STRAFI) programme**, aiming to speed up the transition of dual-use commercial technologies into Air Force and Space Force operational capabilities. These include \$46 million in Small Business Innovation Research funds, \$155 million in additional government matching funds, and \$217 million in private matching funds. Selected companies include American Lithium Energy, Apex Technology, Impulse Space, Turion Space, and Wildstar, among others.

NASA adds three companies to smallsat mission services

NASA has added three companies to a contract to launch small satellites, as announced last August 22nd. These companies are Arrow Science and Technology, Impulse Space and Momentus Space. This will now allow these companies to participate in NASA's Venture-Class Acquisition of Dedicated and Rideshare (VADR) contracts, allowing them to compete for task orders on specific mission launches. VADR is undergoing a continued shift from small launch vehicles to rideshare missions, with this selection of companies that provide rideshare or orbital transfers further strengthening that change. NASA, however, continues to emphasise the use of small launch vehicles under VADR.



US Space Force awards \$200 million contract to Northrop Grumman



Credit: Northrop Grumman

The US Space Force has awarded Northrop Grumman a \$200 million contract under the Deep-Space Advanced Radar Capability (DARC) Site 2 project, in the UK, continuing DARC's objective of becoming one of the world's most advanced space-object-tracking radar networks, as announced on August 23rd.

The radar system will operate in collaboration with AUKUS partners in all three countries (US; UK, Australia). The first DARC site is currently under development in Australia, and is expected to be operational by 2026, for which Northrop Grumman already received a \$341 million contract, with a third one being planned in the US. The DARC system aims to provide continuous, all-weather coverage of objects in GEO, being able to operate regardless of daylight.

US Space Development Agency awards over \$400 million in contracts

The US Space Development Agency awarded contracts to Terran Orbital and York Space Systems to build and operate 20 satellites for a LEO communications network for the military, as announced on August 16th. The satellites, which are expected to be delivered by the end of 2027, are to include optical communications terminals to support several in-plane and cross-plane links, as well as to compatible space vehicles and terrestrial ones. They will be part of a constellation to provide global communications and missile detection capabilities.



In other news

UNOOSA and University of Bonn sign new five-year agreement: The renewed agreement, signed last August 29th, renews their partnership, and reinforces their commitment to leveraging space technology in response to growing disaster threats, and extends the SPEAR project focusing on countries in Africa.

Pentagon report urges commercial technology integration for military use: The report, which follows two recent strategy documents by the Department of Defence and US Space Force also calling for greater commercial-military integration in space, emphasises the rapid evolution of the space sector and the need for the DoD to integrate these advancements.

US Air Force Research Laboratory awarded \$48 million contract to BAE: The company has been tasked with the further development of an existing data analytics platform used by military intelligence analysts, adding new features and enhancements to analyse data from multiple sources.

Australia joins US-led Landsat EO programme: The Next Earth observation programme, led by NASA and the US Geological Survey, aims to launch its satellites in 2031, and looks to capture images to help governments and organisations in crop management, urban environment enhancement, and improve natural disaster responses.

Azerbaijan's Azercosmos to provide services to Botswana: Azercosmos, Azerbaijan's space agency, has initiated a cooperation under which Botswana will use data services provided by the Azerspace-1 telecommunication satellite. Azercosmos already provides satellite services to close to half of the 13 countries in southern Africa.

Department of Defence awards Ovzon new satellite order: On August 14th, it was announced that the US Department of Defence has ordered its first Ovzon 3 satellite from company Ovzon, representing a transition from utilising Ovzon services as a leased capacity to now fully utilising the satellite. The contract is for twelve months and valued at \$6.2 million.

SpaceX to launch a South Korea GEO satellite: The country expects to launch its new multipurpose communications satellite during the second half of 2027. The agreement is the latest in other SpaceX launches of South Korean satellites, including previous ones in 2022, through 2025.

Argentina to host next International Academy on Radiation Effects Space Application Embedded Systems: The event, which will take place from December 2nd to 6th this year, will feature European and Latin American experts, and will bring together academy, government and industry to discuss the effects of radiation. Registration is open until November 30th.



INDUSTRY & BUSINESS

Airbus enters new partnerships with Astroscale and Atlas AI



Credit: Astroscale

Airbus and Astroscale signed a Memorandum of Understanding last August 12th, under which both companies will expand their in-orbit servicing collaboration to focus on UK-based opportunities. The move comes after the UK Space Agency recently awarded Astroscale-UK, a \$2.6 M contract for the company to study whether it is feasible to carry out in-orbit refuelling missions using a servicer with an Airbus robotic arm. The expanded Mou also includes repairing, maintaining and updating in-orbit satellites, as well as in-space constructing and assembling spacecraft components for improved approaching and proximity operations; and exploring ways to boost navigation and docking technologies development for satellite servicing and debris removal.

