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MORE THAN A ROCKET: COMPLEXITIES OF EUROPEAN DECISION MAKING

During the EUMETSAT Council meeting on June 26-27, 2024, the member states of EUMETSAT decided to cancel the launch contract for MTG-S1, which was scheduled for 2025 on the third flight of Ariane 6. The decision was taken just days prior to the A6 inaugural flight scheduled for July 9, 2024, triggering unusually strong reactions within the European space community. It may also have left the global space community wondering about Europe's ability to define, act on, and implement a tangible, comprehensive and coherent (if not unified) space strategy. It comes moments before Europe seeks to resolve the European launcher crisis, which more than any other challenge has been exposing Europe in its ability to ensure autonomous access to space, and which raised wider questions on the future of space in Europe.

No specific reasons explaining the decision have been provided so far, other than pointing at "exceptional circumstances"; and it appears that also among some EUMETSAT member states there have been diverging views. A more substantiated assessment of the decision at this stage does not seem to be possible. However, the event reveals a fact which was often overlooked while dealing with the launcher crisis. Ultimately, it is the use of space, the mission and its benefits that matter. Any launcher can only be a means to that end, is subordinate. This has already been stressed in earlier *ESPI Perspectives*.

However, it is not that simple, as the launcher in itself is also a strategic asset. **The use and access must be dealt with as one challenge.** The stakes related to the combination of Ariane 6 on one hand and MTG-S1 on the other hand are particularly high:

- Meteorological missions are among the most beneficial and operational services space delivers to the economy. With a 160BUSD global annual benefit, improved weather forecasting from space may indeed provide **the highest socio-economic benefit of any use of space.**
- In contrast, launchers occupy only a small fraction of the space economy. Yet, without them no space programme and no space economy would be possible. And like Ariane for Europe, all space powers ensure their autonomous access to space (including for **human exploration as a central pillar**, another European challenge in its own right).

In the case of Europe and Ariane 6, it sometimes appeared that space missions were perceived as something needed to fill up the order books of the launcher, and less so in their benefits and in their own needs. Yet, mission launch dates and lifetime are core requirements of any institutional programme (and commercial business plan). Their optimisation may translate into hundreds of millions of EUR of difference for a space programme or commercial revenues. At times this may be the equivalent of several billions EUR euros in wider economic benefit.

It makes sense that a delegate body, primarily focused on the data and support for meteorological services, might not prioritise some decision criteria as much as other stakeholders. These other stakeholders might be more concerned with the future competitiveness of the European space industry or the new launcher ecosystem. Also, the governance structures and funding sources reflect this difference in strategy and policy, with meteorological programmes typically funded outside space programme budgets, e.g. from transport ministries or ministries of defence (an excellent example of dual-use).

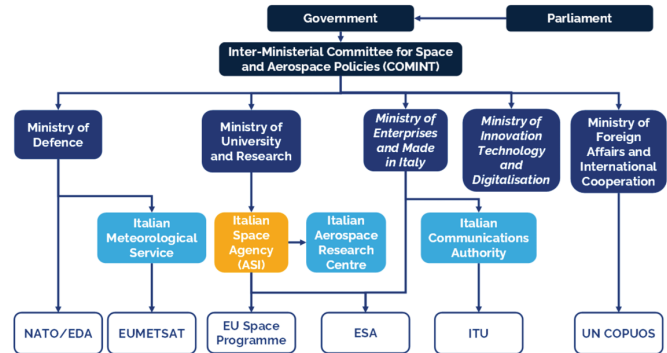


Figure 1 - Italy's Example of Space Governance

Data and usage focused programmes are often supported by a higher number of member states, not limited to countries with prominent upstream space industries. The need for data and information often takes precedence over geo-return concerns. In this, the member state composition of EUMETSAT, different and beyond that of ESA and the EU, may provide a forecast of what may emerge in other space application programmes in the future. This may be in fact part of a "European way", to extend the space eco-system into vertical sectors of economy, including new governance and funding schemes.

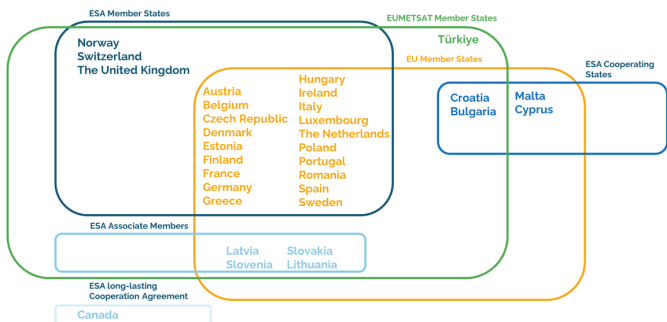


Figure 2 - ESA, EUMETSAT and EU Member States

Stakeholders involved have varying priorities, ranging from data and information needs to hard capability development and concerns about maintaining a competitive space industry. These differing priorities, along with the various governance bodies and groups of member states within the EU, ESA, and EUMETSAT, and their different programme and funding timelines, highlight the need for "new space" mechanisms to reconcile sometimes opposing objectives.

In this, European Commission President van der Leyen correctly defines the public actor as both, buyer but also enabler. Or applied to the case of MTG-S1 and A6, as an anchor customer of information services, as well as an enabler of the required competitive industry and continued innovation to deliver launchers and satellites enabling the information services.

ESPI's mandate to provide independent space policy analysis, advice, recommendations and proposals to European decision makers and institutions is therefore increasingly crucial. An essential and growing role to help navigate Europe towards a prosperous future in its multi-stakeholder environment.

Yours sincerely,

Hermann Ludwig Moeller
Director of ESPI





POLICY & PROGRAMMES

EUMETSAT to use Falcon 9 launcher for its next satellite, replacing Ariane 6

On June 27th, **EUMETSAT decided to cancel its contract with Arianespace** for the launch of its next satellite MTG-S1 onboard Ariane 6 in early 2024. EUMETSAT will instead rely on SpaceX's Falcon 9 to carry out the mission. The European weather satellite operator said the change was due to exceptional circumstances related to launch dates and did not compromise its standard policy of supporting European partners.

Ariane 6, Arianespace's new heavy-lift launcher, **is targeted to launch next July 9th** and was developed both as an enabler of autonomous space access and a transition to a more competitive European launcher. The launch is hoped to get Europe closer to ending its "launcher crisis". **On June 21st, ESA confirmed the completion of the wet dress rehearsal (WDR) before Ariane 6's inaugural launch.**

Developments at the 2024 Berlin International Airshow



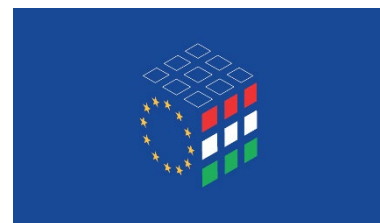
Credit: ESPI/Lina Pohl

Held from 5th to 9th June, the Berlin International Airshow (ILA) is Germany's largest aerospace trade show, with an attendance of around 80,000 people. During this event, **ESPI signed the Zero Debris Charter alongside more than 40 institutions and organisations. Director H. Ludwig Moeller moderated a panel on launchers and access to space.** ESPI Staff also took part in several other events, including the 11th ILA Parliamentarians Day, a reception hosted by the Aviation and Space Group of the German Bundestag, and various meetings with German stakeholders.

Additionally, **ESA signed a Memorandum of Understanding with the CEO of California-based company Vast** focused on access to future Vast space stations for commercial, research, and astronaut missions, among other purposes.

Space in Hungarian Council Presidency priorities

The **Hungarian Presidency of the Council of the European Union** recently released its six-month programme and priorities, highlighting space as a key area for advancement and Hungarian priority to be discussed in the Competitiveness Council. According to the document, the Hungarian Presidency aims to conduct intense consultations following the presentation of the EU Space Law to ensure a coherent, EU-wide regulatory approach.



Credit: Council of the European Union

The new Presidency emphasises **space for national security, space systems resilience, and EU competitiveness** along the entire space ecosystem spectrum. Finally, it expects to adopt **Council Conclusions on the mid-term review of the EU space programme** and reinforcing EU competencies in the sector.



Will Space sit in the European Parliament?



Credit: ESPI

On June 6th-9th, Europeans went to the polls to elect the 720 MEPs that will represent them during the 2024-2029 period. Expected legislation sectors include climate, defence, AI, and the Union's strength and expansion considering international and internal developments.

The new legislature is also expected to increasingly feature space, with a 41% surge in space-related references across party manifestos, **as reported by ESPI**. Space is also ranked as the third priority for parties among technology domains, and more frequently framed in terms of its security, economic, climate and innovation implications to the bloc, with references spanning the entire political spectrum.

ESA initiates reforms to georeturn policies for improved efficiency and flexibility

.At a press briefing following the 327th ESA Council meeting held on June 18th and 19th, **ESA officials announced that member states agreed to a "first step" towards modifying georeturn policies, aimed at increasing flexibility and efficiency.** "Georeturn", while being the bedrock of industrial development across the continent, has faced criticism for creating inefficiencies by awarding contracts based on contributions rather than merit. Others argue that eliminating georeturn could reduce member states' incentives to fund ESA programmes.

The resolution marks a significant step towards adapting ESA's industrial policy to a rapidly evolving space context. The changes are intended to balance the need for agility and fast decision-making with the foundational principle of georeturn. Further evolution and discussions are anticipated as ESA continues to refine its policies.

Luxembourg expands space cooperation with Japan

From June 10th to 14th, the Luxembourg Space Agency participated in an economic mission to Japan, aiming to strengthen collaboration and explore the Japanese space ecosystem. **During the visit, meetings with JAXA's President solidified mutual interest in cooperation, reinforced by the signature of two Memorandums of Cooperation** aimed at deepening collaboration in space exploration, supercomputing, and facility use. They also look to expand cooperation in space research and commercial development across academic, research, and private sectors.



