



ESPI

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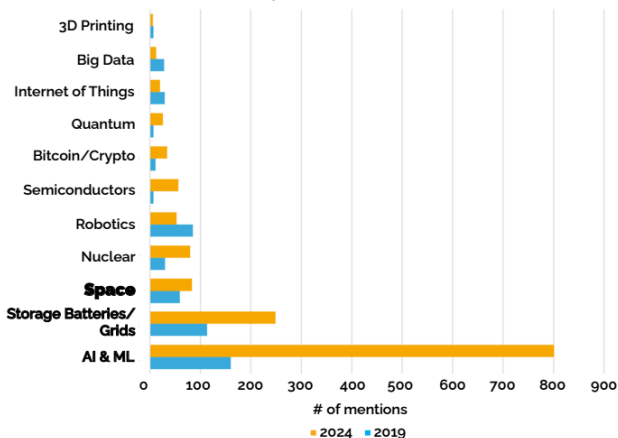


"L'EUROPE PUISSANCE": SPACE ONE OF FIVE EMERGING STRATEGIC SECTORS

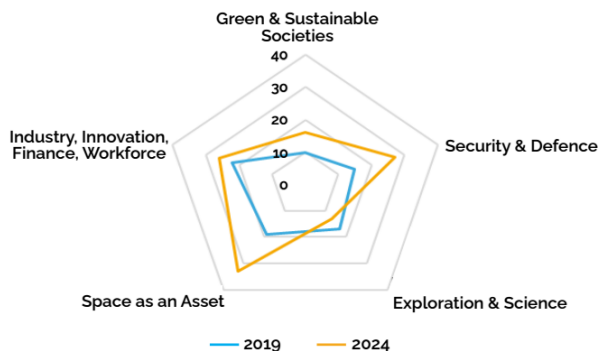
They have become a rarity, the speeches by elected leaders of nations for an ambitious Europe. Few are the politicians that would clearly link the destiny of Europe to its ability to be a **power of innovation, research, and production**. Few would identify space as one of five emerging strategic sectors, next to AI, quantum computing, biotechnology, and energy. Few would link it to the need to **strengthen Europe's industry**.

The "Discours sur l'Europe" delivered by President Macron in April at the Sorbonne was a rare moment, elevating space and the power of innovation it can bring, at highest political level. It calls to scale up Europe's efforts for greater **technological and industrial sovereignty**. It sets an ambitious target of investing 3% of the European GDP into research and calls for a **Europe with ambition for space**, including NewSpace and human space mission. The 0.15% GDP target for space, as advocated by **ESPI2040**, appears modest in comparison, yet it calls for a doubling of today's investment.

President Macron is not alone. Looking towards the European Parliament elections, space now takes 3rd place in the policy manifestos, as seen in ESPI's latest **report on the European Parliament elections**, ahead of semiconductors or Quantum.



The security & defence dimension of space has reached a yet unseen recognition in these policy programmes. The industrial dimension however is still undervalued.



This resonates also in the **declaration by Eurospace**, following the EU-ESA space council in May, regretting that current challenges are not seriously addressed and calling for 'a coherent European-wide industrial strategy for space'.

In the USA, politicians have long understood the role of space as a strategic priority at highest level. The Vice President chairs the National Space Council that includes, e.g. the Secretary of State, Defence, Homeland Security, Commerce, Transportation, providing advice on US space policy and strategy.

It synchronises civil, commercial, and national security space activities, and is supported by an Advisory Committee, including industry representatives. Europe does not possess such institutional structure and space policy and strategy are defined by multiple actors. It relies on the coordination between different European and national actors. This is also reflected by the Council of the EU Conclusions on 'strengthening Europe's competitiveness through space', which highlights the importance of several areas of EU socio-economic challenges and policies.

The Council of the EU Conclusions highlight "the importance to reinforce the ESA-EU strategic partnership" and propose **"reinforce coordination for the development of the overall European Space Policy"**

In support to this, Europe would benefit from an open platform of debate – spanning across the competences of the EU, ESA, and their Member States - at the highest political level, for advancing a coherent public policy direction for the development of space in Europe,

- in support to a competitive, innovative space industry; and
- as key enabler of sectors like green & sustainability, energy, security, mobility and agriculture.

A joint understanding among leaders from governments, parliaments, public bodies, industry (space and non-space) and finance is a prerequisite to adequately address the role of space in Europe's competitiveness and security.

Only then can Europe position itself as a strong partner in global developments, lead with purpose, and leverage this strength to Uphold European Values. Within its mandate, ESPI could facilitate such development with recommendations and proposals on space policy matters, and by supporting an open platform of debate across institutional and industrial boundaries.

Yours sincerely,

Hermann Ludwig Moeller
Director of ESPI





POLICY & PROGRAMMES

ESA and EU to enhance competitiveness through space

On May 23rd, **ESA and the EU adopted a resolution to enhance European competitiveness through space initiatives respectively**. This meeting, part of the Competitiveness Council (COMPET) configuration, marked the 20th anniversary of the EU/ESA Framework Agreement, first signed on May 28, 2004.



Credit: European Union

The resolution highlights the role of space in addressing societal challenges and enhancing the European space industry's global standing. Key points include increasing the use of space data, supporting investments, fostering innovation, and enhancing Europe's strategic autonomy in space. It calls for stronger cooperation between ESA, the EU, and Member States to ensure a competitive and sustainable space sector.

The joint resolution reflects on how a more competitive European space sector can contribute to the Union's economic and social challenges. It emphasises space's importance in the green deal, digital transition, and overall competitiveness. The space sector is seen as crucial for Europe's strategic autonomy, creating business opportunities and quality jobs, and helping to accelerate green and digital transitions.

The Space Council meeting, which included non-EU ESA members like Norway, Switzerland, Canada, and the UK, underscored the increasing role of space in supporting Europe's social, political, and economic policies. This meeting was the 11th Space Council since the Framework Agreement's inception, reaffirming the strong partnership between the EU and ESA in advancing Europe's space capabilities.

Ariane 6 Inaugural Launch Scheduled for July

The first launch of the Ariane 6 is expected in early July from French Guiana, ESA announced on May 21. The team, including ESA, ArianeGroup, Arianespace, and CNES, plans the launch within the first two weeks of July. A specific date will be revealed at the ILA Berlin Air Show from June 5 to 9. ESA Director General Josef Aschbacher highlighted the significance of this launch for Europe, despite noting a 47% chance of first-flight issues. The success of Ariane 6 is crucial to reducing Europe's reliance on SpaceX's Falcon 9. The final launch date will be announced at the ILA Berlin Air Show.

Twelve Countries Sign Zero Debris Charter

Twelve countries have recently signed the ESA-facilitated Zero Debris Charter to tackle space debris. Austria, Belgium, Cyprus, Estonia, Germany, Lithuania, Poland, Portugal, Romania, Slovakia, Sweden, and the UK signed the agreement during the EU-ESA summit. The charter commits signatories to stop generating space debris by 2030. Over 100 organisations are expected to join soon. **On June 6th, 2024, ESA will host a second signing at the ILA Berlin Air Show**, where ESPI will become a signatory of the Charter.



ESA awards cargo return contracts to Thales Alenia and the Exploration Company



Credit: Thales Alenia Space

On May 22nd, **ESA announced that it awarded €25 million contracts to both The Exploration Company and Thales Alenia Space Italia to develop spacecraft for the LEO Cargo Return Service initiative.** The initiative, approved in November 2023 with a €75 million budget, aims to enhance Europe's space economy. Phase 1, running until June 2026, focuses on vehicle design and technology maturation. Phase 2 will involve demonstration missions by 2028. The Exploration Company will develop the Nyx Earth spacecraft, while Thales Alenia Space will create an Earth Re-entry Vehicle. **ESA**

opted not to award a third contract.

ESA Awards €340M Space Weather Satellite Contract to Airbus

Vigil, the first operational mission of ESA's Space Safety Programme, **will monitor the Sun and provide early warnings of harmful space weather.** ESA Director General Josef Aschbacher highlighted Vigil's role in protecting critical infrastructure and satellites. Positioned at Lagrange point L5, Vigil will offer up to five days' notice of solar winds. The spacecraft will be built in the UK with contributions from the U.S. Naval Research Laboratory, NASA, Italy, Germany, and the UK. Launch is expected in 2031, with a mission duration of over seven years. Originally named Lagrange, the mission was renamed Vigil following a public naming initiative.



Credit: ESA

EU and USA finalise security agreement for Galileo launches

On May 5th, the Official Journal of the EU published the **agreement signed between the EU and the USA, detailing security procedures for launching Galileo satellites from U.S. territory.** This agreement ensures protection for EU classified equipment, outlines protocols for handling security incidents and establishes procedures for recovering Galileo satellite debris. It includes provisions for maintaining exclusive access to EU classified equipment by European officials and coordinating import procedures with U.S. Customs and Border Protection.

EU invests over 1 billion in defence research and development projects

The **European Commission announced €1.03 billion in funding under the 2023 European Defence Fund (EDF) for 54 defence-related projects.** Key space-related initiatives include the **STAALION** and **EMISSARY** projects, which aim to enhance Space Domain Awareness by improving satellite surveillance, identification capabilities, and developing advanced sensors and command systems for military space situational awareness. The EU Defence Innovation Scheme also supports the transfer of civil innovation to defence, aiding up to 60 start-ups and SMEs.



