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KYOTO AND KYIV: TWICE IN A LIFETIME

Europe is concerned about its future in space. It calls to reinforce the development of an overall European Space Policy.

Yet, debates in Europe often appear to be focused on efficiency concerns of agencies such as procurement schemes; the governance between EU, intergovernmental and national actors and concepts like an EU chamber of ESA; and the competitiveness of the European space industry and geo-return constraints. All these aspects deserve highest attention, i.e. **HOW Europe should engage**. They do, however, fall short of addressing the decisive question: **WHY Europe would invest in space at all. What provides the policy foundation of space.**



UN Photo/Frank Leather

25 years prior to the war in Ukraine, the Kyoto protocol and the public awareness triggered by the El Niño phenomenon may have provided the most significant impetus to what became Space for Green & Sustainability and the EU Copernicus programme, Europe's flagship in space, world-leading. Today, about 25% of ESA's budget supports Earth observation, Europe's most successful program.

The same year, on the 4th of July 1997, 25 years after the last Apollo mission, NASA's Mars Pathfinder mission landed on Mars. NASA's policy foundation, its mission to explore the unknown, innovate for the benefit of humanity, and to inspire the world through discovery, still today appears to stand timeless. Its FY2025

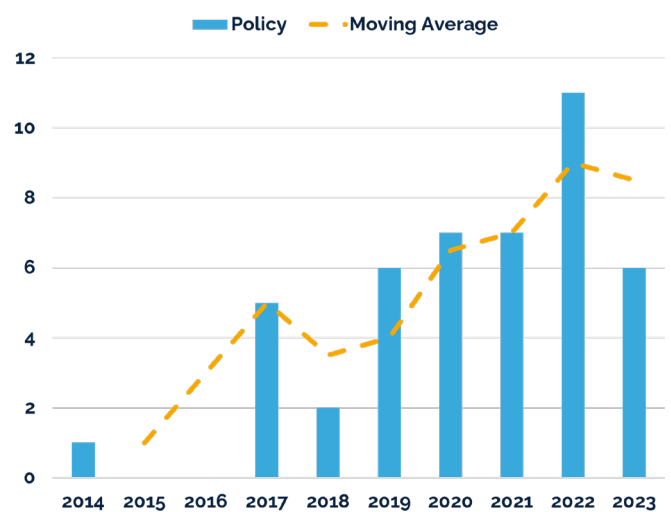
budget request amounts to 25.4B\$, with 2/3 in support of science & exploration, leveraged globally by the Artemis accords - an epitome of space at the service of diplomacy. ESA invests just 10% compared to its US partner in science & exploration, and consistently has denied itself such a grand mission. Also, the 2023 report **Revolution Space** on space exploration has yet to find political support.

Since the Cold War, space for security & defence always has been the other important element of US investments in space, with a FY2025 budget request by the Space Force of 29.4BUSD. In comparison, related European funding is marginal, as Europe is only beginning to act on the geo-political shift caused by the war in Ukraine.

Yet, clearly the space policy dimension of space continues to increase also in Europe, as 30 countries issued national space policies or related policies and strategies since 2017. So far, 6 of these policies (Czech Republic, Germany, Greece, Luxembourg, Switzerland, UK) have been (up-) issued since 2022 and several take into account (in a first instance) the **new security & defence dimension of space**. Half of these recent policies originate in the ministry of foreign affairs or ministry of defence, only in one case it is linked to a research ministry, traditionally the ministerial home of space in Europe.

Affirming the increased strategic relevance, the European Space Agency for the first time has been tasked by its Member States to develop a long-term ESA strategy.

Most Updated Space Policy Publications by Year



Note: This figure only includes the occurrence of the most updated space policy documents from the ESA countries to capture how up-to-date European space policy and strategy is.

Source: Space Policies Database, updated until August 2023.

In Europe, **security concerns have outranked green and climate in space policy agendas**. This should at least have two consequences regarding **WHY** Europe should invest in space, beyond Kyoto, for the next 25-year cycle,

- to extend its existing, Earth observation champion program and strategy beyond climate, green and sustainability and to develop its security & defence and economic dimension much stronger
- to put security & defence as a new core of a European space policy, on par with climate and environment, seeking synergies with Europe's achievements in civilian space applications in navigation and communications, leveraging commercial and dual-use solutions

Beyond that, Europe also needs to come to terms with its ambitions in science and human exploration and recognizes the catalytic effect these have on the entire space eco-system, from talent to capabilities, and as a foundation for the space industry of any space power.

Yours sincerely,

Hermann Ludwig Moeller
Director of ESPI





POLICY & PROGRAMMES

Ariane 6 successfully launches from French Guiana launch site



Credit: ArianeSpace

Europe's Ariane 6 rocket successfully launched on its first mission on July 9th from the Guiana Space Centre. French President Emmanuel Macron highlighted the "strategic autonomy" the rocket will provide to Europe. After four years of delays, European governments and institutions had to recently rely on foreign companies like SpaceX to access space. ArianeGroup is now to ramp up production of Ariane 6 to reach a cadence of around 9 launches per year. Additionally, ESA recently awarded a contract to Arianespace to explore potential

options for enabling **crewed missions** launched aboard Ariane 6.

Finally, on July 5th, **ESA announced in a press release that its Member States had adopted a resolution including "the definition of what constitutes a 'European launch service'".** The perennial voices calling for a European launcher preference for institutional payloads have re-amplified last month after EUMETSAT decided to launch its next satellite on SpaceX's Falcon 9, as reported in **ESPI's June insights**.

Bundeswehr awards Airbus €2.1 B contract for military satellite development

Germany's Bundeswehr has awarded Airbus the SATCOMBw3 prime contract for a next-generation secure military satellite system to be deployed before 2030, including GEO satellites, a ground segment, launch, and operations for 15 years. The contract, announced July 4th, covers design, integration, test and orbiting of two satellites to succeed COMSATBw 1B and 2B, weighing 6,000 kg each and based on Airbus' Eurostar Neo platform. The contract includes provisions to ensure the involvement of several smaller German companies, with central elements such as payload integration, solar arrays, and satellite operations carried out from Germany.



Credit: Airbus

SATCOMBw is indispensable for autonomous and independently deployable communications and information services, ensuring the global command and information capability of the German armed forces, such as operational contingents and special forces.

ESA to develop zero debris LEO satellite platforms

ESA has reached agreements with Airbus Defence and Space, OHB, and Thales Alenia Space for each to design and develop a standardised zero-debris platform to be used for large LEO satellites during the first phase of a project aiming to develop zero-debris production lines, aligning with ESA's commitment to deliver on the promise of transitioning to Zero Debris by 2030. The projects aim to establish a baseline design during this first phase, expected to last 18 months, with the objective of reaching new suppliers, integrating solutions and achieving a Preliminary Design Review that evaluates and tests various practical aspects of building the design by Phase 2.



US and Saudi Arabia sign agreement for civil aeronautics, space collaboration

Last July 16th, NASA signed a framework agreement with Saudi Arabia on behalf of the US, opening new cooperation possibilities, including space science, aeronautics, exploration, operations, education, and Earth science. The agreement titled “Framework Agreement Between the Government of the United States of America and the Government of The Kingdom of Saudi Arabia on Cooperation in Aeronautics and the Exploration and Use of Airspace and Outer Space for Peaceful Purposes”, lays out the mutual collaboration’s legal framework, as well as highlights the relevance of the Artemis Accords, which Saudi Arabia joined in 2022.



Credit: Saudi Space Agency

The two countries have been strengthening their space ties, with NASA administrator visiting his counterpart and other government officials in Saudi Arabia two months ago, and Saudi mission specialists being launched to the ISS aboard a SpaceX Dragon from Florida, as part of a commercial crew mission offered by Axiom Space in May last year.