The following day, August 13th, Atlas AI, a geospatial intelligence startup specialising in applying AI techniques to satellite imagery, announced a collaboration with Airbus for the latter to gain insight into travel demand, airport catchment areas and infrastructure change.

Eutelsat in talks to create ground station-as-a-service business

Eutelsat has announced on August 9th that it plans to develop ground segment infrastructure worth around €790 million and sell 80% of its ground station-as-a-service business (including land, buildings, antennae, and other infrastructure) to a Swedish-run equity fund, with the French GEO and LEO satellite operator remaining a long-term shareholder, anchor tenant and partner. **The new company would become the world's largest operator-neutral ground station-as-a-service company, according to Eutelsat.** The announcement comes after Eutelsat was approached three months ago about the creation of a network infrastructure investment specialist business similar to existing ones in the terrestrial telecoms market.

Last year, Eutelsat purchased OneWeb's LEO business to accelerate its growth into the connectivity services market, but current and ongoing delays in ground stations are withholding its services, which had been planned to start this year, now slated to begin in spring 2025. Fixed and mobile connectivity services still represent less than half of the company's business.

Exolaunch partners with Impulse Space for sat launch and in-space transportation

Exolaunch, a German company that oversees launch mission management, integration, and satellite deployment services, has partnered with Impulse Space, which offers in-space transportation services, to elevate payload delivery services for commercial, academic, and institutional customers. Under the new "strategic partnership", Exolaunch will provide advanced cubesat and microsats separation systems, while Impulse will contribute with its Orbital Transfer Vehicles. The companies have said they will support launches to multiple orbits starting in 2024 and beyond. Both are already collaborating in Impulse's new GEO Rideshare Programme.



Credit: Umbra



Starliner to return without astronauts from ISS, losing additional \$125 Million



Credit: NASA

On August 21st, **NASA announced that Boeing's Starliner capsule will return empty from space next September 6th. The two astronauts who flew in its Crew Flight Test (CFT) mission in June will remain on the ISS until February 2025**, when they are set to return on SpaceX's Crew Dragon 9. Starliner had been docked for additional testing at the ISS since its inaugural flight on June 5th, after some of its reaction control thrusters malfunctioned during its approach. NASA and Boeing officials concluded they were unable to understand the reasons for this malfunction, claiming they didn't know enough to be confident that no malfunctions will take place during time-critical departure and deorbit burns.

Starliner's future is unknown, with officials saying they will wait until the capsule's return to make new decisions. These include whether a new test flight will have to be scheduled before NASA gives certification for ISS rotation missions. **Boeing also took an additional \$125 million charge on its Starliner programme, related to the CFT mission**, adding to a total of \$1.6 billion in Starliner losses to date.

Europe's first commercial rocket explodes on test stand, turbopump to blame

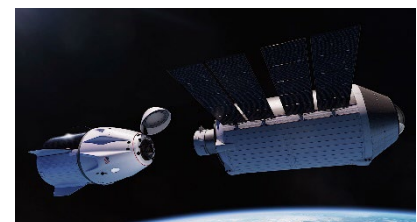
German RFA's (Rocket Factory Augsburg) RFA ONE rocket, Europe's first commercial rocket, exploded on August 19th as its first stage was being test fired at SaxaVord Spaceport in Scotland. The rocket, which was set to have its debut launch this year, had already undergone several previous hot fire tests, including one in May 2024 involving the same rocket stage. The results of a preliminary investigation have identified an oxygen fire in one of the turbopumps as responsible for the explosion, the company announced on August 22nd via LinkedIn, highlighting that the same engine had previously run without issues. RFA's COO reaffirmed that the company will continue to pursue its launch objective.

Blue Origin completes 26th crewed space mission

On August 29th, Blue Origin carried out its 26th flight for the New Shepard program, successfully completing its eighth human suborbital spaceflight and having flown 43 people to space. Among the crew were university student Karsen Kitchen, who became the youngest woman ever to cross the Kármán line, and NASA-funded researcher Rob Ferl, who conducted an in-flight experiment to better understand the reaction of plant genes to microgravity.

Vast's Haven-1 space station to offer microgravity lab facilities

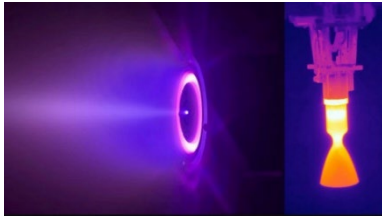
Vast announced last August 1st that it is partnering with Redwire Space and Yuri, a European biotech company, to offer microgravity lab facilities on its upcoming Haven-1 commercial space station, scheduled to launch no earlier than 2025. Vast intends to prove its ability to launch and operate a commercial space station, with the newly announced lab being a key part of those endeavours. Vast's future plans include developing a larger station to offer to NASA.



