

CLAWS Newsletter



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by Amita Pilania

INDIA

25 June (PIB): IAF gets Final Operational Clearance of indigenous Airborne Early Warning & Control system 'Netra'

The Indian Air Force (IAF) received Final Operational Clearance (FOC) for the indigenously developed Airborne Early Warning and Control (AEW&C) system, **Netra**, on 25 June 2026. Developed by DRDO's Centre for Airborne Systems (CABS) and mounted on the Embraer EMB-145 platform, Netra provides 360-degree situational awareness through advanced radar, electronic intelligence, and command-and-control capabilities. The FOC certifies the system for full operational deployment after extensive testing. Netra enhances airborne surveillance, target tracking, and battle management while strengthening indigenous defence manufacturing under the Atmanirbhar Bharat initiative. The system will significantly augment India's network-centric warfare capabilities.

Strategic Assessment- Netra's induction marks an important milestone in India's pursuit of self-reliance in airborne surveillance and command systems. AEW&C platforms serve as critical force multipliers by extending the battlespace awareness of air and joint force commanders. Indigenous development also reduces dependence on foreign suppliers while enabling future upgrades tailored to India's operational requirements. As regional air threats become increasingly sophisticated, Netra strengthens India's integrated air defence architecture and contributes to improved multi-domain operational effectiveness.

25 June (PIB): Keel-laying ceremony of MDL's Next-Gen OPV for ICG held in Mumbai

Mazagon Dock Shipbuilders Limited (MDL) conducted the keel-laying ceremony for the first of the Next-Generation Offshore Patrol Vessels (NGOPVs) being built for the Indian Coast Guard in Mumbai. The vessel forms part of the Coast Guard's modernization programme aimed at enhancing maritime surveillance, law enforcement, and search-and-rescue capabilities. Designed with improved endurance, automation, and indigenous systems, the NGOPV will undertake missions across India's extensive maritime domain. The project also supports domestic shipbuilding and defence industrial capabilities under the Make in India initiative.

Strategic Assessment- The NGOPV programme reflects India's growing emphasis on maritime security amid increasing strategic competition in the Indian Ocean Region. Modern patrol vessels improve persistent maritime domain awareness, anti-smuggling operations, and protection of critical offshore assets. Indigenous shipbuilding strengthens defence industrial capacity while reducing external dependence. The platform also contributes to India's broader vision of becoming a leading maritime security provider in the Indo-Pacific.

26 June (PIB): DAE Inaugurates World's First Hydrogen Production Facility Based on Copper–Chlorine Thermochemical Cycle Using Nuclear Heat from Fast Breeder Test Reactor

The Department of Atomic Energy (DAE) inaugurated the world's first hydrogen production facility based on the Copper–Chlorine (Cu–Cl) thermochemical cycle using nuclear heat from the Fast Breeder Test Reactor (FBTR). The facility demonstrates an advanced method of producing clean hydrogen with significantly improved thermal efficiency compared to conventional electrolysis. By utilizing nuclear process heat, the technology reduces electricity consumption while enabling large-scale hydrogen production. The project represents a significant breakthrough in India's clean energy and advanced nuclear technology ecosystem.

Strategic Assessment- The successful demonstration positions India at the forefront of advanced hydrogen production technologies with strategic implications beyond civilian energy. Clean hydrogen can support future military logistics, energy resilience, and industrial decarbonization. The integration of nuclear energy with hydrogen production enhances long-term energy security and reduces dependence on fossil fuels. Such technological leadership also strengthens India's standing in emerging critical technologies with both economic and strategic significance.

3 July (PIB): DAC approves capital acquisition proposals worth Rs 52,000 crore to enhance combat readiness of Defence Forces

The Defence Acquisition Council (DAC), chaired by the Raksha Mantri, approved capital acquisition proposals worth approximately ₹52,000 crore to enhance the combat readiness of the Armed Forces. The approvals cover a range of indigenous military platforms, equipment,

and advanced technologies across the Army, Navy, and Air Force. The acquisitions seek to strengthen operational capabilities while promoting domestic defence manufacturing under the Atmanirbhar Bharat initiative. The proposals are expected to accelerate modernization and improve force preparedness against evolving security challenges.