COSPAR opens new Space Innovation Centre in Cyprus

The Committee on Space Research (COSPAR) announced on July 1st that it is inaugurating its COSPAR International Space Innovation Centre in Nicosia, Cyprus. This marks the conclusion of multiple year-long efforts between COSPAR and the Cyprus Space Exploration Organisation (CSEO). The Centre is jointly funded by the EU, the Research and Innovation Foundation, Cyprus, and the Translational Research Institute for Space, and aims to foster cooperation between research institutions and leading international space organisations. COSPAR research has previously focused on adverse solar activity events predictions, and innovation around atmospheric modelling technologies.

Spain and Luxembourg to provide NATO satcom support



Credit: Hispasat

Starting 2025, Spain and Luxembourg will join four other NATO nations in providing satellite communication services to the organisation. The six nations agreed at the beginning of July on the amended framework via which satellite communication services are provided to NATO, allowing Spain and Luxembourg to join France, Italy, the UK and the US in their operational communication servicing to the alliance, which kicked off when NATO ceased acquiring and operating its own communications satellites in 2005. The two nations will bring additional

super-high frequency and ultra-high frequency capacity to the consortium from their Spainsat Next Generation and GovSat satellites, respectively. In total, about a dozen military satellites will provide capability to NATO, increasing the resilience of satellite communications capability. The services will be directly used by NATO headquarters during NATO-sanctioned operations.



EDF selects two consortiums to advance intelligence sovereignty

The projects, named EMISSARY and STAALION, revolve around European intelligence sovereignty, and have been provided funding under the European Defence Fund program.

A 7-company consortium led by Nurjana Technologies, has been awarded €6 Million for their STAALION project to protect strategic European assets through in-situ LEO and GEO threat characterisation and response. Partners include Infinite Orbits, LMO, Lambda-X High Tech, Skylabs, Vyoma, and Officina Stellare.

The EMISSARY project which, with a budget of €100 Million is led by Italy's Leonardo, wants to feed a European Space Command and Control centre through ground and space-based sensors to create a unified threat perception across Europe. The partners in this consortium include over 40 European space agencies, companies and startups like Vyoma, DLR, Airbus Defence and Space, GMV Aerospace, INDRA, Telespazio and Thales Alenia Space.



Credit: EU-EDF / EDR online

OroraTech to support Greek wildfire response

The German satellite data company has been awarded a contract by ESA to support the Hellenic Space Centre in helping emergency services battle destructive wildfires, expected to increase as the country experiences another hot summer. Under the contract terms, Greek emergency services will be directly connected to OroraTech's data, also making them available to Greek universities and industry. The Company will also open a hub in Athens from which it will operate its fleet. It will also host an advanced infrared sensing technology development team. The Greek government, which will also invest in four thermal satellites with OroraTech's technology, is becoming the first country that will have a national satellite-based wildfire system in place.

CNES awards GEO service missions to Telespazio France and Infinite Orbis



Credit: France2030

CNES, through the France 2030 program, has awarded a consortium comprised of both companies, led by Infinite Orbis, two contracts to demonstrate rendezvous and docking capabilities from 2026, relying on Infinite Orbit's two GEO servicers equipped with RendezVous and Proximity Operations technology, operated in collaboration with Telespazio. Endurance, a 750kg docking servicer, will perform docking on an active end-of-life commercial telecommunication satellite, managing its posterior

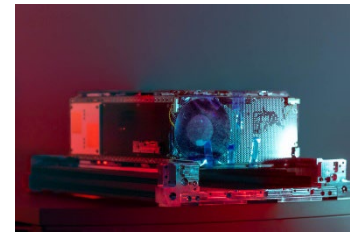
disposal in a graveyard orbit. Furthermore, Orbit Guard, a 50kg servicer, will demonstrate proximity inspection of Meteosat 8, a passivated satellite of EUMETSAT. The missions represent a new step in GEO assets' lifespan optimisation and near-range rendezvous capabilities.

The French government's France 2030 recovery fund, which has now surpassed \$1 billion in financial support for space startup ventures, also announced 9 other new awards on July 11th. These include projects by Exotrail, Thales Alenia Space and Magellium, Comat, ThrustMe, Loft Orbital, Leanspace, and Latitude.



ESA's new Φ sat-2 mission to demonstrate AI capabilities in Earth observation

ESA's new Φ sat-2 mission, poised to launch is expected to push the boundaries of AI for Earth observation, aiming to demonstrate the transformative potential of AI for space technology, allowing for quicker and more accurate data processing, and helping to make use of greater amounts of raw data. ESA already launched Φ -sat-1 in 2020, looking to also demonstrate AI uses in Earth observation, and paving the way for Φ -sat-2. The CubeSat features a multispectral camera and an AI computer with six AI applications running onboard, allowing for a multitude of operations. Open Cosmos serves as the prime contractor for the mission.



Credit: ESA

ESA's EO AFRICA R&D Phase Two project gets a three-year extension

ESA granted the Earth Observation AFRICA R&D Facility a three-year extension to carry out Phase two from 2024-2027, after a successful evaluation of its first phase, which ranged from 2021-2024. This new chapter represents an opportunity to create and deepen opportunities for Euro-African cooperation, innovation and Earth Observation capabilities in Africa. The Consortium will concentrate on water scarcity and food security in the next three years, while also working on online training, African-European research tandems, Earth Observation training material development for African universities, and building a proactive Euro-African R&D network.

ESA selects TESAT to deliver 6G satellite precursor

ESA has selected TESAT for a 6G precursor project to deliver an in-orbit laboratory to gain knowledge on end-to-end connectivity and satellite inclusion in terrestrial networks. The project is seeking to get results with potential uses for 6G standardisation. The 6G in-orbit laboratory is expected to produce a 16U CubeSat. Additionally, TESAT will also set up a full 5G-based ground segment. Phase one will see the satellite launch into orbit after 18 months, with the second one starting immediately after this, with a 12-month orbital experimentation phase extendable by one year.

Israeli Aerospace Industries reaches \$1 billion contract with Morocco

Morocco has recently signed a \$1 billion contract with company Israeli Aerospace Industries (IAI) to purchase two ISR satellites, to be allegedly built using IAI's OPSAT 3000 series, to replace two older resolution satellites operated by the North African country. The OPSAT 3000 is an electro optical satellite with a 70 cm aperture telescope and highly sensitive sensors that enable it to capture multiple targets in a short amount of time. The satellite is expected to perform a variety of civil and military uses, in combination with its ground segment and data processors. The satellite is also compatible with commercial launch service providers as part of rideshare missions. Morocco has also previously purchased IAI's Barak 8 air defence system for \$500 million.



US Space Force selects companies to compete for SmallSat missions



Credit: US Space Force

Blue Origin and Stoke Space, neither of which have yet reached orbit, have been added to the US Space Force's roster of launch providers competing for short-turnaround small-satellite missions under the **Orbital Services Program-4 (OSP-4) contract**. OSP-4 was established in 2019 to leverage emerging commercial launch capabilities, focusing on missions of 400 pounds or greater, requiring providers to be launch-ready within 12 to 24 months from task order award. Overall, the contract has a \$986 million ceiling through October 2028. Stoke Space recently carried

out its first hot-fire test of its reusable rocket engine, aiming for its first orbital test launch by 2025. Blue Origin is looking at a September 29 first flight of its new heavy-lift rocket for a NASA Mars exploration mission.