Credit: LSA

The mission also included visits to key institutions, such as the National Institute of Information and Communications Technology, Astroscale, the NIPPON Telegraph and Telephone Corporation Headquarters, and participation in a space event with a focus on satellite communication and the lunar economy.



Slovenia to become Full Member of ESA



Credit: Daniel Novakovič/STA

Slovenia will transition from ESA associate status to full membership on January 1st, 2025, following an agreement signed by the Slovenian Prime Minister and ESA Director General. ESA Director General noted the agreement's significance in deepening Slovenia's integration into ESA's activities and the European space sector. As a full member, Slovenia will have financial commitments, including an annual membership fee based on its gross national income and a one-time payment of €1.7 million. The agreement now awaits ratification by Slovenia's National Assembly.

China's Chang'e-6 mission successfully lands on Moon's far side

On June 1st, **China's Chang'e-6 mission successfully landed on the far side of the Moon** – marking China's fourth lunar landing and the second on the Moon's far side in 2024 – with the primary objective of collecting unique lunar samples. Following the landing, surface operations, and post-sampling ascent and rendezvous with the orbiter took place **on June 3rd**. The return capsule re-entered Earth on June 25th carrying around 2kg of these first samples from the far side of the Moon, marking the end of the 53-day mission. **Research on the samples is expected to provide insights on the lunar far side's evolution and composition, and the history of the solar system.**

Looking ahead, China has planned the Chang'e-7 and Chang'e-8 missions for 2026 and 2028. These missions involve **cooperation in different fields with Egypt and Bahrain, but also Italy, Switzerland, Thailand, Russia, and the International Lunar Observatory Association.** They are described as precursors to the International Lunar Research Station. China also plans to send astronauts to the Moon before 2030.

US and India strengthen ties in space exploration

The United States and India are deepening their cooperation in human spaceflight, as announced on June 17th. Reportedly, **plans include sending an Indian astronaut to the ISS, marking a significant milestone in bilateral space efforts.** Details remain scarce on the specifics of the mission, including the astronaut and launch timeline.

Commitments have also been made in the past to enhance data sharing, climate research, and India's accession to the Artemis Accords. The collaboration includes training ISRO astronauts at NASA's Johnson Space Centre and partnerships between the US Space Force and Indian startups for satellite services and semiconductor production. Additionally, **the White House announced that India will participate in the 2025 US Space Command Global Sentinel exercise.**



Credit: White House

NATO approves official Space Branch structure

Earlier this month NATO's North Atlantic Council approved its official Space Branch structure, following the implementation of a trial structure for over a year. This highlights NATO's strategic interest in space-related matters and advancements to enhance its defensive and security



capabilities, paving the way for a more integrated space operations approach within its command. The establishment of the Space Branch is also a significant step that will ease cooperation with Allied Command Operations, key to accompanying the growth of the NATO Space Operations Centre. Leadership of the Space Branch will fall under a senior French Air and Space Force Officer.

Italy's Council of Ministers approves its first Space Law

The law, which comes after last month's ministerial meeting with industry leaders, as reported in **ESPI's May Insights**, is **expected to fill a regulatory gap, introducing a framework for the private sector to access space**. The proposed legislation regulates authorisation to perform space activities in Italy, as well as Italian operators' activities from other countries, and space incident management. It also outlines a five-year strategy for a National Plan for the Space Economy, provisions for SMEs and startups to access public contracts, and principles for exploiting EU and Italian-funded space infrastructure. The Italian Space Agency will oversee compliance and authorisations and register the launch of space objects from Italy.



Credit: ASI

Developments at EU ISOS Strategic Forum 2024



Credit: European Commission

The second EU ISOS Strategic Forum gathered 150 stakeholders, including policymakers, industry leaders, and academics, to discuss the future of In-Space Operations and Services (ISOS). Held in Brussels on June 13th and 14th, **and supported by ESPI**, it emphasised ISOS as crucial to the EU's strategic capacity, "Act in Space."

Panel discussions and Q&A sessions explored the potential of ISOS in servicing, assembly, manufacturing, and logistics; with the EU fostering its ISOS ecosystem through legislation, standardisation, technology development, and applications. A start-up pitching session showcased innovative ISOS solutions, followed by a discussion on Europe's strategic ISOS ambitions. The forum highlighted the need for cooperation, a shared strategic vision, and a clear regulatory framework to support ISOS market development, especially for start-ups and SMEs. The second day's panels focused on creating a regulatory environment and establishing standards for ISOS technologies, including satellite life extension, cargo transport, and satellite upgrades. Experts emphasised ISOS's role in enhancing EU security and resilience, requiring robust operations concepts and security protocols.

Highlights from the European Space Forum 2024

The European Space Forum took place in Brussels on June 24-25, 2024, including discussions on economic security, access to space, the EU Space Law and other (policy) initiatives. The event gathered industry leaders, policymakers, and experts to debate the future of the space sector in Europe.

ESPI Director Hermann Ludwig Moeller delivered the opening keynote, focusing on Europe's leadership in space. His speech addressed **Europe's space ambitions, the shift from "space**



economy" to "space for the economy," and the need to amplify the policy impact of space across various sectors.

The UAE and Brazil reach agreements with South Korean INNOSPACE



Credit: INNOSPACE

On May 31st, the UAE Space Agency signed a Memorandum of Understanding (MoU) with INNOSPACE, with the objective of finalising the selection of a launch site in the country and beginning its construction, in what will be the company's first operation in the Middle East. The South Korean startup, which focuses on developing small satellite launch vehicles, will carry out the deployment of small satellites developed by two Brazilian research institutes, under a **launch service agreement signed with the Federal University of Maranhão**. The launch is scheduled for the first half of 2025. Further, **the company has also signed multi-launch deals for its small satellite launcher, HANBIT, with private companies from Italy and Thailand** with the objective of deploying their small communication satellites in LEO.

China's spaceplane tests proximity operations with smaller spacecraft

China's experimental reusable spaceplane, launched on December 14th 2023, has been testing proximity operations with a smaller spacecraft, potentially even capturing it. The U.S. Space Force identified this object, "Object G," on May 24th, after months of stable orbit operations. **Analyses suggest that the spaceplane conducted rendezvous and proximity operations with Object G on June 7th-8th.**

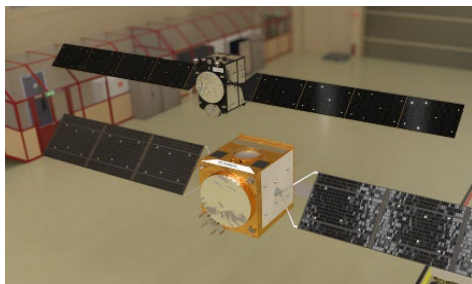
After releasing Object G, the spaceplane performed several manoeuvres with an unclear nature. The spaceplane previously conducted similar operations during its second mission in 2022-2023. China has maintained strict secrecy around the spaceplane, revealing little beyond a brief launch report. The spaceplane is seen as a counterpart to the U.S. Space Force's X-37B, which began its seventh mission in late 2022.

US Space Force wants to develop Resilient GPS programme

The US Space Force is seeking bids through the Space Enterprise Consortium (SpEC) to develop and deploy smaller, cheaper GPS satellites based on commercial designs. **The objective is to increase the existing 31-satellite constellation**, amid fears that current signals and systems, which are crucial to civilian and military operations, are vulnerable to jamming and spoofing. The programme is being fast-tracked under new initiatives this year, and the Space Force expects to receive concepts in early 2025, with 2027 or 2028 as the target dates for at least eight new vehicle launches.



ESA's Galileo second generation satellites achieve critical design milestone



Credit: ESA

On June 12th, ESA announced that independent expert panels had assessed and approved the technical capabilities of each satellite design. This follows the award of €1.47 billion in contracts in May 2021 to Thales Alenia Space and Airbus for the development of 12 satellites across two distinct families. **After this achievement, development will move at pace, and compatibility tests between satellites and ground segments will commence in the coming months.**

Scheduled for launch before the decade concludes, these second-generation Galileo satellites are to introduce enhanced features such as electric propulsion, advanced digital navigation payloads, upgraded navigation antennas, inter-satellite links, and sophisticated atomic clock configurations.

NASA awarded SpaceX contract to develop ISS deorbit vehicle

NASA has awarded a contract worth \$843 million for the development of a spacecraft dedicated to the final phases of the International Space Station (ISS) deorbiting. The contract only covers spacecraft development, with a separate launch contract to be awarded at a later stage. The vehicle, to be owned and operated by **NASA**, is designed to ensure a controlled re-entry of the ISS over a remote region. Details about the spacecraft's design have not yet been released.



Credit: NASA

Additionally, **NASA released a white paper describing different options for a controlled re-entry of the ISS**, claiming the chosen approach is the safest and only viable method of decommissioning, but admitting that an extension of operations is a possibility as well. NASA is also citing uncertainty regarding Russia's actions once the ISS reaches retirement as a reason to secure funding for deorbiting.

Space Force ends RTX contract for MEO Missile Warning Programme

The U.S. Space Force has terminated its contract with RTX (formerly Raytheon) for developing the missile warning/tracking constellation in MEO due to cost overruns, schedule delays, and unresolved technical challenges. **This decision affects the Resilient MW/MT MEO Epoch 1 programme, which aimed to enhance missile detection capabilities.** Despite a successful design milestone in June 2024, the programme faced significant setbacks prompting the contract termination. Its future includes ongoing efforts with other contractors, including L3Harris Technologies, for sensor payload development.

RTX declined to comment on the termination but reaffirmed its commitment to supporting the U.S. Space Force. The Space Force had planned to launch nine Epoch 1 satellites starting in 2026, with a focus on enhancing missile warning capabilities from MEO.