Strategic Assessment- The approvals reinforce India's commitment to capability-driven modernization and indigenous defence production. Timely procurement of advanced platforms enhances military readiness across multiple domains while fostering technological innovation within the domestic defence ecosystem. Increased investment in indigenous systems also supports long-term strategic autonomy and supply chain resilience. The acquisitions align with India's objective of building a technologically advanced and self-reliant military force.

3 July (Business Standard): India's space startups gather pace as private sector ambitions take flight

Three years after the government opened the space sector to private firms, India's commercial space ecosystem is showing early signs of maturity. The country now counts roughly 260 space startups with combined funding of almost \$730 million, according to data cited by Bloomberg, with a quarter of that flowing in during the past year alone. Hyderabad-based Skyroot Aerospace has become India's first space unicorn, crossing a \$1 billion valuation with backing from GIC and BlackRock, while Bengaluru-based Pixxel continues to expand its hyperspectral Earth-imaging constellation. Reliance's Mukesh Ambani is separately reported to be evaluating a low-Earth-orbit broadband constellation that could compete with Starlink in the Indian market.

Strategic Assessment: The funding momentum signals growing investor confidence in India's post-reform space economy and reflects a maturing pipeline from component supply toward full satellite and launch-vehicle capability, positioning domestic firms to capture a larger share of the global commercial space market.

8 July (PIB): DRDO conducts successful flight-test of Pinaka Long Range Guided Rocket

DRDO successfully conducted the flight test of the Pinaka Long Range Guided Rocket, validating its enhanced range, precision, and guidance capabilities. The rocket significantly extends the operational reach of the indigenous Pinaka multi-barrel rocket launcher system while maintaining high accuracy through advanced navigation technologies. The successful trials demonstrated the system's ability to engage targets at extended distances with improved effectiveness. The development represents another milestone in India's indigenous long-range precision strike capabilities.

Strategic Assessment- Long-range precision-guided artillery is increasingly becoming a decisive capability in modern warfare. The upgraded Pinaka enhances the Indian Army's ability to conduct deep precision strikes while reducing reliance on imported rocket systems. Indigenous development ensures sustained production, future upgrades, and operational flexibility. The system strengthens India's deterrence posture by providing cost-effective and accurate long-range firepower in conventional conflict scenarios.

11 July (Raksha Anirveda): Indian Startup Astrobase Advances Development of Rare Rocket Engine Design

Indian space startup Astrobase is reported to be developing a rocket engine architecture that, outside SpaceX, no other company has successfully flown operationally, underscoring the growing technical ambition of India's private launch sector. The effort forms part of a broader wave of homegrown propulsion and launch-vehicle initiatives emerging alongside established players such as Skyroot Aerospace and Agnikul Cosmos, as India's private space industry moves beyond satellite manufacturing into full launch-vehicle development.

Strategic Assessment: The initiative illustrates the depth of engineering ambition now present in India's private space sector, which is increasingly attempting technically demanding propulsion concepts rather than replicating existing designs, a trend that could strengthen India's long-term launch-vehicle competitiveness.

11 July (PIB): Indian Navy commissions Made-in-India advanced stealth frigate 'INS Mahendragiri' in Raksha Mantri's presence at Visakhapatnam

The Indian Navy commissioned the indigenous stealth frigate **INS Mahendragiri** at Visakhapatnam in the presence of the Raksha Mantri. Built under Project 17A, the warship incorporates advanced stealth features, modern sensors, integrated weapon systems, and enhanced automation to improve combat effectiveness. Equipped for anti-air, anti-surface, and anti-submarine warfare, the frigate significantly strengthens India's blue-water naval capabilities. The commissioning highlights India's growing expertise in indigenous warship design and construction.

Strategic Assessment- INS Mahendragiri enhances India's maritime deterrence and operational reach across the Indo-Pacific. Advanced stealth warships improve survivability while enabling multi-role operations in contested maritime environments. Indigenous warship construction reinforces India's defence industrial base and supports long-term naval modernization. The platform also contributes to maintaining a credible maritime balance amid increasing regional naval competition.