Credit: Vast



Benchmark and Starlight reach strategic partnership



Credit: Benchmark Space

Startup Starlight Engines entered a strategic partnership with Benchmark Space Systems, as the latter announced last August 5th. Under the agreement, Starlight's Hall-effect thrusters will be paired with Benchmark's non-toxic chemical thrusters to offer hybrid propulsion systems designed for high-endurance or high-specific impulse missions and under-1000kg spacecraft. The thruster, scheduled to fly in January 2025, could have applications for a kick stage Benchmark is designing under a NASA contract.

Space Flight Laboratory to provide GHGSat with two more satellites

GHGSat, a Canadian company that monitors different industries' greenhouse gas emissions, has purchased two additional greenhouse gas monitoring satellites with Space Flight Laboratory. The new satellites will be based on the same platform used to build its first nine satellites, launched in 2016. Development for the new satellites has already begun at Space Flight Laboratory's facility in Toronto.

KVH Industries offers competitor's Starlink services to continue growth

KVH Industries, a provider of maritime connectivity, is turning to competitor Starlink to offer some of its satellite capacity in non-geostationary orbit (NGSO). The company, which competes with Starlink through its very small aperture terminal (VSAT) business, leasing capacity from GEO satellite operators, has started offering the latter's services with a higher degree of customer and technical services, as well as integration with 5G networks and satellites in other orbits. KVH Industries said that this new segment, though slightly less profitable, has experienced sustained growth and now represents the fastest-growing service in the company's history.

Starlink remains nonetheless a competitor for KVH Industries, with the US Coast Guard, one of its largest customers, expected to fully switch its primary satellite service relationship to the SpaceX subsidiary through 2025.

Orbit and Viasat partner on Airborne Satcom Terminals

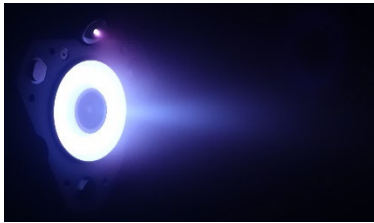
Orbit Communication Systems and Viasat have partnered for the design of multi-purpose satcom terminals for airborne platforms, including a range of mission aircraft, rotary wing and uncrewed aerial vehicles (UAVs). The companies plan to integrate Viasat's global Ka-band networks in the new satcom systems to be developed, and the agreement includes delivery of several airborne terminals to military and governmental customers.

Virgin Galactic finalizes spaceship manufacturing facility in Arizona

This July, Virgin Galactic announced the finalizing of its manufacturing facility in Mesa, Arizona, which will oversee the final assembly of its next-generation Delta spaceships. The new multiuse complex will begin some tooling activities at the end of this year and later commence major subassemblies at the beginning of 2025, including wing, fuselage, and feathering systems. Virgin Galactic's Delta spaceships are expected to have room for up to six private passengers and carry out eight missions per month.



New electric thruster production line to be established by Safran in the US



Credit: Safran

French company Safran Electronics & Defence announced last August 5th that it will establish a new electric propulsion systems production line in Colorado, US, for US government and commercial servicing. The new facility expects to produce its first EPS X00 electric thrusters, intended for small spacecraft operating in LEO, by the first quarter of 2026. The company's French production line, whose products will be identical safe for the sourcing of components, will as such focus on European and

other international customers. It is still undecided where in Colorado the new facility, able to produce up to 200 thrusters per year and double capacity through new hires, will be settled.

Loft Orbital to deploy Little Place Labs' software on YAM-6 satellite

Little Place Labs, a startup founded in 2020 and based in Houston, USA, has announced it has reached a contract with Loft Orbital to deploy software to its YAM-6 satellite, a move that is new to the space industry. Little Place Labs has received \$1.8 million from AFWERX's Small Business Technology Transfer Phase 2 for the mission. YAM-6, Loft Orbital's first satellite, is designed for "virtual missions", and allows for software-developing customers to use its different capabilities. Little Place Labs, which is focused on in-orbit data processing and inter-satellite relay information transmittal, will use the satellite's cameras and analyse the images with its onboard software.

California-based Umbra expands into satellite manufacturing business

Umbra, a California-based space technology company, announced early in August that it would set up a new business branch aimed at offering "components, software and demonstration of mission capabilities through full synthetic aperture radar (SAR) constellations" to different governments, further advancing its radar satellite business. The company did not disclose financial details or specific customers for its new business segment, called Mission Solutions. Umbra was founded in 2015 and currently operates eight SAR satellites in orbit, with plans to expand the constellation to 32.

Intuitive Machines looks to take over NASA's VIPER lunar rover

After NASA announced last month that it would cancel the VIPER lunar rover and issue a request for information (RFI) from companies seeking to take over it, as reported in ESPI's insights, Intuitive Machines has announced it is organising a group of companies to respond and take over the lunar rover mission to be launched by one of the company's launchers. The company is still learning about outstanding work to be done on VIPER once NASA ends its involvement, and, if it finally takes over, plans to launch the rover on its Nova-D lander, which, once developed, could carry extra payloads to offset costs. In such a case, the company expects to launch VIPER in late 2027. The deadline to respond to NASA's RFI ends on September 2nd.



