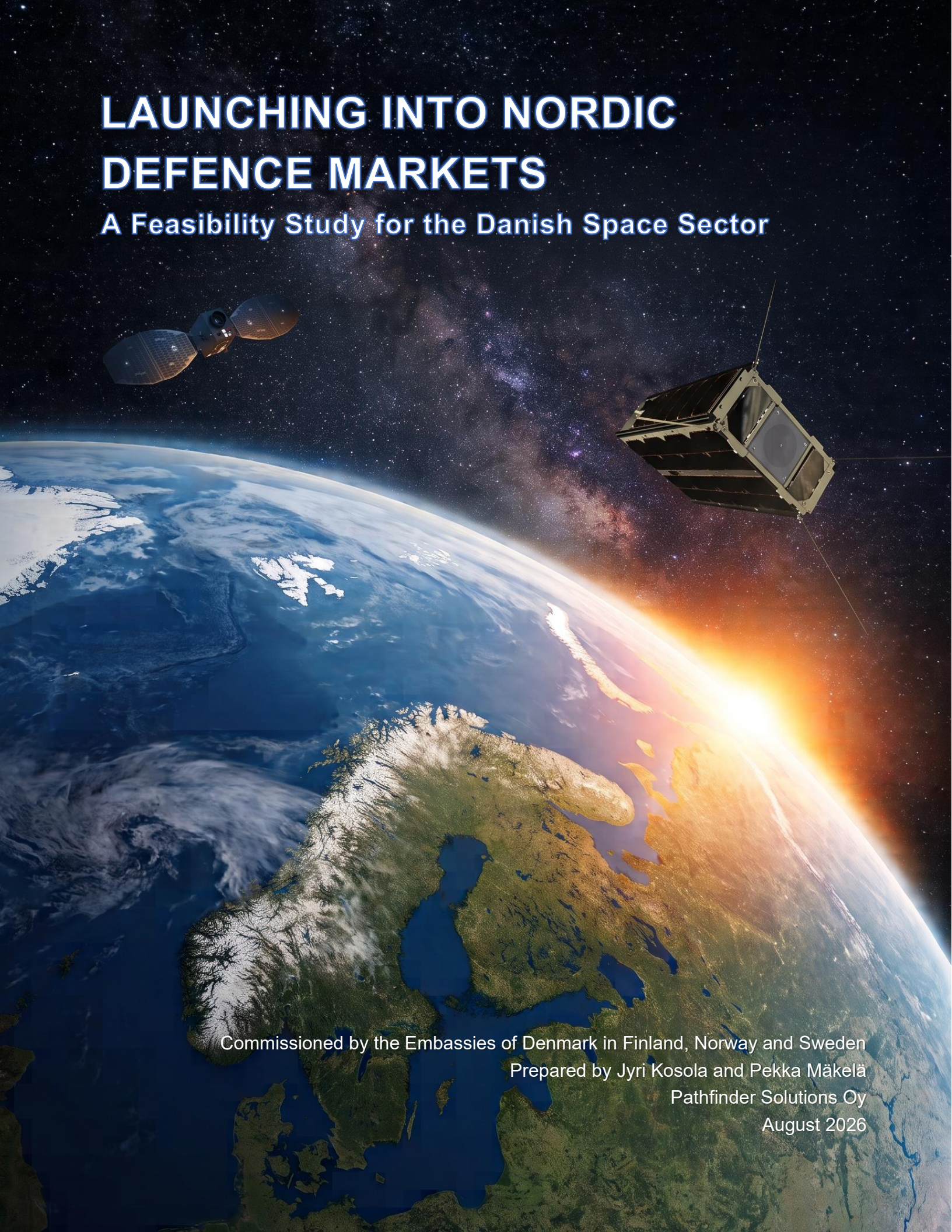
LAUNCHING INTO NORDIC DEFENCE MARKETS

A Feasibility Study for the Danish Space Sector



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EXECUTIVE SUMMARY

This feasibility study assesses how Danish space-sector companies—especially small and medium-sized enterprises (SMEs) and specialist sub-suppliers—can enter and grow within the rapidly expanding Nordic defence-related space market. Commissioned by the Danish Embassies in Finland, Norway, and Sweden, the research was conducted with their active institutional facilitation, stakeholder access, and cross-border coordination across the region. The central finding is that the Nordic region is moving from fragmented national space efforts toward an integrated security architecture driven by NATO alignment, High North and Baltic Sea defence requirements, and growing military dependence on space-based communications, surveillance, navigation, and situational awareness.

Denmark, Finland, Norway, and Sweden each contribute distinct strengths to this emerging ecosystem. Denmark offers high-reliability subsystems, satellite platforms, radio-frequency (RF) testing, optical payloads, simulation software, and command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) integration. Finland leads in agile New Space remote sensing, synthetic aperture radar (SAR), hyperspectral analytics, propulsion, software, and secure digital infrastructure. Norway provides polar ground stations, Arctic communications, maritime surveillance, launch access, and propulsion capabilities. Sweden brings launch infrastructure, radiation-hardened processors, small satellite (smallsat) platforms, satellite communications (SATCOM) terminals, onboard computing, defence primes, and advanced ground networks.

The study identifies strong regional potential for end-to-end Nordic space capability: sovereign intelligence, surveillance, target acquisition, and reconnaissance (ISTAR) and Earth observation; secure SATCOM and Very High Frequency Data Exchange System (VDES) networks; RF detection and electronic warfare support; onboard computing; satellite mobility and protection; ground segment operations; and NATO-compatible C4ISR integration. However, this potential is constrained by four structural bottlenecks: limited growth capital for SMEs moving from prototype to production, small and risk-averse domestic procurement markets, fragmented licensing and liability regimes, and scarcity of specialized space-flight engineering talent.

For Danish SMEs, the most promising route to market is not to compete alone as isolated suppliers, but to form targeted consortia through national business organisations and clusters and partner with Nordic primes, procurement agencies, and test facilities. High-potential entry points include microsatellite buses, power and propulsion subsystems, RF payloads and calibration services, secure maritime communications, additive manufacturing, thermal-vacuum testing, optical payloads, software-defined satellite systems, and downstream intelligence fusion.

The report recommends three government-level actions: establish a Nordic Space Capability Framework, fund a joint federated flagship mission using regional supply chains, and launch a cross-border SME Testbed Access Scheme. For industry, the recommended priorities are to build consortia, begin security-clearance and compliance preparations early, target European Defence Fund (EDF) SME calls, and present Nordic space-defence capability internationally through a unified Nordic narrative.