12 July (Hindustan Times): Government Moves to Open Strategic Missile Manufacturing to Private Industry

The Ministry of Defence is reported to be preparing a policy shift that would allow private industry to manufacture components and subsystems for strategic missile programmes currently reserved for DRDO and public-sector production agencies. The move is intended to broaden the industrial base supporting India's missile ecosystem, drawing on the private sector's growing role in aerospace, electronics and precision manufacturing demonstrated through recent defence-export contracts and space-sector reforms.

Strategic Assessment: Extending private-sector participation into strategic missile manufacturing could accelerate production timelines and technology absorption, mirroring the liberalisation already seen in India's space and defence-electronics sectors, while raising questions about oversight of sensitive strategic technologies.

18 July (PIB): India established as a Serious Global Space Power with Vikram-1 Success

Skyroot Aerospace successfully launched **Vikram-1**, marking India's first privately developed orbital launch vehicle to reach space and a major milestone in the country's commercial space sector. The mission demonstrated indigenous launch capabilities developed by the private industry following India's space sector reforms. Vikram-1 validates the growing maturity of India's space startup ecosystem while expanding the nation's launch capacity for commercial and strategic missions. The achievement strengthens India's position as an emerging global space power capable of supporting both civilian and national security space requirements.

Strategic Assessment- Vikram-1 represents a strategic shift toward a more diversified and resilient national launch ecosystem where private industry complements government capabilities. Greater launch capacity improves India's ability to rapidly deploy, replenish, and sustain satellite constellations that support military communications, ISR, navigation, and disaster response. The success also enhances India's competitiveness in the global commercial launch market while reinforcing strategic autonomy in access to space. As space becomes increasingly central to military operations, a robust domestic launch industry will be a critical component of India's national security architecture.

22 July (PIB): DRDO Signs Contracts Under AEW&C Mk-II Airborne Early Warning Programme

DRDO signed two major contracts with industry partners under the Airborne Early Warning and Control (AEW&C) Mk-II programme, advancing India's next-generation airborne surveillance capability. The programme builds on the indigenous Netra AEW&C system already in service with the Indian Air Force, aiming to deliver enhanced radar range, processing capacity and integration with India's broader network-centric warfare architecture.

Strategic Assessment: Expanding indigenous airborne early-warning capacity strengthens India's ability to detect and track aerial threats deep into contested airspace, complementing space-based ISR assets and reinforcing the layered surveillance architecture supporting India's air-defence and strike operations.

USA

24 June ([Spaceflight Now](#)): NASA and Boeing Remain Committed to Starliner-1 Despite Unclear Timeline

NASA and Boeing reaffirmed their commitment to flying the Starliner-1 crewed mission despite an unclear schedule, as the CST-100 Starliner spacecraft continues additional testing and analysis following prior propulsion and thermal-protection issues. Officials indicated that a return-to-flight crewed mission remains under review pending resolution of outstanding technical concerns, with no firm launch date yet confirmed for the long-delayed operational crew rotation flight to the International Space Station.

Strategic Assessment: Continued delays to Starliner underscore the ongoing challenge of certifying a second US commercial crew vehicle alongside SpaceX's Crew Dragon, with implications for redundancy in NASA's human-spaceflight access to the International Space Station.

30 June ([Spaceflight Now](#)): Blue Origin Outlines Return-to-Flight Logistics for New Glenn Rocket

Blue Origin detailed its plans for returning the heavy-lift New Glenn rocket to flight, outlining booster processing, pad operations and recovery logistics ahead of upcoming missions. New Glenn, which is central to Blue Origin's national-security launch ambitions and its role in NASA's Artemis human landing system competition, continues to work toward a more regular launch cadence as the company scales up production and recovery operations at Cape Canaveral.

Strategic Assessment: A steadier New Glenn launch cadence would strengthen competition in the US heavy-lift market, supporting both national-security space launch diversification and NASA's reliance on multiple commercial providers for lunar exploration infrastructure.

4 July ([Spaceflight Now](#)): Semiconductor Manufacturing Test Bed Flies Alongside Starlink Satellites

A semiconductor manufacturing technology demonstration payload flew as a rideshare passenger aboard a SpaceX Falcon 9 mission alongside a batch of Starlink satellites launched from Vandenberg Space Force Base. The test bed is intended to explore microgravity-based semiconductor fabrication techniques, part of a wider push by US companies to examine whether space-based manufacturing can yield materials or crystal structures difficult to produce reliably on Earth.

