



ESPI

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SPACE FOR SECURITY & DEFENCE: SPACE FOR PEACE, PROTECTING EUROPE AND ITS VALUES

Over the past few weeks, space for security & defence has moved to the top of the European space agenda. On 17 September, the Mission Letter for the new position of EU Commissioner for "Defence and Space" was published. The same day, Novaspace hosted the first "Space Defense and Security Summit" (SDSS) in Paris. The **18th ESPI Autumn Conference** on 1/2 October in Vienna had a premier with its focus on "Scaling European Space Capabilities for Security and Defence", preceded by the first ESPI "Roundtable of European Space Commands and Ministries of Defence" on 30 September. Moreover, on 25 September in Zurich, at ESPI's workshop "Perspectives on a European Space Strategy", ESPI members, advisors and external experts identified security & defence as the most significant element a European space strategy should consider to secure peace, next to the economic dimension of space for prosperity (and prior to the climate change dimension).



1st Roundtable of European Space Commands & Ministries of Defence

The interaction between participants of the **SDSS Summit** and of the collocated World Satellite Business Week (WSBW) Conference was remarkable, with the space business world seeking new opportunities with security & defence actors. The Space Agencies panel at SDSS, moderated by ESPI, also made clear that European space agencies already and increasingly have a role in space and security, and that security is much more than its military dimension, with most innovation being dual-use.

The ESPI Roundtable gathered representatives from 8 different European countries, including Heads of Space Commands, and confirmed that such platform to foster exchange between military space actors in Europe to help increasing cooperation and information sharing is well received.

The ESPI Autumn Conference, with a record attendance of 250 participants, brought together different stakeholders, from military actors and industry to agencies/institutions and think tanks, national as well as European actors. The need to better leverage the existing space eco-system was at the core of the debate, i.e. to meet security challenges and respond to military needs, to develop a more integrated framework for civil, commercial & military cooperation at national and European levels. Key take-aways included the recognition that currently the rising threats are outpacing Europe's response framework, that the development of more integrated dual-use space architectures including

the required R&D are critical, that the lack of political will and funding is directly hampering Europe's ability to efficiently act and react in a timely (or immediate) manner, the need for dedicated entities responsible for military space operations, the need to integrate security and military requirements into new space (and NewSpace) programmes and other initiatives ensuring agility and speed of innovation. Furthermore, the need for improved bilateral, EU, ESA and NATO cooperation was highlighted, also overcoming the often artificial barriers between civil and defence programmes. The need for a collective security framework, including the UK as a key partner and ESA with its expertise in R&D was stressed. It was concluded that Europe as a trusted global actor could also develop as a partner of choice for middle powers and increase its international posture in space.

Multiplication of Space Defence Strategies and Space Commands Across Europe



Similarly, the strategy discussions in Zurich underlined that security comprises areas such as critical infrastructure protection, food security, economic resilience. Discussions made clear that defence does not equate to aggression but is about providing the means to deter aggression and avoid escalation of conflict, including the development of non-aggressive technologies of dual-use nature. It also made clear that security & defence cannot be disassociated from the economic dimension of space, including the effect on industrial capability.

It is high time for Europe to collectively develop the full benefits of space to security & defence solutions, leveraging the experience of all its stakeholders, to protect Europe and its values, to secure peace.

Yours sincerely,

Hermann Ludwig Moeller
Director of ESPI





POLICY & PROGRAMMES

Draghi's Report Highlights Space as Key to Europe's Competitiveness



Published on September 9th, Mario Draghi's "Future of European Competitiveness" report identifies space as a critical strategic sector for Europe, alongside AI, biotech, quantum computing, and new energy. Despite recognition from leaders like President Macron, Draghi warns that Europe lacks the political will and funding to remain competitive in the global space race.

The report calls for urgent reforms, including scrapping ESA's geographical return policy, creating a European single market for space, and improving funding access for startups. Draghi emphasises that with \$3 trillion of wider economic impact tied to space technologies, aligning governance and

boosting investment is critical to securing Europe's future competitiveness. ESPI has reflected on these issues in its latest **Policy Brief**, highlighting the importance of leveraging all actors and their respective strengths in the existing ecosystem. In that regard, **the Mission Letter for the new Commissioner-designate for Defence and Space** provides an opening beyond the Draghi Report, for a more engaging way forward, including in the security and defence dimension.

French Defence Innovation Agency unveils LEO space surveillance programme

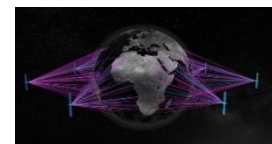
This month, the French Defence Innovation Agency unveiled a LEO space surveillance programme, known as Toutatis, during the Space Defence and Security summit in Paris. French startup U-space will develop two satellites to demonstrate detection in collaboration with multinational missile supplier MBDA. Though offensive capabilities were not outlined, the satellite presentation video featured a green laser beam targeting another satellite. France expects the demonstrator to be launched in the next 12 to 24 months and is also working on GEO surveillance.

ESA awards OHB contract for V2X mission

OHB System AG, a subsidiary of OHB SE, has been awarded a contract by ESA as the prime contractor for the Vehicle-to-Everything (V2X) mission, a project supported by DLR. The project is to demonstrate how satellite incorporation can ensure uninterrupted communications for passenger cars; and is made up of a consortium consisting of Fraunhofer-Institut für Integrierte Schaltungen IIS, MediaMobil Communication, Deutsche Telekom Business Solutions, jember and BMW AG as an associated partner, with OHB as project management and system architecture. The mission falls under ESA's Connectivity and Secure Communications directorate.

NATO awards SES first MEO satellite services contract

On September 10th, the NATO Support and Procurement Agency (NSPA) awarded SES its first MEO Global Services (MGS) contract. Under the terms, Luxembourg and the US will use the company's MEO services for air, naval and ground communications missions around the world. The move comes after the two countries established a partnership in 2022 founding the MGS programme, which is open to all NATO countries aiming to engage in deeper space cooperation among its members. Last year, Luxembourg's Parliament approved 195 million euros over 10 years for the MGS programme.



Credit: SES



Second Cohort of NewSpace Advisory Board to ESA DG holds first meeting

This month, the second cohort of the NewSpace Advisory Board to the Director General of ESA, Dr. Joseph Aschbacher, held its first meeting. The high-level advisory board is made up of 14 representatives from prominent European space start-ups, SMEs or mid-caps, and meets regularly to advise ESA's Director General and Director of Commercialization, Industry and Competitiveness on the Agency's evolution and share lessons learnt and best practices. Members of the Board include companies like Exolaunch, D-Orbit, ICEYE, and Endurosat, among others.

Two new Galileo satellites operational



Credit: ESA

The two new Galileo satellites launched in April from Cape Canaveral are now operational after successfully undergoing in-orbit testing. OHB, ESA, and payload manufacturer SSTL assessed the test results and concluded no launch degradation had occurred, thereby completing the second of three Galileo constellation planes. Additional satellites are to join the constellation in the coming years. A flagship programme of the European Union, Galileo continues to be the world's most precise satellite navigation system, serving over four billion people since entering Open Service in 2017.