Italian Space actors discuss new space law at Palazzo Piacentini



Credit: ASI

On May 15th, the **Ministry of Economic Development** hosted a meeting of the **Regional Technological Aerospace Districts**, focusing on the upcoming **Italian Space Law**. Attendees included Minister Adolfo Urso, military advisor Franco Federici, ASI President Teodoro Valente, CTNA President Cristina Leone, international economic director Fabrizio Lobasso, aerospace district coordinator Luigi Carrino, and industry leaders.

Coordinated by CTNA, the meeting aimed to establish a permanent national dialogue on aerospace priorities. Giulio Veltri, head of the Legislative Office of Mimit, outlined the guidelines for Italy's first comprehensive Space Law, which is slated for review by the Council of Ministers in the coming weeks. This law is intended to address the evolving needs of the aerospace sector, ensuring Italy remains at the forefront of space exploration and technology.

German Minister seeks rethinking of IRIS² as EU moves forward

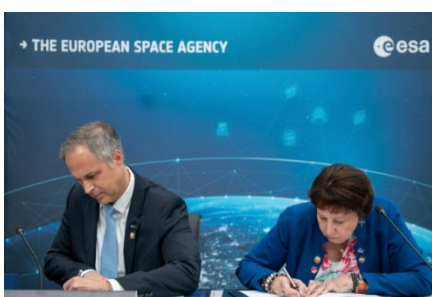
German Economy Minister **Robert Habeck** has, according to multiple media reports, called for a **rethink of the EU's €3 billion IRIS² satellite project**, citing high costs and questionable work distribution between France and Germany. Habeck's April letter reportedly argued the project is too expensive and insufficiently advanced. EU officials dismissed Habeck's push as "ill-founded" lobbying. The SpaceRise consortium's final proposal is under review, with hopes to finalise contracts in due course despite the pushback.

First EO Strategic Research and Innovation Agenda (SRIA) published by JRC

On May 14th, the **EC's JRC published the report, which outlines how EO data supports EU policy goals, particularly the European Green Deal**. The first Strategic Research and Innovation Agenda (SRIA) sets a framework for Copernicus' research and development, aligning with Horizon Europe Work Programmes for 2025-2027 and beyond. It ensures Copernicus remains cutting-edge, providing services in land, ocean, atmosphere, climate change, emergency, and security.

The SRIA emphasises agile data streams, digital transformation, and expanded services to enhance policy uptake and drive economic growth and security in Europe. It highlights Thematic Hubs, Digital Twins, AI/ML, and coordination across EU policies to maximise impact. Three key dimensions—EO research, sustained services, and policy needs—are identified for successful implementation, with a focus on monitoring interfaces and metrics.

ESA and NASA Finalise Cooperation on ExoMars Rosalind Franklin Rover



Credit: ESA/Damien Dos Santos

On May 16th, **ESA signed an agreement with NASA to support the ExoMars Rosalind Franklin rover mission**, set to launch in 2028. This agreement, signed at ESA's Paris headquarters, confirms NASA's contributions, including **throtttable braking engines and radioisotope heating units (RHUs)**. NASA's support replaces previous contributions from Roscosmos, following the termination of its partnership. As reported in **ESPI's April Insights**, ESA is developing a new landing system,



and has awarded Thales Alenia Space a €522 million contract to construct the landing platform. The mission, with an expected launch in late 2028, will see NASA provide essential technology and expertise, enhancing the mission's success and fostering further international cooperation in space exploration.

ESA Astronauts Sophie Adenot and Raphaël Liégeois Assigned for ISS Mission

On May 21st, ESA Director General **Josef Aschbacher** announced that astronauts **Sophie Adenot and Raphaël Liégeois** have been assigned their first spaceflights to the ISS in 2026. Sophie and Raphaël, part of ESA's astronaut class of 2022, recently completed their basic training. Sophie, an engineer and test pilot from France, and Raphaël, a biomedical engineer and neuroscientist from Belgium, expressed their excitement for their upcoming missions. They will undergo further training and preparation for their roles on the ISS, conducting scientific experiments, medical research, and operational tasks.

Switzerland will not join from Copernicus Programme due to financial strains

Switzerland will not participate in the European Copernicus climate change monitoring programme from 2021 to 2027. Despite parliamentary approval, the government cited strained federal finances for the decision. Participation would require negotiating a bilateral agreement with the EU and would impose additional budgetary burdens. The government may reconsider joining in 2028.

EIB Commits €300 Million to Poland's Satellite Program for Enhanced Security

The **EIB will invest €300 million in Poland's satellite programme.** EIB President Nadia Calviño announced this investment under the EIB's new security and defence plan. Polish Prime Minister Donald Tusk praised the deal, highlighting its importance for Poland's defence capabilities. He emphasised the favourable loans for dual-use civilian and defence investments. Calviño noted this marks the EIB's first action under its new plan, adding that the bank has invested nearly €100 billion in Poland's infrastructure. Tusk expressed gratitude for the EIB's ongoing support for Poland's security and defence.

SatCen Releases 2023 Annual Report Highlighting Key Achievements



Credit: SatCen

SatCen released its 2023 Annual Report, detailing significant achievements amid the challenges of Russian aggression in Ukraine and the Gaza crisis. In response to heightened demand for geospatial intelligence, SatCen produced over 6,000 analytic products—a 37% increase from 2022—and significantly increased support for EU missions. Key achievements include intensified collaboration with entities like Frontex and new agreements, such as the Copernicus Service on Support to EU External and Security Actions (SESA), enhancing operational effectiveness and aligning with the EU's strategic priorities. Also, the report highlights the ESA-ESPI workshop on 'space data space' hosted at SatCen on 22nd and 23rd of November 2023.



ESA signs up with Arianespace for 2025 SMILE Mission launch

ESA has partnered with Arianespace to launch the SMILE mission in late 2025. SMILE, a collaboration between ESA and the Chinese Academy of Sciences (CAS), will study the Sun-Earth connection and Earth's magnetic environment. The Vega-C rocket will launch SMILE from French Guiana into a high-Earth orbit, allowing detailed observations of solar wind interactions and northern lights.

Korea Launches Space Agency KASA

On May 15th, the Korea AeroSpace Administration (KASA) officially opened, marking a major step for Korea in the global space arena. Inaugural chief Yoon Young-bin highlighted KASA's role in supporting private sector-led space development. The agency will lead national programmes, including a moon landing by 2032 and a Mars mission by 2045. Located in Sacheon, KASA will also develop the KSLV-III rocket, with launches planned between 2030 and 2032. John Lee, a retired NASA executive, has been appointed as deputy administrator to align projects with international standards.



Credit: KASA

Australia and India Strengthen Space Collaboration

The Australian government awarded \$18 million in grants to enhance space collaboration with India. The grants include \$8.5 million for Space Machines Company to create a "roadside assistance in space" satellite, \$5.8 million for LatConnect60 to develop a Low Earth Orbit satellite for carbon emissions data, and \$3.7 million for Skykraft to propose a new Position, Navigation, and Timing system. Australian Space Agency's head Enrico Palermo highlighted the growth of India's space sector and the potential for joint projects. The initiative is part of the International Space Investment India Projects programme, announced by Prime Ministers Albanese and Modi in 2023 under the Comprehensive Strategic Partnership. The Space Industry Association of Australia and Satcom Industry Association-India also signed an MoU at DefSAT 2024 to address space debris, satellite tech, and defence integration.

Security Council fails to adopt space weapons resolution again

For the second time since late April, the UN Security Council has failed to adopt a resolution to prevent an arms race in outer space. Russia's proposal, aimed at banning all types of space weapons, was rejected (i.a.) by France, the UK, and the US. This follows Russia's veto of a US-Japan proposal on April 24, as previously reported in ESPI Insights. The US-Japan proposal focused on preventing the deployment of weapons of mass destruction in space. The Russian draft sought a broader ban, but the resolution failed with 7 votes in favour, 7 against, and 1 abstention, highlighting ongoing disagreements on space security.

IN-SPACE releases new guidelines to implement space policy

IN-SPACE released new guidelines to implement the Indian Space Policy 2023, opening the space sector to private players for activities like building and launching satellites. All entities must get IN-SPACE authorisation for space activities in India. The authorisation process includes a 75–120-day review for safety, security, and compliance. Applicants must have the necessary capabilities and



notify IN-SPACe of management changes within 48 hours. Unauthorised service discontinuation can result in termination and fines. Only Indian entities or foreign entities through Indian subsidiaries can seek authorisation for satellite services. Satellite control centres should be in India unless a significant business advantage is demonstrated.

India announces Chandrayaan-4 Moon sample return mission plans

India is planning the Chandrayaan-4 mission to return lunar samples, with significant private sector involvement. Announced by ISRO's Nilesch Desai, the mission will land at Shiv Shakti Point and could launch in the next four to five years. It will use a PSLV and LVM-3 to collect and return samples to Earth, with a target date no earlier than 2028. In line with India's new space policy, ISRO's commercial arm, **NSIL, has invited private partners to build the LVM-3 rocket.** The move aims to increase production and meet global demand for launch services. This initiative supports India's goal of putting astronauts on the moon by 2040. **India is also working with Japan on the Lunar Polar Exploration mission** and planning a Mars Lander Mission as a follow-up to the 2013 Mars Orbiter Mission.