Strategic Assessment: The mission reflects growing interest in orbital manufacturing as a disruptive technology frontier, with potential long-term implications for semiconductor supply chains if microgravity processing can demonstrate a meaningful quality or cost advantage over terrestrial fabrication.

16 July ([NASA](#)): NASA Advances Artemis III Preparations, Selects SpaceX for Laser Communications

NASA continued preparations for the crewed Artemis III mission at Kennedy Space Center, stacking twin Space Launch System solid rocket booster segments in the Vehicle Assembly Building less than three months after the safe return of the Artemis II crew. Separately, NASA selected SpaceX to provide laser communications terminals for Artemis III, installing Starlink-derived laser units aboard Orion to supplement its existing communications system and enable live coverage as astronauts test rendezvous and docking with commercial human landing system demonstrators.

Strategic Assessment: The overlapping hardware and communications milestones indicate NASA is maintaining an aggressive schedule for Artemis III, a mission whose success is a prerequisite for the subsequent Artemis IV crewed lunar landing, now targeted for 2028.

16 July ([SpaceNews](#)): SpaceX's Starship Flight 13 Aborts at Ignition, Engine Swap Ordered

SpaceX aborted the launch of Starship Flight 13 at the last second after only 29 of the Super Heavy booster's 33 Raptor engines ignited, triggering an automatic hold. The mission, which was to deploy the first production Starlink V3 satellites on a suborbital trajectory, was

rescheduled after SpaceX identified two faulty Raptor engines for replacement. The flight would have been the second launch of Starship's upgraded Version 3 configuration, following a mostly successful Flight 12 in May.

Strategic Assessment: Repeated engine-ignition anomalies on Super Heavy highlight the technical risk still associated with Starship's path toward orbital reliability, a milestone required before the vehicle can support NASA's Artemis III and IV lunar landing missions.

17 July ([Quantum Computing Report](#)): Quantinuum Demonstrates First Universal Topological Gate Set

Quantinuum, together with academic partners, demonstrated what researchers describe as the first universal topological gate set using non-Abelian anyons on its H2 quantum processor, publishing the results in Nature. The demonstration used a 54-qubit entangled state based on non-Abelian symmetry, combining anyonic braiding and fusion operations to create a fault-tolerant set of computational operations, a long-sought approach to reducing error rates in quantum computing hardware.

Strategic Assessment: Progress toward topological, inherently error-resistant qubits represents a potentially significant step in the global race for fault-tolerant quantum computing, with long-term implications for cryptography, materials science and military applications reliant on high-assurance computation.

18 July ([SpaceNews](#)): Space Force Triples National Security Launch Contract Ceiling to \$17 Billion

The US Space Force raised the ceiling of its National Security Space Launch Phase 3 Lane 1 contract vehicle from \$5.6 billion to \$17 billion, citing an anticipated sharp increase in satellite missions requiring launch services. The contract vehicle supports a growing roster of missions for the Space Development Agency's proliferated satellite architecture and other national-security payloads, reflecting the accelerating pace of US military space deployment.

Strategic Assessment: The expanded contract ceiling signals the Pentagon's expectation of a substantially higher launch tempo in coming years, driven by proliferated missile-warning and data-transport constellations central to US space-based defence architecture.

21 July ([Defense Post](#)): Space Force Awards AI Contract to Rehearse Orbital Warfare Scenarios

The US Space Force awarded Slingshot Aerospace a \$69.2 million, four-and-a-half-year contract to develop MENTAT, an artificial-intelligence-powered mission rehearsal platform enabling Guardians to train for complex orbital operations, test courses of action and sharpen operational decision-making ahead of real missions. The system is intended to support space-domain awareness and manoeuvre-warfare training as orbital competition intensifies.

Strategic Assessment: The contract reflects the growing integration of artificial intelligence into military space operations, extending AI-enabled decision support from terrestrial and aerial domains into orbital warfighting preparation and rehearsal.