NASA grants Intuitive Machines \$4.8 billion contract for lunar comms, navigation

On September 17th, NASA announced that it had awarded Intuitive Machines a contract to support its Near Space Network, a system providing communications services for NASA missions in Earth orbit and cislunar space. The indefinite-delivery, indefinite-quality five-year contract, worth up to \$4.8 billion, will see Intuitive Machines support Artemis missions using satellites in lunar orbit, though only \$150 million are guaranteed. Concretely, the company is required to build a satellite and systems constellation that can provide a powerful and fast radio network around the moon, with a specific focus on the South Pole region, where Artemis missions will go. The Houston-based company also received a \$116.9 million contract from NASA to deliver six payloads to the Moon's South Pole, and is looking to take over NASA's VIPER lunar rover programme..

The news comes as the U.S. National Institute of Standards and Technology (NIST) recently published a standard for Moon time, which has become relevant to coordinate satellites and landers specifically sent there. Importance will also increase as a permanently crewed lunar base is designed through the Artemis and similar programmes.

US NGA to launch \$700 million AI satellite imaging programme

The US National Geospatial-Intelligence Agency is set to make an AI capabilities investment, with plans to spend \$700 million on data labelling services over the next five years, representing the Agency's largest contract in this domain to date. The NGA, whose purpose is the collection, analysis and distribution of satellite and aerial-derived geospatial intelligence, is focusing the new initiative on raw data analysis for machine learning models, said to be crucial for object classification and recognition, as well as prediction making.



Credit: NGA



The NGA has also tapped 10 firms to compete for up to \$290 million contracts under the Luno A programme over the next five years for commercial satellite imagery and data analytics. Airbus U.S. Space and Defence is included among the 10 companies announced on September 13th.

ESA moves forward with controlled satellite deorbiting, break-up

On September 8th, ESA successfully carried out the deorbiting of the first of four Cluster space science satellites, the first “targeted reentry” over the South Pacific to minimise the possibilities that any debris might survive the process. The reentry also represented a research opportunity, with ESA flying an aircraft for observation. The other three satellites, Rumba, Samba and Tango will also perform targeted reentries between October 2025 and August 2026, allowing for new opportunities for analysis and research.

On September 24th, it was also announced that ESA awarded Deimos a €3 million contract for the development of a controlled satellite break-up process named DRACO (Destructive Re-entry Assessment Container Object). The mission is scheduled to be launched in 2026 and will feature a satellite developed by Deimos in its facilities in Spain.

China eyes 2028 for Mars sample return mission

China has plans to launch its Tianwen-3 Mars sample return mission in 2028, according to an update provided by the mission’s lead on September 5th. Tianwen-3, which will consist of two launches, will feature launch and return modules, has been reported to progress “relatively smoothly”, and its main objective will be to search for evidence of life on the red planet. According to earlier reports, landing areas will be selected according to Astro biological relevance, having already pre-selected three relevant ones. Chinese sources have also affirmed that the mission will abide by international agreements on planetary protection, including on contamination of Mars or Earth. China plans to cooperate with other countries in several parts of the Tianwen-3 development.

ASI awards Telespazio contract for National GNSS Competence Centre

The Italian Space Agency (ASI) has awarded Telespazio a contract to create and manage the first Italian centre for the development of satellite navigation skills and technologies, named the National GNSS Competence Centre. The Centre, which will be set in Rome, will aim at the creation of a national laboratory to develop new capabilities, solutions and technologies for future challenges in satellite navigation; as well as monitoring software for GNSS services. The project will involve the collaboration of different players in the Italian sector, including universities.

New Space Horizons Conference for Africa and the Middle East hosted in Egypt

On September 2nd, Egypt hosted the New Space Horizons Conference for Africa and the Middle East in El Alamein City, focusing on strengthening ties and collaboration between the regions’ space communities. ESPI attended the conference, along with experts from ESA, ASI, the UK and other space agencies, which addressed topics such as policy development, sustainability, commercialisation, international cooperation, and emerging technologies in space exploration. Participants in the meeting also highlighted the growing importance of international collaboration in addressing space-related challenges and the application of space technologies in different sectors.



Celestia UK successfully tracks JoeySat smallsat with eScan technology



Credit: Celestia UK

Celestia UK, which developed its eScan technology under ESA's Advanced Research in Telecommunications Systems (ARTES) Core Competitiveness and Sunrise Partnership Project programme, has been successful in the tracking and receiving of signals from the LEO satellite JoeySat, operated by Eutelsat OneWeb. The operation showed the signal-to-noise ratio and signal integrity maintained without loss or degradation. The new

technology is to solve challenges faced by the increasing number of satellites that need to be tracked in LEO. Celestia UK has already started work on the next phase of the technology development, which includes signal transmitting and increasing satellite altitudes.

ESA's BepiColombo's thruster issues delay Mercury arrival by 11 months

Persistent issues with the BepiColombo Mercury Transfer Module's thrusters will delay its arrival by 11 months, ESA announced. The mission's primary objective, launched in October 2018, is the performance of a comprehensive study of Mercury, and includes two satellites carried aboard the Mercury Transfer Module (MTM). Issues with the spacecraft's electric thrusters started to emerge in April 2024, with ESA's Flight Dynamics team conceiving a new trajectory for the mission that will see it delayed by 11 months, expecting to enter orbit around the planet in November 2026.

ICEYE and OroraTech get Greek government contracts, NASA

Finnish earth observation data provider ICEYE and German OroraTech have scored a contract for the Greek National Satellite Space Project Axis 1.2 to deliver six observation satellites to monitor areas of interest. The objective is to enable faster response times and more effective management of natural disasters and improve capabilities. The contracts, announced on September 8th, are worth €53 million, and include the Greek Space Agency and Ministry of Digital Governance, as well as ESA. Under its terms, which include both radar imagery and the development of Greek observation systems, ICEYE immediately begin delivery of Synthetic Aperture Radar imagery over areas of interest while building capabilities for the country. OroraTech will provide its four satellites by 2026. Both companies will open facilities in the country.



Credit: ICEYE

On September 9th, it was announced that ICEYE has also won a five-year contract with NASA to provide SAR data for Earth science and research purposes. Awarded through the agency's Commercial SmallSat Data Acquisition programme, the new contract comes after ICEYE already received another five-year Blanket Purchase Agreement in April 2023 to provide data for NASA to analyse its suitability to its own science and applications goals.

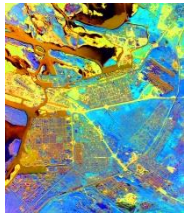
US Army awards Viasat \$153 million contract for GPS-based force tracker

On September 5th, Satellite communications firm Viasat announced it had been awarded a five-year \$153 million contract by the US Army to modernise its Blue Fore Tracker network, used for real-time positioning of friendly forces. Under its terms, Viasat will provide technical support to the



Army's Mission Command BFT programme, which leverages the company's global L-band network. Viasat will also provide engineering services, operational support and technical assistance.

NASA contracts 8 companies for Commercial SmallSat services



Credit: Pixxel

On September 6th, NASA selected companies **BlackSky, Iceye US, MDA, Pixxel, Planet, Satellogic, Teledyne Brown Engineering, and Tomorrow.io** to provide commercial satellite data to support its Earth science research. The Commercial SmallSat Data Acquisition (CSDA) Programme On-Ramp1 Multiple Award contract, which has a maximum cumulative value of \$476 million, is expected to run through 2028. Last year, NASA also awarded Airbus DS Geo, Capella Space, GHGSat, Maxar Intelligence, PlanetIQ, Spire Global, and Umbra Lab CSDA contracts in a five-year period.