Portuguese Space Agency Issues Lisbon Declaration



The Portuguese Space Agency, during the May 14-15 conference with UNOOSA, **issued the Lisbon Declaration on Outer Space.** The declaration **emphasises COPUOS's role in sustainable space use, calls for multilateral guidelines, and urges space governance norms.** It highlights the need for transparency, international coordination, and expanding youth participation in space activities. The declaration includes input from COPUOS Member States, civil and youth organisations, industry, and academia. At the event, ESPI contributed to the session on Space Traffic Management and Space Resources.

AUC and EUMETSAT Strengthen Earth Observation Cooperation

The African Union Commission (AUC) and EUMETSAT signed a memorandum of understanding to improve access to next-generation satellite data for African meteorological services. The agreement enables the deployment of new infrastructure and educational materials to maximise data impact. EUMETSAT's Meteosat Third Generation (MTG) satellite system, including MTG-Imager 1 launched in December 2022, is expected to soon provide operational data. Next-generation polar-orbiting satellites will launch in 2025-26.

Kenya Space Agency Unveils 2023-2027 Plan

On May 13th, the **Kenya Space Agency (KSA) launched its Strategic Plan 2023-2027** to advance Kenya's space economy and national development. The event, officiated by Cabinet Secretary for Defence, Aden Duale, and Chief of the Defence Forces, General Charles Kahariri, focuses on six key areas: space activity coordination, capability development, technology utilisation, research and innovation, resource mobilisation, and institutional strengthening. Duale highlighted alignment with Kenya's Vision 2030 and international goals, while General Kahariri emphasised space's role in national security. The event saw strong support from public and private sector stakeholders.



U.S. and Philippines Hold Inaugural Space Dialogue

The **U.S. and the Philippines held their first Space Dialogue** on May 2, 2024, to enhance cooperation in civil space activities, focusing on maritime awareness, space situational awareness, and Earth observation data. Key participants included Jennifer R. Littlejohn, Chirag Parikh, Joel Joseph Marciano Jr., Rahima Kandahari, and Gay Jane Perez. The discussion focused on Earth observation, weather forecasting, climate monitoring, and hosting a U.S. Geological Survey Landsat ground station in the Philippines. Emphasis was placed on maritime awareness, expanding satellite broadband, and the potential for the Philippines to sign the Artemis Accords. Both sides agreed to enhance training programmes and further collaboration. The next dialogue will be in the Philippines.

Spain Advances in Atlantic Constellation with ESA Contracts

ESA awarded contracts to Deimos and Open Cosmos to develop Spain's part of the Atlantic Constellation. Spain, partnering with Portugal, committed €40 million each for 16 Earth observation satellites, with the UK adding £3 million for an extra satellite. In April, contracts were given to Deimos and Open Cosmos Europe to consolidate mission requirements with the Spanish Space Agency and ESA. The Deimos team includes Alén Space, Satlantis, and DHV Technology, while Open Cosmos includes Telespazio, Hispasat, ARQUIMEA, and Leaf Space.

China Expands Hainan Spaceport for Megaconstellations

China is expanding its Hainan Commercial Launch Site to support a surge in commercial space activities. The second launch pad is being completed, and the first pad, dedicated to the Long March 8 rocket, could see its first launch by June. Future expansions will add up to 10 launch pads for both liquid and solid propellant rockets, supporting the deployment of over 23,000 satellites envisaged for the Guowang and G60 mega-constellations. This year, China aims for about 100 launches, including 30 by commercial entities, to meet international deadlines and expand its space presence.

ISRO Unveils Plans for Mangalyaan-2 Mars Mission

ISRO has unveiled plans for Mangalyaan-2, aiming to make India the third nation, after the US and China, to land a rover on Mars. Mangalyaan-2 will feature a rover with a sky crane and a helicopter named "Martian Boundary Layer Exploration" (MARBLE) to explore the Martian surface. The mission will be launched on the Polar Satellite Launch Vehicle, ensuring communication between Mars and Earth. The exact launch date is yet to be announced, but if successful, India will join the elite group of nations exploring Mars, showcasing its advanced space capabilities.

ESA to build a new satellite control centre at ESOC in Darmstadt

ESA is building a new operations centre at ESOC in Germany to enhance Europe's space missions. Director Rolf Densing emphasized its efficiency, sustainability, adaptability, and accessibility. Head of Mission Operations Simon Plum highlighted its flexibility for future missions. The new centre will support simultaneous launches and feature an energy-efficient data centre. It will replace older buildings, ensuring 99.9% uptime and top security. The facility will engage visitors and provide training, demonstrating ESA's commitment to innovation and sustainability in space exploration.



Credit: ESA / J. Mai



Pentagon Plans to Integrate Commercial Space Technology

Speaking at a business roundtable in Washington, Colonel Richard Kniseley reportedly emphasised his determination to release the first CASR contracts before the end of the year. **The Pentagon reportedly plans to integrate commercial space technology into U.S. military units through the Commercial Augmentation Space Reserve (CASR).** Contracts are expected by year-end, with an industry session in August. Led by Colonel Kniseley, the initiative reportedly aims for voluntary participation, scalability, and strategic partnerships to enhance military capabilities. The CASR programme is designed to leverage commercial innovations to boost national security and operational readiness, ensuring the military can rapidly adapt to emerging threats and technologies.

NASA Selects JEDI for Solar Eruption Study

NASA chose the **Joint EUV Coronal Diagnostic Investigation (JEDI) to study the Sun's massive solar eruptions.** Integrated into ESA's Vigil mission in 2031, JEDI's ultraviolet telescopes will focus on the solar corona's middle layer, aiding space weather monitoring from a unique vantage point. Led by Don Hassler, JEDI receives \$45 million in funding.

U.S. Space Force Announces \$1.7B Satellite Communications Contracts

The U.S. Space Force's Commercial Satellite Communications Office outlined **upcoming satellite communications contracts worth nearly \$1.7 billion over the next year.** These include a major deal of almost \$900 million for secure satellite services for top government and military officials, along with significant contracts for the Marine Corps and other agencies.

House Armed Services Committee Approves NDAA for 2025

The House Armed Services Committee approved the National Defence Authorisation Act (NDAA) for Fiscal Year 2025 by a vote of 57-1, with over 700 negotiated amendments. The \$850 billion bill now proceeds to the House floor. Amendments include oversight for the Space National Guard and measures to address contractor performance and commercial space strategy.

Greece awards Open Cosmos €60 Million Contract for Satellite Constellation

Greece has awarded Open Cosmos a €60 million contract to build seven satellites, equipped with high-resolution cameras and IoT receivers. Scheduled for launch in 2026, the project will establish a new office and factory in Greece. These satellites will be part of the Atlantic Constellation, aiding in climate monitoring and disaster mitigation. This initiative aims to stimulate local high-tech industries, create jobs, and retain skilled engineers and space experts in Greece.

MDA Joins Starlab Space Station Project

MDA will contribute its space robotics expertise to the Starlab Space Station, a joint venture with Voyager Space, Airbus, and Mitsubishi. Starlab, funded with \$217.5 million from NASA, aims to launch its habitat on SpaceX's Starship in 2028. Starlab also contracted The Exploration Company for three supply missions using the reusable Nyx capsule.



Credit: NASA



In other news

The Canadian Space Agency awards \$5M grants to 13 academic institutions for satellite EO research under the smartEarth initiative: Each three-year project advances EO applications, training, and digital tech for better environmental monitoring and climate solutions.

Maritime Launch Services received a \$12.9M conditional term sheet from Canada's Strategic Innovation Fund for Spaceport Nova Scotia: the non-binding proposal aims to support Canada's first commercial orbital spaceport.

Andøya Space is constructing a new suborbital launch pad to accommodate larger rockets and boost its capacity for multiple launches: with two pads reserved for NASA, the new pad will support European missions. Expected completion is September.

Lithuania, Peru, and Slovakia Sign Artemis Accords, bringing total to 40 nations.

Serbia joins China's International Lunar Research Station (ILRS) project, signing an agreement with CNSA: Serbia's involvement highlights China's focus on global partnerships in space.

NASA Administrator Bill Nelson visited Italy and Vatican City, and Saudi Arabia : He discussed human spaceflight, Earth science, and Mars in Italy, and future collaboration and STEM education in Saudi Arabia.

USSF Chief Gen. C. Saltzman emphasised the significance of the U.S.-Australia partnership: he highlighted the evolving challenges in space, emphasising the need for collaboration.

NASA and Boeing postpone crewed test flight: CST-100 Starliner had a helium leak.

The FCC proposed new space debris mitigation rule: It requires satellite applicants to limit explosion risk to less than 0.1%, modernising space debris mitigation for crowded orbits.

The UK unveiled a new Space Regulatory Review: Ministers inaugurated the National Space Operations Centre, highlighting seven outcomes for regulatory agility, innovation, and growth.