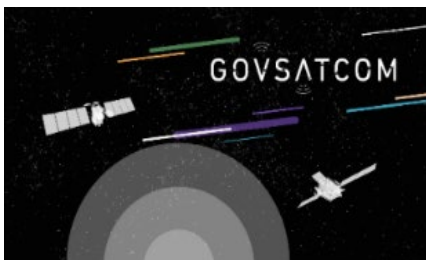
Space Norway receives two satellites for its Arctic Satellite Broadband Mission

Scheduled for a mid-July launch, **the satellites, delivered by Northrop Grumman, will provide continuous broadband coverage over the North Pole**, improving internet connectivity and protecting military satellite communications in the region. The satellites will also feature the Space Systems Command's Enhanced Polar System-Recapitalisation payload, which will be the first operational payload from the U.S. military to be hosted on an international partner's commercial satellite. The Norwegian Ministry of Defence and commercial operator Viasat will also include payloads.

EUSPA to further Copernicus user base through new demonstration project

Already in use by many institutional actors, **EUSPA now aims to engage directly with the private sector, especially those unaware of Copernicus' capabilities, to unleash the EO system's full potential and cover challenges posed by the growth of the EO market.** The initial phase of the "Copernicus Demonstrator Project" covered market areas ranging from Finance, Tourism, and Forestry, to Energy, Infrastructure and Aviation, among others. EUSPA then selected 6 priority demonstrators, according to different criteria. The project aims to enable private users to directly integrate data within their workflows, making them more operationally efficient and capable.

ESA partners with CGI to develop satellite communications interfaces



Credit: European Union

CGI, as part of a consortium, has been commissioned by ESA **to develop standardised satellite communications (SATCOM) interfaces.** These interfaces aim to optimally utilise existing resources and foster greater participation from operators and service providers in the European satellite communications market. The project has already released its first open-source interface version on GitHub, with ongoing refinements based on user feedback and industry needs. The

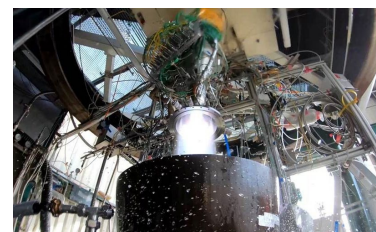
initiative aligns with broader efforts to improve capabilities like the GOVSATCOM hub and the European IRIS² satellite constellation for applications such as disaster response and navigation.

ESA approves lunar lander engine hot fire test

ESA has confirmed the successful completion of a hot fire test campaign for an engine developed by ArianeGroup for the Argonaut lunar lander. The ESA-led Test Review Board officially signed off on the tests.

Argonaut, formerly known as the European Large Logistic Lander (EL3), can carry payloads of 1,500 to 1,800 kilograms to the Moon. Its development was approved in late 2022.

The SPE-T (Space Propulsion Engine – Throttleable), based on the BERTA engine demonstrator, will power Argonaut. The engine, also set to power the Ariane 6 Astris kick stage, underwent 1,450 seconds of testing, covering a thrust range of 2.7 to 5.9 kN, using hypergolic propellants. The flight version will use green propellants.



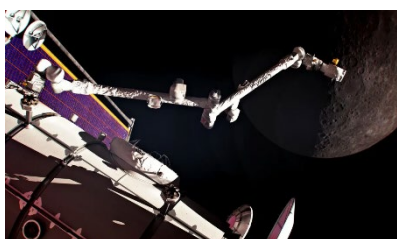
Credit: DLR/ArianeGroup



ESA's OPS-SAT CubeSat mission concludes after four and a half years

ESA's OPS-SAT CubeSat mission, launched on December 18th, 2019, **completed its journey after operating in orbit for four and a half years**. The mission aimed to democratise access to spacecraft operations and facilitated 284 experiments by 134 teams from 26 countries, achieving several results including the execution of AI and interplanetary internet experiments, and demonstrating capabilities like stock market trading and cybersecurity measures in orbit. Despite challenges from increased solar activity in 2024, the mission team was able to complete experiments until the end. The CubeSat's atmospheric re-entry provided valuable data on satellite behaviour during descent, crucial for enhancing safety protocols. This success has led to plans for future missions under the OPS-SAT Space Lab concept, such as testing optical and quantum communication technologies. These missions will continue to foster collaboration between ESA, industry, and academia.

Canadian Space Agency awards contract for Canadarm3's next phase

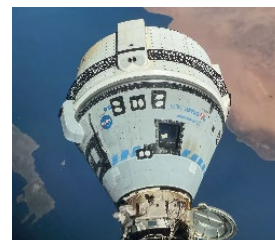


Credit: NASA

The Canadian Space Agency awarded MDA Space a **\$730 million contract to cover the final design, assembly and test of the Canadarm3 system**, expected to last until March 2030, for the Lunar Gateway. The Canadarm3 system is to be an evolution of the Canadarm2 in use at the ISS. MDA Space is also leveraging its Canadarm3 investments in other products, including the Lunar Dawn rover being developed by Lunar Outpost; as well as a robotic arm to be provided for Starlab Space joint venture's commercial space station, which MDA Space joined in May.

Starliner successfully docks with ISS despite propulsion issues

After its launch on June 05th, the inaugural manned mission of Boeing's **CST-100 Starliner spacecraft successfully docked with the International Space Station on June 6th**, despite initial issues with the spacecraft's thrusters. NASA and Boeing decided to prolong the Starliner's stay at the ISS to complete the analysis of the problems. During a briefing on June 18, NASA disclosed that the return of the Starliner on the Crew Flight Test (CFT) mission, already delayed twice, was postponed once more. **By June 21, the agencies decided to further delay the spacecraft's return to Earth until at least early July to further assess the propulsion system issues.**



Credit: NASA

With the addition of Starliner and SpaceX's Crew Dragon, NASA now has two crew transport vehicles to the ISS at its disposal with the other one being the Crew Dragon spacecraft from SpaceX.

Norway, Germany Agree on Andøya satellite launch deal

Norway and Germany have signed a **joint declaration enabling German satellite launches from Andøya Spaceport**. The agreement, signed by Norwegian Minister of Trade and Industry Cecilie Myrseth and German Ambassador Detlef Wächter, outlines responsibilities under international law. In 2021, German company Isar Aerospace signed a 20-year deal with Norwegian Andøya Space to launch satellites. With Andøya Spaceport now operational, preparations are underway for the first launch in the second half of 2024.



NOAA contracts Lockheed Martin to develop next-generation weather satellites

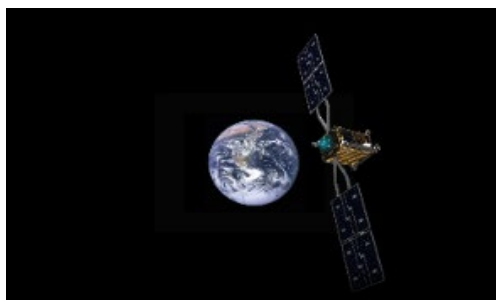
The National Oceanic and Atmospheric Administration (NOAA) has awarded Lockheed Martin a contract to develop and build the next generation of U.S. geostationary weather satellites. Announced on June 18th, **the contract includes three Geostationary Extended Observations satellites, with options for four additional spacecraft, totalling an estimated \$2.27 billion.**

Lockheed Martin, which also built the current Geostationary Operational Environmental Satellite R series, will incorporate new digital technologies into the design. The new satellites will feature improvements in visible and infrared imagery, lightning mapping, and new features such as nighttime imagery, hyperspectral sounding, and detailed ocean and atmospheric condition data, aiming to improve weather and air quality forecasts. The first satellite is scheduled to launch in the early 2030s, with the constellation expected to operate through the late 2050s.



Credit: Lockheed Martin

Space Systems Command awards Starfish Space contracts for Otter satellite



Credit: Starfish Space

The Space Systems Command awarded Starfish Space a **\$37.5 million Strategic Funding Increase contract to develop, launch, and operate an Otter satellite vehicle.** The mission marks a docking initiative aimed at providing two years of enhanced manoeuvrability for National Security Space assets. **Intelsat also signed a contract with Starfish Space for its Otter vehicle to extend life services to one of its geostationary satellites starting in 2026.** The Otter spacecraft claims to feature autonomous rendezvous, proximity operations, and

docking capabilities, catering to a diverse array of clients, including those not originally designed for docking.

USAF awards 20 Companies \$1 billion for ground-systems development

A U.S. Space Force Agency has selected 20 companies for a multi-year Indefinite-Delivery/Indefinite-Quantity contract estimated at \$1 billion. Known as the Rapid Resilient Command and Control (R2C2) programme, **the initiative aims to develop a next-generation satellite operations ground system utilising commercial cloud architecture.**

The contract is specifically tailored to small businesses to promote inclusivity and spans five years, with a potential two-year extension for task orders. The R2C2 programme seeks to improve satellite operations flexibility, allowing for dynamic space missions in response to evolving threats. This approach builds upon previous efforts and focuses on agile software development cycles to ensure rapid deployment and integration of new functionalities. The plans are to issue the first task orders in the coming months, marking a step towards modernising space operations infrastructure.

NOAA approves Startup HEO's Holmes camera aboard US satellites

NOAA has approved Australian startup HEO to launch its Holmes camera aboard American satellites, marking the first hosted non-Earth imaging payload approval by the agency. This



milestone could pave the way for other companies to gain similar approvals. HEO's Tier 1 license, unique for approving only the camera and not the entire satellite, represents a regulatory shift. Efforts included educating lawmakers and consulting with various government agencies to address security concerns.