1. INTRODUCTION

This feasibility study has been commissioned by the Danish Embassies in Finland, Norway, Sweden and conducted by Pathfinder Solutions Oy to identify, map, and assess concrete business opportunities for Danish space technology companies, with a particular focus on sub-suppliers and small and medium-sized enterprises (SMEs) entering the rapidly expanding Nordic defence space markets. The transition of space into a critical operational domain for national security and defence has reshaped the strategic landscape of Northern Europe. As armed forces increasingly depend on space-based capabilities for communications, navigation, early warning, surveillance, targeting and environmental observation and forecasting, establishing secure and resilient orbital infrastructure has become an urgent regional priority.

For small nations such as Denmark, Finland, Norway, and Sweden, space is inherently a domain of cooperation. No single country possesses the financial or industrial capacity to independently develop and sustain a comprehensive, end-to-end military space enterprise. By combining regional capability needs, aligning regulatory frameworks, and pooling procurement demands, the Nordic states can establish the critical mass required to secure their orbital sovereignty and bolster collective European resilience.

To ensure actionable, evidence-based recommendations, the findings and capability assessments in this report are grounded in primary data gathered directly from the Nordic industrial and defence ecosystem through consultations and an industry survey. This study serves as a strategic roadmap to guide Danish industry players and governmental decisionmakers in navigating and capitalizing on this collaborative security frontier.

2. STRENGHTENING NORDIC SPACE CAPABILITIES FOR DEFENCE AND SECURITY

2.1 Space as a Multi-Domain Operational Advantage

The space economy extends far beyond satellites themselves. It encompasses the entire value chain from design and production to launch services and satellite control to data reception, processing, and analytics, as well as the creation of space situational awareness. In a military context, this also includes countermeasures against satellites, ground stations, and terrestrial infrastructure, as well as the measures required to protect against such threats. Space is therefore both an operational domain and a vulnerability, the management of which demands technological expertise, shared standards, and close coordination among allies.

The latest Western operational doctrine, Multi Domain Operations (MDO), underscores this comprehensive approach. MDO integrates the land, maritime, air, space, cyber, and information domains into a unified framework for decision making and operational effects. The military objective is to generate a more complete situational picture faster than an adversary, make decisions ahead of them, and force them into a reactive posture. Technological development has made achieving surprise increasingly difficult, further elevating the role of space as the connective tissue linking sensors, communications, and warning systems.

The key military applications of space can be summarised in five categories:

1. Situational awareness of events on the ground, including the monitoring and forecasting of troop movements, systems, and activities.
2. Environmental observation and forecasting, including observation of the Sun and Earth and both solar and terrestrial weather and conditions.
3. Warning capabilities, enabling the detection of threats and guidance toward appropriate courses of action.
4. Detection, localisation, and identification, allowing both friendly and adversary assets to be tracked and their future actions assessed.
5. Protection against satellite reconnaissance, including the ability to recognise when one's own activities are under space-based observation.

Amid these developments, the Nordic countries hold an exceptionally strong position. The region combines high technological competence, a reliable industrial base, security policy alignment, and a growing interest in space related strategic autonomy. Nordic cooperation offers the opportunity to build scalable, cost efficient, and security critical space infrastructure that serves both civilian and defence needs.

This report examines how the Nordic countries can strengthen their shared industrial foundation in the space sector, leverage each other's capabilities, and build a competitive, secure, and strategically significant space cluster in a rapidly evolving geopolitical environment.

2.2 Nordic Industrial Readiness in Militarily Critical Space-Based Capabilities

The security of the High North and the Baltic Sea region depend on continuous access to militarily critical space capabilities. The current industrial readiness and ability of the Nordic countries to produce these capabilities can be summarised as follows:

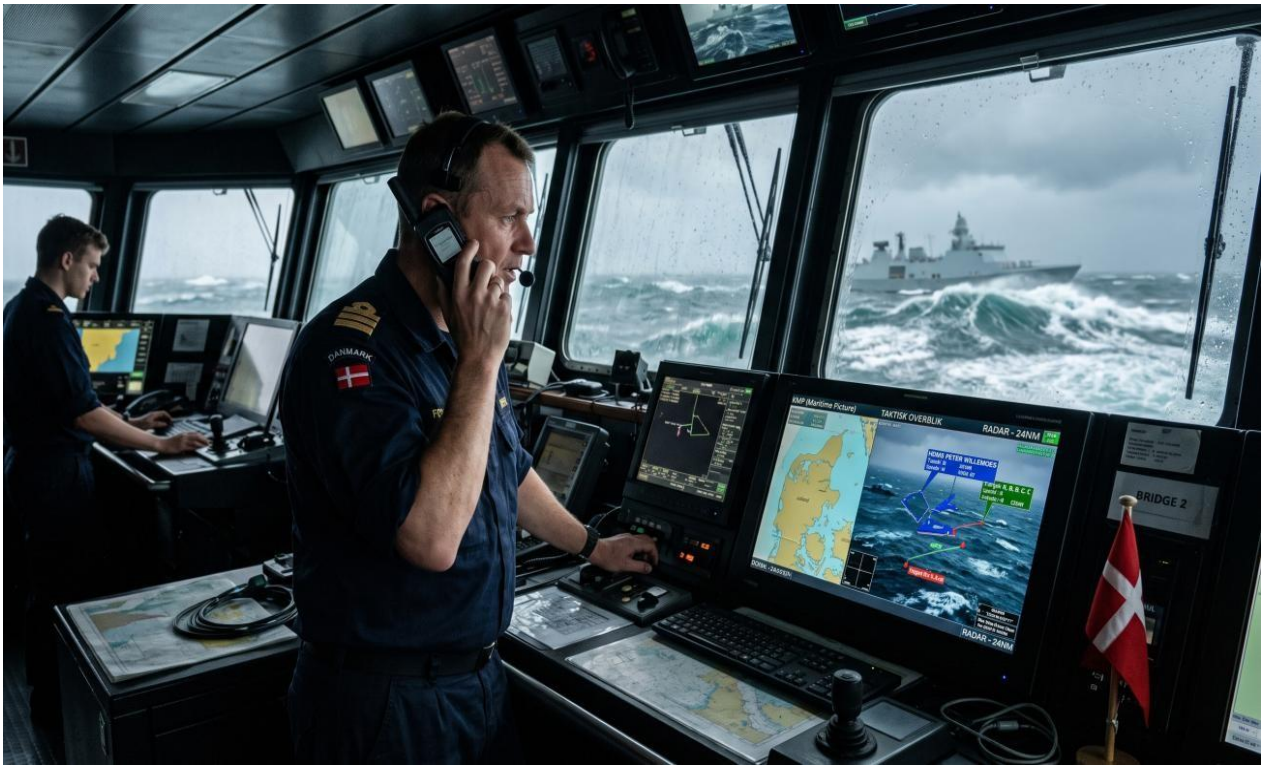
Assured Access to Space. Europe's principal bottleneck lies in its ability to generate rapid response launches. The Nordic region hosts two of continental Europe's leading launch facilities. One provides dedicated orbital launch services for small satellites over the Arctic Ocean and operates under a bilateral technology protection framework with the United States. The other has completed a state-of-the-art orbital launch control centre and serves as a primary test site for reusable European launch vehicles. New launch pads are under construction to enable full orbital launch capability by 2028 in cooperation with commercial partners. Together, these facilities provide the region with independent, rapidly deployable launch capacity for tactical payloads during crises.