21 July ([SpaceX](#)): SpaceX launches satellite repair drone with 10-foot robotic arms to Earth orbit

SpaceX successfully launched a satellite servicing drone equipped with two 10-foot robotic arms into Earth orbit, marking a significant advancement in on-orbit servicing (OOS) capabilities. The spacecraft is designed to inspect, repair, refuel, relocate, and potentially upgrade satellites without requiring their deorbiting or replacement. The mission demonstrates the growing maturity of robotic technologies for in-space maintenance, aimed at extending satellite lifespans and reducing the cost of space operations. Beyond commercial applications, such capabilities are expected to play an increasingly important role in sustaining large satellite constellations and enhancing the resilience of orbital infrastructure.

Strategic Assessment- On-orbit servicing technologies represent a transformative capability with both civilian and military implications. While satellite repair and life-extension improve space sustainability and operational resilience, the same robotic systems can also support proximity operations with potential counterspace applications, including inspection, interference, or capture of adversary satellites. As major powers develop dual-use in-space servicing capabilities, the distinction between maintenance and military operations in orbit is becoming increasingly blurred. For India, investing in indigenous robotic servicing and space situational awareness capabilities will be essential to safeguard national space assets and maintain strategic competitiveness in the evolving space domain.

22 July ([Space.com](https://www.space.com)): Space Force Orders 36 Additional Golden Dome Missile-Tracking Satellites

The Space Development Agency signed contracts worth up to \$1.75 billion combined with two companies to build 36 additional missile-tracking satellites for the Golden Dome missile-defence architecture, adding to the existing Tranche 1 and Tranche 2 proliferated constellations that already track hypersonic and ballistic missile launches from low Earth orbit. The award scales the missile-warning layer faster than its original timeline.

Strategic Assessment: Denser missile-tracking coverage directly strengthens the sensing layer of the Golden Dome missile-defence architecture, shortening revisit times over contested regions and feeding more responsive data into the broader US missile-defence kill chain.



CHINA

26 June (CGTN): China launches first AI data center powered by 100% green electricity

China inaugurated its first artificial intelligence (AI) data centre powered entirely by 100% green electricity, marking a significant step toward sustainable AI infrastructure. The facility leverages renewable energy sources to meet the immense computational demands of AI model training and inference while reducing carbon emissions associated with high-performance computing. The project aligns with China's broader strategy of integrating digital transformation with clean energy development. It also reflects Beijing's efforts to build environmentally sustainable computing infrastructure capable of supporting next-generation AI innovation and industrial applications.

Strategic Assessment: The initiative demonstrates that future AI leadership will depend not only on algorithms and semiconductors but also on access to reliable, large-scale, and sustainable computing infrastructure. Green-powered AI data centres can provide long-term energy security while supporting defence applications such as autonomous systems, intelligence analysis, cyber operations, and command-and-control. For India, expanding renewable energy-backed high-performance computing infrastructure will be critical to strengthening sovereign AI capabilities and reducing operational costs. The convergence of clean energy and AI is likely to emerge as a key pillar of technological competitiveness and national security.

3 July (Business Times): Booming AI chip trade seals Hong Kong's role as gateway to China

Hong Kong has emerged as a key transit hub for the booming global trade in artificial intelligence (AI) chips, strengthening its role as China's principal gateway for advanced semiconductor imports. Rising demand for high-performance GPUs used in AI model training has significantly increased chip-related trade through the city despite ongoing US export controls on advanced semiconductors destined for China. Hong Kong's established financial, logistics, and re-export infrastructure has enabled Chinese firms to access critical computing hardware through legal commercial channels where permitted. The trend

underscores the growing geopolitical significance of semiconductor supply chains amid intensifying US–China technology competition.

Strategic Assessment- The development highlights that semiconductor supply chains have become a central arena of strategic competition, where trade hubs such as Hong Kong play an increasingly important role. Continued Chinese access to advanced AI hardware could accelerate military applications including autonomous systems, intelligence analysis, cyber operations, and decision-support platforms. For India, the evolving chip ecosystem reinforces the need to strengthen domestic semiconductor manufacturing, diversify supply chains, and invest in sovereign AI computing infrastructure. Technological resilience in critical semiconductor technologies will remain a key determinant of national security and strategic autonomy.