US DoC awards preliminary \$23.9 million investment to RocketLab



Credit: RocketLab

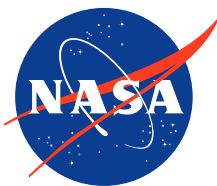
The U.S. Department of Commerce has reached a preliminary agreement with Rocket Lab for a \$23.9 million federal investment to expand the production of solar cells used in spacecraft and satellites. **This funding, part of the CHIPS Act, aims to boost Rocket Lab's production of compound semiconductors by 50% within three years to meet rising demand.** In addition to federal funds, Rocket Lab has secured \$25.5 million in state incentives from New Mexico.

Rocket Lab, which acquired SolAero Technologies in 2022, is investing over \$70 million to expand its Albuquerque facility, expected to create over 100 new manufacturing jobs and support U.S. supply chain resilience. Commerce Secretary Gina Raimondo highlighted the importance of the investment and the role of solar cells in powering space technology.

Poland and Greece boost satellite connectivity with Thorium Space, Hellas Sat

Thorium Space, a Polish company, has partnered with Hellas Sat to develop a software-defined payload for Ku/Ka-band, marking its most significant deal to date. The payload will be installed on a Hellas Sat satellite at the 39 degrees East orbital slot, as announced on June 10th. **The collaboration aims to provide secure satellite connectivity to the governments and Ministries of Defence of Poland and Greece,** leveraging resources from the new satellite and the existing Hellas Sat fleet. The partnership also includes developing flat Ku-band terminals to meet defence sector needs in both countries.

NASA explores approaches for Mars Sample Return



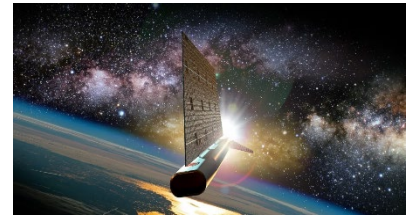
Credit: NASA

NASA selected seven companies to explore innovative concepts for the Mars Sample Return (MSR) programme, aiming to deliver samples faster and more cost-effectively. The selected companies are Aerojet Rocketdyne, Blue Origin, Lockheed Martin, Northrop Grumman, Quantum Space, SpaceX, and Whittinghill Aerospace. They will conduct 90-day studies, each funded up to \$1.5 million, which **will focus on various aspects, including the Mars Ascent Vehicle, crucial for launching samples from Mars to orbit.** NASA will review these studies to decide on potential adjustments to the MSR architecture by early 2025.



DARPA awards contract for VLEO satellite mission to Redwire

Redwire Corporation was awarded a contract by the Defence Advanced Research Projects Agency (DARPA) for a demonstration mission in VLEO under the Otter program. The mission will showcase Redwire's SabreSat VLEO platform, described as an "orbital drone" designed to meet increasing national security demands by operating closer to the Earth's surface than traditional satellites.



Credit: Redwire Space/Redwire

The Otter program aims to demonstrate advanced electric propulsion systems for extended satellite operations in VLEO. Redwire will lead the development of the SabreSat bus, overseeing project integration and coordination. The contract value was not disclosed, but it covers activities from design to on-orbit operations. The company is also engaged in VLEO projects in Europe.

Kenya to Test Zephyr Near-Space Glider



Credit: Kenyan.co.ke

Kenya will be the first country to test the Zephyr, a solar-powered near-space glider for military surveillance, in the Rift Valley. Developed by Airbus subsidiary Aalto, which raised \$100 million for stratospheric pseudo-satellites, the initial Zephyr test flight took place in the U.S. in June 2024. Experimental missions in Kenya are planned for later this year. Zephyr's small, lightweight design poses no danger to Rift Valley residents or wildlife. Kenya was chosen for its favourable weather, location, and history with high-altitude platforms. Zephyr's applications may expand to precision agriculture and forest fire management.

U.S. Space Systems Command awards laser communication terminals contracts

The U.S. Space Systems Command has awarded contracts for Blue Origin, CACI International, General Atomics, and Viasat to develop prototypes of laser communication terminals under the \$100 million Enterprise Space Terminal programme. The terminals will use lasers for high-speed data transmission across different orbital ranges, with the objective of ensuring compatibility between future military space systems, irrespective of location. The U.S. Department of Defence selected these companies in an attempt to attract non-traditional military contractors to the sector.

Iridium secures \$94 million contract with U.S. Space Force

Iridium Communications announced a new **five-year contract valued at \$94 million, potentially reaching \$103 million with surge requirements**, awarded by the U.S. Space Force's Space Systems Command's Commercial Space Office (COMSO). This contract, known as Enhanced Mobile Satellite Services (EMSS) Capabilities and Security Sustainment Services, aims to ensure continued optimal operations of the EMSS Service Centre in support of critical U.S. government applications. The EMSS programme is to provide global secure voice, data, and narrowband services to an unlimited number of U.S. DoD and approved subscribers through Iridium's satellite network.



Latitude gains €15 million funding from French government

The French rocket builder is in development of a two-stage rocket intended to deliver payloads up to 100 kg to LEO, as well as an upgraded one with double the capacity. The funding, which follows a previous one last December, is part of the €54 billion investment programme "France 2030", aiming to transform key sectors of the French economy. The rocket, called Zephyr, is planned to be launched in 2025, with the upgraded version planned for 2028.

Terran Orbital expands capabilities under NASA's Rapid IV contract

Last June 6th, Terran Orbital announced it was expanding its capabilities under NASA's Rapid Spacecraft Acquisition IV (Rapid IV) Indefinite-Delivery/Indefinite-Quantity contract. NASA has on-ramped Terran Orbital to add two more space vehicle platforms to its existing CubeSats offerings, increasing its total portfolio to four flight-proven space vehicles. The Rapid IV program, with a \$6 billion shared potential ceiling, aims to simplify procurement for US government agencies through the issuance of Firm Fixed Price delivery orders to eligible participants.

Egyptian Space Agency announces key initiatives for 2024

These include the African Development Satellite, which is on track to be launched before the year ends, and involves Egypt, Ghana, Kenya, Nigeria, Sudan and Uganda. The satellite is to focus on climate change studies, with each nation leading the development of a different subsystem. Another project in partnership with the United Nations Office for Outer Space Affairs (UNOOSA) and Airbus that will see Egypt install a remote-sensing camera on the ISS is also underway; as well as the planned launch of the SPNEX satellite, also aimed at studying climate change, by late 2024.



In other news

EU grants ICARUS consortium €15 million for inflatable heat shields. Led by Spain's Deimos, the four-year project includes partners from Germany, Italy, and France. A 2028 flight test will deploy a 3-meter shield.

A Memorandum of Understanding was signed between the UAE Space Agency and the Ministry of Foreign Affairs and Trade of Hungary, aiming to enhance collaboration in space research and promote peaceful space activities: During the fourth session of the joint economic committee, convened recently in Budapest, the two also highlighted the growing economic ties and cooperation between them.

ESA and Thales Alenia Space sign contract for zero-debris platform. Thales will develop a space bus to reduce space debris by burning up satellites in Earth's atmosphere at end of life. New requirements for sustainable Earth observation missions make zero-debris spacecraft essential.

Turkey aims to tackle space debris with national technology solutions, according to Türksat's satellite programmes director, Fatih Ayhan: he stressed the need for global cooperation in tracking, predicting collisions, and debris removal, foreseeing economic benefits and enhanced diplomatic ties through international collaboration on space debris mitigation.

Luxembourg's SES complained that Russia targeted its Astra 4 satellite with signal jamming. Signal scrambling impacted services but avoided hacking. Broader implications include disruptions to airline GPS signals, affecting numerous flights in the Baltic region since Russia intensified its actions with its invasion of Ukraine.

Putin calls for Russia and Vietnam to cooperate more closely on the space sector: The Russian president emphasised the need for cooperation on space research, including outer space, space exploration and deep space, with a focus on defence.

Countries of the Russia-led CSTO committed to advancing dialogue on international cooperation in space exploration and promoting the peaceful use of outer space: In a joint statement, they also gave importance to the need for coordinated efforts to safeguard outer space from armed conflicts and censured the use of civilian infrastructure for hidden purposes.

Armenia signed the Artemis Accords on June 12, becoming the tenth country this year to join: The signature brings the number of States that have joined to 43. In May 2024, Serbia became the 11th country to join the China-led International Lunar Research Station.

The U.S. Space Information Sharing and Analysis Centre warned of escalating cyber threats faced by the commercial space industry, with over 100 weekly attacks: It emphasized the need for a lead U.S. federal agency to coordinate responses to these threats, specifying that most space companies are ill-equipped to defend against sophisticated attacks from nation-states.

ESA has been requested to mediate negotiations between Avio and Arianespace regarding the transfer of operational responsibility for Vega C: Despite ongoing discussions since November 2023, a final agreement has not yet been reached.

ESA has published an initial Request for Information call for its European Launcher Challenge: It aims to encourage active participation in its definition and learning about economic operators' **"views and expectations on the future of European access to space"**. The Challenge is also envisioned to have the potential to lead to a successor to Ariane 6.



INDUSTRY & BUSINESS

Airbus takes a €900 million charge on space programmes

This is due to issues relating to poor cost and schedule performance in a variety of satellite programmes. Airbus did not specify which concrete programmes were affected. **The move comes four months after the company took another charge of €600 million, also related to its satellite programmes.** The company's CFO clarified the impact on this year's cash flows to be around €300 million, and the CEO said they are evaluating "all strategic options", including mergers, acquisitions and restructurings.



Credit: Airbus

Telespazio integrates Starlink services into its global network

Telespazio, the satellite operator co-owned by Italy's Leonardo and France's Thales, has entered into an agreement with SpaceX to integrate Starlink constellation solutions into its global hybrid connectivity network. **This collaboration aims to expand Telespazio's offerings in the satellite communications sector, addressing the specific needs of institutional sectors and key industries such as energy and maritime.** Starlink will complement Telespazio's existing satellite and terrestrial solutions, improving the reliability of fixed and mobile communications services worldwide.