Remote Sensing & Persistent Surveillance. The region possesses world leading capabilities in synthetic aperture radar imaging, hyperspectral change detection, and high-resolution optical observation. Nordic actors operate extensive radar satellite constellations capable of producing all weather, day and night imagery with high tactical relevance. Advanced hyperspectral systems enable the detection of chemical traces, camouflage, and concealed objects from orbit. Optical

imaging systems provide extremely high-resolution data for precision targeting and situational assessment. These capabilities collectively support high tempo battlefield awareness and strategic intelligence.

Resilient Satellite Communications (SATCOM) & VDES. Secure communications in contested environments are essential for multi domain operations. Nordic capabilities include multi orbit satellite communications systems with onboard processing that enables direct terminal to terminal links without routing through ground stations. Portable, ruggedised satellite terminals ensure command connectivity even under Global Positioning System (GPS) interference. In maritime environments, the region operates a dedicated Very High Frequency (VHF) data exchange satellite network that provides secure, authenticated, and spoof resistant digital communications for naval forces and commercial shipping.

Space Domain Awareness (SDA) & Ground Networks. Protecting space and ground infrastructure is a core defence requirement. The Nordic region operates one of the world's most comprehensive polar and global ground station networks, ensuring continuous telemetry, tracking, and command for satellites in both low and high Earth orbit. Complementary tracking networks provide regular contact passes and redundancy. Software development within the region supports critical space situational awareness interfaces, while defence grade integration frameworks link space derived data into command-and-control systems using NATO compatible standards for multi sensor intelligence coordination



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3. STRATEGIC OUTLOOK

3.1 Securing the High North – Strategic Autonomy and Transatlantic Security

The geopolitical architecture of European security is undergoing a fundamental realignment. Evolving defence postures in the United States have accelerated a gradual but systematic disengagement of American conventional forces from the European theatre, as Washington increasingly prioritizes strategic deterrence in the Indo-Pacific region. This transition has created a critical capability gap that European nations must proactively address by substituting American combat mass and high-end "strategic enablers".

This systemic vulnerability is most acute in the orbital domain. Despite robust conventional capabilities on land and at sea, European military forces remain heavily dependent on United States space infrastructure across four critical areas: high-cadence heavy-lift launch systems; persistent, real-time intelligence, surveillance, and reconnaissance (ISR) constellations, target acquisition (TA) for long-range precision strike assets; space-based ballistic and hypersonic missile early warning networks; and global space situational awareness (SSA) tracking systems. For instance, Europe possesses no sovereign, operational orbital architecture for real-time missile launch tracking, relying almost entirely on the US Space-Based Infrared System (SBIRS) and Next-Generation Overhead Persistent Infrared (OPIR) platforms. To mitigate this specific gap, France and Germany signed a letter of intent in 2025 to develop a sovereign space-based early warning system under the Joint Early Warning System (JEWEL) initiative, aiming for initial deployment by the early 2030s.

To address these capability gaps, European nations are mobilizing substantial financial resources, though these investments remain highly fragmented. Current national and European Union (EU) space investment plans total approximately USD 109 billion through 2030. According to assessments by the International Institute for Strategic Studies (IISS), mitigating the most critical dependencies on the United States to support joint burden-sharing would require an immediate, coordinated investment of at least USD 10 billion in dedicated military space assets. Achieving full, sovereign operational space autonomy—enabling independent deterrence and defence against peer adversaries without US support—would require an additional USD 25 billion in procurement, with a realistic deployment timeline extending beyond 2040.

Currently, the internal military balance of gravity within Europe is shifting toward Germany and Poland, whose expanded defence spending is beginning to eclipse traditional military leaders like France and the United Kingdom. Following the invasion of Ukraine, Germany’s defence budget has grown rapidly, and is expected to reach €120 billion by 2026—double the French defence allocation of €60 billion. Poland has expanded its defence spending to approximately 5% of its Gross Domestic Product (GDP), building the largest conventional ground force in Central Europe. For the Nordic countries, these massive shifts emphasize that future security depends on transitioning from a patchwork of isolated national systems into a highly integrated, resilient regional space architecture capable of defending the High North and the Baltic Sea against escalating counterspace threats, including electronic jamming, spoofing, and co-orbital physical interference.

3.2 Denmark

Denmark's space policy is defined by a pragmatic, outward-looking approach that prioritizes utilizing space as an operational enabler for national security, climate monitoring, and commercial growth, rather than pursuing sovereign heavy-lift launch or exploratory spaceflight programs. The national policy landscape is guided by two complementary frameworks: the National Space Strategy and the ten-year Strategy for Space Research and Innovation (2025–2035).

To align its research, industrial base, and security requirements, Denmark's national strategic framework is organized under four core strategic pillars:

1. **Strategic User and Allied Integration:** Maximizing the operational and security benefits of international space infrastructures—including the EU Copernicus, Galileo, and IRIS² constellations, as well as European Space Agency (ESA) and commercial networks—to secure resilient connectivity and data access.

2. **Niche Technological Specialization:** Focusing domestic research, development, and industrial scaling on high-reliability subsystems, precision optical and RF sensors, smallsat platforms, power systems, and specialized mission software.

3. **Data Utilization and Societal Security:** Establishing Denmark as a downstream data powerhouse by translating space-derived Earth observation and maritime data into actionable intelligence for climate resilience, Arctic surveillance, critical infrastructure protection, and civil preparedness.

4. **Targeted Capability Financing and Geo-Return:** Expanding national space research and development (R&D) financing by approximately 50% over the next decade and doubling contributions to ESA optional programmes to maximize industrial geo-return, mature low-TRL technologies, and fund dedicated national space research programs.

The governance of Danish space policy is led by the Ministry of Higher Education and Science and the Danish Agency for Higher Education and Science, which oversee international engagements, research grants, and regulatory oversight under the Danish Outer Space Act. Academic research and technology maturation are anchored by DTU Space (Technical University of Denmark)—a primary national hub providing flight instrumentation and high-precision star trackers for over 100 international missions—alongside the Space Tech Center at Aalborg University, which specializes in smallsat systems and space communications. Operationally, space-based assets are treated as critical national infrastructure directly supporting the Joint Arctic Command (JACO) in Nuuk, Greenland, ensuring continuous maritime domain awareness and sovereignty enforcement across the North Atlantic and Arctic operational theatres.