The new IEC-61108-7 standard allows full ESMAS use with type-approved shipborne receivers: This enhances maritime safety, compliance and fostering efficient marine activities.

UKSA has announced over £1 million for 15 STEM projects and £9 million through CEOI for 12 Earth observation projects.

UNOOSA and Japan support space law missions in the Philippines and Thailand: enhancing national legislation and adherence to international space law.

GMV to develop Spain's €2.7M Space Surveillance System for the Ministry of Defence: it will enhance orbit calculation, object cataloguing, and space weather data processing.

CNES partners with Spartan Space, MEDES, and Decathlon to develop a European IVA spacesuit, aiming for a 2024 prototype under the Spaceship FR initiative.

Azercosmos partners with Esri and Viasat to enhance GIS and connectivity in Azerbaijan: it will improve mapping, climate assessment, and remote industrial applications.

OneWeb launched 16 satellites, including JoeySat: increasing constellation to 634 and enhancing global network resilience and coverage.

CNES partners with ION-X to develop ionic liquid electrospray thrusters for small satellites.

ESA partners with Kuva Space: it will enhance Baltic Sea border surveillance, emergency response, and law enforcement using hyperspectral data and Sat-to-Sat communication.



INDUSTRY & BUSINESS

Vyoma and ESA collaborate on collision avoidance project

Vyoma and ESA launched a 14-month project under ESA's **Competitiveness Element in the Space Safety Programme**. The initiative aims to assess Vyoma's Collision Avoidance Manoeuvre (CAM) recommendation service, with ESA providing access to Conjunction Data Messages and CAM solutions from up to five of its Earth Explorer missions. This access allows Vyoma to replicate ESA's collision avoidance procedures and validate its own manoeuvre solutions, taking into account factors such as propulsion type, delta-v consumption, eclipses, and regional anomalies. Vyoma's Space Safety services offer satellite operators actionable data, including collision warnings, conjunction geometry studies, ground-station pass predictions, on-demand tracking campaigns, optimal avoidance manoeuvre planning, and trajectory screening.



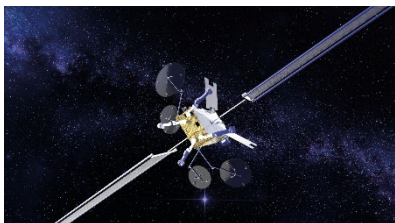
Credit: ESA

Thales Alenia Space delivers Cygnus to the U.S. and signs partnerships

Thales Alenia Space delivers pressurised module for Cygnus spacecraft

Thales Alenia Space **confirmed the dispatch of the pressurised module for the 21st Northrop Grumman Cygnus Spacecraft to the U.S.** Thales Alenia Space has completed the primary structure of the first upgraded PCM, anticipating a pressure test in the autumn to ensure structural integrity. Scheduled for launch aboard a SpaceX Falcon 9 rocket, the spacecraft aims to deliver cargo to the ISS. Northrop Grumman's upgraded Cygnus variant, Mission B, will feature a lengthened payload module, enhancing capacity to 5,000 kilograms with a 36-cubic-metre volume.

SKY Perfect JSAT and Thales Alenia Space collaborate on JSAT-31 satellite



Credit: Thales Alenia Space

Asia's satellite operator **SKY Perfect JSAT partnered with Thales Alenia Space to develop JSAT-31, a software-defined satellite based on the Space INSPIRE platform.** Scheduled for launch in 2027, JSAT-31 will deliver high-speed broadband services across Japan, South-East Asia, Australia, New Zealand, and the Pacific islands, operating in both Ka and Ku frequency bands. Thales Alenia Space, serving as the prime contractor, will oversee the

satellite's design, manufacturing, testing, and on-ground delivery, along with providing the ground segment and associated services. JSAT-31 will leverage Space INSPIRE's flexibility, allowing instant in-orbit adjustment to broadband connectivity demand while maximising satellite resources. With a capacity of up to 50Gbps, JSAT-31 aims to enhance SKY Perfect JSAT's service offerings, meeting advanced customer needs and addressing the demands of expanding global and mobile sectors.

Beyond Gravity Delivers First Module to Amazon for Project Kuiper

Beyond Gravity delivered the first dispenser module to Amazon for Project Kuiper, which will launch 3,236 satellites for global broadband. The first flight is planned for summer 2024. Beyond Gravity also produces components for ULA's Vulcan rockets. Project Kuiper aims to provide fast, affordable internet using a satellite network and Amazon Web Services.



Exolaunch deploys NASA's satellite and partners with PLD Space

Exolaunch **successfully deployed NASA's Advanced Composite Solar Sail System (ACS3) satellite** on Rocket Lab's "Beginning of the Swarm" mission. The launch took place on April 23rd at Rocket Lab Launch Complex 1 in Mahia, New Zealand, marking Exolaunch's first deployment for NASA and its 28th mission overall. The ACS3 satellite, equipped with a 12U nanosatellite bus from Kongsberg NanoAvionics, is designed to test innovative solar sail systems that use sunlight for propulsion. The satellite was deployed using Exolaunch's EXOpod deployer. The mission aims to deploy lightweight booms to unfurl a 30-foot solar sail. This technology could offer a cost-effective alternative to traditional propulsion systems, with applications in space weather monitoring, asteroid reconnaissance, and solar observation missions.

PLD Space and Exolaunch partner to Expand European Small Satellite Launch Services



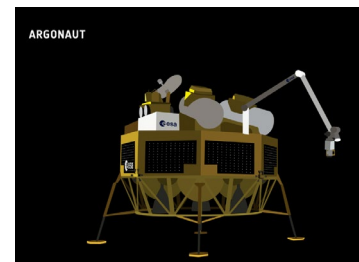
Credit: PLD Space & Exolaunch

PLD Space and Exolaunch signed a **Strategic Partnership Agreement to enhance European access to commercial space**, focusing on small satellite launch services. The agreement, signed at the 4S Symposium in Mallorca, aims to combine PLD Space's MIURA 5 launcher with Exolaunch's deployment, mission management, and integration services. The MIURA 5, capable of placing up to 540 kg into sun-synchronous orbit, is designed for both dedicated and

rideshare missions, offering up to 30 missions annually, with its first flight slated for late 2025. Exolaunch will utilise the MIURA 5 for its customers' satellites, leveraging their deployment systems like CarboNIX and EXOpod.

Redwire awarded contract for ESA Lunar Lander Robotic Arm

Redwire Corporation secured a **contract from ESA to develop a robotic arm prototype for the Argonaut Lunar Lander**. This initiative aims to enable Europe to transport 1,500-1,800 kg of cargo, infrastructure, and scientific instruments to the lunar surface. The Manipulator for Argonaut Payload Needs and Unloading Support (MANUS) system will facilitate the logistics of Argonaut's lunar missions, including offloading, positioning, and retrieving objects. Redwire will develop, breadboard, test, and verify MANUS functions, with a possibility of competing for a subsequent contract. The MANUS system will be developed at Redwire's Luxembourg facility, which also works on the STAARK robotic arm for in-orbit applications.



Credit: ESA

MDA Space Selects Tesat for Telesat's Lightspeed Constellation

MDA Space chose Tesat to supply **792 laser communication terminals (LCTs) for Telesat's 198-satellite Lightspeed broadband constellation**. Announced on May 28, this marks the first large-volume commercial award for LCTs. Tesat's expanded production in Backnang, Germany, will handle orders up to 2,000 units annually.



Eutelsat OneWeb partners with Spacecom and Yahsat and considers selling ground station network

Spacecom and Eutelsat OneWeb initiated a trial **to enhance emergency communication services through Multi-Orbit satellite telecommunications**. This trial integrates Spacecom's AMOS GEO satellites with Eutelsat OneWeb's LEO satellites to offer comprehensive communication solutions and aims to deliver flexible, high-performance communication services by combining GEO and LEO satellites. This approach promises tailored communication solutions with robust service level agreements, end-to-end encryption, and services for telecom and business sectors. Furthermore, Eutelsat Group and YahClick, the data solutions arm of Yahsat, signed an **MoU to enhance satellite broadband services across Africa**. This collaboration enables YahClick to utilise capacity on Eutelsat's geostationary satellite, EUTELSAT KONNECT, to bolster its broadband offerings and expand its market reach in Africa, particularly in Ethiopia. This partnership allows Yahsat exclusive rights to Eutelsat's KONNECT capacity over Ethiopia.

Lastly, **Eutelsat is considering selling its ground station network, potentially valued at over €800 million**. The ground station network encompasses antenna systems and connectivity facilities for its satellite network. Confirmation of Eutelsat's contemplation of selling its ground network follows Bloomberg's report, with the operator affirming preliminary analysis and potential partnership with external infrastructure investors.

EDF awards €100 million contract to Leonardo-led consortium



Credit: Leonardo

The European Defence Fund (EDF) allocated a **€100 million contract to a consortium of 44 companies from 13 nations to enhance SSA**. This initiative, known as the Emissary project, will develop and qualify SSA sensors and command/control software over four years. The project's total cost is €157.7 million, with the consortium covering the remaining amount. Emissary builds on previous EDF projects, Integral and Sauron,

which focused on SSA data processing and sensor development. Leonardo of Italy leads the Emissary project, aiming to progress these technologies to the demonstration and qualification stages, strengthening European sovereignty in military SSA. Additionally, the EDF funded the SDAM4PRD project, coordinated by Integrasys SA of Spain, to develop a ground-based system for detecting and analysing satellite communications. This project aims to enhance the EU's ability to disrupt adversary satellite communications.