4 July (CGTN): China Launches New Commercial Satellite Constellation via Long March 6

China launched a new batch of satellites into orbit aboard a Long March 6 carrier rocket from the Taiyuan Satellite Launch Center, expanding an ongoing commercial satellite constellation programme. The lightweight, liquid-fuelled Long March 6 is optimised for deploying small and medium-sized satellites efficiently, and the mission forms part of Beijing's broader effort to expand indigenous satellite-based connectivity and remote-sensing capacity.

Strategic Assessment: Continued Long March 6 constellation deployments reflect China's steady build-out of dual-use satellite infrastructure, supporting both civilian connectivity markets and strategic communications and reconnaissance capacity.

6 July (CNN): China Conducts First Submarine-Launched Ballistic Missile Test into the Pacific

The Chinese People's Liberation Army Navy conducted its first publicly acknowledged submarine-launched ballistic missile test into the Pacific Ocean, firing a missile carrying a dummy warhead from a nuclear-powered ballistic missile submarine. The test, believed to involve a JL-2 or JL-3 missile with a flight path of roughly 7,300 kilometres, drew criticism from Australia, New Zealand, Japan and the United States over insufficient advance

notification, with the US State Department calling the move part of an opaque nuclear buildup.

Strategic Assessment: The test publicly demonstrates China's sea-based second-strike capability for the first time in the Indo-Pacific, underscoring the expanding survivability of China's nuclear deterrent and intensifying regional calls for a formal ballistic-missile launch notification agreement.

7 July ([Tech in Asia](#)): DeepSeek Reportedly Developing Its Own AI Inference Chip

Chinese AI startup DeepSeek is developing its own artificial-intelligence chip, according to sources cited by Reuters, in a move that could reduce its reliance on Nvidia and Huawei processors. The chip is reportedly designed for inference rather than model training, and the effort has been under way for close to a year. DeepSeek has previously adapted its models to run on Huawei processors, and a custom chip would represent a further step toward hardware independence.

Strategic Assessment: A domestically designed inference chip would reduce DeepSeek's exposure to US semiconductor export controls and reflects a broader trend of Chinese AI firms pursuing vertical integration between models and silicon to secure long-term computing resilience.

10 July ([CGTN](#)): China Achieves First Net-Based Recovery of an Orbital Rocket Booster

China's Long March 10B rocket completed its maiden flight from the Hainan Commercial Space Launch Site and successfully recovered its first stage using a sea-based net capture system, marking the country's first controlled recovery of an orbital-class booster. The China Aerospace Science and Technology Corporation confirmed the recovery occurred roughly six minutes after stage separation, with the booster caught in a net-and-cable system aboard a recovery vessel rather than landing on legs. CASC stated it intends to reuse the same booster before the end of the year.

Strategic Assessment: The net-recovery approach gives China a second working method of reusable-launch technology alongside leg-landing designs under development, narrowing the

gap with SpaceX and supporting China's crewed lunar programme, which relies on variants of the same rocket family.

20 July ([Bloomberg](#)): Z.AI Completes Data Centre Built Entirely on Chinese-Made AI Chips

Chinese AI firm Z.AI completed construction of a large-scale data centre that it plans to populate exclusively with domestically produced chips, a step in Beijing's broader push to reduce dependence on restricted Nvidia silicon for AI development. The facility is intended to support future model training entirely on Chinese-made processors, aligning with state-backed efforts to triple domestic AI chip output during 2026.

Strategic Assessment: An all-domestic-chip data centre marks a tangible milestone in China's chip self-sufficiency drive, signalling growing confidence among Chinese AI developers that domestic silicon can now support large-scale model training despite continuing export restrictions on advanced US technology.

22 July ([Xinhua](#)): China's Gravity-1 Rocket Completes First Sea Launch from East China Sea

China's Gravity-1 carrier rocket successfully launched nine satellites from a mobile sea platform off the coast of Shanghai, marking the vehicle's first open-sea launch and China's first commercial sea-based launch conducted in the East China Sea. The Taiyuan Satellite Launch Center managed the mission, which placed all nine satellites into their designated orbits. The mobile platform allows flexible site selection unrestricted by fixed maritime launch zones.