Multibillion-dollar Europa Clipper mission passes pre-launch preview

Europa Clipper, a NASA mission to a potentially habitable moon of Jupiter, has been cleared for final preparations for launch in October, as the agency announced on September 9th. According to NASA, the mission passed a review that allows it to move to its three-week launch window starting on October 10th. Europa Clipper is to study the Europa moon and its liquid water subsurface ocean, determining its habitability, but not detecting life itself. Its total cost is over \$5 billion.

UAE Space Agency to launch 7-asteroid mission in 2028

The UAE Space Agency is planning to launch a 7-asteroid mission in 2028, aimed at conducting high-speed flybys of six asteroids and a rendezvous and orbiting of a seventh one, deploying a small lander on it. The mission, whose partners say is on track to be launched in March 2028, is expected to finish in 2034 and analyse data relevant to understanding early solar system formation. The Space Agency is collaborating with the University of Colorado Boulder for the mission and also involves a consortium of academic and hardware development partners within the UAE.

New Zealand to join Operation Olympic Defender

New Zealand has joined the US-led Operation Olympic Defender, aimed at deterring hostility and the spread of debris in orbit. The Oceanic country joins the UK, Canada, and Australia, and will deploy a Defence Force liaison officer to the US Space Command for the next two years. New Zealand's Defence minister said they are committed to a safe, responsible, secure and sustainable use of space that ensures the resilience of space infrastructure.

UK Space Agency awards contracts for debris removal missions

Astroscale UK has secured a \$2.55 million contract from the UK Space Agency to continue development of its Cleaning Outer Space Mission through Innovative Capture (COSMIC) spacecraft, as announced on September 11th. COSMIC is an active debris removal mission that is tasked with removing two inactive British satellites from orbit. It will be developed, built and operated from Astroscale's Zeus facility in the UK, leveraging the company's experience in rendezvous and proximity operations.



Another company, ClearSpace, has also received more than \$3 million in a contract to move forward the next phase of its CLEAR mission. This is aimed at removing objects from LEO through a capture and transport service to allow a safe burn up in the atmosphere.

DLR signs three-year contract with Planet



Credit: PlanetScope

Planet Labs Germany announced on September 16th that it had been awarded a contract by the German Space Agency at DLR, to provide it with Earth-observation data and services. Under the agreement, DLR researchers will be able to access PlanetScope products and archive, including data starting on 2016. DLR will also obtain Planet's RapidEye imagery data over Germany. The value of the three-year contract was not disclosed.

Consortium led by GMV to implement GOVSATCOM Hubs

EUSPA announced that a consortium led by GMV will implement the EU's Governmental Satellite Communications GOVSATCOM programme, set to provide secure, reliable and cost-efficient communications capabilities to security and safety critical missions and operations. GMV will lead the consortium implementing the Hub that brings together commercial and governmental satellite communications capabilities and services, at the core of the GOVSATCOM programme. Among the Hub's uses stand the future IRIS2 constellation, as well as national European governments.

ESA awards Pangea a contract for very high thrust rocket engine

Spanish Pangea Aerospace announced on September 19th that it had been awarded a contract by ESA to design a very high thrust rocket engine, with potential future uses in heavy and super-heavy rockets. Pangea Aerospace, founded in 2018, will act as the project's prime leading a consortium of other companies from across Europe. It will also complete a detailed market analysis to identify rocket builder needs, as well as design a very high thrust engine capable of producing 2 MN of thrust. The proposed engine, Kronos, is to be a reusable full-flow staged-combustion rocket engine.

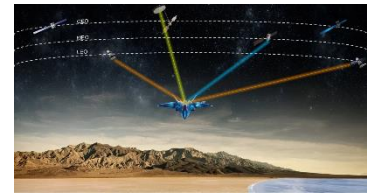
India's Union Cabinet officially approves five major ISRO missions

This month, the Indian Union Cabinet approved five major missions for its space agency, ISRO, under its Space Vision 2047. The missions include the establishment of its national "Bharatiya Antariksha" space station enabling long-duration human missions, advanced research and international partnerships; the development of the SOORYA launch vehicle, with increased frequencies; a lunar mission aimed at bringing back samples from the Moon's surface; a Venus Orbiter mission to study the planet's atmosphere, surface and geological features; and increased manned spaceflights to test survival, docking and re-entry.



USAF Research Lab grants Northrop Grumman and Viasat antennae contract

The U.S. Air Force Research Laboratory has awarded Northrop Grumman a \$54.7 million contract for satellite communications military antennae development, as announced on September 16th. On September 24th, it was announced that Viasat had also been awarded a \$33 million contract for advanced satellite communications antennae development. Under the contracts, the companies will develop multi-band, high-throughput satellite communications antennae for integration onto military aircraft. Last month, Raytheon received a similar contract, within a U.S. effort to develop military networks leveraging commercial space internet constellations.



Credit: Viasat

Space Force selects four companies for resilient GPS satellites

On September 23rd the US Space Force announced that it had tapped Astranis, Axient, L3Harris, and Sierra Space to develop concepts for smaller, more cost-effective GPS satellites. The companies are now to submit proposals based on commercial designs to the Resilient GPS (R-GPS) programme, aimed at exploring the use of proliferated small satellites transmitting core GPS signals. The programme is also being fast-tracked to allow for rapid responses to emerging threats and technologies. The selection marks the first of three phases aimed at producing up to eight R-GPS satellites, potentially ready for launch by 2028.

Maiaspace to use former Soyuz Guyana launching pad

Maiaspace, a startup backed by ArianeGroup, has been selected by the French space agency, CNES, to take over a launch pad in French Guyana that was originally built for the Soyuz rocket, the company announced on September 26th. Maiaspace added that it would invest in adapting the pad to launch its vehicles from 2026, though it is also looking for more cost-effective solutions that don't involve building an entirely new facility. The Soyuz launching pad had remained unused since Russia halted all launches as a response to European sanctions after it invaded Ukraine.

ESA 3D prints first metal part on ISS

The European Space Agency, in cooperation with Airbus, has printed the first metal product on the ISS through a 3D printer that both entities co-developed. Though not the first 3D printer at the ISS, ESA's device, which was launched earlier this year, is the first to successfully print a metal shape. The products will now be brought to Earth for quality analysis. Additive manufacturing in space, if successful, could provide needed parts, reparations or constructions on demand during exploration missions, thereby reducing the need for resupplies and redundancies.



Credit: ESA

European Commission announces €100 million for European Space Industry

On September 10th, the European Commission announced that it had signed an agreement with SPACE AISBL to co-manage the European Partnership for Globally Competitive Space Systems



initiative. The MoU included Commission agreements to invest €100 million in the aforementioned initiative, aiming to identify key priorities for European space industry development investments. In addition, SPACE AISBL will contribute €120 million with in-kind contributions.



In other news

ESA signs contract with Portuguese startup Neuraspace to test and integrate its space traffic management services into its existing tools: The contract will be important in supporting the commercial space sector. The value of the contract was not disclosed.

South Africa's and Ghana's space agencies sign collaboration agreement: The partnership, signed in a meeting during the National Space Conference in Pretoria in August, outlines a comprehensive cooperation framework in maritime domain awareness, mining applications, agriculture, space industry and infrastructure development, and joint space missions.

Kenya installs Transient Array Radio Telescope (TART), becomes third African country to do so: The installation, carried out in cooperation with South Africa and New Zealand, will enhance the country's astronomy capabilities and build local capacity in research, data analysis and radio observation. The TART, developed in New Zealand, continuously monitors the sky and can detect transient events such as satellites, near-Earth objects, and high-energy cosmic rays.