Poland reaches space for the first time with ILR-33 Amber 2K

Polish-developed ILR-33 Amber 2K rocket, launched on July 3rd from the Andøya Space Centre in Norway, reached an altitude of 101 km, marking a historic day for the Polish rocket community. Development for the rocket kicked off by the Łukasiewicz Institute of Aviation in 2014, with an initial low-altitude test conducted by the end of 2022. Operational flights will now follow the successful reaching of space, having already secured a contract from Polish Thorium Space for flights between 2025 and 2027.



Credit: Łukasiewicz Institute of Aviation

EUTELSAT wins broadcast deal in Poland

TVN Warner Bros Discovery, Warner Bros Discovery's Polish subsidiary, has signed a new multi-year, multi-transponder deal with EUTELSAT, expanding the group's capacity. The Polish market represents one of the largest European markets. EUTELSAT's additional capacity will allow TVN Warner Bros Discovery to enhance its services across the market, as well as improve its broadcast activities during the Paris 2024 Olympics, including seven newly dedicated channels for the event.

Bulgaria's EnduroSat gets order for Botswana's debut satellite

The European MicroSat specialist announced on July 3rd the deal to build Botswana's first satellite together with a university from the country. Engineers from Botswana's International University of Science and Technology (BIUST) will join the team in Bulgaria to make Botsat-1, booked to launch no earlier than February next year. The planned CubeSat is to feature a hyperspectral sensor to gather ground composition data that supports agriculture and mining in Botswana, the world's top producer of diamonds by value, which is looking to diversify its economy.



Ukrainian MoD reaches deal with Iceye to limit access to its satellite imagery



Credit: Iceve

The Ukrainian MoD has signed a MoU with Finnish company Iceye to ensure the company's imagery captured over Ukraine will not be used by or shared with hostile countries or entities.

The company, which operates a synthetic aperture radar satellite constellation, said it is committed to supporting Ukraine and ensure its services are not used against the country, calling for peers to do the same. Iceye already agreed in 2022 to designate one of its satellites for use by the Ukrainian

government over the region. The MoU also included boosting Ukraine's space defence capabilities, advancing remote sensing technology, improving data use for security, and supporting the space economy.

ESA's RAMSES mission to Apophis to go forward

The European Space Agency's Rapid Apophis Mission for Space Safety (RAMSES) will go forward to the next stage of development to keep it on schedule despite the current lack of funding. ESA's space safety programme, which includes planetary defence, allowed preparatory work for the mission, which is to visit Apophis before the asteroid flies close to Earth around April 2029. NASA's OSIRIS-APEX is also to visit Apophis to perform several studies, including flybys gravitational effects

RAMSES is to launch in 2028 aboard the same spacecraft bus as ESA's Hera mission, scheduled to launch this October to visit the asteroid Didymos; and will carry two extra CubeSats with which it expects to rendezvous with Apophis by February 2029, performing studies before and after its Earth flyby. ESA Member States are to decide on funding at their next ministerial meeting in late 2025, with Italy expected to be the largest contributor.

UK Space Command's Project Tyche to receive support from LeoLabs

The UK Space Command's Project Tyche, scheduled to launch later this summer, will benefit from space tracking and monitoring, as well as collision-avoidance services, by LeoLabs. The satellite is part of the UK Ministry of Defence's \$1 billion ISTARI project, looking to establish a constellation of intelligence, surveillance and reconnaissance satellites in LEO. The contract's value was not disclosed, but LeoLabs will provide space domain awareness services, including persistent monitoring of selected space-based objects.

Indian government to set up \$100+ million fund to fuel national space economy

India's finance minister announced that the Indian government's new budget will allocate a \$119 million "venture capital" fund to fuel the growth of the country's space economy, aiming to increase fivefold in the next 10 years. Space startups, venture capitalists and related industries welcomed the move, which comes after a 2023-2024 economic survey underlined India's growing presence in space. A research fund for basic research and prototype development was also announced as India is looking to become a larger player in the global space economy.



Credit: The Week India



NASA cancels VIPER Moon rover project, continues Moon exploration

On July 17th NASA announced that it was cancelling the **Volatiles Investigating Polar Exploration Rove (VIPER) mission**, citing **over costs**. It marks the second time in less than a decade that NASA has cancelled plans for a rover to look for water ice on the Moon. VIPER was supposed to be sent to the south polar region of the Moon, exploring terrain including permanently shadowed regions to better understand the form and extent of water ice there.



Credit: NASA/Daniel Rutter

The rover, which is complete and was supposed to undergo environmental testing, is to be disassembled for its components to be reused, though NASA will first allow for private companies to make proposals to fly VIPER on their own and at no cost to the US government. NASA will still make use of Astrobotic's Griffin lunar lander, initially built specifically for the rover, as a technology demonstrator to land large payloads. Though NASA has said most of the research intended for VIPER can be carried out with other missions, it will still have to wait for its crewed Artemis rover to be delivered later in the decade to make use of mobility benefits.

Developments in the UK

The UK Space Agency announced on July 22nd that it is providing **33 million pounds (\$43 million) to fund projects part of the UK's National Space Innovation Programme**, dividing the money between established and new projects. HyImpulse UK and its vertical launch project, together with Super Sharp Space Industries' thermal infrared Earth observation instrument for climate change, will each receive \$6.5 million, the rest going to companies like Rolls-Royce Submarines, Orbit Fab., Spire Global and UK universities. Funded projects also include the development of 5G and 6G networks and electronic propulsion systems.

Furthermore, on July 23rd ESA unveiled plans at the annual **Farnborough International Airshow in England to expand its UK presence**, saying that it is exploring the possibility of establishing a space quantum technologies lab in the country, together with the UK Space Agency. Plans would also expand ESA's European Centre for Space Applications and Telecommunications (ECSAT), currently employing around 100 people in the UK.

Sweden approves first defence and security strategy for space



Credit: Saab

Last July 4th, the Swedish government agreed on its **first defence and security strategy for space**, claiming space is an area of cooperation, but where competition and risk of conflict are on the rise. The strategy looks to safeguard Sweden's defence and security interests in and through space, aiming to establish the country as a significant and responsible actor. It is based on four pillars, namely: (1) Ensuring freedom of action in space through anticipating challenges; (2) Creating

a portfolio of capabilities and services in space to support defence and crisis preparedness; (3) Being an active and responsible international space partner; and (4) Pursuing a coherent and knowledge-based space policy for crisis preparedness and defence.

In this regard, **Sweden's military announced last July 21st that it is conducting a study on the possibility of launching satellites from its Saab Gripen fighter aircraft.**



DLR develops highly accurate lasers for optical clocks

The German Space Agency, DLR, has developed a new laser clock with a very high accuracy, claiming it would only deviate by one second every 30 million years. DLR claims laser clocks are to improve satellite navigation and deliver precise global time signals, including better data and communication transfers, and is aiming at testing a space-grade one aboard the ISS by 2027.

JAXA seeking proposals for future commercial space station technologies

On July 5th The Japanese Space Agency, JAXA, issued a call for proposals for technologies that could contribute to future commercial space stations, looking to increase the country's role in replacing the ISS. The call is part of a new \$6.2 billion Space Strategy Fund to be granted over 10 years to Japanese companies and expand the country's space industry. Topics currently included in the fund include launch vehicles, satellite constellations and lunar exploration, with more to be announced that will include cargo transportation, space station modules, and life science experiments, among others. Japanese officials highlighted the Fund is not limited to work around commercial space stations, instead aiming to bolster the country's entire space sector.

US Space Force grants two companies over \$450 M contracts

Akima's subsidiary, Fiver Rivers Analytics, has received a \$480 million 10-year contract from the US Space Force to modernise and support the Satellite Control Network (SCN), which has run since 1959 and includes 19 parabolic antennas distributed around the world. The Alaskan company will contribute to improving and updating this network which supports US government satellite launches, tracking, control and maintenance.