Avio ships redesigned Vega C Zefiro 40 for testing

Italian rocket manufacturer **Avio dispatched the first of its redesigned Vega C Zefiro 40 second stages to its Sardinia testing facility**. In the first quarter of 2024, Avio assembled the Z40 Qualification Motor 3 (QM3) with the redesigned nozzle integrated into the solid rocket motor. On May 28th, ESA announced a **successful test firing of the redesigned Zefiro-40 motor**. Conducted by Avio, the test lasted 94 seconds. Another test is planned for October. ESA also plans the final original Vega flight in September and the first Ariane 6 launch in early July.



Credit: ESA



SSC and Perigee Aerospace partner to launch from Esrange Space Center



Credit: SSC

The Swedish Space Corporation (SSC) and South Korean rocket company Perigee Aerospace signed a **collaborative agreement to jointly launch satellites from Sweden's Esrange Space Center**, commencing in 2025. Perigee's Blue Whale 1 microlauncher is set to become the first orbital rocket launched from Esrange. Perigee Aerospace plans to create an orbital launch service in partnership with SSC, leveraging Perigee's Blue Whale 1 rocket. SSC and Perigee will collaborate on developing a service concept with a shared payload space onboard the rocket to accommodate both companies' customer bases. Additionally, this service will be complemented by SSC's global satellite ground station network and may include supplementary space-

to-ground services.

ICEYE launches flood insights and early warning products and introduces APIs

ICEYE introduced its Flood Insights and Flood Early Warning products in Canada, aimed at providing insurers with rapid access to flood data. Using ICEYE's synthetic aperture radar (SAR) constellation, the tools offer information to mitigate flood risks. Flood Early Warning data is available 96 hours before potential floods, and flood extent data is updated every 24 hours during floods. Moreover, **ICEYE launched two new application programming interfaces (APIs)** to provide customers with faster and automated access to imagery from the world's largest SAR satellite constellation. This enables customers to integrate their platforms directly with ICEYE's architecture. The second API facilitates access to ICEYE's extensive archive of over 60,000 images.

Aerospacelab starts construction on new satellite factory in Belgium

Aerospacelab started building its future Megafactory with plans to become Europe's largest satellite factory. The Megafactory is expected to start manufacturing in 2026 and will produce satellites weighing between 150 kg and 1 ton, with the capacity to manufacture up to 500 satellites annually. It will feature a 7,000 square metre production area and a 4,000 square metre clean room, making it the third-largest satellite factory in the world. Since announcing the factory in 2022, Aerospacelab has completed its design plans and permits and assembled a network of suppliers and contractors.



Credit: Aerospacelab

Chinese firm files ITU notification for 10,000-satellite constellation

Shanghai Lanjian Hongqing Technology Company, associated with the commercial rocket manufacturer Landspace, filed a notification with the International Telecommunication Union (ITU) **to establish a satellite constellation comprising 10,000 satellites**. The notification aims to inform the ITU and member states about the planned network, named Honghu-3, which will span 160 orbital planes. This filing represents the third proposed Chinese megaconstellation, following the national Guowang plan and the Shanghai-backed G60 Starlink initiative. These developments align with Shanghai's commercial space ecosystem action plan and China's broader strategy to become a leader in satellite Internet and comprehensive space capabilities. China's national plan, known as the space-ground integrated information network (SGIIN), aims to merge communications, remote sensing, navigation, and other satellite services.



AT&T and AST SpaceMobile sign commercial agreement



Credit: Business Wire

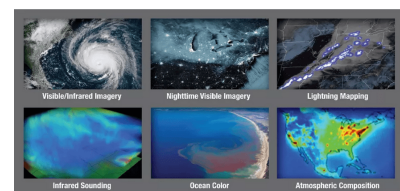
AT&T and AST SpaceMobile entered a definitive **commercial agreement aimed at delivering space-based broadband network services directly to everyday cell phones**. AST SpaceMobile plans to deploy its first commercial satellites to Cape Canaveral this summer for launch into LEO. These initial satellites will enable commercial service, following several key milestones achieved in 2023, including the first voice call, text, and video call via space between everyday smartphones. The goal is to provide seamless, reliable service to consumers and businesses across the continental U.S., transforming connectivity in remote and hard-to-reach areas.

AAC Clyde Space to establish laser satellite communication hub

AAC Clyde Space, in collaboration with Dutch TNO and FSO Instruments, is **set to create a laser satellite communications hub in the Netherlands**. This partnership aims to develop a European ecosystem for laser satellite communication. The project will deliver a next-generation, compact, and cost-effective laser system capable of transmitting data from space at speeds up to 10 Gbps. AAC Clyde Space secured a licensing agreement with TNO, granting access to their advanced laser communication terminal technology, ideal for small satellites. Furthermore, AAC Clyde Space's subsidiary, AAC Hyperion, is collaborating with **FSO Instruments and TNO to develop advanced laser communication terminals for small satellites**. The project aims to enhance the CubeCAT V1 system, increasing its capacity to 10 Gbps for space-to-ground communication. Valued at €3.5M and co-funded by the Dutch National Growth Fund, the project is expected to complete by Q3 2026.

BAE Systems secures contracts with NOAA

On May 1st, BAE Systems secured a **\$365 million contract to develop the Atmospheric Composition instrument (ACX) for the U.S.'s NOAA Geostationary Extended Observations (GeoXO) satellite constellation**. Designed to augment NOAA's Geostationary Operational Environmental Satellites-R series, the GeoXO constellation aims to enhance EO capabilities. The contract includes options for additional sensors and covers support for on-orbit operations and storage. Beyond operational monitoring, ACX will support research on atmospheric emissions and aerosol movements, aiding in the understanding of weather-air quality-climate linkages. Furthermore, at the end of May, BAE Systems secured a **\$450 million contract to develop an ocean-colour instrument for the GeoXO**. Under the contract, BAE Systems will develop two flight instruments, known as GeoXO Ocean Color Instruments (OCX), to analyse ocean colour data. Under the contract, BAE Systems will undertake the complete lifecycle of the OCX instrument. Additionally, the company will provide ground support equipment, support launch activities, and assist with mission operations at NOAA's Satellite Operations Facility.



Credit: NOAA

Spire Global partners with financial firm to enhance weather forecasting with AI

Spire Global secured a multi-million-dollar deal with a financial firm, **leveraging its High-Resolution Weather Forecast model powered by space-based data and AI**. Partnering with NVIDIA's Earth-2 platform, Spire aims to enhance weather forecasting accuracy and provide long-range probabilistic



forecasts at unprecedented speeds. Spire's constellation of satellites, utilising radio occultation technology, enables precise data collection globally, facilitating advanced AI modelling for various industries including energy, logistics, and agriculture.

Millennium Space Systems wins \$414 million contract for FOO Fighter satellites

The SDA awarded Millennium Space Systems a **\$414 million contract to develop and deliver the Fire-control On Orbit-support-to-the-war Fighter (FOO Fighter)**, also known as F2. This contract establishes Millennium Space Systems as the end-to-end operational prime contractor responsible for delivering a constellation of eight satellites, along with a ground system and mission operations. FOO Fighter aims to enhance the U.S. defence capabilities against advanced threats. The F2 satellites will detect and track hypersonic missiles, which pose significant challenges due to their high speed and manoeuvrability.

Rocket Lab announces subcontractors for SDA's Tranche 2 Transport Layer

Rocket Lab completed the **selection of subcontractors for the development of 18 satellites for SDA's Tranche 2 Transport Layer-Beta (T2TL - Beta) programme** under the Proliferated Warfighter Space Architecture (PWSA). As the prime contractor for this \$515 million firm-fixed price agreement, Rocket Lab is responsible for leading the design, development, production, testing, and operations of these satellites. The 18 satellites will integrate various subsystems and components developed by Rocket Lab, including solar panels, structures, star trackers, reaction wheels, radio, flight software, avionics, and launch dispensers. Additionally, Rocket Lab selected several subcontractors to provide payloads and ground systems for the programme: CesiumAstro, Mynaric, SEAKR Engineering, Collins Aerospace, Redwire Space and Parsons Corporation. These developments mark significant progress in the advancement of space-based infrastructure and demonstrate the interest in delivering solutions for national security and defence purposes.

SWISSto12 delivers advanced RF antenna feed chains to Northrop Grumman

SWISSto12 supplied three fully integrated Radio Frequency (RF) Antenna Feed Chains to Northrop Grumman for its GEOStar-3 commercial satellite programme. These RF Feed Chains, developed and qualified by SWISSto12's U.S. entity, St12 RF Solutions, will be integrated into the satellite's payload. This contract marks St12 RF Solutions' first SatComm project. SWISSto12 completed Northrop Grumman's rigorous qualification programme in January 2024, ensuring the RF Antenna Feed Chains met stringent mission requirements. The delivery leverages SWISSto12's proprietary RF Additive Manufacturing technology to optimise size, weight, and performance. The GEOStar-3 launch is scheduled for later this year.