Senegal joins China's ILRS moon base project: The African country's space agency signed a cooperation agreement on September 5th, as its president met with Chinese Xi Jinping during a visit for the Beijing Summit of the Forum on China-Africa Cooperation.

UAE's Orbital Space to support ILRS activities: The space company will help develop lunar exploration technologies and payloads for missions that launch within the programme. The UAE signed the Artemis accords in 2020.

Brazil and Saudi Arabia sign agreement on space exploration and peaceful uses: On September 12th, both countries committed to space science research, space communications, weather monitoring, ground infrastructure and satellite development, among others. The agreement was signed during the fifth Space Economy Leaders Meeting in Brazil.

Ursa major gets \$12.5 million contract from Pentagon: The rocket propulsion company is to build out production and testing for new solid rocket engines, as the Pentagon tries to increase the number of rocket makers as increasing global needs dwindle current stockpiles.

Azercosmos has signed a MoU with the Commonwealth Secretariat to ramp up cooperation on climate action, providing space technology and geographic data specifically tailored to Caribbean and Pacific countries. Azercosmos has also signed an agreement with ABS, a global satellite operator, to provide TV services for Nigerian and West African customers.

Starliner lands uncrewed successfully: On September 7th, the Boeing spacecraft landed in New Mexico, ending its long stay at the ISS since its launch on June 6th. Astronauts Butch Wilmore and Sunita Williams will return on a SpaceX Falcon 5 ship early in 2025.

APU anomaly cause for Ariane 6's second stage failure, software fix planned: The Ariane 6 task force, including ESA, CNES, ArianeGroup and Arianespace, said surpassed temperature limits are to be solved through a software change to adjust the APU's chill-down.

CNES issues call for Standardised Launcher Ground Systems: The French agency is looking to have single pads at the Guyana Space Centre being used by multiple rockets. Several European companies have been selected to launch from the revamped Diamant launch facility.

German NEUROSPACE's CubeSat to fly aboard Artemis II mission: The satellite will test electrical components of the future rover on its way to the moon. **On September 25th it was also announced that Leidos will replace Lockheed Martin on the Artemis rover team.**



INDUSTRY & BUSINESS

EUTELSAT signs deals with numerous companies



Credit: EUTELSAT

EUTELSAT Group has announced the signing of a series of deals this month with companies such as Al Jazeera, Japanese Softbank, and MuxIP. The Paris-based company reached a multi-year, multi-satellite agreement with Al Jazeera to ensure continued broadcasting capabilities across the Middle East, North Africa and Europe. A similar deal was signed with California-based MuxIP to bring Free Advertising Supported TV (FAST) platforms around the world to audiences in the same regions. Additionally, EUTELSAT announced on September 3rd a landmark multi-year partnership with Softbank for the integration of its OneWeb LEO connectivity services into the Japanese company's offering.

On September 18th, EUTELSAT also announced that it had reached an agreement with Mitsubishi Heavy Industries (MHI) for multiple launches by an MHI H3 vehicle in 2027. This first agreement reached by both companies represents an increase in launch diversity and opportunities for EUTELSAT's satellites in the coming years.

Additionally, on September 25th, the French company announced that it had been selected by Inmarsat Maritime, a Viasat company, to integrate its LEO network into the latter's maritime connectivity service, NexusWave.

Indra and Celestia TTI to develop next generation satcom systems

Spanish defence giant Indra and Dutch satellite telecommunications company, Celestia TTI, have signed an agreement to jointly develop next-generation antennae for advanced communications systems for the Future Combat Air System (FCAS). The antennae are to cover different needs and bands, including civil and military, as well as satellite networks in different orbits, and link internal systems. FCAS is a European programme coordinated by Airbus, Indra, and Dassault Aviation which aims to develop a sixth-generation fighter aircraft capable of operating several unmanned platforms, coordinated as a single entity, and expected to enter into force in 2040.

Polish defence companies sign MoU for satellite reconnaissance capability

ICEYE Polska, the Polish branch of Finnish ICEYE, specialising in Synthetic Aperture Radar (SAR) satellites, and Wrocław-based optical technology Scanway, have signed a Memorandum of Understanding (MoU) to design high-resolution optical satellites aimed at national and international users for defence purposes. The new satellites will join ICEYE's SAR constellation, claimed to be able to visualise the same position over earth numerous times a day. ICEYE Polska has also conducted MoUs with Wojskowe Zakłady Łączności Nr 1 (WZŁ-1, Military Communications Works) and Polska Grupa Zbrojeniowa (PGZ, Polish Armament Group) for the development of mobile cells able to cooperate with SAR and other optical satellites.



Credit: ICEYE



Aerospacelab opens first US satellite manufacturing facility



Credit: Aerospacelab

Belgium-based Aerospacelab announced on September 5th the opening of its first satellite manufacturing facility in Torrance, California, hoping to service contracts by the US government, and aiming to produce an average of two satellites per week. The move comes after the company already opened an administrative office in the sun-kissed State in 2023. So far, Aerospacelab has contracts with US-based Xona Space Systems, planning to deploy 250-300 satellites from 2025, and remote-sensing startup Albedo. The Mont-Saint-Guibert-based company, which has previously built satellites destined for ESA and the Swiss Ministry of Defence, is also planning on expanding its European production capacity from its current rate of 24 satellites per year to 500 with a new factory opening in 2025.

Boeing, TNO Space, Airbus working on quantum internet satellite technology

On September 10th, Boeing announced that it is looking to deploy a small satellite to test technology for a quantum internet that can connect more advanced computers and sensors worldwide, in 2026. The company is to test quantum entanglement swapping to transfer information between particles without physical movement. Boeing affirms space testing's importance and relative ease compared to terrestrial networks, and will use a Corvus satellite from Astro Digital, to be produced next year, with HRL Laboratories contributing in payload design. According to the company, Governments and commercial customers have already expressed interest in the technology, though it admits that, if successful, additional experiments will have to take place before real-world use. China is also working on the development of a quantum communications satellite network.

TNO Space, based in the Netherlands, also pledged last November to work with Airbus in the definition of what a global quantum internet would look like, and earlier this month launched Qu-STAR to leverage on that compromise and advance its definition.

Swissto12 selects MDA Space for HummingSats antennae

Swissto12 has awarded a contract to build antenna systems for three HummingSat satellites in the Inmarsat-8 programme to Canadian company MDA Space, as announced on September 10th. The contract establishes MDA Space will design and build L-band navigation antennae and design and configure packaging concepts for the HummingSat GEO smallsat platform. Swissto12 was itself selected in 2023 by UK-based Inmarsat for the development of three Inmarsat-8 satellites for its global L-band safety services network.

Rheinmetall and ICEYE expand cooperation in Germany and Hungary

Germany's Rheinmetall and Finnish ICEYE have expanded their cooperation through the signing of a teaming agreement, the Düsseldorf-based company announced on September 11th. The agreement stipulates the integration of ICEYE's capabilities into Rheinmetall's next generation battlefield systems, as well as joint opportunities in the German and Hungarian markets, allowing



Credit: Rheinmetall



Rheinmetall to distribute ICEYE's SAR satellites to governmental and military end-users after the company announced its participation in the reconnaissance satellites system in June.