Credit: NASA



Axiom space and Nokia partner for Artemis spacesuit



Credit: Axiom Space

Axiom Space and Nokia have partnered to integrate advanced communication capabilities for the Artemis III lunar mission spacesuits, incorporating high-speed cellular-network capabilities to support HD video, telemetry data, and voice transmission on the Moon. Nokia aims to deploy the first part of the communications network on the Moon as part of Intuitive Machine's IM-2 mission, aiming to demonstrate cellular connectivity's usefulness for future lunar or Mars missions. Axiom

Space won NASA's contract to develop the spacesuits in 2022.

Airtel Nigeria successfully installs Eutelsat OneWeb dish in Lagos

Airtel, a Telecommunications services company operating in Africa, has announced that it has successfully installed the Eutelsat OneWeb dish at its Lagos site in Nigeria. The company plans to make use of the dish to bring internet services to remote areas of the country and contribute to their development. It also said it aims to expand local possibilities by providing high-speed connectivity to businesses and governments. Airtel Nigeria also claims to have trained its staff and local team with the skills necessary to carry out the technology by France-based Eutelsat.

Israel-based Orbit to provide satcoms to naval military platforms in Asia

Orbit Communication Systems, based in Israel, has reached a \$6 million contract for the supply of advanced satellite communication systems to new military platforms in Asia between 2025 and 2030, aiming to provide continuous connectivity irrespective of the environment or maritime conditions. The company claims its OceanTRx 7MIL systems, which will be deployed among the aforementioned platforms, supports various antennae configurations, allowing it to simultaneously operate on different frequencies for global activities. The company also said it plans to continue its expansion on military fleets across Asia.

Northrop Grumman to lay off 550 space business employees

The US defence contractor filed a Worker Adjustment and Retraining Notice (WARN) last August 12th, marking another round of job cuts in the sector in California, following a different 600-employee redeployment that took place earlier this year. The company said it is working to match laid-off employees with existing opportunities across its business. Reasons for these layoffs have not been specified, though the company has reported growth in its space business. The US Space Force recently cancelled a multi-billion-dollar military communications satellite project with the company.

MDA Space selects Beyond Gravity for MDA AURORA Supply Chain

Beyond Gravity announced last August 22nd that it has been selected by Canadian MDA Space as part of its supply chain for MDA AURORA, aimed to drive the transition from analogue to digital satellite technology. Under the deal, Beyond Gravity will contribute 252 constellation on-board computers with integrated navigation receivers and antennas for satellite constellations operating in LEO. MDA AURORA aims to provide operators with more flexibility and functionality, improving constellation performance and reduced costs.



Globalstar gets approval for satellite constellation deployment

Globalstar was approved by the Federal Communications Commission last August 16th to deploy 17 new and improved direct-to-smartphone connectivity satellites next year, with its license extended until 2039. The company needs to update its debris mitigation plan before it is authorised to deploy nine more spare satellites. The satellites operated by Globalstar are notably now used to support SOS and messaging services for the latest batch of iPhones. SpaceX, which is testing a rival direct-to-smartphone constellation and has expressed objection to the authorisation, has been contracted to launch the constellation before the end of 2025.

In other news

Eutelsat renews services in Latin America, provides new services in Africa: Eutelsat has signed a new agreement with Honduras's Cable Color LLC to provide video broadcast services over Central America. Similarly, the company has agreed with African Baobab to provide services over the continent, addressing connectivity needs for companies across it.

Rocket Lab fires Archimedes engine for the first time: The successful first static-fire test represents a key step in the Neutron reusable rocket development, which the company hopes will be able to compete with SpaceX's Falcon 9. Rocket Lab expects to launch Neutron by mid-2025.

Apex develops GEO version of its Aries bus spacecraft: The LA-based company has already sold its first GEO spacecraft to a government customer, with delivery expected by mid-2026. The spacecraft has a 5-year span and is compatible with GEO rideshare options.

Amazon expands Kuiper processing through second \$20M facility: The company announced the new investment last August 22nd, which will add to its current \$120M satellite processing facility at the Kennedy Space Centre in Florida. The new facility will provide more processing and storage capacity city ahead of Kuiper's launch.

Sri Lanka, Ghana and Botswana licensed Starlink to commence connectivity services on their territory: The three countries issued licences for the company's services this month, joining the rapidly expanding network of countries allowing the use of Starlink broadband services.

German CubeSat Qube to test quantum key generation and distribution via optical link: The satellite, which launched on August 16th, will experiment with this technology, which is thought to help with secure communications for governments, companies and academic institutions.