Strategic Assessment: Expanding sea-based launch capability diversifies China's commercial space infrastructure, increasing launch-site flexibility and cadence while reducing dependence on fixed inland and coastal launch centres for smaller satellite constellations.

Russia

26 June ([Ukrinform](#)): Ukraine Confirms Strike on Russian Space Communications Centre in Moscow Region

Ukraine's General Staff confirmed that its forces struck a Russian Armed Forces space communications centre near the settlement of Belookomut in the Moscow region, part of a wider campaign targeting Russian command, communications and logistics infrastructure. Ukrainian officials have characterised such facilities as central to coordinating Russian battlefield operations and satellite-relay functions supporting the war effort.

Strategic Assessment: Continued strikes on Russian satellite ground infrastructure signal Ukraine's deliberate extension of its long-range campaign into the space-communications domain, aiming to erode the resilience of Russia's battlefield command-and-control networks.

30 June ([CNN](#)): Ukraine Hits Dubna Satellite Communications Centre for Second Time

Ukraine struck the Dubna Satellite Communications Centre north of Moscow for the second time in just over a week, President Volodymyr Zelensky said, describing the facility as used for reconnaissance and coordination of Russian forces in Ukraine. The centre, roughly 500 kilometres from the Ukrainian border, is one of Russia's largest satellite-communications complexes, operational since 1980. Russian officials acknowledged a drone struck an administrative building in the area, with no reported casualties at the site itself.

Strategic Assessment: Repeated strikes on the same strategic facility indicate a sustained Ukrainian effort to systematically degrade Russia's satellite-communications backbone, reflecting the growing centrality of space infrastructure as a target set in contemporary warfare.

2 July ([Bloomberg](#)): Roscosmos's \$60 Billion Revival Plan Looks to SpaceX as a Model

A Bloomberg feature detailed Roscosmos director Dmitry Bakanov's effort to revive Russia's space programme, including an attempt to build a domestic Starlink-style broadband constellation called Rassvet. Six years after SpaceX began deploying its network, Russia's

first batch of 16 Rassvet satellites reached orbit only in March, and one had already failed by early June, according to Russian media reports cited in the piece.

Strategic Assessment: Russia's struggles to replicate proliferated low-Earth-orbit broadband architecture underscore the technological and industrial gap that has opened between Moscow and leading commercial space powers, complicating Roscosmos's stated ambitions for a broader space-sector revival.

14 July ([Space.com](#)): Soyuz MS-29 Launches NASA Astronaut and Two Cosmonauts to ISS

Russia launched the Soyuz MS-29 spacecraft from the Baikonur Cosmodrome carrying NASA astronaut Anil Menon and Roscosmos cosmonauts Pyotr Dubrov and Anna Kikina to the International Space Station for an eight-month rotation. The launch marked the resumption of crewed flights from Site 31 following its repair after damage sustained during a previous launch, and was attended by NASA Administrator Jared Isaacman in his first visit to Baikonur since 2018.

Strategic Assessment: The joint launch, and the rare presence of NASA's chief at Baikonur, illustrates that US-Russian space cooperation on the International Space Station continues to function as a distinct channel of engagement even amid broader geopolitical tensions over the war in Ukraine.

21 July ([Militarnyi](#)): Russia launches second batch of Rassvet satellites

Russian aerospace company Bureau 1440 launched a second batch of Rassvet broadband satellites from the Plesetsk Cosmodrome aboard a Soyuz-2.1b rocket, expanding its low-Earth-orbit constellation to roughly 40 spacecraft. The satellites successfully separated from the launch vehicle and established contact with the company's mission control centre, with engineers now manoeuvring them into operational orbit. The Rassvet system, positioned as Moscow's domestic alternative to Starlink, lost one satellite from its first production batch to a thruster failure in June. Bureau 1440 aims to reach roughly 250 satellites by 2027, when commercial service is due to begin, and more than 900 by 2035, though the current launch cadence remains well below the pace required to meet that target.