Avio plans to introduce Vega Next rocket beyond 2032



Credit: Avio

After the final flight of the original Vega rocket concluded earlier this month, Italian manufacturer Avio announced plans to introduce its post-Vega-E "Vega Next" rocket beyond 2032. The company is currently in the requalification process of the second stage of the Vega C for a launch in 2024 which, if successful, will make it the primary offer for its launch business until the Vega E rocket, expected to be introduced in 2027. Simultaneously, Avio is also working to replace the current Ukrainian-made RD-843 Vega engine by the end of the decade with its new High Thrust Engine. This new engine will be featured in what it refers to as its "Vega Next" rocket, which will be powered by liquid fuel.

Airbus to provide MDA Space with 200+ Sparkwing solar arrays

Germany-based Airbus has been selected by Canadian MDA Space to supply Sparkwing solar arrays for its MDA AURORA constellation aiming to extend communication networks worldwide, increasing performance while reducing costs and time to markets. The Sparkwing solar arrays, which consist of two panels each and a photovoltaic area larger than 30 m², will be produced at Airbus' high-capacity production facility in the Netherlands, after having been developed there with support from ESA and the Netherlands Space Office. They are claimed to offer high stiffness, together with minimal integration efforts and benign sidewall tolerances, in addition to power generation.

Parisian startup Greenerwave partners with Intelsat for satcom solutions

Paris-based startup Greenerwave, working on antenna technology, has partnered with Intelsat to offer multi-orbit satcom solutions for relevant businesses by the first half of 2025. The French deep tech company and Intelsat will jointly develop an electronically steerable antenna for integration into high-throughput, multi-orbit terminals for network and data applications, to be offered by Intelsat. Potential customers include those in commercial aviation, government and mobility applications. The US company already has an agreement with OneWeb for LEO capacity and is advancing multi-orbit terminals for specific sectors.

French Sirius Space Services signs launch contract with ELA

Sirius Space Services, based in France, has signed a multi-year, multi-launch contract with Equatorial Launch Australia (ELA) that will see it become a "Resident Launcher" at the Arnhem Space Centre in 2025. After the signing, Sirius will now start to develop and test flights for its SIRIUS 1 rocket in 2026, to be followed by the planned launch of the 800kg-payload-capacity SIRIUS 13 in 2027. The agreement, which is ELA's second "Resident Launcher" contract, will see the company support with joint design, manufacturing, system integration, and launch and mission operations.



Credit: Sirius Space Services



Telespazio to deploy Starlink in Argentina



Credit: Telespazio

Italian company Telespazio has signed a deal with Argentinian technology and communications solutions provider Altec to bring Starlink satellite connectivity to schools and local governmental offices in the Patagonia region, as announced on September 9th. The companies will first install equipment in selected schools and municipal offices, thereby allowing easier access to online educational platforms, institutional communications and digital services to further efficiency and development. The joint effort is focused on facilitating connectivity to remote and rural communities.

Exolaunch and U-space announced Launch Service Agreement

On September 26, Exolaunch and U-Space announced the signing of a Launch Services Agreement for the deployment of two 12U CubeSats on the Transporter-13 rideshare with SpaceX, expected early 2025, Exolaunch will handle the technical, logistical and legal challenges to get the satellites to space, and deploy both satellites through its EXOpod Nova CubeSat deployer designed specifically for 12U and 16U payloads. Financial details were not disclosed.

Tesat terminals in SpaceX satellites achieve first US military laser data exchange

Two satellites built by SpaceX for the US Space Development Agency (SDA) have achieved the first successful laser data exchange using Germany-based Tesat-managed terminals, marking the first of its kind in line with SDA-required military standards, the Agency announced on September 4th. Tesat-Spacecom, a subsidiary of Airbus Defence and Space, has been expanding its US presence in support of SDA-related projects. The featured satellites are part of SDA's Tranche 0 experimental spacecraft in LEO and managed to establish a connection in under 100 seconds and maintain it for several hours.

Calian selected for Telesat Lightspeed network Element Management System

Canadian Calian Group has been selected by Ontario-based Telesat to design, develop, deliver and deploy the Element Management System (EMS) within its Lightspeed LEO satellite network, together with system maintenance and support, the companies announced on September 9th. Telesat's Lightspeed network, the largest space programme in the history of Canada, is to be made up of advanced LEO satellites and integrated terrestrial infrastructure for better connectivity across Canada and worldwide. The EMS is to serve for operations maintenance for several components within the network.

OneWeb launches PNT service fallback

OneWeb, a satellite communications company part of EUTELSAT Group, has introduced a new Positioning, Navigation and Timing (PNT) service to respond to GPS vulnerability, jamming and interference concerns in defence, aviation and emergency service sectors. The new service, called Astra, is available to its satellite broadband customers even under situations where GPS or



GNSS signals are unavailable or compromised. The company, which has been after PNT capabilities for years now, offers different service versions for US and allied governments. The UK government has shown interest in the initiative as an alternative to the EU's Galileo, following Brexit restrictions.

Blue Origin tests New Glenn upper stage

On September 23rd, Blue Origin carried out a successful testing of its New Glenn rocket, with its two engines in the upper stage fired for 15 seconds. The testing is part of the process to get its rocket launched in NASA's ESCAPE mission poised to send two smallsats to Mars. The Agency announced on September 6th that it would not proceed with launching this October, as initially planned, and that the next launch opportunity would be in spring 2025. Blue Origin, however, is planning on an early November launch.

Chinese startup Landscape tests reusable rocket for 2025 orbital launch



Credit: Landscape

Landscape, a Chinese startup developing a reusable vertical take-off and landing rocket, conducted a 10-km liftoff and landing on September 11th. The company announced the flight to have lasted 200 seconds, with the vehicle landing 1.7 metres from the centre of the landing pad. Landscape, founded in 2015, is working on its two-stage Zhuque-3 reusable launcher for a first orbital flight in 2025, with an aimed Payload capacity to LEO of 21,000 kg. In June, Chinese state-owned SAST reached 12 km in a vertical take-off and landing rocket test. Deep Blue Aerospace,

another Chinese commercial launch startup, is expected to conduct a similar one shortly. All reusable rockets are planned to be launched in 2025 and will prove vital to Chinese planned satellite mega constellations, such as Thousand Sails and Guowang.

Satellite manufacturer Apex presents larger satellite bus

On September 16th, Los Angeles-based Apex presented its new Nova satellite bus, with its heavier version able to host up to 500kg payloads, expecting to deliver it to government customers by the third quarter of 2025. Apex currently manufactures a 150kg-payload satellite bus and has said that most of the interest for larger buses comes from US and other allied government. On June, Apex raised \$95 million in a Series B funding round, with the company deeming them crucial to the early development of their Nova satellite buses.

Space Network Services contracts Impulse Space's GEO rideshare services

French startup Space Network Services has contracted Impulse Space's GEO rideshare services, the latter company announced on September 16th. The agreement, which will feature Impulse Space's Helios high-energy kick stage with an upgraded version of its Mira vehicle, is to deploy Space Network Services' Kaon GEO satellites, aimed at providing sovereign satellite communications systems and increased capacity in congested areas. The French startup was



Credit: Impulse Space



founded in 2021 and is planning the launch of six such satellites through this contract.

Anduril Industries tries to expand into space with AI and autonomous systems



Credit: Anduril

Anduril Industries, a defence technology company founded in 2017 that uses artificial intelligence in weapons systems, has introduced plans to design, build and launch its own integrated space systems by the end of 2025, with further details to be made public in the coming months. The company, which has already developed aircraft for the US Air Force, has also engaged in prior work with the US Space Force's Space Surveillance Network, leveraging its Lattice decision-making software in space environment communications for enhanced operations. The company is aiming at continuous and frequent launches to provide critical updated information.