Similarly, CACI international, a professional services and IT company, has received a \$450 million 10-year contract to support the Joint Navigation Warfare Centre (JNWC), critical for navigation warfare, in maintaining positioning, navigation and timing (PNT) superiority for the DoD and its partners. CACI will perform field assessments, war gaming scenarios, and modelling and simulating threats to enhance combatant commanders' abilities in PNT-disrupted, denied and degraded area operations.



In other news

Turion Space awarded Space Force \$1.9 million contract for debris-capture technology: The company has been tasked with developing an autonomous spacecraft docking and manoeuvring system, aiming to advance technologies for engaging uncooperative space objects and facilitating inactive satellite deorbiting.

Iran Space Agency expects to launch two privately developed satellites this year: The head of Iran's Space Agency announced two satellites focusing on imagery sensing and research and communication purposes will be simultaneously launched this year, with more under development.

Türkiye intends to become satellite exporter: Turkish Minister of Industry and Technology, Mehmet Fatih Kujir, noted earlier this month that his country has entered what he called the "top team" in space technology, and is now aiming to become a satellite exporter.

Hylmpulse expands partnership with Southern Launch to enhance launch capabilities in Australia: The two signed a MoU encompassing additional launches at the Kooniba site, and the development of a new one in Whaler's Way. Hylmpulse also signed agreements with the Saxa Vord launch site in the UK and is aiming at access to the small launcher space in French Guiana.

US and Nigeria renew partnership in Space Geodesy and Geohazard Research: The National Space Research and Development Agency (NASRDA) and NASA renewed their MoU to advance research at the Centre for Geodesy and Geodynamics in Toro, Nigeria also deepening the African country's ties with the US. The renewed partnership will also build capacity and encourage knowledge transfer.

Kazakhstan joins China's ILRS: The country is the 30th to do so, also exploring commercial use of each other's spaceports.

Azerbaijan's Azercosmos has also recently signed a MoU with Chinese company Star.vision, focused on joint development and application of necessary algorithms for satellite and orbital tests, using AI tools developed by Star.vision.

Planet Labs has signed contracts with two undisclosed governments: The contracts are reported to be seven-figure ones, for access to Planet's satellite constellation's imagery, to be used for several domains, including maritime awareness. Neither the governments nor the exact values of the contracts were disclosed.



INDUSTRY & BUSINESS

UAE's Yahsat selects SpaceX to launch GEO communications satellites



Credit: Yahsat

the UAE government awarded Yahsat a \$5.1 billion deal for them until 2043.

Emirati satellite operator **Yahsat** announced on July 1st that it selected SpaceX's Falcon 9 for the launching of its **Al Yah 4 and 5 satellites in 2027 and 2028**, respectively. The launch contract, the value of which was not disclosed, is part of a \$1.1 billion programme which includes the building of the two satellites by Airbus Defence and Space, as announced in **ESPI's June 2024 insights**. The new satellites are expected to provide broadband services for the Middle East, Europe and Asia, after

Space companies improve connectivity in India

This month **French company Kinéis and Indian Dhruva Space announced a collaboration under which Kinéis IoT connectivity will be introduced in India** through the launching of one of its payloads on the Dhruva Space P-30 satellite. The partnership also includes augmenting the Space segment capacity for India through a joint satellite mission, allowing both companies to offer cost-effective, reliable and advanced tailored IoT solutions and applications to the Indian market. The full-scale availability of service will start following the planned full Kinéis satellite constellation deployment by early 2025, which Dhruva Space will support from India.

Furthermore, **Measat, a Malaysian telecommunications satellites operator, will also start providing services in India** after reaching a deal last July 1st with Sun TV Network, one of the country's largest media companies.

Orbit Fab's satellite fuelling nozzle passes ground test

The Colorado startup, which is developing hardware capable of carrying out in-space satellite refuelling, successfully tested its fuelling nozzle intended to dock and transfer propellants to satellites. The ground test, carried out at Kirtland Air Force Base in New Mexico, showed the hardware could establish and maintain a secure fluid connection, retiring major technical risks and positioning Orbit Fab in a race for the emerging market with Northrop Grumman, with the US Space Force (USSF) evaluating both companies' technologies.



Credit: Orbit Fab

Orbit Fab has already shipped its hardware to government and commercial customers in the US, UK and Japan, and is planning to perform a similar test in 2025, transferring propellant to three satellites in GEO. Should the technology prove effective, it would extend spacecraft lives beyond their fuel storage availability.



Voyager Space and Palantir partner for AI innovation in Space Technology



Credit: Voyager Space

The two American companies focusing on space exploration and AI systems, respectively, announced they will cooperate in integrating Palantir's AI tools across the Voyager portfolio, thereby ensuring improved defence and commercial application solutions. The collaboration also aims at easing space accessibility to the defence community, and vice versa.

The agreement builds on a Memorandum of Understanding signed by both companies earlier this year and is expected to improve payload management systems for current ISS customers, as well as onboard the future Starlab commercial space station, and help in data optimisation and processing, both in flight and communications systems.

Telespazio selected by EMTECH SPACE for constellation management

The joint Leonardo and Thales venture was selected by EMTECH SPACE, the main contractor of the Hellenic Space Dawn's Greek Cubesat In-Orbit Validation Program, to monitor, control, plan and integrate services for the full lifespan of the constellation, as well as further support during the project's operational phase. The two-satellite constellation aims to enhance Greece's space capabilities and foster international cooperation, as well as promote secure high-speed and inter-satellite communication. Telespazio Germany's EASE-Rise platform will serve as the project's Ground Mission Control Solution.

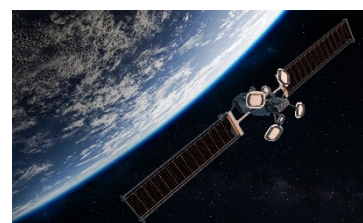
MDA Space selects Jena-Optronik, Aerospacelab for AURORA supply chain

German company Jena-Optronik will cooperate with MDA Space on the Aurora software-defined satellite product line. Aiming to transition to digital satellite technology, Jena-Optronik will be supplying over 500 ASTRO CL Star sensors, which feature radiation hardness, real-time lost-in-space acquisition and operation at high rotational rates, and short-term availability. Jena-Optronik's collaboration is expected to support flexibility and functionality improvements. **Additionally, on July 8th it was announced that Belgian Aerospacelab will provide 200 battery charge regulators over three years starting in 2026**, used to manage power distribution and battery charging in satellite systems. Financial terms of the contracts were not disclosed.

MDA Space intends to develop MDA AURORA to enhance the performance and improve satellite communications solutions, enabling constellations to reach all parts of the world with their communication networks, operating from multiple non-GEO and frequencies.

Ovzon's broadband satellite tests successful, ready for commercial services

On July 5th the Swedish broadband operator Ovzon announced that its first fully owned satellite successfully completed GEO tests and is ready for commercial servicing. France's elite police tactical unit will be the first customer to use the satellite for connectivity, in preparation for the Summer Olympics. The company, which has traditionally serviced mainly the US Department of Defence, is now eyeing governments in Europe as potential customers for Sweden's first commercially owned satellite.



Credit: Maxar/Ovzon/Proventus AB



KSAT to expand presence in Japan through Tokyo office

After over 20 years of servicing the Japanese market, **KSAT, a Norwegian provider of network services for spacecraft and launch vehicles, is opening a new office in Tokyo to enhance relationships and expand its presence in Japan and the wider Asian market.** The new office will be led by Kenneth Olafsson, who has been managing the regional business for KSAT the last 14 years. The company, which has previously worked with and supported JAXA and other Japanese satellite operators, will also partner with Japanese satellite TV and digital broadcaster JSAT to open two new ground network sites in Hokkaido and Okinawa.