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3.3 Finland

Finland’s national space policy is governed by its renewed Space Strategy 2030, which establishes the ambitious vision of creating "the world's most advanced space operating environment, which generates benefits for society as a whole". Rather than treating space as an isolated high-tech enclave, the Finnish government views space services as horizontal enablers that must be deeply integrated into national security, emergency services, public administration, and critical infrastructure.

The Finnish strategy is organized under four core pillars:

1. **Utilisation of Space Services:** Systematically integrating satellite data and communication systems into public rescue services, transport logistics, forestry, and maritime operations.

2. **Space Operating Environment:** Ensuring a highly agile regulatory, testing, and financing ecosystem to foster New Space startups and attract international investment.

3. **Strategic Capabilities:** Strengthening national space capabilities that directly support security, territorial defence, security of supply, and societal resilience.

4. **International Cooperation:** Deepening operational integration with ESA, NATO, and EU programs, while promoting the responsible, sustainable, and peaceful use of space.

Northern Strike 25 exercise in Lapland. Image: NATO

Finland’s space posture is heavily shaped by its challenging security environment, featuring a 1,340-kilometer closed border with Russia and a defence doctrine focused on rapid mobilization and absolute security of supply. To secure its operational sovereignty, the Finnish Defence Forces (FDF) have established a dedicated "Command of Space," including a military Space Operations Centre under the Finnish Air Force to ensure independent, real-time command, control, and access to satellite-derived tactical intelligence. Finland is also a prominent advocate for NATO’s Defence Innovation Accelerator for the North Atlantic (DIANA), hosting specialized test centres in Espoo and Oulu focused on secure 6G communications, quantum technologies, and space-related hardware.

The administration of Finland's space activities is coordinated by the Finnish Space Committee, a cross-sectoral advisory body operating under the Ministry of Economic Affairs and Employment (TEM). To further enhance its commercial attractiveness, Finland is currently reforming its Act on Space Activities to establish a streamlined "one-stop-shop" licensing model, ensuring rapid, predictable processing times for commercial operators.

3.4 Norway

Norway’s space strategy is deeply rooted in its geographic identity as a High North nation managing vast maritime territories seven times larger than its landmass, extending from the North Sea to Svalbard. The government's strategic objectives are laid out in White Paper 10, which treats space systems as essential national infrastructure critical for sovereignty protection, Arctic maritime surveillance, secure communications, and border deterrence.

The Norwegian strategy focuses on four main goals:

1. **Supporting Core Societal Needs:** Utilizing satcom, navigation, and Earth observation to manage maritime traffic, fisheries, search and rescue operations, and environmental tracking in the Arctic.

2. **Developing a Competitive Space Industry:** Supporting local commercial innovators and integrating Norwegian companies into European and transatlantic supply chains.

3. **Safeguarding Sovereignty in the High North:** Maintaining a continuous allied operational presence and robust maritime domain awareness in the Arctic in coordination with NATO and the United States.

4. **Ensuring Cost-Effective Public Operations:** Maintaining clear boundaries between regulatory authorities and state-owned commercial entities.

The Norwegian Space Agency (NOSA) coordinates national policy on behalf of the Ministry of Trade, Industry and Fisheries. This is complemented by Space Norway AS, a 100% state owned commercial limited company that develops, owns, and manages strategic, security critical space infrastructure. Space Norway’s flagship program, the Arctic Satellite Broadband Mission (ASBM), became operational in December 2024, utilizing two satellites in highly elliptical orbits to provide secure, high-bandwidth communication across the Arctic for Norwegian and US armed forces. Notably, ASBM carries a classified US Space Force payload, marking the first time the US military has flown a national security payload on an allied, non-American spacecraft.

On the regulatory side, Norway is in the final stages of adopting a comprehensive new Space Act (romloven) to replace its outdated 1969 act. Entering force in late 2026, the law modernizes licensing, safety, operator obligations, and absolute liability rules. Additionally, the Norwegian Communications Authority (NKOM) enforces strict ground rules for polar earth stations in Svalbard, prohibiting the downlinking or uploading of data from satellites performing military purpose functions, except in emergencies. Norway's sovereign launch capability is anchored at the state-owned Andøya Spaceport, which officially opened in 2023, offering optimized polar and sun-synchronous launch trajectories for European commercial rocket developers like Isar Aerospace.

3.5 Sweden

Sweden's space sector is undergoing a rapid, defence-driven transformation, shifting decisively from high-level strategic planning to concrete capability acquisition and large-scale operational procurement. Following Sweden's accession to NATO, the government adopted its first dedicated defence and security space strategy in July 2024, titled "The role of space in a new security environment," establishing space as an operational domain vital for total defence, Baltic Sea deterrence, and High North security.

The national strategic framework is built on four core pillars:

1. **Ensuring Freedom of Action:** Developing national capabilities to anticipate, detect, and counter hostile orbital activities and threats
2. **Total Defence Capability:** Establishing a resilient portfolio of sovereign space assets, data flows, and services supporting both warfighting requirements and civil crisis preparedness.
3. **Active International Partnership:** Contributing operationally to NATO, EU, and bilateral frameworks in the High North and Baltic regions.
4. **Knowledge-Based Space Policy:** Advancing targeted R&D, industrial competence, and secure licensing regimes.

From Strategy to Concrete Capability Acquisition Since early 2024, Sweden has accelerated its transition from being merely a consumer of allied space data to deploying sovereign, end-to-end operational military space capabilities. The Swedish Armed Forces initiated flight verification with the launch of their dedicated test satellite, GNA-3, in August 2024 to evaluate secure tactical communications and Baltic Sea reconnaissance.

This operational pivot was cemented in January 2026 when the Swedish Government announced a major procurement package specifically for sovereign space capabilities. Under this initiative, Sweden is acquiring approximately ten dedicated reconnaissance and surveillance satellites, with deliveries running from 2026 through 2028.

Esrange Space Center as a Sovereign Launch and Industrial Hub Central to Sweden’s operational ambition is the Esrange Space Center near Kiruna, which serves as one of continental Europe's primary assets for sovereign orbital access.

The expansion of sovereign military launch capabilities at Esrange generates extensive high-value sub-tier opportunities across the broader Nordic industrial base. The site creates direct demand for specialized supply-chain partners in launch and ground Infrastructure, satellite integration and environmental testing, telemetry, tracking and ground communications, cybersecurity and data hardening, and propulsion and precision mechanics.

By bridging sovereign launch facilities at Esrange with concrete satellite constellation procurements, Sweden provides a vital operational anchor for cross-border industrial collaboration and collective NATO space resilience in Northern Europe.

3.6 Transnational and Institutional Alliances

Nordic space cooperation is governed by overlapping regional, European, and transatlantic alliances that consolidate the region's fragmented capabilities. At the regional level, the Nordic Defence Cooperation (NORDEFCO) coordinates joint space capabilities under its Vision 2030, transitioning from a cost-efficiency platform into a framework supporting joint multi-domain operations. This political alignment was reinforced by the 2025 Nordic Space Declaration, which commits Denmark, Finland, Norway, and Sweden to harmonizing space industrial capabilities and coordinating regional space-based security.