Thales, Spire Global, and ESSP to develop air traffic surveillance service

Thales, Spire Global, and European Satellite Services Provider have signed a Memorandum of Cooperation to develop a 100+ satellite constellation aimed at ameliorating air traffic surveillance. This initiative will provide real-time air traffic data, improving aviation safety, sustainability, and security. The constellation will collect Automatic Dependent Surveillance-Broadcast messages from aircraft and transmit the data back to Earth in real-time. **Set to launch by 2027, it aims to replace ageing air traffic systems and support trajectory-based operations for a safer and more efficient air traffic management system.** The partnership aims to address key challenges in the aviation industry, including safety, security, and environmental impact. The system will meet standards set by the International Civil Aviation Organisation and will evolve with new technology every five years to ensure cutting-edge performance.

Eutelsat unveils satellite network portal in Angola



Credit: Eutelsat

Eutelsat has unveiled its new Satellite Network Portal (SNP) for the Eutelsat OneWeb LEO network in Luanda, Angola. **The facility, officially authorised by Angolan authorities, aims to expand high-speed internet access across Angola and Africa,** particularly in low-access areas, bridging digital divides and supporting socio-economic development.



Hughes partners with Telespazio to expand into European defence sector



Credit: Via Satellite

Hughes Europe, a subsidiary of Hughes Network Systems, has announced a strategic expansion into the military, defence, and government sectors across Europe through a collaboration with Telespazio. **The initiative aims to meet the growing demand for high-speed connectivity and address security concerns** for Intelligence Surveillance and Reconnaissance and Beyond Visual Line of Sight connectivity. The partnership will leverage the Eutelsat Konnect VHTS satellite, utilising the Hughes JUPITER System for high-speed service across Europe.

ESA Marketplace awards contracts to German companies Constellr and Vyoma

German companies Constellr and Vyoma have secured contracts under the European Space Agency's Marketplace, part of the ScaleUp INVEST programme. This initiative aims to boost the commercialisation of space technologies and drive innovation in Europe. **According to the contracts Exolaunch will support the launch of environmental monitoring and space debris missions for Constellr and Vyoma.** Constellr will deploy next-generation satellites, while Vyoma will improve space situational awareness with Exolaunch's support, whose involvement highlights its position in the small satellite launch sector and its contribution to European space commercialisation efforts.

Telespazio joins Viasat's ELEVATE programme to expand satellite IoT solutions

Telespazio has partnered with Viasat through the ELEVATE programme, aimed at accelerating IoT solutions using Viasat's global L-band network. Through this, Telespazio will amplify its service offerings to include high-performance connectivity such as data, voice, and broadcasting, alongside satellite operations and geoinformation services. Telespazio will also be able to provide comprehensive IoT solutions across diverse industries, including agriculture, energy, and transport.

Joining as an ELEVATE partner allows Telespazio access to Viasat's broad partner network and marketplace, strengthening its capability to innovate and deploy satellite-enabled solutions globally. The programme offers tailored technical support, strategic market planning, and exposure to new business opportunities.

Exolaunch integrates 42 satellites for SpaceX's Transporter-11 launch

Scheduled to launch later this summer, **the mission is expected to be Exolaunch's largest one of 2024 so far and will service 42 of its small satellites for 23 global customers.** These include space agencies, commercial companies, and research institutions from 11 different countries. The Transporter 11 rideshare launch will also mark Exolaunch's participation in all 11 Transporter missions since the beginning of the programme.



Credit: SpaceX



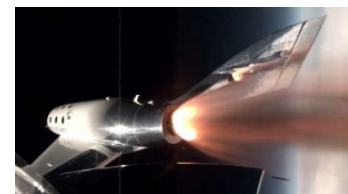
PLD Space likely to be inaugural user of commercial launch complex in Guiana

PLD Space is positioned to be the inaugural user of the new commercial launch complex at the **Guiana Space Centre**, revealed ESA's director of space transportation, Toni Tolker-Nielsen. The complex marks a significant shift as CNES opens the facility to micro and mini-launch operators. Initial groundwork for the complex has commenced, with specific adaptations to follow tailored to the needs of the participating companies.

Among the selected firms, PLD Space, with its Miura 5 rocket, is currently leading in preparations to utilise the site effectively. **The company announced this month it will invest 10 million euros in the construction of its main launch site**, which is expected to begin post-summer

Virgin Galactic completes final commercial mission of VSS Unity

Virgin Galactic's VSS Unity spaceplane successfully concluded its final commercial mission on June 8th, carrying Turkish researcher Tuva Atasever and three private astronauts on a suborbital spaceflight. Atasever conducted seven experiments during the flight aimed at studying physiological and psychological changes induced by spaceflight. Additional payloads from Purdue University and UC Berkeley studied propellant slosh and 3D printing in space.



Credit: Virgin Galactic

This marks the seventh commercial flight for VSS Unity and the 12th overall. Virgin Galactic plans to retire Unity to focus on the new Delta series of vehicles, aiming for higher flight rates and lower costs with production starting in Arizona late this year. Richard Branson reaffirmed Virgin Galactic's mission to enable "thousands of people" to experience spaceflight in the future.

Yahsat expands its satellite fleet with Airbus contracts worth ca. \$1.1 billion

Yahsat, the UAE-based satellite operator, has finalised a major deal with Airbus, which includes the manufacture of two new geostationary satellites, Al Yah 4 and Al Yah 5, based on its advanced Eurostar Neo platform. Scheduled for launch in 2027 and 2028 respectively, **these satellites will replace older models and enhance Yahsat's telecommunications capabilities across the Middle East, Africa, Europe, and Asia with secure governmental communications**. Additionally, Yahsat has ordered two LEO satellites from Airbus to diversify its satellite portfolio. The approximately \$1.1 billion programme covers spacecraft, ground infrastructure, launch, and insurance.

Vast and The Exploration Company sign cargo services agreement



Credit: Vast

Vast and The Exploration Company have signed a cargo services agreement for a 2028 mission to Vast's second Haven space station. **The Exploration Company's Nyx cargo vehicle will deliver up to 4,000 kilograms to the station and return 2,600 kilograms back to Earth**. The partnership leverages the reusable Nyx space capsule currently under development and aims to commercialise LEO operations, supporting a research-based economy.



Lockheed Martin's missile-warning satellite contract extended to \$8.2 billion

Lockheed Martin Space has secured a \$977.5 million contract extension from the Pentagon for the Next-Generation Overhead Persistent Infrared satellite programme. **The award, announced on June 21, extends Lockheed Martin's role in developing and supporting two geosynchronous missile-warning satellites**, bringing the total contract value to \$8.2 billion. These satellites are to be used for detecting and tracking ballistic missile launches, using infrared sensors to provide early warning capabilities. Originally planned as a five-satellite constellation, the programme now focuses on two satellites in GEO and two in HEO to diversify missile warning capabilities across different orbits.

LeoLabs awarded AFWERX contract for next-generation radar

LeoLabs has secured a \$1.245 million contract from AFWERX to develop an innovative S-band 2-D Direct Radiating Array radar, designed to improve tracking capabilities for rocket launches and spacecraft in VLEO.

LeoLabs, known for its global network of radars monitoring low-Earth orbit, plans to deploy the Direct Radiating Array by mid-2025, with potential for expansion into other orbital ranges. LeoLabs also aims to integrate commercial technology to achieve rapid deployment and cost efficiency, supporting the U.S. Department of Defence initiatives to further space situational awareness amidst increasing orbital activity.



Credit: LeoLabs

The Direct Radiating Array is said to represent a significant advancement, featuring hundreds to thousands of antennas compared to LeoLabs' previous radars, allowing for scalability, potentially supporting medium-Earth and geosynchronous orbit tracking in the future.

Blue Origin, SpaceX, ULA compete for \$5.6 billion Pentagon launch contracts



Credit: Blue Origin

The U.S. Space Force has selected Blue Origin, SpaceX, and United Launch Alliance (ULA) for the National Security Space Launch Phase 3 programme, with contracts worth up to \$5.6 billion over five years. **From fiscal year 2025 to 2029, these companies will compete for at least 30 national security missions**, divided into two lanes: Lane 1 for less demanding low Earth orbit launches and Lane 2 for heavy lift missions to more challenging orbits. This marks the first time Blue Origin has been chosen for national security satellite launches, as SpaceX and ULA have previously

dominated these contracts under the Phase 2 programme. The selection aims to increase competition, reduce costs, and maintain assured access to space. The Space Force anticipates additional competition as other companies, such as Rocket Lab and Firefly Aerospace, develop their launch capabilities.

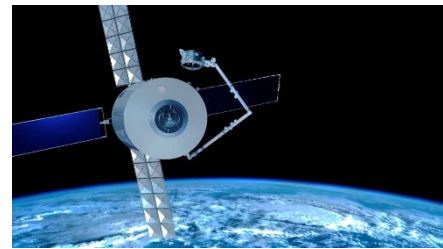


Space Forge secures funding for National Microgravity Research Centre

Space Forge has been awarded nearly £8 million from the UK Space Agency's Space Clusters Infrastructure Fund to establish a pioneering National Microgravity Research Centre with a total project value of £13 million, including matched contributions. The initiative aims to advance in-space manufacturing research, particularly in inorganic crystal structures for electronics, leveraging microgravity conditions to enhance semiconductor performance and reduce defects compared to terrestrial production. The centre will house state-of-the-art facilities, offering open access to support space companies and foster collaboration within Wales's burgeoning space sector.