Credit: KSAT

Japanese venture seeks to develop module for commercial space station

A newly formed Japanese venture, Japan LEO Shachu, formally established on July 1st, is seeking to develop a Japanese module to be installed on future commercial space stations, aiming to "leverage Japan's strengths in LEO". The company's plans feature including pressurised manufacturing, research and other applications areas, as well as high-bandwidth communications and an external platform for additional payloads. The entity acknowledges that it will need to cooperate with American commercial space station developers, as well as attract customers from private companies and government agencies. The company's proposal comes as JAXA looks to request technology proposals for use on future commercial space stations.

Phase Four and Redwire develop strategic cooperation for Hall Effect Thrusters

The two companies announced on July 9th they are in development of the Valkyrie System family of propulsion systems based on the NASA-designed H71M Hall Effect Thruster. According to the companies, which are working on making the system re-programmable after launch, able to provide multiple set-points for optimisation, and share extensive telemetry, both government and commercial customers will benefit from it. Full rate production is expected to start in 2025.

Arup and Fire Arrow partner to boost sustainable access to space



Credit: Arup / Fire Arrow

Arup, a global engineering consultancy that looks to advance sustainable development will contribute to boosting Fire Arrow's ability to provide sustainable, responsible and low-cost access to space. Fire Arrow aims to support governments and private companies in the development of safe and sustainable sovereign launch capabilities. The company also provides a wide array of space-related services. Arup has previously participated in space projects, including developing and designing Scotland's spaceports, among others.

Helsing successfully tests AI capabilities in space

The company based in Munich announced on July 10th that it had successfully carried out the deployment of advanced AI capabilities on the Loft Orbital's YAM-6 satellite node, with tests focusing on real-time onboard radio frequency signal detection and characterisation for military-grade signal intelligence and anti-jamming applications. Helsing is also aiming to deliver these capabilities to future constellations, such as IRIS², as space takes a greater role in security and defence fields.



Southern Launch reaches blast-off deal with South Korean company Unastella



Credit: Southern Launch

aims to carry out suborbital tourist flights, eventually expanding to LEO and deep-space human exploration missions.

The deal signed by Southern Launch enables rocket manufacturer Unastella to carry out at least four launches per year in its two traditional spaceports in Australia, starting in 2025, thereby allowing it to test and launch a small lift rocket paving the way for larger vehicles in the future. The companies, which signed the deal in Seoul at the beginning of July, are now pending regulatory approval by the Australian Space Agency. Unastella

D-Orbit to strengthen US position through establishment of D-Orbit USA

The Italian aerospace company has established a joint venture to expand its US satellite bus market focused on satellite bus design, manufacturing and sales, with D-Orbit USA becoming the D-Orbit Group's latest addition. The new US team will feature former employees from SpaceX, Amazon Kuiper and OneWeb, and support from D-Orbit USA's foundation. The move also comes after the company raised around \$107 million in a series C funding round earlier this year.

Thales Alenia Space and Exotrail to develop new ground segment software

The two companies have signed a memorandum of understanding, announced on July 12th, detailing their joint work in the development of a surveillance, command and control (SSC) ground segment solution designed for small satellite constellations. The cooperation includes integration of Exotrail's spacetower flight dynamics system software, designed to meet comprehensive flight dynamics engineering needs, with Thales Alenia Space's Open SSC satellite control solution. Both companies claim the joint development will cover the full spectrum of satellite and flight dynamics operation requirements.

iRocket aims to enter European market through expansion to the UK

iRocket recently added former Rolls Royce CTO Paul Stein, who also worked at the UK Ministry of Defence, to advise and help in the company's expansion to the UK and European markets, as well as in the transition to a large aerospace business, the company announced July 16th. The New York-based startup is aiming to rapidly launch satellites with only a day's notice and is looking to have its first Shockwave reusable rocket launch in 2027. UK expansion would open the door for the company to tap into European conversations and presence in space, potentially becoming able to launch from European spaceports. The company has also benefited from significant financial help from the US Military to test and develop its technology.

Israeli Ramon.Space launches UK subsidiary

Ramon.Space, an Israeli company developing space computing infrastructure, has launched a new subsidiary in the UK, representing the company's first European office, and serving as a key expansion point within UK and European markets. The subsidiary aims to serve as a key engineering hub, and is looking to hire local talent, contributing to the growth of the UK space sector. The company has selected Surrey Research Park, a research hub operated by the University of Surrey, for its new location, granting it access to university researchers and innovators. The UK space industry is projected to be able to reach a value of over \$50 billion by 2030.



Zimbabwe's communications to receive Yahsat & Satcom Technologies boost

On a July 17th high-level forum, UAE's Yahsat and Indian Satcom Technologies met with Zimbabwean officials to demonstrate new technology to boost connectivity in the country and explore satellite communications opportunities. In that regard, both companies are teaming up to provide socio-economic benefits in Zimbabwe, providing connectivity to remote areas so that citizens can access key resources and essential services.



Credit: Yahsat

Yahsat aims to provide these services starting early 2025, after the company's Thuraya 4 satellite is launched later this year, enabling wide coverage and support to all 28 African countries it is servicing.

Spanish GMV's moon rover concept testing complete

Spanish company GMV has completed the final test campaign of its European Moon Rover System (EMRS) concept. The company is leading a consortium that is participating in ESA's EMRS initiative, aiming to build and test full-scale functional prototypes of a multi-use robotic mobility system to be used in conjunction with the agency's Argonaut lunar lander. Testing, which started in Munich and continued in Madrid, proved the concept vehicle being capable of climbing slopes greater than 25 degrees, and be deployed on the uneven lunar terrain. The conclusion of this testing phase now allows ESA to move forward with the rover development, expecting the first Argonaut mission to the Moon by 2031.

Avio and Raytheon partner to increase solid rocket motor production

The Italian and American companies announced on July 23rd their strategic partnership to help address shortages in the US defence industrial base, aiming to make solid rocket engine production more resilient and responsive, particularly given the surge in demand because of international conflicts. Solid rocket motors are common in military missiles, space launch vehicles and model rockets, with the US defence industry's stockpiles increasingly depleted and current supply chains incapable of meeting demand. Avio, prime contractor for the European Vega launcher, completed last April its preliminary design for two solid rocket motor systems. The company also has planned investments in capability and capacity that enable it to help support immediate customer demand.

Avio also announced on July 23rd that it had reached an agreement with the US Army Combat Capabilities Development Command Aviation & Missile Centre, for the development of solid rocket motors for surface-to-air applications.

Redwire and CSS partner under \$478 million NASA ISS contract



Credit: NASA

Redwire Corporation and Consolidated Safety Services (CSS) have signed a Memorandum of Understanding to support the ISS under NASA's \$478 million Research, Engineering & Mission Integration Services-2 (REMIS-2). The companies will compete together for task orders around spaceflight hardware, ground hardware and software, payload integration, engineering services, and research integration for the ISS. Redwire has previously managed three research facilities owned by NASA under a similar ISS services contract.



In other news

Redwire to provide additional Roll-Out Solar Array wings for Thales Alenia Space: The new order increases the shipsets Redwire will provide for the Space Inspire line of satellites, from the ones outlined in the agreement announced last June. Redwire did not disclose how many new units it will deliver.

Italian Sidereus Space Dynamics completes first integrated system test of its new EOS rocket: With this test, the company takes another step in the development of its diminutive, reusable, 4.2-metre rocket, aiming to be able to deliver 13-kg payloads to LEO.