On the broader European level, an agreement signed in March 2026 formally integrated non-EU members Norway and Iceland into the European Union's secure satellite communications initiatives—specifically the Governmental Satellite Communications (GOVSATCOM) program and the Infrastructure for Resilience, Interconnectivity and Security by Satellite (IRIS²) secure connectivity constellation. Under this framework, Norway and Iceland participate directly in these flagship programs, securing encrypted satellite communications for maritime safety, crisis response, and public authorities. In return, European partners benefit from high-latitude telemetry access via Norwegian polar ground stations and secure connectivity linked through Icelandic infrastructure across vital North Atlantic and Arctic corridors.

Additionally, the "Space Nordic" project, funded by Nordic Innovation from 2026 to 2029, acts as a commercial engine to map specialized space testing facilities and lower barriers for regional SMEs transitioning from research to business (R2B).

Key Regional Alliances and Initiatives

- **NORDEFCO Vision 2030:** Coordinates joint multi-domain capabilities and procurement across the Nordic armed forces.
- **Nordic Space Declaration (2025):** Commits Nordic partner nations to harmonize space industrial assets and streamline regional security cooperation.
- **EU Secure Connectivity (IRIS² & GOVSATCOM):** Integrates Norway and Iceland into European secure satellite communication frameworks alongside EU member states.
- **Space Nordic Programme (2026–2029):** Supports Nordic Innovation research-to-business (R2B) scaling, cross-border test facility mapping, and unified international branding.

4. NORDIC DEFENCE-RELATED SPACE ECOSYSTEM

The Nordic space sector features a broad, highly capable, and complementary industrial base spanning tier-1 defence primes, specialized subsystem suppliers, strategic infrastructure providers, and agile New Space commercial operators.

To illustrate the breadth of capabilities across the High North and Baltic regions, 93 prospective entities were identified through open-source research, sector literature, and industry dialogues. This compilation is not an exhaustive or absolute inventory of all active entities, as the Nordic

space and defence supply chain evolves rapidly, but rather an illustrative cross-section demonstrating regional technological readiness and commercial specializations.

For market-entry purposes, the Nordic space landscape comprises five distinct stakeholder categories:

1. **Demand & Procurement Authorities:** National defence acquisition agencies (DALO in Denmark, FDF Logistics Command in Finland, Norwegian Defence Materiel Agency (NDMA) in Norway, and Swedish Defence Materiel Administration (FMV) in Sweden) and military space commands define operational requirements and procure mission capabilities.

2. **Strategic Infrastructure & Launch Providers:** State-backed entities and spaceports operating sovereign orbital launch sites, rocket test facilities, and high-latitude ground networks (such as Swedish Space Corporation (SSC) Esrange Space Centre in Sweden, Andøya Spaceport in Norway, and Kongsberg Satellite Services (KSAT)'s polar downlink hubs).

3. **Primes & Integrated Systems Contractors:** Large aerospace and defence primes that deliver end-to-end mission architectures, multi-domain sensor integration, and C4ISR battle management systems (such as Saab AB in Sweden, Terma A/S in Denmark, Kongsberg Defence & Aerospace in Norway, and Patria in Finland).

4. **Research and Technology Organizations (RTOs):** National research establishments and technical universities driving upstream technology maturation, flight instrumentation, and testing (such as DTU Space and Aalborg University in Denmark, VTT in Finland, and FFI in Norway).

5. **SMEs & Subsystem Specialists:** A deep cohort of agile enterprises manufacturing space-qualified components, smallsat buses, payload sensors, advanced software, and precision mechanics.

4.1 Denmark

The Danish space ecosystem specializes in high-reliability small-satellite platform integration, power conditioning, radio frequency (RF) calibration, precision optics, simulation software, and downstream intelligence fusion.

Company	Core Products & Services	Defence & Security Relevance
Bifrost Communications	High-sensitivity optical transceivers and laser communication systems.	Resilient, high-bandwidth inter-satellite laser communication links (ISLs) impervious to RF jamming and interception.
CeramicSpeed	Ultra-low-friction, high-precision hybrid ceramic ball bearings.	Long-life mechanical reliability for satellite reaction wheels, solar array drives, and gimbal actuators in vacuum environments.

Danish Aerospace Company (DAC)	Space-qualified medical monitoring instrumentation and physiological exercise equipment.	Life-support monitoring and physical readiness systems for human spaceflight and extreme-environment military deployments.
DHI (Danish Hydraulic Institute)	Satellite-derived bathymetry (SDB), coastal hydrodynamics, and Earth observation analytics.	Littoral mapping, amphibious landing zone intelligence, automated dark vessel detection, and Arctic sea-ice routing.
Danish Technological Institute (DTI)	Metal additive manufacturing (3D printing), materials qualification, and battery management systems (BMS).	ITAR-free structural component fabrication, rapid prototyping, and lightweighting for tactical satellite payloads.
FORCE Technology	Materials testing, non-destructive testing (NDT), sensor qualification, and microelectronics packaging.	Qualification of structural integrity and mission assurance for space hardware exposed to high-vibration and thermal shocks.
GateHouse SatCom	5G Non-Terrestrial Network (NTN) protocol stacks and satellite communication software.	Direct-to-cell tactical SATCOM connectivity and standardized multi-orbit communication linking field nodes to LEO constellations.
GomSpace	Standardized 6U–16U CubeSat platforms, software-defined radios (NanoCom SDR), and integrated power systems.	Rapid development and deployment of sovereign tactical nanosatellite constellations for SIGINT and communications.
MyDefence	Radio frequency (RF) sensors, drone detection engines, and tactical C-UAS mitigation systems.	Detection of unauthorized downlink signals, RF spectrum monitoring, and counter-drone electronic warfare for ground infrastructure.
Necas	AS9100-certified electronic manufacturing services (EMS) and boxbuild assembly.	High-reliability, mil-spec PCBA contract manufacturing for space avionics, radar subsystems, and secure terminals.
Phase One	Medium- and large-format metric digital cameras and high-resolution optical aerial payloads.	Very-high-resolution (VHR) optical imaging payloads for satellite Earth observation and tactical reconnaissance.
QuadSAT	Drone-based RF antenna testing, calibration systems, and airborne sensor emulation.	In-situ calibration of satellite ground stations, naval SATCOM terminals, and line-ofbearing geolocation of hostile RF jammers.
Rovsing	Spacecraft Electrical Ground Support Equipment (EGSE), power simulators, and payload test systems.	Verification and validation of satellite power systems and instrument interfaces prior to launch.
Satlab	Miniaturized Software-Defined Radios (SDR), VHF/UHF transceivers, and satellite AIS receivers.	Space-based signals intelligence (SIGINT), maritime traffic tracking, and responsive tactical RF listening payloads.
Sky-Watch	Ruggedized mini-UAV systems for tactical reconnaissance and surveillance.	Tactical ISR integration; pairing airborne tactical sensor feeds with orbital Earth observation architectures.
Space Inventor	High-reliability microsatellite and CubeSat buses, integrated avionics, and power systems.	Prime platform contractor for sovereign tactical space missions (e.g., BIFROST) and responsive orbital deployments.
Sternula	Satellite VHF Data Exchange System (VDE-SAT) infrastructure and secure messaging services.	Authenticated, anti-spoofing digital messaging and situational awareness data channels for naval and merchant fleets.