Starlab Space partners with Palantir for advanced data management solutions

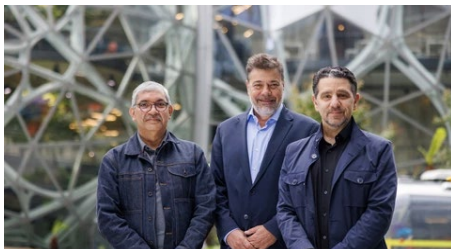
Starlab Space has announced a strategic partnership with Palantir Technologies, making it the exclusive supplier of enterprise-wide software data management solutions for the Starlab commercial space station. **The collaboration aims to enhance operations through data modelling, digital twins, and AI technologies, optimising resource allocation, mission planning, and system performance.** Palantir also claims its technology will allow for predictive maintenance and ground predictive processing for improved research capabilities onboard the Starlab space station. Financial details of the partnership were not disclosed.



Credit: Starlab

Vrio and Amazon's Kuiper to expand satellite broadband in South America

Vrio, including DIRECTV Latin America and Sky Brazil, will leverage Amazon's Project Kuiper satellite constellation to provide internet access across Argentina, Brazil, Chile, Uruguay, Peru, Ecuador, and Colombia. **This initiative aims to bridge the digital divide, reaching approximately 383 million people,** including 200 million currently without internet access, as estimated by the World Bank. Using Project Kuiper's capabilities, Vrio plans to offer affordable, high-speed connectivity in regions where traditional infrastructure is impractical.



Credit: Amazon

Synspective agrees to its largest-ever launch contract with Rocket Lab

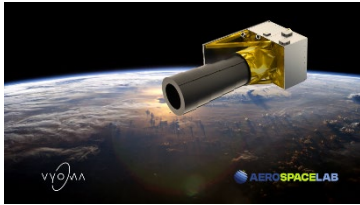
On June 18th, Synspective announced it has agreed to its largest-ever launch contract with Rocket Lab for 10 Electron missions from New Zealand between 2025 and 2027. Rocket Lab has been the Japanese radar imaging company's exclusive launch provider, deploying four SAR satellites since 2020. Two more launches for Synspective have already been booked for this year, in addition to those from the new contract.

Planet to lay off 17% of its workforce

On June 26th, Earth observation company Planet announced it is laying off 17% of its workforce, looking to reduce costs. Specifics about the layoffs were not disclosed. This is the company's second major round of layoffs in less than a year, after a July 2023 cutback affected 10% of its employees at the time, citing similar reasons for the move.



Aerospacelab to build satellite for Vyoma's debris-monitoring constellation



Credit: Aerospacelab

The contract focuses on manufacturing, assembly, integration and testing services, and is Aerospacelab's second for its Versatile Satellite Platform-50.

German startup Vyoma has selected Aerospacelab to build a second small satellite, Flamingo 2, for its space debris-monitoring constellation, set to launch by the end of 2025. Vyoma is looking to improve its ability to track debris in LEO and geostationary orbit, supplementing the data it already provides European defence customers from third-party networks and ground-based sensors.

Hylmpulse teams up with Southern Launch to explore launching from Australia

Germany's Hylmpulse has teamed up with Southern Launch in Australia to explore launching its SL1 rocket from the Whalers Way Orbital Launch Complex. In May, Hylmpulse's suborbital SR75 rocket had its inaugural flight from Southern Launch's Koonibba Test Range. Initially set for SaxaVord in Scotland, delays led to the shift. On June 6th, Southern Launch announced a Memorandum of Understanding with Hylmpulse for more SR75 missions from Koonibba and potential SL1 orbital flights from Whalers Way. The SL1 rocket, capable of delivering 600 kg payloads to low Earth orbit, uses hybrid propulsion with paraffin-based solid fuel and liquid oxygen. Hylmpulse also has agreements for SL1 launches from SaxaVord starting in late 2025 and is preselected to use a new commercial site at the Guiana Space Centre.

Hughes signs contract with Saudi Arabian Luna Space Telecommunications

Hughes Network Systems has secured a contract with Saudi Arabian service provider Luna Space Telecommunications, part of Skyband Holding, to build a Jupiter gateway and supply 1,200 terminals. Skyband offers satellite network infrastructure to corporate and government clients in Saudi Arabia. Under the new deal, Skyband will migrate its existing network to the Hughes network and expand into new government, financial, and oil and gas markets using software-defined wide area networking (SD-WAN).



In other news

Eutelsat achieves a platinum rating in the Space Sustainability Rating (SSR) for its first-generation LEO satellite fleet: the company surpassed an 80% threshold across six modules including collision avoidance and data sharing.

BlackSky Technology secures a one-year extension from the NRO for its Gen-2 imagery services under the EOCL contract: with the \$7M contract the company will advance space-based intelligence for U.S. and global clients, AI-driven rapid and high-frequency updates.

Advanced Cooling Technologies has secured a \$6 million contract with NASA Kennedy Space Center to design, manufacture, and test two Rollout Purge Units for its Mobile Launcher.

Array Labs has secured a \$1.25 million contract with part of the U.S. Air Force Research Lab, aimed at advancing high-bandwidth communications components for next-generation CubeSats.

Scottish Space Network collaborates with New York-based Sustainable Alpha to elevate Scotland's emerging space industry on a global scale, aiming to attract more international investment. Scotland already hosts nearly one-fifth of all UK space sector jobs, expecting significant growth by 2030.

Myriota, an IoT firm, has secured a \$1.5 million grant from the Australian Space Agency's Moon to Mars Initiative to help develop a small, cost-effective communications payload for use in off-world environments. The technology connects ground devices to nanosatellites and is already used in various sectors like agriculture, transport, and mining.

Astrolight has completed the **Critical Design Review** for its ATLAS-1 **Space-to-Earth laser communication mission.**

Simera Sense, with 19 optical payloads in space and 43 more set for launch worldwide, has inaugurated a new facility in Toulouse, France. The expansion not only improves Simera Sense's capabilities but also its contribution to the French NewSpace ecosystem.

True Anomaly has secured a \$1.6 million contract from the U.S. Space Force (USSF) to enhance Tactically Responsive Space capabilities: It will develop rapid payload integration, improve propulsion systems, and advance geosynchronous orbit technologies.

Wyvern will use data from hyperspectral images on Loft Orbital satellites to expand its constellation without a need to orbit new satellites, as announced last June 26th. The two companies had already reached a similar agreement last September.

Ovzon's first fully owned satellite has successfully reached its geostationary orbit position after a five-month journey and passed initial health checks: The 1,500-kilogram Swedish satellite, set to enter service soon, aims to meet rising demand from defence, national security, and public safety sectors, particularly in Europe.

mu Space and Advanced Technology has teamed up with Interlink Telecom Public Company to enhance LEO satellite connectivity and telecom services in Thailand and beyond: The partnership combines both companies' satellite expertise and telecom infrastructure to innovate internet access and drive digital transformation.

ExLabs has secured a \$1.9 million Tactical Funding Increase from the U.S. Space Systems Command via SpaceWERX to advance its space robotics technology. This funding boost accelerates development of their autonomous capture and acquisition robot for space objects.



INVESTMENT & FINANCE

SES restructures €3 billion financing for Intelsat acquisition

SES

Credit: SES

SES has successfully completed the syndication of a €3 billion acquisition financing package used to acquire Intelsat. This financing has now been restructured into two parts: a €2.1 billion bridge facility and a €930 million term loan provided by a syndicate of new and previously committed international banks. The bridge facility is structured with a 12-month maturity and includes an option for a 6-month extension, which can be activated up to two times, totalling an additional 12 months. The term loan has a maturity of five years.

Preligens to be acquired by Safran in €220 million deal

Safran has disclosed that it is in "exclusive discussions" to acquire the defence artificial-intelligence startup **Preligens for €220 million**. Preligens was originally considering receiving offers from the US, but the French economy ministry stated that takeover **attempts by non-EU bidders would have been blocked** as the company is considered to be of national interest. Under current rules, foreign investment in companies of national interest is limited to 10%, down from 25% before the Covid pandemic. As a result, other bidders evaluated included Sweden's Hexagon and Leonardo-Thales joint venture Telespazio. Nevertheless, according to Safran (11.2% of which is owned by the French government) the acquisition should be completed in Q3 2024.

US-based CAES agrees to \$1.9 billion buyout by Honeywell

U.S. defence electronics manufacturer **CAES has agreed on a \$1.9 billion acquisition proposal** from American manufacturing giant Honeywell. Honeywell plans to utilise CAES' radio frequency technology to improve its defence capabilities across space, land, sea, and air domains. The transaction, anticipated to enhance adjusted earnings per share in the first full year of ownership, does not depend on any financing conditions. It is expected to finalise in the second half of 2024, pending customary closing conditions and certain regulatory approvals.

Astroscale goes public on Tokyo Stock Exchange's Growth Market Index

Japanese space debris removal company **Astroscale debuted on the Tokyo Stock Exchange's Growth Market Index**. Although the company has focused on space debris removal since it was founded in 2013, it is looking to expand into other services such as satellite refuelling and repair. Astroscale is the third newspace company to list on the Japanese public markets, joining ispace and iQPS. Astroscale offered 20.8 million shares at ¥850 (around €5), valuing the company at around €860 million. The debut was marked by a surge in the value of the shares, which peaked at ¥1581 during negotiations and then settled at ¥1375 at the close, giving Astroscale a total market capitalisation of around €920 million.

Astroscale

Credit: Astroscale



NATO Innovation Fund invests in space technology



Credit: NATO Innovation Fund

The NATO Innovation Fund has recently made several investments in the space sector, supporting both emerging start-ups and established venture capital funds. These investments are part of a broader strategy to promote technological advances and address security concerns.