Cosmic Shielding Corp. is working to protect Aethero's Nvidia Jetson Orin NX GPU: Should it be successful, the startup's nanocomposite metal material, called Plasteel, is expected to be able to protect commercial-off-the-shelf computers in space, which would enable more powerful GPUs to be cleared for spaceflight, foregoing radiation-hardened components.

iLAUNCH to enhance CubeSat Manoeuvrability in Space collaboration: The research collaboration's latest project is to use the environmentally friendly Bogong thruster developed last year to expectedly enable smaller satellites to be controlled like larger spacecraft, hoping to improve Earth observation capabilities, secure communications and optical alignment.

Moog announces multi-orbital radiation-hardened space computer: The July 9th announcement portrayed the space computer as capable for multi-mission, bus/payload applications for all orbital regimes. The computer is said to incorporate Layer 2 ethernet switch capabilities for different improved features.

EarthDaily and INDYWARE to advance space technology sector in Korea: EarthDaily will provide INDYWARE access to its observation data and insights after it launches its 10-satellite constellation in 2025, which will collect daily Earth images across multiple spectrums, at the same time and place.

ABL Space Systems' rocket suffers "irrecoverable" damage after test firing: The rocket was to be used in the company's first launch in 18 months. The company, which had already begun pre-launch operations in March, did not disclose additional details about the incident.

Morpheus Space's new Dresden factory ramps up production: The company is expecting to be able to produce 500 GO-2 Field Emission Electric Propulsion-based systems per year at its new factory, after experiencing increasing demand. Morpheus' GO-2 propulsion is scheduled to be flight tested in 2025.



INVESTMENT & FINANCE

The Space Foundation releases its estimates on the space economy



SPACE FOUNDATION

Credit: The Space Foundation

The Space Foundation's annual report on the space economy estimates that the global space economy reached **\$570 billion in 2023**, reflecting a 7.4% increase from \$531 billion in 2022. According to the report, commercial activities were the primary drivers, constituting 78% of the total space economy with revenues of \$445 billion, a 5.4% increase from 2022. Significant sectors included Positioning, Navigation, and Timing (PNT) services, and Ground Stations and Equipment. Additionally, revenues from commercial satellite manufacturing and launch services doubled over the past two years due to a higher global launch rate.

Government spending on space programmes grew by 11% in 2023, reaching \$125 billion and marking the third consecutive year of double-digit growth. The United States, China, Japan, Russia, the European Union, France, Germany, Italy, and South Korea were the top contributors, with 78% of the 54 space-investing nations increasing their budgets in 2023. **Preliminary figures for 2024 suggest a 35% average budget increase among 64% of 44 surveyed nations.** Global military space budgets rose by 18% to \$57 billion, making up 46% of total government space spending. The United States accounted for 80% of this amount, with other countries, including Japan and Poland, also significantly increasing their military space investments.

US-based Astranis secures \$200 million in a Series D round

US small communications satellite manufacturer **Astranis has raised \$200 million in a Series D round** led by existing investor Andreessen Horowitz's Growth Fund, and co-led by BAM Elevate. Blackrock, Fidelity and Baillie Gifford also participated in the round, which brings the total raised since the company's inception in 2015 to \$750 million. The company plans to use the additional funds to fund its Omega programme through to the launch of its first next-generation broadband spacecraft in 2026.

US prime contractor LinQuest to be acquired by KBR for \$737 million

US prime government contractor **LinQuest has entered into a definitive agreement to be acquired by US defence contractor KBR for \$737 million.** The company works with the US Space Force and other US military and intelligence agencies as its services include design, integration and operation of space systems, data analysis and protection of communications signals. The acquisition will be an all-cash transaction funded from existing cash and debt. The transaction is subject to regulatory approvals and is expected to close in the third or fourth quarter of 2024.

Spanish PLD space secures €31.2 million loan

Spanish launch company **PLD Space has signed a €31.2 million syndicated loan** co-led by Banco Santander and EBN



Credit: PLD Space

Banco, which operates as the agent bank and guarantee agent as well, and with participation from the Instituto de Crédito Oficial (ICO). The aim of the funding is to support the development of the rocket and the expansion of the company's industrial capabilities as well as to increase the workforce.



AE Industrial Partners's third fund reaches \$1.28 billion in commitments



Credit: Industrial Partners

AE Industrial Partners has closed its third fund with \$1.28 billion in commitments from a mix of US and international institutional investors, including leading endowments, foundations, public and corporate pensions, financial institutions, funds of funds, family offices and sovereign wealth funds. The fund, which focuses on middle-market companies in the national security, aerospace and industrial services sectors, has previously made space investments in smallsat manufacturer York Space Systems and launch services provider Firefly Aerospace.

South Korean smallsat launcher manufacturer Innospace goes public

South Korean smallsat launch vehicle manufacturer **Innospace made its debut on the Korean KOSDAQ stock exchange**, achieving a market capitalisation of approximately €215 million as its share price closed at €24.80, down 20% from the initial offering price. The company plans to use the funds raised through the IPO to expand production capacity and strengthen research and development focused on reducing weight and introducing reusability of its launch vehicles.

Astra Space goes private

US-based **Astra Space has completed a take-private transaction** after three years as a Nasdaq-listed public company. Apogee Parent, a company formed by Astra's co-founders, will acquire all outstanding Class A shares for \$0.50 each. Astra went public in 2021 through a SPAC merger, but since then its market capitalisation has fallen from several billion dollars to around \$12 million, with the share price, adjusted for reverse stock splits, down more than 99% from its peak. The deal follows a debt default in October 2023 and several rumours of a possible bankruptcy filing.

US X-Bow Systems buys Spencer Composite and raises \$70 million in Series B

US-based **X-Bow Systems has acquired composite and metal structures manufacturer Spencer Composite for an undisclosed amount**. Through the acquisition, the company will gain patents, manufacturing and prototyping space, and a supply chain for components needed for commercial modular engines and solid rocket motors through vertical integration. The company **subsequently raised \$70 million in Series B funding** in a round led by venture capital firm Razor's Edge, with participation from Lockheed Martin Ventures, Boeing Ventures, Crosslink Capital and Balerion Space Ventures. X-Bow Systems plans to use the additional funds to increase the production of its solid rocket motors and to complete the construction of its factory in Texas.

Edge computing startup Armada secures \$40 million from Microsoft's M12

US-based edge computing startup **Armada has raised \$40 million in a funding round** led by M12, Microsoft's venture fund. The investment is complemented by a separate agreement with Microsoft to list all of Armada's products on the Microsoft Azure Marketplace. Armada specialises in creating modular data centres using Starlink constellations, enabling edge computing in remote areas, and offers a platform for managing IoT assets like Starlink terminals and mobile data centres.



Credit: Armada



Unimech Aerospace raises \$30 million to support expansion and IPO plans



India-based manufacturer **Unimech Aerospace** has raised **\$30 million in a funding round** led by Steadview Capital Mauritius Limited, ValueQuest Scale Fund and Evolve India Fund IV. Unimech Aerospace manufactures components, assemblies and turnkey electro-mechanical systems for the aerospace, defence, power and semiconductor industries. The company aims to use additional funds to support its expansion targeting an IPO.

Alpine Space raises an additional \$20 million fund reaching \$185 million of public and private support

Germany's **Alpine Space Ventures** has raised a further **\$20 million to close its first fund at \$184.7 million**. The company, which focuses on space technologies, has received support from a number of sources, with around 45% of the funding coming from public institutions. The round was mainly supported by \$65.2 million from the European Investment Fund, \$10.9 million from the NATO Innovation Fund, \$10.9 million from the Alpine Space Ventures team and \$97.8 million, including family offices. The EIF's investment is backed by the EU space initiative CASSINI and the InvestEU programme, as well as Germany's ERP funds.