EO DataHub secures key contracts

The EO DataHub (EODH) was awarded **contracts aimed at bolstering EO data capabilities in the UK**. Led by the NERC National Centre for Earth Observation and the University of Leicester, the project aims to create a centralised digital infrastructure for accessing EO data. New partners like Airbus Defence and Space, Earth-i, Planet, Sparkgeo, Spyrosoft, and Oxidian bring expertise in data provision and software development. These contracts enable improved access to commercial EO data streams and the development of user-driven applications, reinforcing the EODH's commitment to advancing EO technologies for both experts and non-experts.



Viasat partners with Loft Orbital and integrates OneWeb for maritime connectivity

Viasat chose **Loft Orbital as a partner for its Real-Time Space Relay (RTSR) service**. This initiative is part of Viasat's \$53 million NASA Communications Services Project award, aimed at evaluating commercial satellite communication technologies to replace the Tracking and Data Relay Satellite system. The RTSR service aims to provide low latency and continuous connectivity for LEO spacecraft, supporting near real-time data transfer for mission-critical telemetry, tracking, and command (TT&C) data. The mission, set to launch in Autumn 2025, will demonstrate Viasat's capability to support NASA and other missions with high-throughput, on-demand connectivity, and in-orbit software upgrades. Furthermore, **Viasat is integrating OneWeb's LEO satellite capacity into its maritime connectivity services**. Through its subsidiary, Inmarsat Maritime, Viasat's NexusWave network will merge its Ka and L-band satellites with OneWeb's Ku-band services, offering improved data and speed for vessels. Financial details and the service timeline remain undisclosed.

Starfish Space Secures \$37.5M contract with USSF

Starfish Space signed a **\$37.5 million contract with the U.S. Space Force to develop, launch, and operate its Otter satellite servicing vehicle in geostationary orbit by 2026**. This four-year contract, awarded through the Space Systems Command's Assured Access to Space programme office, is a STRATFI (Strategic Funding Increase) agreement, combining \$37.5 million in government funds with an additional \$30 million in venture capital investment. While the details of Otter's first mission targets remain undisclosed, the Space Force is exploring various applications for the spacecraft, including refuelling spacecraft, orbital manoeuvring, and orbital disposal to prevent space debris. Starfish Space plans to offer the Otter vehicle as a commercial service, capable of docking with government satellites. By docking with client satellites and utilising its own propulsion systems, Otter can manoeuvre them, enhancing their resilience, tactical responsiveness, and strategic flexibility.



In other news

Marble Imaging, with Reflex Aerospace, secures DLR funding for a EO project: Their plan involves launching 200 small satellites to capture daily high-resolution Earth images, providing real-time insights into environmental changes.

RFA successfully tests RFA One rocket's first stage: The test of four Helix engines demonstrates control, paving the way for 2024 flight tests from SaxaVord Spaceport.

Avanti and Q-KON introduce LEO satellite services in South Africa: it will offer a combination of LEO and GEO services, catering to the increased demand for connectivity in the region.

Redwire announces Phantom, a fuel-efficient VLEO spacecraft: designed for diverse missions, it is compatible with small satellite launchers.

ispace Europe and CDS signed a deal to transport precise location equipment to the Moon: CDS's ESA-backed technology uses Ultra-Wideband for pinpointing, crucial for GPS-free lunar exploration. Romania's first lunar payload is set for ispace-U.S. Mission 3 in 2026.

Scanway Space and Nara Space Technology partner to develop microsats for EO: it will focus on methane monitoring. The K3M demonstration satellite launches by Q4 2026.

SatVu advances with HotSat-2, prepares for HotSat-3: new funding accelerates launch, aiding climate research with high-resolution thermal imaging.

Intelsat extends satellite lifespan by nine years using Northrop Grumman's MEV: this service allows continued broadband and video services globally.

Tomorrow.io secures \$10.2 million DoD contract to deploy two satellites with microwave sounders for military weather forecasting: the contract, part of the APFIT programme, aims to invest in promising technologies from small businesses and startups.

Viavi Solutions unveiled SecurePNT 6200 with SecureTime services: this solution integrates Fugro's AtomiChron, combining signals from GPS and GNSS for resilient, intelligent assurance.

ICEYE was welcomed into the ASD-Eurospace Council: this boosts the association's growth, industrial competitiveness, and innovation in the space industry.

SES launches Open Orbits IFC network with NSG, ASL, and HCI, integrating GEO and MEO satellites for global airline connectivity. **Hughes Network Systems partners with Airbus** as a managed service provider for Ka-band in the HBCplus program, extending in-flight connectivity.

Maxar and Lockheed Martin enhance F-35 training with geospatial products: it will standardise procurement and delivery for accurate, high-resolution simulation environments.

SatixFy and SCOTTY partner on Onyx IFC terminals: it will enhance connectivity for small aircraft with digital beam-forming and multi-orbit capabilities.

Space Epoch and Shifang Xinglian partner to develop MEO satellite constellation: it will advance launches and supporting new commercial rockets.

GomSpace and Unseenlabs partner on €2.9M microsatellite development to enhance signal intelligence and maritime surveillance, completing in 2024.

Exolaunch to deploy four 5G IoT satellites for Sateliot and launch Poland's first satellite, EagleEye, on SpaceX's Transporter-11 mission.

Pasqal and Thales advance satellite planning with quantum computing, optimising scheduling processes using neutral-atom Quantum Processor Units for improved efficiency.



INVESTMENT & FINANCE

Lockheed Martin abandons Terran Orbital acquisition plans



TERRAN ORBITAL™

Credit: Terran Orbital

SEC filing reveals that Lockheed Martin has withdrawn its plans to acquire Terran Orbital for undisclosed reasons. The offer was made on 1 March and had a total value of more than \$500 million, divided between the acquisition of all outstanding shares for \$1 each, the acquisition of stock warrants for more than \$70 million, and the assumption or repayment of \$313 million of the company's debt. Within days of the offer, Terran Orbital responded with a limited duration shareholder rights plan to reduce the likelihood of a hostile takeover through open market transactions.

As part of its strategic review, the company has stated that it is evaluating future commercial and strategic arrangements with Lockheed Martin and whether to continue as a stand-alone, independent public company. Since its IPO via a SPAC merger in March 2022, the share price has fallen from around \$10 to around \$1, although the company is no longer at risk of delisting.

Privateer raises \$56.5 million and acquires Orbital Insight

US space data firm Privateer has raised \$56.5 million in a Series A funding round led by Aero X Ventures, with participation from Lux Capital, BOKA, Starburst, and Winklevoss Capital. With this funding, **Privateer acquired the US-based geospatial analytics firm Orbital Insight.**

Orbital Insight utilises multiple data sources, including mobile phone locations and satellite imagery, to provide comprehensive geospatial analytics. This additional data will be integrated into a new platform that Privateer plans to release within the next six months. By incorporating Orbital Insight's technology, Privateer aims to broaden its market beyond space situational awareness.

US SaaS company AiDash secures \$58.5 million in Series C Round

US SaaS company **AiDash has raised \$58.5 million in a Series C funding round** led by Lightsmith Group and Japan's Marubeni Corporation. The round also included utility investor Duke Energy and investors from previous rounds, including SE Ventures, G2 Venture Partners, Benhamou Global Ventures and Shell Ventures. The company, which was founded in 2019, plans to use the funds to expand its operations, which currently include providing satellite data and AI analytics to improve the climate resilience and sustainability of infrastructure.

Hungarian firm Remred closes €25 million investment round with 4iG group

Hungarian space company **Remred has completed a €25 million investment round through a capital increase** by the 4iG Group. The investment will be made in two phases: in the first, Remred will increase its capital, allowing 4iG to reach 45% of the share capital in exchange for cash. In the second phase, part of the cash contribution will be transferred to the capital reserve. The deadline for the whole operation is 31 January 2025.



Credit: Remred

Remred is currently building a space technology centre capable of assembling satellites weighing up to 400 kg, so the acquisition will allow the telecommunication 4iG Group to strengthen its presence in the satellite and manufacturing market.



Chinese aerospace firm Emposat raises €64 million in two funding rounds

航天驭星

Credit: Emposat

Chinese aerospace infrastructure builder and service provider **Emposat has raised approximately €64 million in Series B and C funding rounds**, led by a state-owned capital and private VCs, such as Essential Capital. This marks the company's eighth round

of funding since its establishment in 2016. The funds will mainly be used for R&D in in-orbit operations and management, aerospace ground systems and satellite communications, and construction of aerospace ground infrastructure.

Thales acquires GET Sat

The French company acquired the Israel-based GET Sat for an undisclosed amount. The investment will complement the company's business offering, gaining access to GET Sat's Ka-band Milli Sling Blade antenna, which could be used to establish communications between GEO satellites with MEO and LEO constellations.

Deep Blue Aerospace secures Serie B round

Chinese rocket company Deep Blue Aerospace **has raised "tens of millions of dollars" over two tranches of a Serie B funding round** led by Founder Hesheng, Jinan Iron and Steel Dongtai Fund, along with other undisclosed institutions. The investment will be used for R&D to produce the first Nebula-1 recovery and reuse rocket in 2024, as well as to expand the workforce.