Support for space companies

Isar Aerospace closes a €65 million Series C extension round

German launch vehicle developer **Isar Aerospace has closed a €65 million Series C extension round** with participation from the NATO Innovation Fund, European family office G3T, 10x Group, Besant Capital, Finadvice Med HOLDINGS and LP&E and existing investors. The company, which was founded in 2018, aims to use the additional funding to continue investing in building and equipping for serial production. Additionally, Isar Aerospace **has recently secured \$20 million in growth debt financing** from ATEL Ventures to purchase equipment for its launch vehicles.

UK-based iCOMAT raises \$22.5 million in Series A funding

UK-based **iCOMAT has raised \$22.5 million in a Series A funding round** led by 8VC and the NATO Innovation Fund together with Solvay Ventures and Velocity Partners VC. Founded in 2019, iCOMAT specialises in the manufacturing of composite structures for the aerospace and automotive sectors. The company is currently building its first manufacturing facility.

UK's SpaceForge raises undisclosed funding

UK start-up SpaceForge, which provides on-orbit manufacturing capabilities for semiconductors and alloys, **has received an undisclosed amount of funding** from the NATO Innovation Fund. The investment will help fund the construction of a platform for SpaceForge's second test of its landing technology.

Support for Space Venture Funds

Germany-based Vsquared Ventures launches second fund

Vsquared Ventures' second fund, **Vsquared II, has raised €214 million** with contributions from the NATO Innovation Fund, Novo Holdings, the Export and Investment Fund of Denmark, the European Investment Fund and Germany's KfW Capital. The fund plans to support around 25 early-stage deep-tech start-ups with investments ranging from €500,000 to €5 million. Two thirds of the fund will be reserved for follow-on investments. Vsquared Ventures' portfolio already includes space companies such as ISAR Aerospace, and The Exploration Company.



Credit: Vsquared ventures

Alpine Space Ventures

Munich-based **Alpine Space Ventures has raised \$155 million**, close to its target of \$160 million. The fund received investments from the European Investment Fund and the NATO Innovation Fund, which contributed around €10 million. Alpine Space Ventures focuses on space technology, with 70% of its funds allocated to European start-ups.



SIA releases its annual report on Satellite Industry highlighting robust expansion



Credit: Satellite Industry Association

The **Satellite Industry Association (SIA)** has released its annual **State of the Satellite Industry report**, estimating that the global space economy will generate revenues of \$400 billion in 2023, with the commercial satellite industry accounting for \$285 billion, or 71% of the market

SIA breaks down the estimated revenues of the satellite sector into core areas: manufacturing, \$17.2 billion; launch services, \$7.2 billion; satellite services, \$110.2 billion; and the ground segment of satellite operations, over \$150.4 billion. In addition, satellite sustainability initiatives are beginning to generate significant revenues, accounting for over \$300 million in 2023.

The analysis attributes this growth to continued demand for satellite broadband, advances in remote sensing technologies, and a growing market for direct satellite connectivity to mobile phones and other devices. The expansion of the industry is being driven primarily by US companies, which built 85% of the satellites launched last year. Commercial satellite operations are estimated to continue being the dominant force in the global economy for years to come.

Moreover, as a backdrop to these figures, the report states that in 2023 there were a record 2781 commercial satellites launched, representing a robust 20% year-on-year increase. This surge brings the number of active satellites to 9,691, an increase of 361% over the past five years.

Chinese Space Pioneer closes \$207 million funding round for maiden flight

Chinese rocket developer **Space Pioneer** has closed a **\$207 million funding round**. Since its founding in 2019, the company has raised around \$550 million in 15 funding rounds. The company plans to use the funds to finance the maiden flight of its Tianlong-3 rocket and the mass production of the rocket. Space Pioneer, also known as Beijing Tianbing Technology Co, is among a small group of growing private rocket developers spurred by government attempts to boost China's space sector.

Chinese satellite maker MinoSpace Technology raises \$137.7 million

Chinese satellite manufacturer **MinoSpace Technology** has raised **\$137.7 million in a Series C1 round** led by Wuxi Economic Development Zone Shangxian Industry Investment Fund, together with Liangxi Technology and Innovation Industry Fund of Funds and existing shareholder Qingdao Huizhu Anfulan. The company plans to use the funds to support its satellite R&D and manufacturing operations.

Apex raises \$95 million in Series B round to expand satellite production

US-based spacecraft manufacturer **Apex** has closed a **\$95 million Series B round** led by existing investor XYZ Ventures and new investor Charles River Ventures. Upfront, 8VC, Toyota Ventures and angel investor Baiju Bhatt also participated in the round. Apex plans to use the funds to expand production capacity for its Aries satellite bus, complete development and begin production of its Nova bus with the construction of its first manufacturing facility and double its staff by the end of 2024.



Credit: Apex Space



CesiumAstro raises \$65M in Series B+ round for space communications



US-based space communications technology provider **CesiumAstro has closed a \$65 million Series B+ round** led by

Trousdale Ventures, with matching participation from Development Bank of Japan and Quanta Computer, and participation from Kleiner Perkins, Lavrock Ventures, L3Harris Technologies, InMotion Ventures, Matter Venture Partners, MESH Ventures and Assembly Ventures.

Founded in 2017, the company specialises in phased array communications payloads for airborne and space platforms and plans to use the additional funding to expand its workforce to further its R&D activities, as well as its manufacturing capabilities.

Synspective gains \$44 million to expand international satellite operations

Japanese satellite data provider **Synspective has closed a \$44 million Series C round of financing** led by Japan Growth Capital Investment Corporation and managed by Nomura SPARX Investment, with participation from investment limited partnerships managed by JAFCO Group and Mizuho Capital, as well as other institutional and individual investors. The company plans to use the funds to ramp up satellite production and expand its business globally.

LiveEO secures €25 million to expand climate risk management services

Germany-based satellite data company **LiveEO has secured €25 million in a Series B funding round** led by NordicNinja and DeepTech & Climate Fonds. Founded in 2018, LiveEO uses satellite imagery to provide analytics that help infrastructure operators manage climate risk and businesses to reduce their carbon footprint. The new funds will be used to accelerate the development of its services and expand its team and capabilities.

Sift raises \$17.5 million to advance hardware sensor data platform

US-based **Sift raised \$17.5 million in a Series A funding round**, led by Google Ventures. Founded in 2022, Sift provides a unified platform for hardware sensor data used by space companies as K2 Space, Astranis, True Anomaly, Astrolab, Mach Industries, Parallel Systems and others. The company plans to deploy additional funds to foster the development of its platform, expand its team and its customers support service.

UK's Climate X secures €16.8 million for climate risk intelligence

UK-based climate risk intelligence company **Climate X has raised €16.8 million in a Series A funding round** led by Google Ventures, with participation from Pale blue dot, CommerzVentures, A/O, Blue



Credit: Climate X

Wire Capital, PT1, Unconventional Ventures and Western Technology Investment (WTI). Climate X provides financial insights into the impact of climate risk from a variety of sources, including remote sensing data, and will use the additional funding to fuel its expansion into the global market.



Chinese aerospace firm Beijing Dianqing secures €12.7 million in series A round



Credit: Beijing Dianqing

China's **Beijing Dianqing** has raised approximately **€12.7 million in a Series A funding round** led by Yunhang Investment Management, with participation from Shijiazhuang Military Porcelain Equity Investment Fund Partnership, Quanzhou Yida Venture Capital Partnership and Xingjin Wujiang Aerospace Power Enterprise Management Consulting. The company, also known as Beijing Electric Engine, is a national high-tech enterprise focused on the R&D and manufacturing of high-density power generation systems for aerospace and hybrid electric propulsion systems for industrial users. The aim of the funding round was undisclosed.

Pale Blue completes Series B funding with \$8.5million tranche

Japanese spacecraft propulsion company **Pale Blue** has closed its **Series B funding round totalling approx. \$16 million, after raising \$8.5 million this month**, adding to the \$7.5 million it raised in October 2023 through a mix of loans and equity funding. The latest tranche includes venture capital and corporate venture capital. The investment round had the participation of aStart, Global Brain Corporation, Itochu Technology Ventures, among others. Pale Blue plans to use the funds to establish an industrial plant for satellite propulsion and to upgrade the technology of its water vapour propulsion systems.

Kilimo raises \$7.5 million to expand cleantech operations to US and Europe

Argentinian cleantech company **Kilimo** has closed a **\$7.5 million Series A round** led by Emerald Technology Ventures, with participation from iThink VC, Kamay Ventures, Salkantay Ventures and Yield Lab Latam. Founded in 2014, the company uses data from satellites and public weather stations to help farmers optimise their water use and will use the additional funds to expand its operations to the US and Europe.

Spanish picosatellite startup Fossa System raises €6.3 million in Series A round

Spanish picosatellite startup **Fossa Systems** has closed a **€6.3 million Series A round** led by Portuguese early-stage investor Indico Capital Partners, together with the venture arm of Japanese aerospace component manufacturer Nabtesco, and with participation from Newmind Venture and Sabadell Venture Capital. The funds will be used to expand the company's IoT satellite constellation for remote industrial asset management and to build its asset monitoring communications network.

UK's Sofant Technologies raises €4 million for satellite antenna production

UK-based wireless satcom company **Sofant Technologies** has raised **approximately €4 million in funding** from Scottish Enterprise, Kelvin Capital and EMV Capital. The company manufactures radio frequency microelectromechanical systems used to perform functions such as phase shifting, switching, and tuning. Founded in 2011, Sofant Technologies plans to use the additional funding to complete the development of its core technology and to support the production and delivery of beta versions of its satellite antennas to lead customers.



Credit: Sofant Technologies



In other news

US-based ExoTerra Resources raises \$8 million in funding from Lago Innovation Fund: founded in 2011, the company manufactures electric propulsion elements for small satellites and plans to use the funding to expand its production.

UK rocket manufacturer Orbex receives a \$3.4 million investment from Innovation Fund Denmark: the funds are set to be used to establish a propulsion centre in Copenhagen, where the company will design, manufacture and test green propulsion systems.