INVESTMENT & FINANCE

Deep Blue Aerospace secures €128 million



Credit: Deep Blue

Deep Blue Aerospace has secured approximately €128 million in a Series B+ funding round led by Wuxi High-tech Zone Investment Control Group. Founded in 2016, the Chinese company specialises in liquid recyclable and reusable launch vehicle technology. The additional funding will be used for research and development, expanding production capacity, strengthening market promotion and improving supply chain management.

Spain-based smallsat mission specialist Deimos to be acquired by Indra

Spain-based smallsat mission specialist **Deimos has agreed to be acquired by Indra for an undisclosed amount** in a transaction that will see Deimos transferred from its current owner, energy company Elecnor. Through this acquisition, Deimos is expected to contribute to satellite integration and flight subsystems, as well as ground segment operations, control and mission software, space surveillance and tracking. The transaction is subject to regulatory approvals and is expected to close in the last quarter of the year. The purchase is part of Indra's strategy to surpass €1 billion in space business revenues by 2030. Deimos has a wide array of space engineering and program management contracts.

Orbitworks collects \$100 million as joint venture company

UAE-based **Orbitworks has been created as a \$100 million joint venture by Loft Orbital with Marlan Space**, an investment firm connected to Abu Dhabi's royals. Orbitworks will operate as an independent company in the Middle East and plans to reach a production capacity of up to fifty 500kg satellites per year, with the first platform assembled, integrated and tested by early 2025 and scheduled for launch in the first quarter of 2026.

Terran Orbital agrees to \$50 million acquisition by Lockheed Martin

Terran Orbital has signed a definitive agreement to be acquired by Lockheed Martin, ending a period of uncertainty over the company's future that saw the rejection of a previous Lockheed acquisition offer at \$1 per share. Under the terms of the agreement, Lockheed will pay \$0.25 per share for the company's stock, for a total amount of \$50 million, and assume the company's debt. Terran Orbital will continue to operate as a subsidiary of Lockheed.

Loft Orbital and Marlan Space establish joint venture based in the UAE

San Francisco-based Loft Orbital and Abu Dhabi-based Marlan Space have established Orbitworks, a joint venture serving as the first private space infrastructure company in the Middle East. The company is to produce up to 50 500-kg satellites every year for commercial LEO constellations. Orbitworks aims to launch its first satellite by the beginning of 2026 and has already started working towards that goal in the UAE.



Credit: Loft Orbital



Dcubed closes Series A funding round to scale satellite actuator production



Credit: Dcubed

German space technology supplier **Dcubed** has raised **€4.4 million in a Series A funding**. The round was led by French-Swedish VC fund Expansion and VC BayBG, with participation from High-Tech-Gründerfonds, Rymdkapital, VENTIS Capital, Decisive Point Europe and Aurelia Foundry. The additional funds, which follow those received from the European Innovation Council in June this year, will be used to scale up production of satellite actuators and to strengthen the company's market presence.

Muon Space raises \$56.7 million to boost LEO satellite platform development

US-based LEO satellite operator **Muon Space** has raised **\$56.7 million in a Series B funding round** led by Activate Capital, with participation from Acme Capital and existing investors Costanoa Ventures, Radical Ventures and Congruent Ventures. Founded in 2021, Muon Space plans to use the new funds to scale operations and expand its product offerings through the development of its LEO satellite platform.

US startup AstroForge closed a \$40 million Series A round

US-based space mining startup **AstroForge** has raised **\$40 million in a Series A round** led by Nova Threshold, with participation from funds such as 776, Initialised, Caladan, YC and Uncorrelated Ventures, as well as individual investor Jed McCaleb. The startup plans to use the funding to support its third mission, called Vestri, which is planned for late 2025 and the details of which have not yet been disclosed.

Redwire set to purchase Hera Systems

Redwire Corporation, which deals with space infrastructure, announced plans to acquire small satellite manufacturer Hera Systems, which has developed a GEO small satellite platform selected for a US Space Force in-orbit servicing experiment, last August 14th. With this purchase, Redwire announced it contributes to its objective of strengthening its defence business and support US national security missions in GEO. The deal is expected to be closed in the third quarter of 2024.

Japanese firm Interstellar Technologies secures \$21 million in Series E funding

Japanese launch vehicle and spacecraft manufacturer **Interstellar Technologies** has raised **approximately \$21 million in a Series E funding round** led by Japanese VC fund SBI and NTT Docomo, the country's leading mobile operator, together with financing from Resona Bank. Interstellar Technologies currently employs 130 people and is expanding into satellite communications, following a vertical integration development model. The company plans to use the additional funding to accelerate the vertical integration of its rocket and satellite businesses.