ABL Space Systems Secures \$20 million term loan from Leonid Capital Partners

ABL Space Systems has secured a \$20 million term loan from Leonid Capital Partners, a firm focused on providing credit and equity to technology companies operating in the national security sector. Founded in 2017 and headquartered in the United States, ABL Space Systems is dedicated to building low-cost satellite launch vehicles intended for both government and commercial customers.

US-based Xona Space Systems raises \$19 million in Series A funding round

Xona Space Systems has raised \$19 million in a Series A round led by Future Ventures and Seraphim Space, with new investors including NGP Capital (its first space investment), Industrious Ventures, Murata Electronics, Space Capital and Aloniq. Founded in the US in 2019, the company is developing a LEO constellation of small satellites for high-precision navigation services, with the aim of disrupting the PNT market. The funding will be used to accelerate the deployment of Xona's LEO satellite network.

Nara Space raises \$14.5 million in Series B round

NaraSpace Technology, a South Korean company specializing in the design, development, integration, testing, and post-launch operation of small satellites, **has raised \$14.5 million in a Series B financing round**.

Investors include Shinhan Venture Investment and Samsung Securities.

The company, which successfully developed and launched South Korea's first commercial microsatellite for Earth observation, Observer 1A, in November last year, plans to use the funds to expedite the development of satellites for methane monitoring.



Credit: Nara Space



French Infinite Orbits secures €12 million for satellite life extension



Credit: Infinite Orbits

The France-based, in-orbit services startup Infinite Orbits, **has successfully raised €12 million**. The funding round was led by Newfund Capital. With the investment, it will accelerate the development of Endurance, a satellite designed to extend the life of existing spacecraft, with its first mission planned for 2026.

CASSINI Business Accelerator welcomes 19 space start-ups in third batch

The CASSINI Business Accelerator **welcomed 19 companies for Batch 3 of its programme**. Selected from over 150 applicants, these start-ups represent a wide range of space technologies, with eight focusing on downstream applications, eight on upstream technologies and three covering both sectors. Their innovations include satellite propulsion, forest monitoring, space mobility and environmental analysis.

The selected companies come from various countries, including Spain, Finland, the Netherlands, Estonia, Poland, France, Luxembourg, Greece, Germany, Lithuania and the Czech Republic. These start-ups will receive mentoring and access to investor and customer networks to accelerate their growth.

China's Ditel Communications raises €12.7 million in Series C funding round

China's **Ditel Communications has raised approximately €12.7 million in a Series C round** of financing led by Zhejiang Development Assets Co., Ltd, a subsidiary of Zhejiang State-owned Capital Operation, with Weixian Capital acting as financial advisor. Founded in 2010, Dital Technology focuses on the design, research, production and sales of satellite communication equipment.

US-based Benchmark Space Systems raises \$6.8 million

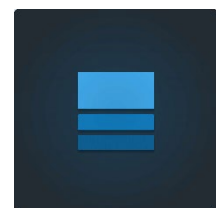
Benchmark Space Systems, a US-based aerospace company founded in 2017 and specialising in propulsion solutions for small satellite applications, has raised \$6.8 million from 23 investors in a recent funding round. **According to SEC filings**, this is part of a total offering of \$10.1 million, leaving \$3.3 million available for sale. The specific purpose of the round and the list of investors were not disclosed.

Momentick raises \$6.5 million seed funding for emissions monitoring platform

Israeli emissions intelligence company **Momentick has closed a \$6.5 million seed funding round** led by Chartered Group and TAU Ventures. Momentick provides a monitoring platform that allows greenhouse gas emissions to be monitored to detect leaks in industrial facilities such as pipelines, using various imagery sources such as satellites, aircraft and drones. The funds will be used to improve its algorithm and expand its market reach.

US software start-up Rollup Raises \$5.6M in seed funding

US-based software startup **Rollup has raised \$5.6 million in a seed round** led by Andreessen Horowitz's A16z, Thiel Capital, Space VC and JAM Fund. Founded in 2021, the start-up aims to simplify design and engineering processes through its browser-based platform, which supports the entire hardware development lifecycle. Initially, the company plans to use the funds to expand its product and market reach in the aerospace and defence markets.



Credit: Rollup



US Company Danti raises \$5 million in seed round led by Shield Capital



Credit: Danti

Danti, a US-based AI company, has raised \$5 million in a seed round led by Shield Capital with the participation of existing investors Tech Square Ventures, Humba Ventures and Leo Polovets, Space.VC, and Radius Capital. The funds will be used to grow the engineering and commercial teams for its AI-powered search engine, which can process large amounts of data, including satellite imagery.

UK Oxford Space Systems raises €4.7 million to strengthen market presence

UK-based deployable antenna company Oxford Space System has raised €4.7 million in an equity funding round led by existing investors Oxford Innovation EIS Growth Fund 3 and OION Angel Network. The additional funds will be used to strengthen the company's activities in the UK and export markets. The company, founded in 2013, provides antennas that facilitate the development of services in IoT, vessel tracking, search and rescue (SAR), and telecommunications.

Italian-Dutch start-up Revolv Space raises €2.6 million for smallsat technology

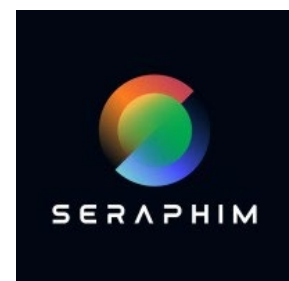
Revolv Space, a start-up specialised in space technology based in both Italy and the Netherlands, has secured €2.6 million in a funding round led by Primo Ventures through the Primo Space Fund and Takeoff Accelerator. The start-up, which was founded in 2022 and is supported by ESA BIC Noordwijk, intends to use the newly acquired funds for the development and production of various mechanisms and power systems specifically designed for small satellites.

German climate tech startup Seqana secures seed funding

German climate technology company Seqana has raised €2.1 million in a seed round led by seed investor HTGF and carbon removal firm Counteract, with support from existing investor ReGen Ventures. Established in 2020, the B2B company provides insights into soil carbon using machine learning models powered by satellite imagery. The capital will be used to scale-up its services.

Seraphim Space announces nine start-ups for 13th Accelerator Programme

Seraphim Space selected nine early-stage companies for its 13th accelerator programme. The three-month course aims to provide the necessary networking and mentoring support to make these start-ups investment ready. The selected companies come from the UK, US, Italy and India and are working in areas such as propulsion, cybersecurity, space situational awareness, geospatial insights and in-orbit bio-manufacturing. According to Seraphim, approximately 85% of companies secure investment within 12 months of graduating from the accelerator, and 93% of alumni have raised funding to date, averaging \$4 million per company.



Credit: Seraphim Space



In other news

Saudi Arabia's Public Investment Fund (PIF) launches Neo Space Group: the group will invest in local and international satellite companies and venture capital firms. The aim is to support the development of commercial space activities in the country.

OHB has received regulatory approval for joint venture with E.ON: The European Commission argued that the joint venture would not raise any competition concerns. The joint venture will focus on the development of electric propulsion systems using liquid hydrogen.

US software start-up Pictorus raises \$3.5 million in a seed round: the round was led by Catapult Ventures. The start-up aims to simplify programming and iteration processes, initially targeting aerospace, automotive, and robotic markets.

US-based startup Basalt Tech raises \$3.5 million in a seed round: the round was led by Initialised Capital. The startup plans to use the funds to grow its team and scale its product to reach flight heritage this summer. The company is developing an operating system for spacecraft called Dispatch.

China-based Laser Link secures Series A round: The laser communications company will use the investment for production line expansion, technology iteration, and product testing and verification.

China's Juntian Aerospace closes angel funding round: the company, founded in 2021 and specialising in commercial satellites, was led by Ginkgo Valley Capital, with participation from Weifang Government Fund and Hangdong Aerospace.

Katalyst Space Technologies, a US company active in the satellite industry, raises \$880,000: the funding is part of a total offering of \$1.75 million in equity securities, according to SEC filings.

Starfighters Space, a US company engaged in commercial space activities using supersonic aircraft, raises \$850,000: the funding is part of a total offering of \$1 million in equity. In addition, \$20,000 was raised as part of a second round through which the company has raised \$1.8 million out of a total offering of \$8 million in equity and debt.

US satcom company Blue Sky Network merges with NAL Research: the new company will retain the name and headquarters of NAL Research. The aim is to expand product offerings and optimise operations. Financial details of the agreement were not disclosed.

UK start-up Aurora Avionics secures €380,000 in Seed round: The company, specialised in the manufacture of flight-critical electrical systems (avionics), will use the funds to expand its workforce.

UK-based Geocento closes a seed funding round for an undisclosed amount: the satellite imagery provider, which was founded in 2011, plans to use the funds to further develop its platform and expand its workforce.

US-based Willbrook Solutions acquired by Special Aerospace Services for an undisclosed amount: The acquisition aims to strengthen Special Aerospace Services' expertise as Willbrook Solutions provides analytical services to government and commercial space customers.