Systematic	SitaWare C4ISR battle management software and command-and-control frameworks.	Direct ingestion, fusion, and tactical distribution of multi-sensor satellite intelligence into operational military command layers.
Terma A/S	Power Conditioning & Distribution Units (PCDU), star trackers, ground station software, and JIMAPS C4ISR.	Prime aerospace electronics supplier, space situational awareness ground segment control, and NATO STANAG-compliant sensor fusion.
TICRA	Electromagnetic simulation and antenna design software (GRASP, ESTEAM, ARRAY).	High-precision engineering of advanced phased-array, electronic warfare, and satellite communication antenna architectures.
Trackunit	Fleet telematics, IoT tracking sensors, and machine-to-machine software platforms.	Asset tracking and logistics fleet monitoring across dual-use supply chains and austere operating environments.
VACPRO	Thermal Vacuum (TVAC) chambers, high-vacuum test systems, and thermal simulation chambers.	Space-environment simulation and environmental stress screening (ESS) for flight-ready components and subassemblies.
Weibel Scientific	Continuous-wave Doppler tracking radars and multi-frequency phasedarray radar systems.	Precision tracking of space launches, orbital insertion trajectories, ballistic missile trajectories, and space debris.

4.2 Finland

Finland's space sector is characterized by agile New Space remote sensing, Synthetic Aperture Radar (SAR), hyperspectral intelligence, and safety-critical flight software.

Company	Core Products & Services	Defence & Security Relevance
Aavuus	Specialized manufacturing solutions, micro-mechanics, and advanced surface treatments.	High-tolerance physical components and antidegradation surface coatings for satellite mechanisms.
Aurora Propulsion Technologies	Water-propellant resistojets, attitude control thrusters, and Plasma Deorbit Brakes.	Responsive on-orbit collision avoidance, satellite maneuverability, anti-satellite (ASAT) evasion, and rapid deorbiting.
Binabik	Artificial intelligence data pipelines, anomaly detection, and geospatial analytics.	Automated feature extraction, multi-sensor data correlation, and predictive intelligence from orbital imagery.
Gofore	Mission-critical flight software engineering, systems validation, and UX/UI architectures.	Development of Space Situational Awareness (SSA) operational dashboards, digital twins, and secure C2 ground interfaces.
Harp Technologies	Microwave radiometers, radar components, and high-frequency RF systems.	Passive microwave remote sensing for allweather environmental monitoring, ocean salinity tracking, and target detection.
ICEYE	High-cadence commercial Synthetic Aperture Radar (SAR) satellite constellation and analytics.	All-weather, day-and-night persistent radar ISR, tactical target tracking, coherent change detection, and battle damage assessment.
Insta Group	Defence electronics, command-andcontrol systems, secure communications, and cyber defence.	Secure integration of satellite datalinks into national military C4ISR networks and missioncritical cyber hardening.

Kuva Space	Hyperspectral nanosatellite constellation (Hyperfield) and automated spectral AI analytics.	Space-based material identification, camouflage penetration, chemical signature detection, and environmental surveillance.
MoniCardi	Advanced physiological sensor software, biometrics, and predictive cardiac algorithms.	Non-invasive physiological monitoring for operators in extreme environments and human spaceflight missions.
Nammo Lapua	Precision ammunition components, solid-propellant charges, and pyrotechnic initiators.	Pyrotechnic separation devices, stage-ignition systems, and specialized propellants for aerospace deployment systems.
Patria Oyj	Composite aerostructures, satellite structural subsystems, and defence systems integration.	Lightweight composite fairings, satellite structural panels, and structural hardware for European launchers and orbital buses.
Polar Orbital	Orbital mission planning, launch broker services, and small-satellite launch operations.	Rapid, responsive launch coordination and mission planning for sovereign and tactical payload insertions.
ReOrbit	Software-defined modular satellite platforms, onboard data routing, and autonomous networking.	Flexible, reconfigurable orbital communication relay nodes facilitating autonomous inter-satellite data networking.
SemiQon	Silicon-based quantum processor units (QPUs) and cryogenic semiconductor devices.	Radiation-tolerant quantum computing chips and ultra-sensitive quantum magnetometers for space-based PNT and encryption.
SensoFusion	Radio frequency monitoring, electronic warfare systems, and AIRFENCE counter-UAS platforms.	Line-of-bearing geolocation of hostile transmitters, downlink interception defense, and tactical RF spectrum awareness.
Space Systems Finland	Safety-critical onboard software, GNSS validation systems, and system verification tools.	Mission-critical flight code for satellite guidance, navigation, and control (GNC) and space mission assurance.
Specim	Airborne and laboratory hyperspectral imaging sensors, optics, and processing systems.	Advanced optical and infrared sensor payloads for orbital Earth observation and spectral target recognition.
thyssenkrupp Aerospace (FI)	Supply chain management and distribution of aerospace-grade metals and specialty alloys.	Certified titanium, aluminum, and high-nickel alloys for satellite structures and rocket motor casings.
Twinverse	3D geospatial digital twin platforms, synthetic environments, and real-time visualization.	High-fidelity spatial visualization for common operational pictures (COP), multi-domain mission rehearsal, and space-asset tracking.
Vaisala	Industrial environmental sensors, weather observation platforms, and space-rated instruments.	Space weather instrumentation, planetary exploration sensor packages, and ground-based meteorological monitoring for launch sites.
Varjo	Human-eye-resolution Virtual and Mixed Reality (VR/XR) headsets.	High-immersion simulators for military pilot tactical training, astronaut EVA rehearsals, and complex satellite operations.

4.3 Norway

Norway utilizes its strategic High North geography to excel in polar ground station telemetry, Arctic SATCOM, sounding and orbital launch services, and solid-propellant rocketry.

Company	Core Products & Services	Defence & Security Relevance
Andøya Space Orbit	Sovereign commercial spaceport supporting polar and sun-synchronous orbital launches.	Assured, responsive mainland orbital launch capabilities for allied military and civil small-satellite missions.