French satellite connectivity startup Skynopy secures \$3.1 million in funding round: the round was led by Heartcore Capital, Kima Ventures, Better Angle, and BPI France. The company plans to expand its team and invest in ground stations and connectivity keys.

French hydrological monitoring startup vortEX-io raises €2.9 million in a funding round: the round was led by Banque des Territoires and MAIF Impact and supplemented by bank financing. The investment will be used for its network of micro-stations and to expand its workforce.

Luxembourg-based climate startup IBISA raises \$3 million in funding: the round was led by The Acumen Resilient Agriculture Fund (ARAF) and Equator, with participation from Asian Development Bank Ventures (ADBV) and existing investors. The company provides parametric insurance products based on satellite and actuarial technologies.

French space transportation startup OsmosX closes a €2 million funding round: the round was led by Expansion Aerospace Ventures and Rymdkapital. The startup, which was founded in 2022, will use the funds to cover R&D costs as it prepares to launch its demonstrating mission by 2025.

US-based bluShift closes a \$1.3 million seed round: the round was led by Late Stage Capital with participation from the Maine Technology Institute. The company plans to use the funds, along with a \$1 million federal SBIR grant it has received, to accelerate its orbital and small satellite launch offerings.

UK-based geospatial analytics service Spottitt Metrics Factory closes a \$800,000 bridge financing round: the round was led by US-based VC fund Right Side Capital Management, with support from existing shareholders. The aim of the round was not disclosed.

Spanish propulsion company lenai Space secures an undisclosed investment from GED Capital: the funds came with €1.35 million from the Centre for Technological Development and Innovation. The company develops electric propulsion systems and software for space missions and satellite manoeuvres, with plans to commercialise in 2025.

The European Commission and EUSPA announce the winners of the "Submit a Product" track of the CASSINI Challenges: each of the five winners, selected from over 90 submissions, received €100,000. The awardees were Hightek (Italy), Satelligence (Netherlands), Kanop (France), Skypuzzler (Denmark) and Infraspac (Norway).

Redu Space Services is acquired by SES for an undisclosed amount: SES intends to use the acquisition of the Luxembourg-based satellite communications company to improve the quality, security and resiliency of its services.

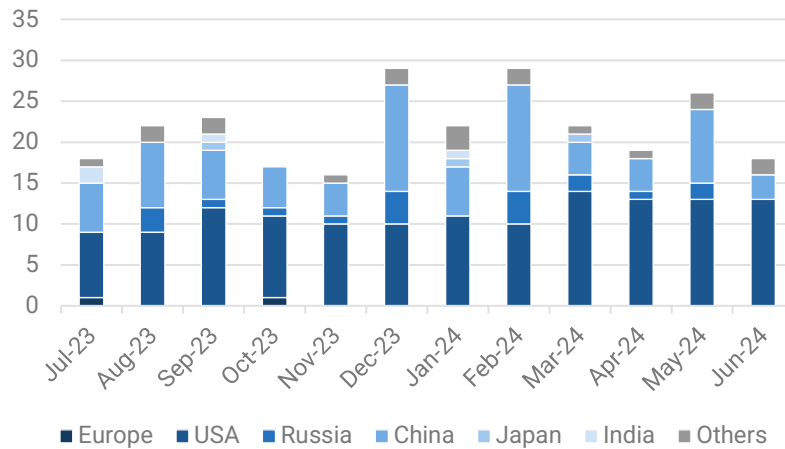


LAUNCHES & SATELLITES

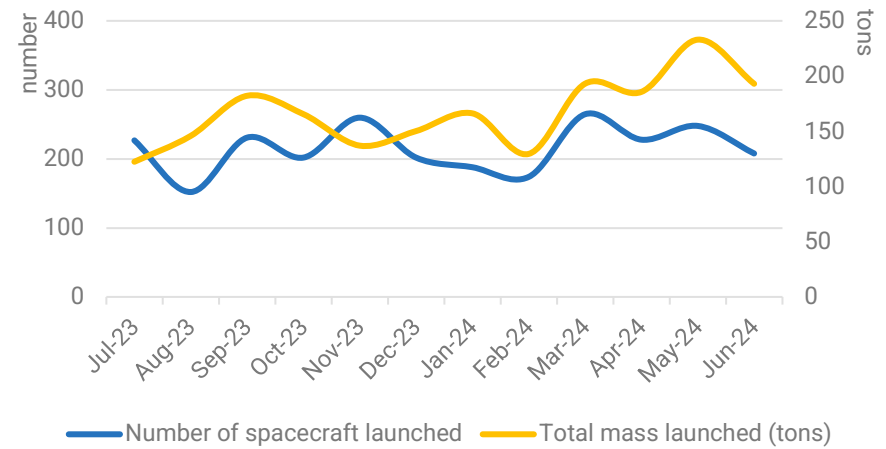
Global space activity statistics

June 2024	USA	China	Others	Total
Number of launches	13	3	2	18
Number of spacecraft launched	195	7	6	208
Mass launched (in kg)	180 932	8110	156	193 098

Launch activity over the year



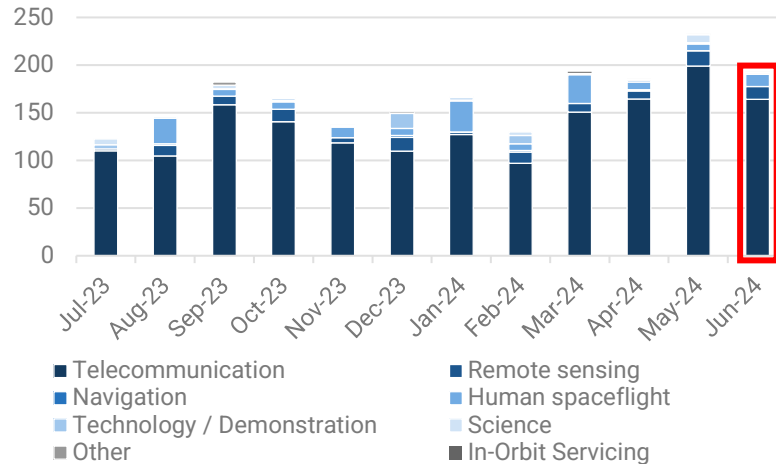
Evolution of the number of launches per launch country



Evolution of launch activity over the year 2023-2024

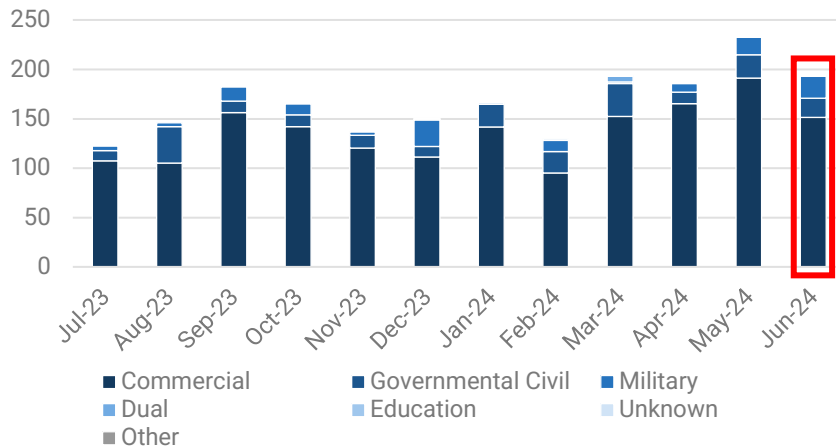


Satellite missions and markets



June 2024	Telecom	Remote sensing	Human spaceflight	Science	Tech/ Dem	Other
Europe	5150					
USA	153 640	12 198	13 000		0.1	
China	5500	140		970		1500

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



Total mass (kg) launched by mission and customer country

June 2024	Commercial	Governmental Civil	Military	Education
Europe	5150			
USA	144 840	18 198	16 800	
China	1600	970	5500	40

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

Total mass (kg) launched by market and customer country



LAUNCH HIGHLIGHTS

Starship embarks on 4th test flight, successfully lands booster and upper stage

For the fourth time in just over a year, SpaceX carried out a test flight of its Starship rocket from the Starbase facility. This mission, unlike previous ones, concluded with the Super Heavy Booster making a soft splashdown in the Gulf of Mexico, and the Starship upper stage in the Indian Ocean. Following the success of this mission, Musk hinted at an ambitious goal for the next flight: to catch the Super Heavy Booster using the launch tower's "chopsticks." This test was crucial not only for SpaceX but also for NASA, as the rocket is set to play a pivotal role in the forthcoming Artemis 3 mission, slated for September 2026.



Credit: SpaceX

Chinese-French astrophysics satellite launched, debris falls on populated area



Credit: CNRS

On June 22, the **Sino-French SVOM mission, aimed at studying Gamma-ray bursts, was launched aboard a Chinese Long March 2 rocket.** The mission's goal is to detect high-energy electromagnetic radiation in the X-ray and gamma-ray spectrums, utilising two science payloads developed by both French and Chinese teams. The launch drew negative attention due to a rocket booster landing in a populated area in China. Exposure to residual fuel or oxidiser from the rocket stage poses significant health risks. The issue of falling rocket debris is not uncommon for launches from China's three inland launch facilities. Later this month, on June 30th, **a static fire test near the country's Wenchang spaceport resulted in an unintended liftoff, with the rocket falling back on earth, causing an explosion** near a populated area.

Rocket Lab launches first batch of French IOT constellation

US company **Rocket Lab successfully deployed the first batch of five IoT nanosatellites for French startup Kinéis** on June 21st on the 50th take-off of its Electron launch vehicle. Rocket Lab will conduct four more identical launches for Kinéis in 2024 under a contract both companies signed in 2021.

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