SARsatX, a satellite start-up in UAE, closes a seed round for an undisclosed amount: the round was led by Flat6Labs. Specialising in synthetic aperture radar (SAR) for Earth observation, SARsatX provides data and analytics for sectors like agriculture and energy.

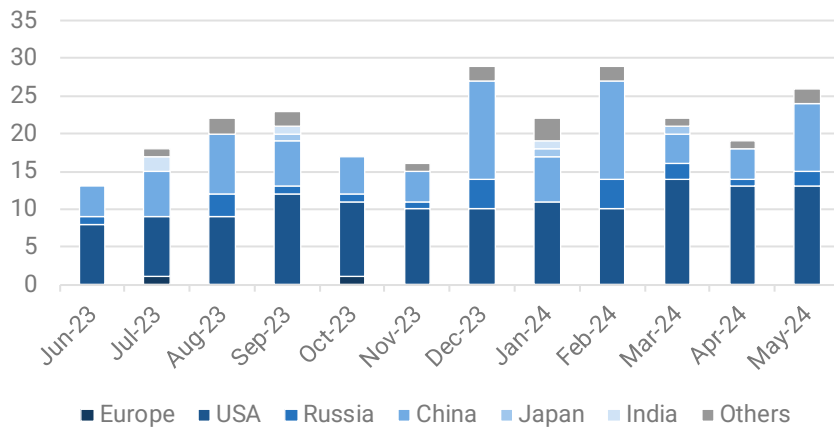


LAUNCHES & SATELLITES

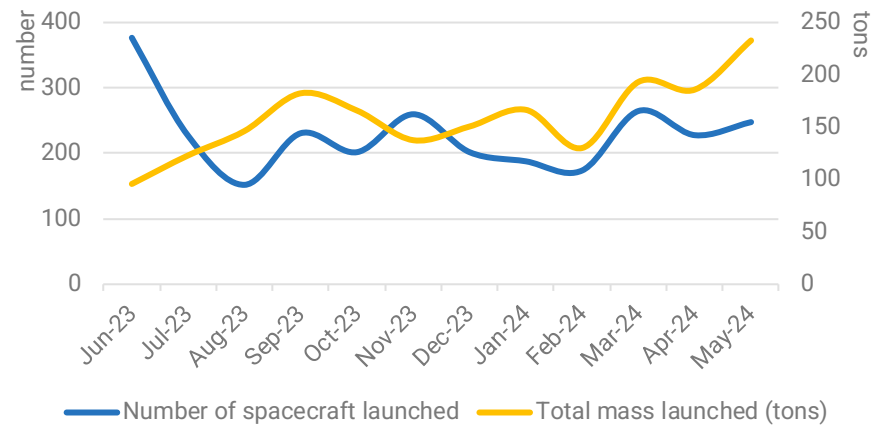
Global space activity statistics

April 2024	USA	China	Russia	Others	Total
Number of launches	13	9	2	2	26
Number of spacecraft launched	248	27	15	2	292
Mass launched (in kg)	204 270	19 381	9210	106	232 967

Launch activity over the year



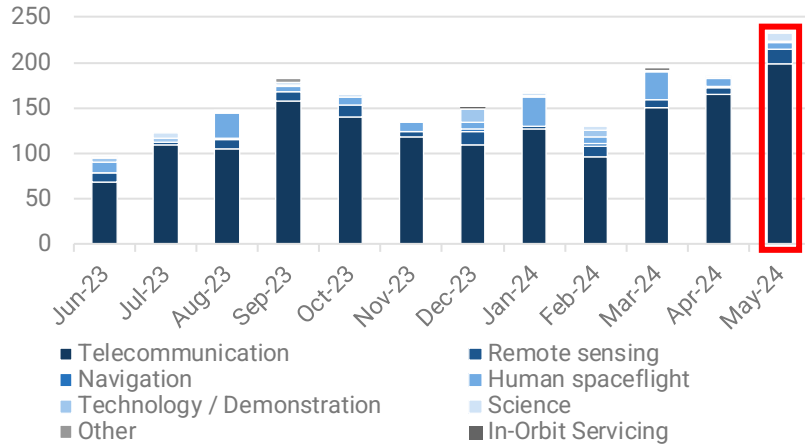
Evolution of the number of launches per launch country



Evolution of launch activity over the year 2023-2024

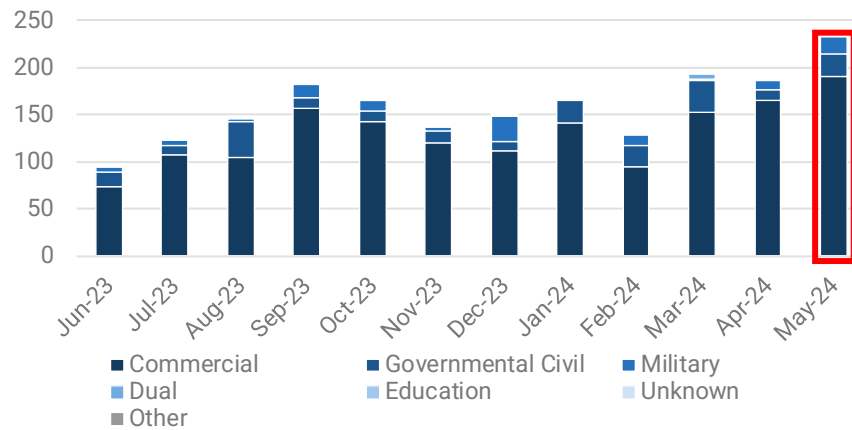


Satellite missions and markets



May 2024	Telecom	Remote sensing	Navigation	Human spaceflight	Tech/ Dem	Science	Other
Europe		2350					
USA	191 620	10 306					
China	2200	1134			175	8200	265
Russia			40	7280	1090		800
Others	5400	2100				7	

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



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

Total mass (kg) launched by mission and customer country

May 2024	Commercial	Governmental Civil	Military	Unknown
Europe		2350		
USA	185 120	6	16 800	
China	2889	8645		440
Russia	1130	7280	800	
Others	2000	5407	100	

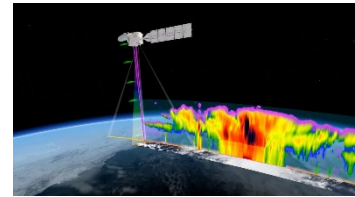
Total mass (kg) launched by market and customer country



LAUNCH HIGHLIGHTS

European-Japanese EarthCARE launched on Falcon 9

A Falcon 9 rocket successfully launched the Earth Cloud Aerosol and Radiation Explorer (EarthCARE) spacecraft on May 28, 2024. EarthCARE is an ESA-led mission which aims to study clouds and aerosols in the atmosphere. The spacecraft is equipped with four instruments, including a cloud profiling radar provided by JAXA. EarthCARE will also capture images and measurements of reflected sunlight and radiated heat. The mission faced several delays and cost increases due to issues with the instruments and the impact of the pandemic. Initially **scheduled** to launch by Soyuz, ESA had to find an alternative launch vehicle and shifted to Europe's Vega C, but further delays and the need for modifications to the rocket's payload fairing led ESA to opt for a Falcon 9 launch. EarthCARE is the second ESA-led mission to be launched on a Falcon 9, following the Euclid space telescope's launch last July. ESA's Hera asteroid mission is also set to launch on a Falcon 9 later this year.



Credit: ESA

First ever lunar far-side sample return mission launched by China

China successfully launched its Chang'e-6 mission on a Long March 5 rocket on May 3, aiming to **collect the first-ever samples from the far side of the moon**. Upon landing, the lander will gather up to 2,000 grams of lunar samples using a drill capable of reaching depths of up to two meters. These samples will then be loaded into an ascent vehicle, which will launch back into lunar orbit for a complex rendezvous and docking with the orbiter, which will prepare for its return journey to Earth. Secondary mission objectives are imaging its surroundings as well as to analyse surface composition and deploying a Chinese flag. The mission also features international scientific payloads from France, Sweden, Italy, and includes a Pakistani CubeSat, Chang'e-6 is part of China's broader lunar exploration ambitions, with plans to follow up with two missions to the moon's south pole in 2026 and 2028, and its first crewed lunar mission by 2030 and the International Lunar Research Station (ILRS)

Russia launches classified Kosmos 2576

On May 16th, a **classified Russian military satellite was launched, carrying a payload that US government officials believe is likely a space weapon**, similar to two previous inspector satellites launched by Russia in 2019 and 2022. Kosmos 2576 is operating in the same orbital plane as a satellite by the National Reconnaissance Office (NRO), in this case designated USA 314. The US reconnaissance satellite is thought to be equipped with a powerful Earth-facing telescope, capable of capturing high-resolution images for US intelligence agencies. The US military also maintains a fleet of classified inspector satellites in orbit to monitor the activities of other countries in space.

North Korea launch of military satellite fails again

On May 27th, North Korea announced that its recent effort to deploy a new military reconnaissance satellite was **unsuccessful** due to the explosion of a newly developed rocket engine during flight. The announcement followed shortly after Pyongyang's declaration of its intention to launch a second spy satellite in orbit. This launch added to a series of unsuccessful attempts, including two other failures last year, despite successfully launching its first spy satellite in November.

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