Credit: Interstellar Technologies



Chinese firm Laser Link raises \$14 million in Series B funding round



Credit: Laser Link

Laser Link, a Chinese laser communication solutions provider, has successfully raised a total of **\$14 million** through a **Series B funding round**, which included investments from Shenzhen Capital Group, PwC Capital, Tuofeng Capital, and Chunyang Capital. The company intends to allocate these funds towards the expansion and scaling of its production capacity for laser terminals, to deploy more than ten units into orbit by the end of 2024.

Starpath raises \$12 million to advance lunar water extraction for rocket fuel

US-based lunar resource extraction startup **Starpath** has raised **\$12 million** in a **seed round** led by 8VC and Fusion Fund, with participation from Day One Ventures, Balerion Space and Indicator Ventures. Launched in 2022, Starpath aims to mine lunar craters for ice-filled water to make rocket fuel for spacecraft returning to Earth. The additional funding will be used to demonstrate its system on Earth and prepare for testing on the Moon.

Indian Galaxeye raises \$6.5 million in Series A round to launch its first satellite

Indian remote sensing startup **GalaxEye** has closed a **\$6.5 million Series A funding round** led by Mela Ventures and Speciale Invest, with participation from Rainmatter, Navam Capital, Faad Capital and Anicut Capital. The company will use the additional funds to launch its first satellite by mid-2025, further develop its multi-sensor payload technology, improve its test infrastructure and expand its workforce.

Japanese Sagri raises €6.15 million for remote sensing in agriculture

Japanese agritech startup **Sagri** has raised approximately **€6.15 million** in a **Series A funding round**, with investments from venture capital firms such as Chiba Dojo, Global Brain, SMBC Venture Capital, and Senshu Ikeda Capital, as well as individual investors including Ryo Ishizuka and Shoji Miyata. Founded in 2018, Sagri uses remote sensing data to analyse the cultivation and planting status of farmland and for soil analysis and water management. The startup plans to use the additional funding to expand its business in Southeast Asia and India by increasing the number of employees involved in overseas operations and by developing new products.

Etherealx raises \$5 million to develop reusable rockets

The India-based rocket startup **EtherealX** has raised **\$5 million** in a **seed funding round** led by YourNest with participation from BIG Global Investments JSC, Blue Hill Capital, Campus Fund and Golden Sparrow Ventures. Founded in 2022, the company aims to build reusable rockets that can return both rocket stages to Earth after flight and will use the newly raised capital to develop its medium-lift reusable vehicle planned to launch in 2026.



Credit: EtherealX



Perceptive Space raises \$2.8 million for space weather forecasting software



Credit: Perceptive Space

Canadian space weather forecasting startup **Perceptive Space** has secured **\$2.8 million in a pre-seed funding round** led by Panache Ventures, with participation from Metaplanet, 7percent Ventures, Mythos Ventures and AIN Ventures. The startup plans to use the funds to develop space weather monitoring and forecasting software for satellite safety, due for release in 2025, and to expand its workforce.

US-based Xterra Space to be acquired by Arrow Science and Technology

US space and defence hardware manufacturer **Arrow Science and Technology** acquired **Xterra Space for an undisclosed amount**. With the acquisition Arrow Science and Technology aims to expand its capabilities through Xterra's Cubesat deployment systems and to broaden its product offerings to US customers. Xterra's manufacturing operations will be co-located with Arrow Science and Technology's laboratory.

In other news

Huanxin Yilian aerospace has closed a multi-million Euro Pre-Series A funding round: the Chinese aerospace optical communications company plans to use the funds for R&D and capacity building. The round saw the participation of Yunze Capital as the sole investor.

Italian quantum computing startup Rotonium secures €1 million in seed investment: the investment, raised from Galaxia and CDP Venture Capital's Tech Transfer Fund, will be used to develop its technology and grow its workforce. Rotonium aims to create quantum computers for challenging environments such as space.

US-based Hera Systems agrees to be acquired by Redwire Corporation: founded in 2013, Hera specialises in small satellite technologies for aerospace and defence. The acquisition by Redwire Corporation aims to bolster its efforts in space domain awareness, rendezvous and proximity operations, mesh network communications, and in-orbit servicing.

Australian spacesuit startup Metakosmos raises \$2 million in a pre-seed round: the round was led by Saudi Arabian engineering services firm Alzadhar Al-Sanai. Metakosmos plans to use the additional funding for its innovation pipeline, spacesuit technology and spin-off applications.

UK-based satellite data company receives undisclosed investment from AzureX Space Ventures and Intercontinental Exchange: the company will use the funds to expand its catalogue of mapping data on the world's forests to support forest carbon projects and nature impact monitoring.

Chinese geolocation company Qianxum SI closes round of funding: the round was led by Beijing Information Industry Development Investment Fund. The funds will be used to develop products and technology systems.

Swiss battery startup BTRY raises around €160,000 in convertible loan from Venture Kick: founded in mid-2023, the startup is developing a new type of layered lithium-ion thin-film solid-state battery that operates at extreme temperatures such as those found in space.