Startup Proteus Space plans to launch AI-designed ESPA-class satellite

Proteus Space, a Los Angeles-based startup founded in 2021, is planning on launching what it claims to be the world's first AI-designed ESPA (Evolved Expendable Launch Vehicle Secondary Payload Adapter)-class satellite in 2025. The LEO satellite, expected to carry four payloads from UC Davis and an undisclosed governmental research organisation, will be paid through self-funding after raising \$4.2 million in 2023 and receiving a \$1.8 million contract from the US Space Force's AFWERX to design, build and qualify a custom satellite bus in under ten months. The company plans to attract new customers through offering tailored preliminary ESPA LEO satellite designs, claiming to be able to deliver these within ten days.



In other news

French company Access Hub has signed a Memorandum of Understanding with UAE-based Space Marketplace: The agreement will permit Middle Eastern and European companies to develop cross-border partnerships and joint ventures; and organise joint events connecting key players. The companies also highlighted their joint aims at promoting global space innovation.

SSC renews Ovzon's SATCOM-as-a-Service order for a 12-month, \$11 M contract: Building on the original order issued in December 2023, the new contract establishes the renewal of Ovzon's satellite communication services, including SATCOM-as-a-Service excluding terminals.

French Unseenlabs orders four additional cubesats from GomSpace for €3.5 million: The contract, announced on September 5th, will feature satellites like the eight already ordered to the Danish company in 2022 and 2024. Delivery of the new cubesats will be in the second and third quarters of 2025.

Redwire joins US-UAE Business Council to support space cooperation: The Council engages in policy advocacy to ensure both countries are at the forefront of foreign investment. Redwire's joining reflects its interest in developing space sectors and expanding its business in the Middle East. The UAE is a founding signatory of the Artemis Accords.

Gilat Telecom and NovelSat expand cellular networks' capacity in Africa: Gilat Telecom will expand NovelSat's satellite network, specialising in content connectivity, to new locations and increase capacity, thereby ensuring faster and stronger broadband services to the continent.

Pulsar International joins Viasat's ELEVATE programme: The company will focus on expanding Viasat's L-band connectivity to a wider array of customers around the world, with specific uses in niche markets such as agriculture, energy, utilities, mining and governmental uses. Pulsar previously used Viasat's satellite network to support Municipal Elections in Brazil in 2022.

Asian satellite operator Thaicom awards ground solution contract to Kratos: The US company is to deliver a satellite operation centre for the Thaicom-10, a software-defined satellite based on the OneSat platform which is to serve as the Asian operator's first reconfigurable satellite.

ImageSat to provide space-based intelligence analytics to undisclosed customer: The company has been awarded a \$54.5 million contract by an "International Defence Customer" for a three-year period through its cloud-based platform GeoImpact, which will use data from ImageSat International's EROS NG and GlobalEye constellations.

Space Flight Laboratory selected by Nuview for Pathfinder Bus: Nuview, which wants to build the first commercial LiDAR satellite constellation for continually updated 3D Earth elevation data, did not disclose terms of the deal. SFL builds satellite technology for missions requiring precise pointing of onboard data collection sensors.

Australian companies SmarSat and Elders sign MoU for Earth Observation technologies in Agriculture: Under the agreement, both companies have committed to using satellite-enabled Earth Observation technologies to address agricultural challenges, such as emissions control and weed, pests, and disease management.

Australian startup HEO has awarded US-based BlackSky a seven-figure contract to provide space objects imagery for space domain awareness: Under the terms of the contract, BlackSky will incorporate its satellite constellation into HEO's non-Earth imaging sensor network, giving it the ability to task it to meet customer requests.



INVESTMENT & FINANCE

Safran acquires Preligens for €220 million to expand into AI

PRELIGENS

Credit: Preligens

Safran Group has acquired Preligens for €220M, renaming it Safran.AI, and incorporated it into Safran Electronics and Defence. Preligens develops and trains AI algorithms used in the treatment and analysis of a range of signals including government and commercial satellite imagery used mainly for military purposes. The acquisition will assist in further deploying AI in Safran's range of products, accelerating Safran digital transformation, through the application of AI to Industry 4.0, and expanding Preligens' solutions to the global market, notably in the US. Preligens initially considered US offers, but bids by non-EU companies would have been blocked by the French government as the company is considered to be of national interest.

D-Orbit raises an extra €50 million to develop in-orbit logistics

The Italian company secured **€50 million in a second Series C round** led by Japanese general retailer Marubeni Corp, now exclusive distributor of D-Orbit's services in Southeast Asia, and included the European Investment Bank, the European Investment Fund and the European Innovation Council, among other investors. The round follows an initial €100 million secured in January. D-Orbit's core product is the ION transfer vehicles, which allows "last-mile" positioning of satellites on their orbits following launch. Sixteen missions have already been undertaken by the company, fourteen of them involving the ION vehicle, and seven more are in the books for 2025. With the funding, D-Orbit's plans to develop its in-orbit servicing capabilities, space-based cloud computing, and expand in Asia and Latin America with the assistance of their new investor Marubeni Corp.

KBR buys LinQuest for \$727 million to pursue classified government contracts

Global technology company **KBR has acquired LinQuest** in a deal worth \$737 million. LinQuest provides engineering, data analytics, and digital integration services, with a strong focus on the national security sector. They have recently been granted \$562 million to develop and integrate secure communication for the Space Force's Space Systems Command's military satellites. The deal will allow KBR to absorb LinQuest's 1500 high-level clearance employees and the secure facilities needed to conduct classified government projects. The qualification and experience of LinQuest's workforce in tackling such projects is one of the reasons for the acquisition, according to KBR's senior vice president of national security solutions Thomas Lennon.

China-based launch company iSpace secures \$99 million

The Chinese launch company **iSpace raised \$99 million in series C and C+ funding rounds** co-led by Sichuan Industrial Capital and Xinding Capital. The investment will serve to further expand iSpace's current production lines, as well as speed up the development of their Hyperbola-3 reusable liquid launch vehicle. So far, iSpace's Hyperbola-1 rocket had four failed launches out of the seven attempted.



Credit: iSpace



Swiss National Council votes to retain Federal ownership over Beyond Gravity



Credit: Beyond Gravity

The **Swiss National Council has voted in favour of a motion urging the Federal Council to re-evaluate the privatisation of Beyond Gravity**, the space division of RUAG International, stating that Beyond Gravity is vitally important for Switzerland's safety, the country's innovation potential, and its industrial dynamic. In 2023, the Federal Council, as sole shareholder of RUAG International, agreed on a roadmap to sell Beyond Gravity to a Western buyer in an auction process that to be completed by the end of 2025 at the latest. In response to the motion, the Federal Council reiterated its position for the privatisation of Beyond Gravity. The initiative will now be discussed at the Council of States.

Days before the vote, **RUAG International had agreed terms to sell its lithography business, a division of Beyond Gravity, to one of its customers, ZEISS SMT (Semiconductor segment)**, for an undisclosed amount. The agreement came as RUAG International sought to recentre Beyond Gravity's activities around space with Beyond Gravity's Launchers and Satellites divisions, in view of selling the company. ZEISS' optical systems fit into several applications such as the supply chain of semiconductors manufacturing, which the acquisition aims to reinforce. The acquisition is subject to regulatory approval.