Star Catcher collects \$12.25 million to develop space-based power grid

US space energy startup **Star Catcher** has raised **\$12.25 million in a seed round** co-led by Initialised Capital and B Capital, with participation from Rogue VC. The company is developing a space-based power grid that collects solar energy and transmits some of it to customers' solar arrays, with potential applications including synthetic aperture radar satellites and direct-to-device communications constellations. The company plans to use the additional funding to increase its workforce and conduct ground demonstrations and an in-orbit demonstration by December 2025.

US aerospace startup Overview Energy raises \$11 million

Aerospace startup **Overview Energy** has raised **\$11 million in funding, according to SEC filings**. The company was founded in 2022 in the US where it operates. However, the startup is currently operating in stealth mode, keeping much of its activities and plans under wraps. As a result, details of the 11 investors, and the planned use of the additional funds remain undisclosed.

Japanese Elevation Space raises €8.3 million for return-to-earth spacecraft

Japan's **Elevation Space** has raised approximately **€8.3 million in a Series A round** comprised of equity investment and loans from financial institutions. Investors in the round included Beyond Next Ventures, Sparks Asset Management, Nissay Capital Corporation, FFG Venture Business Partners and CSP2. Loans were provided by Sendai Bank and Miyagi Daiichi Shinkin Bank. The company develops spacecraft that can return to Earth after performing demonstrations and experiments in space and will use the additional funding to strengthen its development system.





Spanish Nearby Computing raises €6.5 million to boost connectivity services



Spain's **Nearby Computing** has closed a **€6.5 million Series A funding round** led by Walter Ventures and JME Ventures, with participation from ICT companies such as Telefónica (via Wayra Ventures) and Akamai Technologies, and existing shareholders such as Cellnex Telecom, Lenovo and the Redeia Group. Founded in 2018, the company provides various connectivity and communication services, including satellite backhaul, to industrial and telecom companies. The company intends to use the funding to increase its market presence.

US robotics firm Solideon raises \$5 million in a pre-seed round

US robotics company **Solideon** has closed a **pre-seed round of more than \$5 million** from 8090 Industries, 1517 Fund, Stellar Ventures, Boost VC, 10X Founders, Pathbreaker Ventures, AIN Ventures, Tiny VC, MD One Ventures, among others. The company, which was founded in 2022 and is also targeting space manufacturing, will use the additional funding to scale up production, build additional manufacturing cells and develop a forward deployable robotic system.

UK Lodestar Space secures €2.3 million for in-orbit robotic arm

UK-based in-orbit robotic actuator developer **Lodestar Space** has raised **€2.3 million in a pre-seed funding round and non-dilutive funding** from the UK Space Agency. The round was co-led by Inflection and Lunar Ventures, along with individual participants. The startup, which was founded in 2023, plans to use the additional funding for development and testing, aiming to demonstrate the capabilities of its robotic arm in orbit by the end of 2025.

Swedish Spacemetric enters into a €2.2 million acquisition by Clyde space

Swedish geospatial data management company **Spacemetric** has reached an agreement to **acquire UK space hardware manufacturer Clyde Space for up to €2.2 million**. The agreement between the two companies includes an initial payment of €1.4 million with additional milestone-based earn-outs of approximately €350,000 in cash and €440,000 in warrants. The purchase price is subject to post-closing adjustments based on the difference between normalised working capital and final net working capital. In addition, the shares involved will be subject to lock-up periods. The initial shares will be restricted from trading for 360 to 810 days from the first trading day, while the earn-out shares to be received on exercise of the warrants will be restricted for 360 days from the first trading day.

Spanish Kreios Space raises €2 million for satellite electric propulsion

Spanish satellite electric propulsion developer **Kreios Space** has secured approx. **€2 million in a pre-seed round combined with additional financial sources**. The list of investors participating in the round includes Grow Venture Partners, the venture capital arm of the Galician regional government called XesGalicia, and SpaceQuest



Ventures, the family office of Tasivia Global. The round was complemented by crowdfunding through Startupxplore and additional public support through a loan from the Spanish state-owned company Enisa. Kreios Space has developed its engine for very low Earth orbit and will use the additional funds to test its technology, build new facilities and expand its workforce.



EIC selects 68 companies for accelerator programme funding

European
Innovation
Council



Credit: European Innovation Council

The European Innovation Council (EIC) has selected its latest batch of 68 companies to receive funding through its EIC Accelerator programme. The companies will receive grants of up to €2.5 million combined with equity investment from the EIC fund ranging from €0.5 to €15 million or more, together with other

business acceleration services. Almost all of the selected companies will receive blended finance support, with both grants and equity investments up to an estimated total of €165 million in grants and €245 million in equity.

Winners include French launch company Latitude, German nanosatellite actuator and deployable manufacturer DcubeD, Israeli miniaturised space laboratory manufacturer Spacepharma and Dutch satellite semiconductor manufacturer Spherical.

In other news

InSpacePropulsion Technologies raises €2 million in pre-seed funding round: the round was led by HTGF. The German Space thrusters and propellant manufacturer plans to use the funds to develop its propulsion technology.

Singapore-based propulsion manufacturer Equatorial space closes a \$1.5 million Pre-Series A funding round: the round was co-led by Australian private investment firm Paspalis and Singapore venture capital firm Farquhar Ventures. The company, founded in 2017, did not disclose the purpose of the funding round.

French SaaS startup Netcarbon raises €1 million in its first funding round: the round was led by 4Elements. Founded in 2022, the company provides a simulation and monitoring platform that uses satellite imagery to provide soil management advice.

Indian satellite surveillance startup GalaxEye receives approx. €900,000 investment from IdeaForge: the round was led by Idea Forge, an India-based drone manufacturer, which aims to leverage GalaxEye's expertise in SAR remote sensing for its drones.

Italy-based EO startup Latitudo40 raises €700,000 in funding round: the round was led by Open Venture and Crif with participation from EIT Climate KIC. The company will use the funds to support its growth and international expansion.

Italian air-launch vehicle developer FAST Aerospace secures a €500,000 investment from Galaxia: the funds will be used to develop a prototype ramjet engine for the company's carrier aircraft for LEO and SSO satellite launches. The company plans to have the prototype engine ready by the end of 2025, with the first test of its carrier aircraft in 2029.

Takeoff Accelerator releases the third batch of selected companies: selected startups will receive up to €150,000 in convertible securities, with 46% as benefits-in-kind. A subset will also receive up to €800,000 in additional support. The selected companies are Capsule Corporation, Delta Space Leonis, Meta Futura Aerospace, SpaceVerse-AI and Space11.