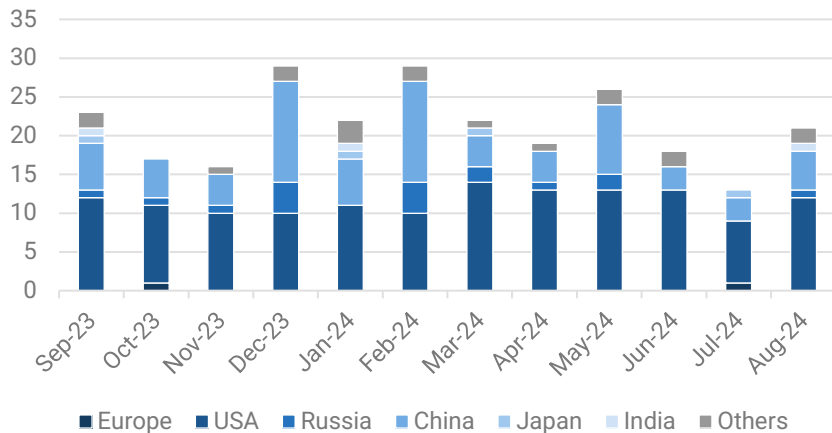


LAUNCHES & SATELLITES

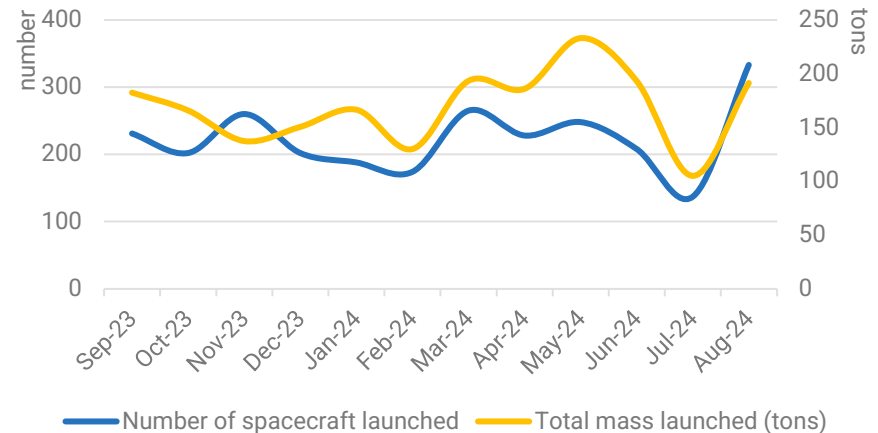
Global space activity statistics

August 2024	USA	China	Russia	India	Others	Total
Number of launches	12	5	1	1	2	21
Number of spacecraft launched	293	35	1	2	2	333
Mass launched (in kg)	164 079	19 400	7280	176	265	190 200

Launch activity over the year



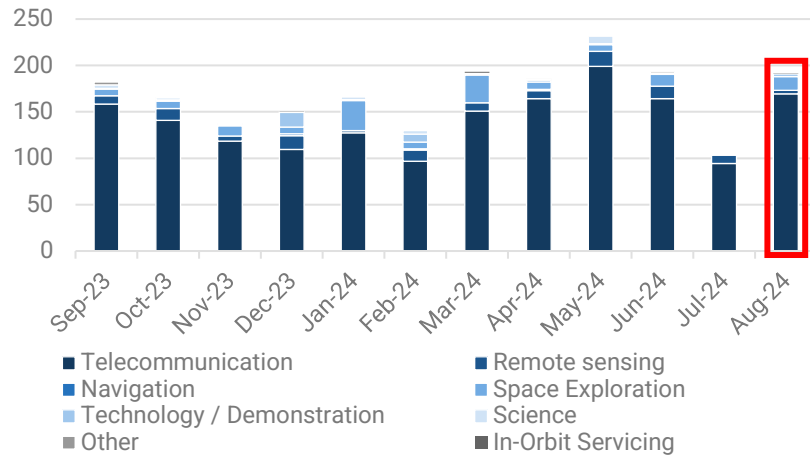
Evolution of the number of launches per launch country



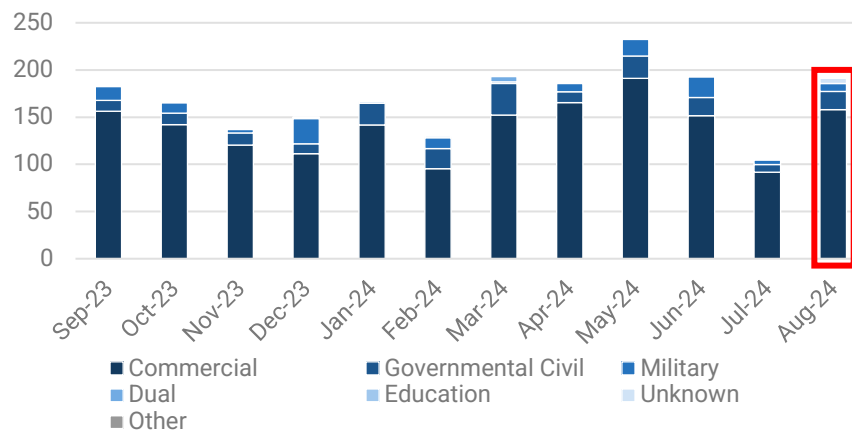
Evolution of launch activity over the year 2023-2024