DigiFarm	Deep learning and super-resolution processing of optical satellite imagery.	Automated field boundary detection, terrain trafficability analysis, and spatial feature extraction for mobility planning.
Dynaspace	High-resolution satellite remote sensing and automated coastal zone intelligence.	Nearshore maritime surveillance, infrastructure tracking, and environmental monitoring in sensitive littoral zones.
Eidel	Space-qualified telemetry systems, data encryption units, and space plasma instruments.	High-grade cryptographic protection for satellite C2 datalinks and prime contractor for Arctic Ocean Surveillance missions.
IDEAS	Radiation-hardened ApplicationSpecific Integrated Circuits (ASICs) and sensor readout ICs.	Sensor electronics capable of surviving harsh polar and High North radiation belts for optical, particle, and radar payloads.
Kongsberg Defence & Aerospace (KDA)	Solar array drive mechanisms (SADM), payload adapters, and satellite buses (via NanoAvionics).	Prime contractor for military space platforms, micro-payloads, and sovereign national defence constellations.
KSAT (Kongsberg Satellite Services)	Global ground station network (>280 antennas across 26 sites), polar TT&C, and data downlink.	Strategic satellite tracking, real-time tactical downlink, and space domain awareness from polar hubs like SvalSat and Tromsø.
Nammo AS / Nammo Raufoss	Solid rocket motors, hybrid propulsion systems, and booster separation thrusters.	Launch vehicle propulsion (Ariane 6 booster tech), missile propulsion systems, and upper-stage orbital insertion motors.
Norsk Elektro Optikk (NEO)	Electro-optical systems and HySpex hyperspectral imaging cameras.	High-resolution spectral sensors for remote Earth observation, signature verification, and airborne intelligence gathering.
FFI (Forsvarets forskningsinstitutt)	Norwegian Defence Research Establishment; national military space and defence R&D.	Architect of sovereign military satellite payloads (radar, AIS, tactical comms) and concept development for High North operations.
Ntention	Gesture-controlled human-machine interface (HMI) systems and smart interaction gloves.	Intuitive, hands-free operational control of remote robotic manipulators, unmanned systems, and spacesuit systems.
Nåva Space	Space engineering, mission design, and technical advisory services.	Systems engineering and feasibility analysis for dual-use and defence-oriented space missions.
Orbital Machines	High-performance electric propellant pumps for small-satellite launch vehicles.	Cost-effective, reliable turbopump alternatives accelerating the development of dedicated microlaunchers.
Solstorm	Plasma-brake deorbiting systems and aerodynamic drag sail technologies.	Passive deorbiting hardware ensuring compliance with space sustainability regulations and orbital debris mitigation.
Solsys Mining	In-situ resource utilization (ISRU) systems and regolith processing technologies.	Advanced extraction and purification of critical minerals from lunar and planetary materials for long-duration missions.
Space Norway AS	State-owned operator of strategic space infrastructure (ASBM, MicroSAR, AOS constellations).	Delivery of encrypted, high-bandwidth Arctic satellite communications (carrying US Space Force payloads) and radar surveillance.
Telenor ASA	Fixed, mobile, and satellite telecommunications infrastructure.	Hardened commercial and governmental SATCOM channels for resilience and crisis contingency networks.
Thrustlab	Space propulsion testing, diagnostic services, and thruster qualification benches.	Rapid firing-cycle validation, thrust measurement, and qualification of chemical and electric satellite propulsion units.

Vake	Satellite multi-sensor data fusion and AI-driven maritime analytics.	Automated detection of dark vessels running without AIS, oil spill detection, and wide-area naval domain awareness.
WideNorth	Ultra-high-speed digital signal processing (DSP), FPGA IP cores, and space communication links.	High-data-rate satellite transponders, tactical communication modems, and edgedeployed signal demodulation engines.

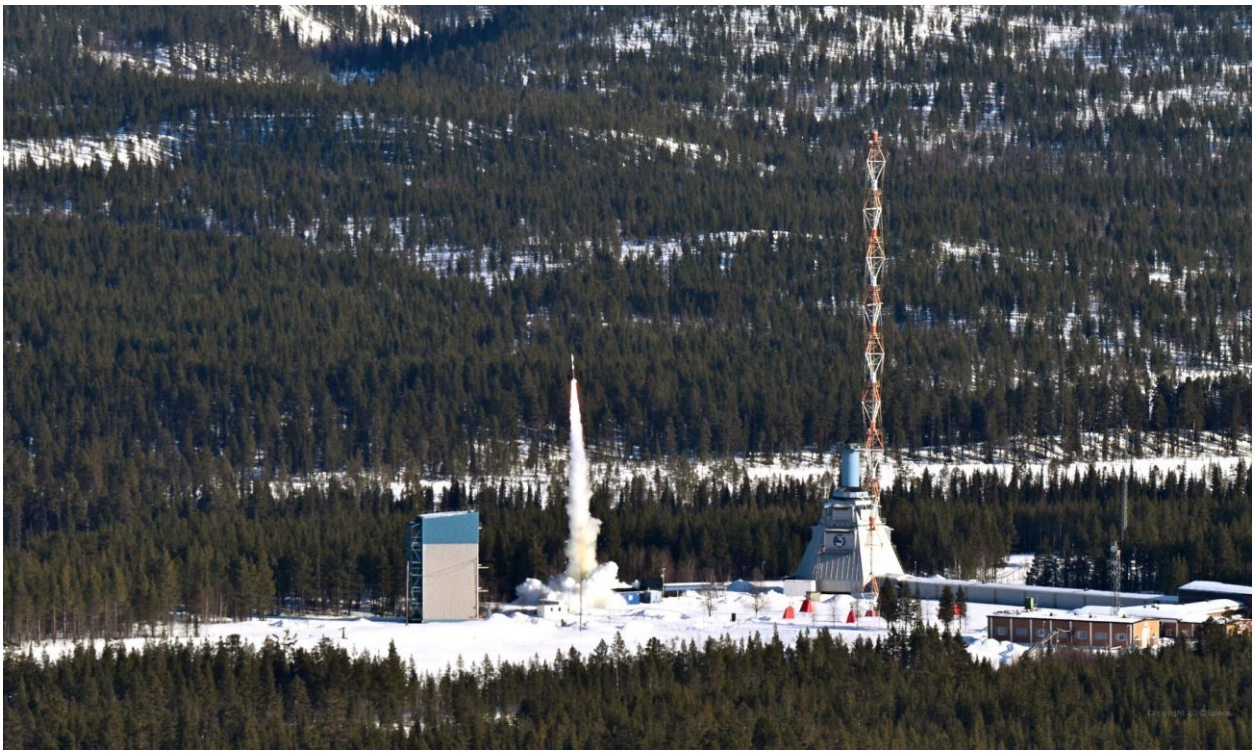
4.4 Sweden

Sweden maintains an advanced space ecosystem combining sovereign launch infrastructure, heavy rocket propulsion, radiation-hardened microelectronics, mobile SATCOM, and major aerospace primes providing comprehensive C4ISR and electronic warfare integration.