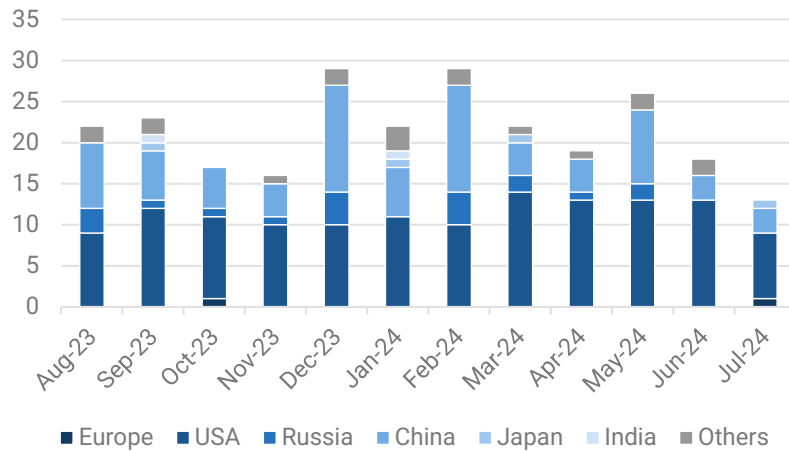


LAUNCHES & SATELLITES

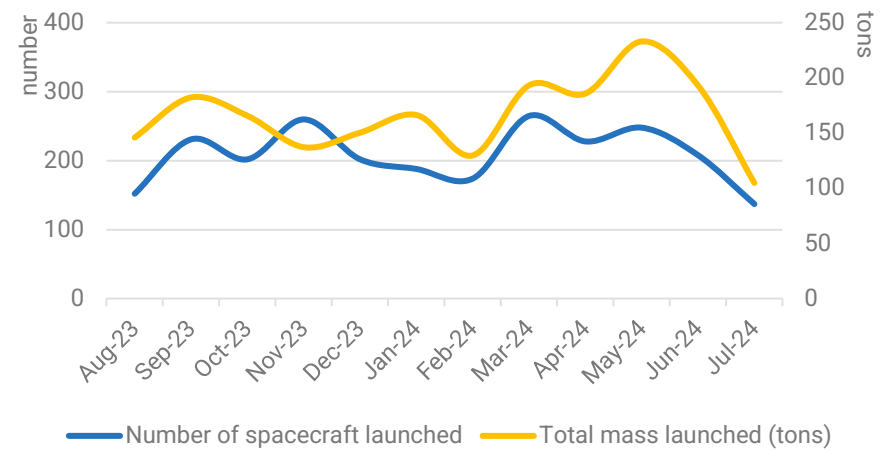
Global space activity statistics

July 2024	Europe	USA	China	Japan	Total
Number of launches	1	8	3	1	13
Number of spacecraft launched	11	119	6	1	137
Mass launched (in kg)	1587	97 309	2955	3000	104 851

Launch activity over the year



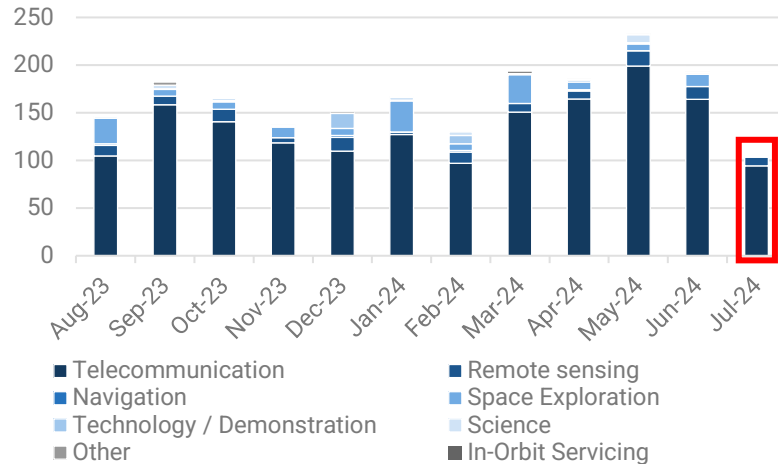
Evolution of the number of launches per launch country



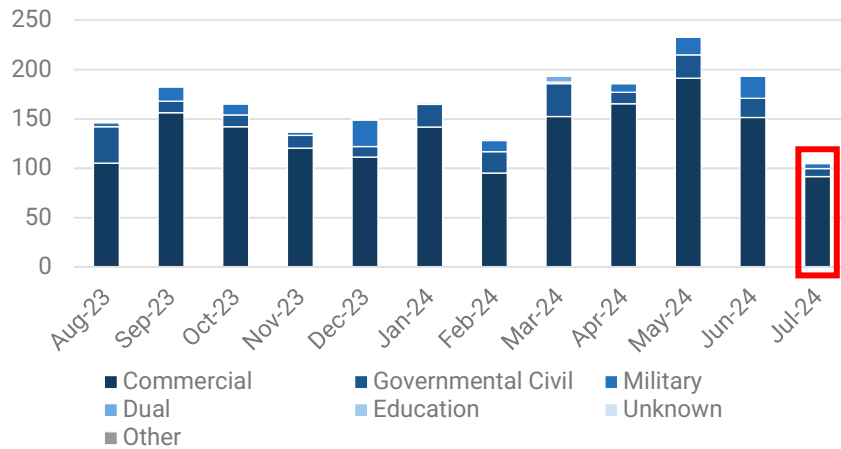
Evolution of launch activity over the year 2023-2024



Satellite missions and markets



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



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

July 2024	Telecom	Remote sensing	Science	Tech/ Dem	Other
Europe				1552	25
USA	90 020	3000	13	36	
China		2955			
Japan		3000			
Others	4250				

Total mass (kg) launched by mission and customer country

July 2024	Commercial	Governmental Civil	Military	Education	Other
Europe	1543	4		5	25
USA	90 020	32	3000	17	
China	150	805	2000		
Japan		3000			
Others		4250			

Total mass (kg) launched by market and customer country



LAUNCH HIGHLIGHTS

Successful maiden launch of Ariane 6

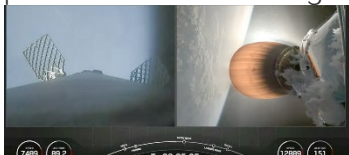
Europe's Ariane 6 rocket made its launch debut on July 9th from the Guiana Space Centre, reestablishing independent European access to space. It was launched in the Ariane 62 configuration, equipped with two solid-fuel P120C boosters. The payloads mainly included technological demonstrations and Cubesats. Just before the mission reached the two-hour mark, **it became evident that the rocket's upper stage had strayed from its planned mission profile, failing to achieve the required altitude which resulted in the loss of 2 out of 12 payloads.** ESA broadcast commentators confirmed this deviation, attributing it to an issue with the second Auxiliary Power Unit (APU) during power-up. Arianespace assured that this incident would not affect the rocket's next scheduled launch, anticipated before the end of 2024, carrying the French CSO-3 spy satellite. The first Ariane 64 flight is projected for 2025. This inaugural launch came after several delays. The expendable launcher is designed to replace the retired Ariane 5, offering cost reductions through new technologies such as friction stir welding and additive manufacturing. Development began in 2014, with the initial launch target set for 2020. ArianeGroup plans to increase Ariane 6 production to achieve a launch frequency of about nine per year.



Credit: ESA

Falcon 9 failure and return to flight

During a launch on July 11, the upper stage engine of a SpaceX Falcon 9 experienced a **malfunction**, resulting in the loss of 20 Starlink satellites. The rocket's initial ascent and first-stage landing on a droneship proceeded as expected. However, a liquid oxygen leak in the upper stage prevented the Merlin engine from performing a crucial second burn to achieve the desired orbit.



Credit: SpaceX

This incident marks the first (partial) failure for the Falcon 9 since a pad explosion in September 2016 during a pre-flight test, and the first in-flight failure since June 2015. Since then, the Falcon 9 has achieved over 300 successful launches. Just 16 days after the malfunction, **Falcon 9 returned to service on July 27th, successfully completing three launches within 24 hours, delivering batches of Starlink satellites.** The next scheduled non-Starlink mission involves launching a Cygnus cargo spacecraft to the ISS for NASA and Northrop Grumman on August 3rd. NASA is closely monitoring SpaceX's investigation into the incident to evaluate any potential risks for upcoming human spaceflight missions.

Chinese company iSpace suffered fourth launch failure

On July 10th, the four-stage Hyperbola-1 rocket from the Chinese company iSpace experienced **its fourth launch failure.** Beijing-based iSpace made history in 2019 as the first privately-funded Chinese company to reach orbit with the solid-fueled Hyperbola-1. However, following that achievement, the rocket encountered three consecutive failures. The company managed to recover with two successful flights in 2023 but now faces another setback. China has been increasingly supportive of commercial space endeavors. Several LEO communications megaconstellations are anticipated to create opportunities for medium and heavy-lift commercial launch vehicles.

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