Satellite missions and markets



Evolution of the total mass launched (tons) per mission (Sep. 2023-Aug. 2024)



Evolution of the total mass launched (tons), per market (Sep. 2023-Aug. 2024)

August 2024	Telecom	Remote sensing	IOS	Exploration	Tech/ Dem	Other
Europe	4040	640	100		125	5
USA	148 840	2512		7492	60	83
China	16 400	300			2700	
Russia				7280		
India	0.2	176				
Japan	44	200				
Others		175			18	10

Total mass (kg) launched by mission and customer country

Aug.2024	Commercial	Gov. Civil	Military	Education	Unknown
Europe	595	4150	165		
USA	151 462	7522		3	
China	5700		8200		5500
Russia		7280			
India		176		0.2	
Japan					
Others	158	89			

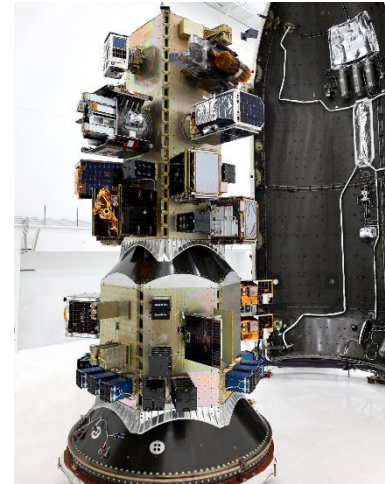
Total mass (kg) launched by market and customer country



LAUNCH HIGHLIGHTS

Transporter-11 launches from Vandenberg Space Force Base

Last August 15th, SpaceX launched the Transporter-11 rideshare mission from the Vandenberg Space Force Base, with all 108 spacecraft successfully being deployed in 99 different deployment events. Payloads were deployed in two different stages into two Sun-synchronous orbits and included an orbital transfer vehicle carrying more payloads and satellites to be deployed at a later stage. Among some of the payloads deployed was ESA's Arctic Weather Satellite, developed with OHB Sweden, which is designed to provide atmospheric humidity and temperature soundings, and is a prototype for a potential constellation. Other payloads included Senegal's first satellite, the 1U spacecraft GaindéSat-1A, containing an IoT and low-resolution imaging payload; as well as satellites from commercial and academic institutions in Sweden, Germany, Norway, Australia, Taiwan, the US, Türkiye, Japan, and the UAE, among others.

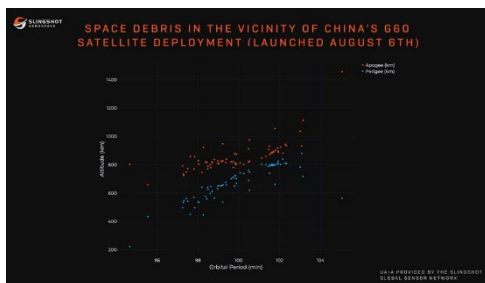


Credit: SpaceX

Transporter-11 is the 11th SpaceX rideshare flight since the brief grounding of all Falcon flights last July 11th after the failure of Starlink Group 9-3. The US Federal Aviation Administration had once again put all Falcon 9 launches on hold after the failed landing of a booster last August 28th, **with launches resuming August 31st.**

China completes first launch for Thousand Sails LEO megaconstellation

China launched its first batch of 18 satellites for its Thousand Sails LEO communications mega constellation last August 6th, aboard a Long March 6A rocket from Taiyuan Satellite Launch Centre. The Thousand Sails constellation, operated by Shanghai Spacecom Satellite Technology (SSST) has plans to be made up of 1,296 satellites on its first stage, with 648 to be launched before 2026 to provide regional network coverage. The full constellation is expected to be made up of more than 14,000 LEO satellites and represents one of two Chinese projects aiming to compete with US ones, such as Starlink.



Credit: Slingshot

The launch, however, has been reported to have created more than 300 pieces of trackable debris, after the rocket's upper stage broke apart shortly after satellite deployment. The breakup likely also includes smaller pieces of untraceable debris, too small to monitor. Previous debris-creating breakups of Long March 6A rockets have prompted concerns from the space industry, with some arguing that if only a fraction of the Thousand Sails constellation deployments creates as much debris, the additions could prove untenable.

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