Strategic Assessment: The steady, if modest, build-out of Rassvet underscores Russia's determination to reduce dependence on foreign satellite connectivity for both civilian and battlefield use, even as analysts note the constellation remains far from the scale needed to provide reliable command-and-control coverage across the front line.



Other Nations

1 July ([International News Network](#)): Portugal developing graphene materials for stealth technology

Portuguese researchers are developing advanced graphene-based materials for next-generation stealth applications, aiming to improve the ability of military platforms to evade radar detection. Owing to its exceptional electrical conductivity, lightweight nature, and electromagnetic wave absorption properties, graphene offers significant advantages over conventional radar-absorbing materials (RAM). The technology is being explored for integration into aircraft, naval vessels, unmanned systems, and other defence platforms to reduce radar cross-sections while improving durability and operational efficiency. The research highlights the growing role of advanced materials in enhancing future military capabilities.

Strategic Assessment- Graphene-based stealth materials have the potential to redefine survivability across air, maritime, and unmanned platforms by enabling lighter, more durable, and adaptable low-observable technologies. Beyond stealth, graphene's multifunctional properties could support flexible electronics, advanced sensors, and electromagnetic shielding, making it a key disruptive technology for future warfare. For India, sustained investment in advanced materials research and defence-industrial collaboration will be critical to reducing dependence on imported stealth technologies and maintaining technological parity in an increasingly contested battlespace.

9 July ([QAI Ventures](#)): QAI Ventures Launches Singapore Quantum Accelerator Cohort

QAI Ventures launched its first Singapore Quantum Accelerator cohort in partnership with Enterprise Singapore, supporting four early-stage quantum and advanced-computing startups with grant funding, workspace and market-entry coaching, alongside access to quantum hardware from IonQ, QuEra and Fujitsu. The five-month programme, running from July to October, is designed to anchor Singapore's position as a regional hub for quantum-technology commercialisation in the Asia-Pacific.

Strategic Assessment: The initiative reflects intensifying competition among Asia-Pacific states to build sovereign quantum-technology ecosystems, positioning Singapore as a facilitation hub even as larger powers such as the United States and China dominate frontier quantum-hardware research.

14 July (PIB): India-Australia Summit Advances Critical Minerals, Uranium and Technology Cooperation

Prime Minister Narendra Modi's visit to Melbourne, held alongside Prime Minister Anthony Albanese, focused on defence ties, critical minerals and a long-pending civilian uranium supply agreement. Discussions also addressed cooperation in semiconductors, artificial intelligence, clean energy and supply-chain resilience, alongside continued negotiations toward a Comprehensive Economic Cooperation Agreement building on the existing trade pact between the two countries.

Strategic Assessment: Deepening India-Australia cooperation across critical minerals, uranium and advanced technology strengthens both countries' position within the Quad framework and reduces mutual dependence on China for inputs central to semiconductor and clean-energy supply chains.

11 July (Space.com): Japan Successfully Test-Flies RV-X Reusable Rocket Prototype

Japan's experimental Reusable Vehicle eXperiment (RV-X), developed jointly by JAXA and Mitsubishi Heavy Industries, completed its first hop test at the Noshiro Rocket Testing Center, taking off and landing safely. The vehicle is a precursor to CALLISTO, a single-stage reusable flight-experiment project involving JAXA, France's CNES and Germany's DLR, and represents Japan's early steps toward a lower-cost successor to its expendable H3 rocket family.

Strategic Assessment: Japan's entry into practical reusable-launch testing, even at small scale, signals a long-term ambition to remain competitive against SpaceX and China in the global launch-services market, where reusability has become the decisive cost factor.

21 July ([Raksha Anirveda](#)): Turkey Advances Construction of New Spaceport in Somalia

Turkey is actively building a spaceport in Somalia, with the first phase of the launch facility reported to be under way. The project forms part of Turkey's broader push to develop independent space-launch infrastructure and expand its strategic footprint in the Horn of Africa, complementing Ankara's existing defence and economic partnerships with Mogadishu.

Strategic Assessment: A Turkish-operated spaceport in Somalia would extend Ankara's space ambitions beyond satellite manufacturing into launch infrastructure, while reinforcing Turkey's broader strategic presence in the Horn of Africa, a region of growing competition among external powers.



About the Author

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