Sateliot secures €30 million for IoT constellation

The Spanish start-up raised **€30 million in a Series B** round led by Global Portfolio Investments. Sateliot seeks to offer 5G connectivity to industries through a constellation of 250 satellites, four of them having been launched on SpaceX's 11th Transporter Rideshare Mission last August. With €250 million in contracts secured and a target of starting operations in Q1 2025, the investment will serve to accelerate the deployment of Sateliot's constellation.

KKR obtains regulatory approval to take minority share in OHB

Investment firm **KKR has received the necessary regulatory approvals** to finalise their takeover offer for almost all publicly traded shares of OHB, effectively acquiring a minority share of 28.6% for 44 euros (\$48.70) per share. The Fuchs family retains ownership of the company with 65.4% of the shares. The take-private operation comes 23 years after OHB's IPO, the operation will support OHB's growth strategy to become a European space champion and contribute to the continent's sovereignty in space by answering the increasing demand for efficient and flexible space solutions.

ATLAS Space Operations raises \$15 million to meet demand

ATLAS has raised \$15 million in a pre-Series C funding round led by the PE firm NewSpace Capital. The U.S.-based Ground-Station-as-a-Service provider streamlines communications between satellites and customers through its proprietary software Freedom. The investment will be used to handle the continued demand for its services, notably aiming to double the current workforce of 43 people. Moreover, ATLAS CEO John Williams expects that adding the Luxembourg-based PE firm to its capital table will help expand its footprint in the European market.



Credit: Atlas Space Operations



Slingshot Aerospace raises \$30 million in debt financing



Credit: Slingshot

Slingshot Aerospace has secured **\$30 million in debt financing** from Trinity Capital. The company offers Space Domain Awareness and Space Traffic Management solutions allowing an integrated perspective of in-orbit missions. The debt funding will be used to scale-up operations and fund key growth initiatives.

Reflect Orbital secures \$6.5 million

The start-up raised **\$6.5 million in a seed round** led by Sequoia, the VC's first space investment since SpaceX. Reflect Orbital develops orbital mirrors able to beam sunlight after sunset. The company seeks to answer the increased demand for clean solar energy by providing more power – especially at night when there is none – to existing infrastructure. The funding will go towards hires to meet their goal of a first reflector launch between June and October 2025.

Brightband raises \$10 million for AI weather forecasting

The company has **secured \$10 million in a Series A round** led by Prelude Ventures. Brightband, formerly called OpenEarthAI, plans to use AI to help process and find patterns among petabytes of historical satellite and weather balloon data to improve the quality of weather forecasts. By the end of 2024 the company expects to have its first model based either on satellite imagery or local radar imagery to produce the first forecasts. Brightband also aims to eventually contribute with climate monitoring. The investment will be used to develop its models and expand the team.

Longshot Space secures \$5 million to shoot payloads into orbit

The U.S.-based start-up has raised a total of **\$5 million in funding**, which includes both venture capital investment and non-equity funding provided by the US Air Force through its Tactical Funding Increase (TACFI). Longshot develops kinetic systems using propellant gas to launch payload up to 100kg in orbit at Mach 5. This technology, the company says, can reduce the price of the Kg to orbit to \$10. Longshot Space will use the funds to move out of California to the Nevada desert, where it will build its first 500-meter-long prototype and showcase its capabilities to potential customers.

Aquark Technology closes €5 million seed round

The UK-based company has secured **€5 million in a seed round** led by the NATO Innovation Fund. A member of NATO's DIANA programme, Aquark specialises in cold atoms quantum sensors used to secure Positioning, Navigation and Timing systems (PNT). The company has developed a dual-use technology free of magnetic field, allowing miniaturisation, mobility and robustness. The funding will assist in accelerating the company's development through team hires, collaborations, and research, to eventually reach production at scale.



Credit: Aquark Technologies



Mesa Quantum raises \$3.7 million for quantum sensors



The U.S.-based start-up raised \$3.7 million in a seed round led by J2 Ventures. Mesa Quantum develops quantum clocks, which allow precise timekeeping. The company aims to pair the miniaturisation of the quantum sensors with mass-manufacturing capabilities to offer a potential alternative to vulnerable GPS systems. Moreover, the company is also targeting space assets as one of the sectors to sell its technology, according to J2's managing partner Jon Bronson. The funds will assist in scaling-up the development of these sensors to achieve the product's market-fit.

VEOWARE raises €2.5 million for satellite mobility technology

The Belgian company has secured €2.5 million in a funding round led by imec.istart future fund. VEOWARE develops technologies, such as Control Moment Gyroscope (CMG) and high torque reaction wheels, which allows satellites to be reoriented in orbit. When it comes to Earth Observation, this agility permits easier and broader imaging, maximising the satellite's capacity. VEOWARE plans on using the capital to expand their team, and expand to the U.S. market.

In other news

India-based GalaxEye raised \$2 million in Series A: the investment by Indian IT corporation Infosys will assist in the 2025 planned launch of the start-up's multi-sensor Earth-observation satellite, intended to support the Indian Armed Forces.

Singapore startup Eartheye Space raises \$1.5 million in pre-seed funding: The company, founded in 2022, plans on using the funds to expand into Africa and the Middle East, with the U.S. in sight for 2025.

Chinese firm Sustain Space raises \$1.4 million in a seed funding round: the investment round, led by state-owned Shenzhen HTI Group, will allow the company to demonstrate its satellite's on-orbit capabilities, one of them bring active debris removal (ADR).

SATIM secures €1.4 million in a funding round led by BALNORD: the funding will permit further development of its AI-enhanced SAR technology of objects' detection and analysis through hires and international expansion.

Agile Space Industries raises seed round: Agile develops chemical propulsions used by lunar landers. Led by Caruso Ventures and Lockheed Martin Ventures, the investment round of an undisclosed amount will be used to develop the company's testing facility and to diversify their portfolio between military and civil customers,

T2S has acquired communication systems company Flexitech Aerospace: the company plans to leverage Flexitech's manufacturing capabilities and experience in radiofrequency to expand its presence in the space industry.

Space Intelligence raises funding in Series A round led by AzurX Space Ventures: the company maps natural assets through satellite data and will use the undisclosed investment to expand its datasets to additional countries.

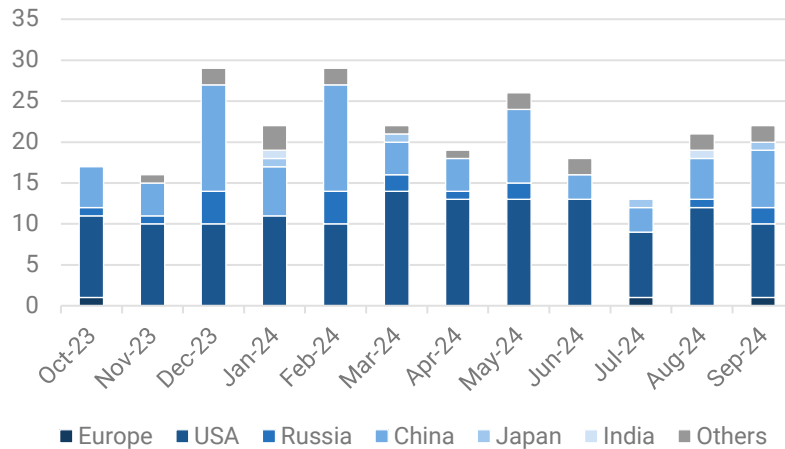


LAUNCHES & SATELLITES

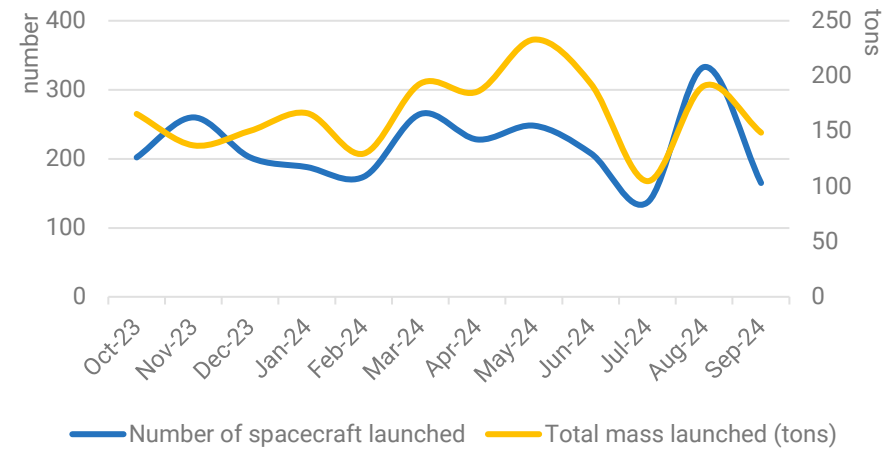
Global space activity statistics

September 2024	Europe	USA	China	Russia	Japan	Other	Total
Number of launches	1	9	7	2	1	2	22
Number of spacecraft launched	1	112	42	3	1	6	165
Mass launched (in kg)	1130	124 316	13 640	7850	1600	200	148 736

Launch activity over the year



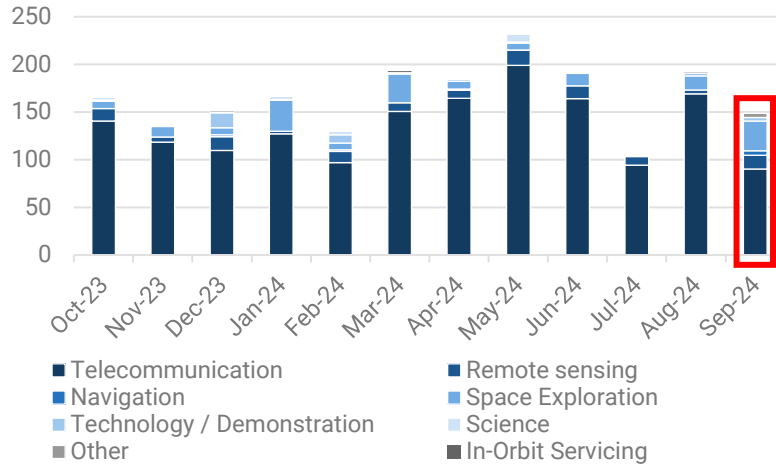
Evolution of the number of launches per launch country



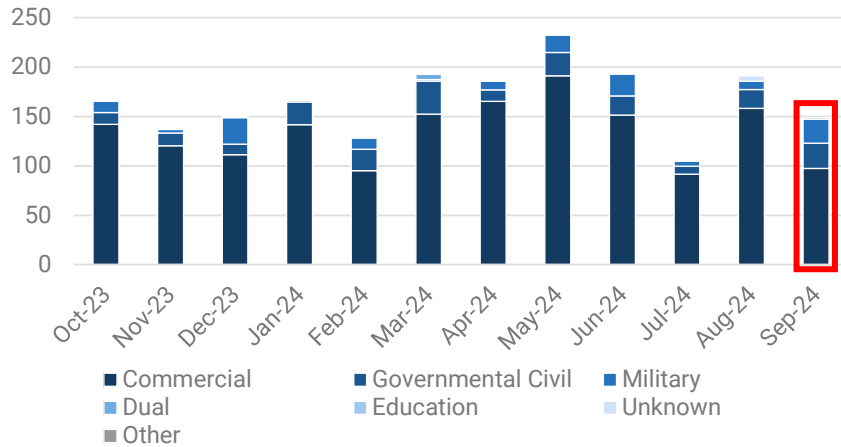
Evolution of launch activity over the year 2023-2024



Satellite missions and markets



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



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

Sept. 2024	Telecom	Remote sensing	Nav.	Explo.	Science	Tech/ Dem	Other
Europe	150	1130	1466				
USA	89 940	8800		24110			
China	200	1920	3420			3600	4500
Russia		800		7050			
Japan		1600					
Others						50	

Total mass (kg) launched by mission and customer country

Sept. 2024	Commercial	Governmental Civil	Military	Dual
Europe	150	2596		
USA	93 995	12 055	16 800	
China	3320	3700	6620	
Russia		7050	800	
Japan				1600
Others			50	

Total mass (kg) launched by market and customer country



LAUNCH HIGHLIGHTS

Last launch of first-generation Vega delivers Sentinel-2

The final mission of the original Vega rocket was marked by the successful deployment of the third Copernicus Sentinel-2 satellite.

Sentinel-2 plays a vital role in providing high-resolution optical imagery for various land services, including monitoring vegetation, soil, water cover, and coastal regions. Vega's journey began on 13 February 2012, and since then, it has completed 22 missions, of which 20 were successful. Among its notable payloads were ESA's Intermediate eXperimental Vehicle (IXV), a re-entry technology demonstrator, all three Sentinel-2 satellites, and several reconnaissance satellites for countries like Italy, Turkey, and Morocco. With the retirement of this first-generation Vega, the upgraded Vega C has taken over. However, its operations have been paused due to a failure in December 2022 and a subsequent unsuccessful static fire test of its second stage during recertification.



Credit: ESA

Polaris Dawn mission launched on Falcon 9

A Falcon 9 rocket launched from Kennedy Space Center on September 10 as part of the Polaris Dawn mission.



Credit: SpaceX

Two days later, on Sept. 12, the crew of the Polaris Dawn mission conducted the first-ever spacewalk on a non-governmental mission. The spacewalk was designed to test the new SpaceX-designed extravehicular activity (EVA) suit capabilities. The Crew Dragon spacecraft also set a new altitude record for a crewed spacecraft in Earth orbit, reaching an apogee of about 1,400 kilometres, the highest altitude achieved by a crewed spacecraft since Apollo 17's lunar mission in 1972. The mission concluded successfully on Sept. 15, with the Crew Dragon spacecraft splashing down in the Gulf of Mexico.

Launch of navigation satellites for Europe and China

September also saw a number of launches of navigation satellites.

For Europe, **a SpaceX Falcon 9 rocket delivered two Galileo satellites** into medium Earth orbit (MEO) on September 18th. The deployment of Galileo satellites 31 and 32 will further enhance the robustness of the satellite constellation. This mission follows an earlier launch of Galileo satellites in April, also executed by SpaceX. The agreement between ESA and SpaceX to launch these four satellites was signed after significant delays with European launch options. Ariane 6 conducted its maiden flight in July and is expected to launch the remaining six Galileo First Generation satellites in pairs during 2025 and 2026.

China also successfully launched the final pair of backup satellites for its Beidou navigation system on September 19th into MEO aboard a Long March 3B rocket. These satellites not only complete the Beidou constellation but also serve as a technology demonstration for the upcoming Beidou-4 next-generation navigation system. The Beidou system provides both military and civilian services. Furthermore, Chinese private firm Geespace launched 10 navigation and telecom satellites for the Geely Future Mobility Constellation aboard a Long March 6 on September 5th.

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