Company	Core Products & Services	Defence & Security Relevance
AAC Clyde Space	Standardized CubeSat and smallsat platforms, avionics, and Space Data-asa-Service (SDaaS).	Rapid manufacture and operation of sovereign tactical constellations for communications, AIS, and Earth observation.
APR Technologies	Micro-cooling loops, thermal switches, and active thermal management subsystems.	Temperature regulation of high-power phased-array radar payloads, high-performance computing units, and laser systems.
AquaGuard Technologies	Satellite remote sensing analytics for hydrological and environmental tracking.	Monitoring water security, flood prediction, and remote infrastructure integrity via satellite analytics.
Arctic Space Technologies	High-latitude polar ground stations, antenna hosting, and edge data processing facilities.	Resilient, low-latency polar satellite data downlinks and on-site secure cloud processing for defence constellation operators.
Beyond Gravity Sweden	Satellite payload separation systems, payload adapters, and composite structures.	Mission-critical deployment hardware ensuring survivability and clean orbital separation for satellites and dispensers.
BruhnBruhn Innovation	Cloud-native onboard operating environments (Dacreo) and containerized edge execution.	In-orbit edge computing; enables dynamic deployment of target recognition models and compressed tactical kill-chains.
Crosser	Low-code edge analytics software and streaming data integration pipelines.	Real-time sensor processing and telemetry data orchestration across ground stations and tactical operations centers.
Envirotainer	Temperature-controlled air cargo containers and secure cold-chain logistics.	Secure, thermally protected transport of high-value satellite instruments, sensors, and optical payloads.
Frontgrade Gaisler AB	Radiation-hardened, fault-tolerant microprocessors (LEON/SPARC, RISCV) and IP cores.	Standard computational processors running flight avionics, payload computers, and C2 systems across allied military satellites.

GKN Aerospace Sweden	Metallic rocket engine nozzles (sandwich micro-channel technology) and space turbines.	Sole-source propulsion manufacturing for ESA's Ariane 6 Vulcain and Vinci engines.
Heart Aerospace	Hybrid-electric aircraft platforms and electric flight powertrain systems.	Advancements in lightweight structural design, battery packs, and electric power management applicable to aerospace systems.
Nordic Air Defence	Integrated short-range air defence systems and counter-missile architectures.	Operational integration with space-based earlywarning tracking and tactical orbital sensor cueing.
OHB Sweden AB	Microsatellite and smallsat platforms (InnoSat), propulsion systems, and AOCS integration.	Prime platform integrator for sovereign meteorological and surveillance missions (e.g., ESA Arctic Weather Satellite).
Ovzon	High-throughput mobile SATCOM services, proprietary satellite operations, and terminals.	Jam-resistant, on-orbit processed satellite communications enabling terminal-to-terminal data routing for special operations.
PASQ	Cyber security software, formal code verification, and cryptographic hardening.	Quantum-resistant cryptographic software and vulnerability mitigation for satellite flight computers and ground links.
Remos Space	Software-defined ground station management and automated mission operations.	Agile automation, network scheduling, and C2 virtualization for distributed satellite ground segments.
Requtech	Electronically steerable phased-array antennas (RESA) and flat-panel multiorbit SATCOM terminals.	Low-profile, on-the-move SATCOM terminals for military vehicles, vessels, and dismounted personnel communicating across LEO/MEO/GEO.
Saab AB	Defence systems prime, tactical datalinks, airborne radar (GlobalEye), and EW systems.	Integration of space-based ISR data directly into multi-domain command structures, electronic warfare, and missile systems.
Safespring	Sovereign, locally hosted cloud infrastructure and secure data-storage systems.	GDPR- and security-compliant hosting of classified satellite telemetry, space domain data, and military geospatial intelligence.
Satcube	Lightweight, highly portable, ruggedized satellite communication terminals.	Rapidly deployable, secure broadband connectivity for field command posts, emergency response units, and dismounted forces.
SSC (Swedish Space Corporation)	Esrange Space Center launch base, sounding rocket operations, and global tracking networks.	Sovereign responsive launch, satellite tracking passes, engine testing, and suborbital microgravity validation.
SWEBAL	Precision mechanical engineering, balancing equipment, and aerospace structures.	Dynamic balancing and mechanical testing of highspeed rotating satellite components, flywheels, and rocket stages.

Unibap	Radiation-tolerant on-orbit edge computers (SpaceCloud) and AI hardware accelerators.	Autonomous, in-orbit satellite data reduction, automated target recognition (ATR), and immediate threat alert generation.
Vimotek AB	Computer vision systems, autonomous relative navigation, and visual pose estimation.	Autonomous satellite rendezvous, proximity operations (RPO), in-orbit docking, inspection, and debris removal.



Rexus 3 rocket launch from Esrange Space Centre, image: SSC Space

5. INDUSTRY SURVEY: THE NORDIC SPACE SECTOR AND DEFENCE MARKETS

5.1 Methodology and Data Collection

To validate the approach of this feasibility study, an industry survey was developed through a four-stage consultation process:

1. **Initial Industry Workshop:** The Danish Embassies in Finland, Norway and Sweden, assisted by relevant partners incl. National Defence Technology Centre and Space Denmark convened a selected cohort of Danish space-sector companies to define market priorities, assess technological offerings for Nordic defence, and identify required public-sector support frameworks. These discussions established the baseline survey themes.

2. **Ecosystem Mapping:** A broader group of 93 prospective Nordic space and defence entities was compiled to map complementary regional capabilities (see previous chapter).

3. **Targeted Industry Survey:** From this broader group, a structured questionnaire was distributed to 53 candidate entities, who could be reached during the timeframe for this study, resulting in 23 comprehensive responses submitted by key industrial actors, SMEs, and research institutes across Denmark (14), Finland (5), Sweden (3), and Norway (1). This staged approach ensured that the questionnaire reflected issues raised directly by industry while extending the consultation beyond the initial Danish workshop participants.

4. **Validation at DALO Industry Days:** On August 19–20, 2026, the research team conducted follow-up dialogues with respondents and additional stakeholders—including GomSpace, Micrass, DTU Space, and Aalborg University (AAU)—at DALO Industry Days in Herning, validating findings against emerging procurement programs and industrial partnership models.

5.2 Surveyed Respondent Cohort

This survey represents a strategic exercise aimed at mapping and evaluating the capabilities, Technology Readiness Levels (TRL), value chain configurations, and defence-relevant offerings of the Nordic space sector companies and institutions.

The responses represent established defence primes, specialised hardware and software SMEs, research and technology organisations, and state-backed entities. Although the sample is not exhaustive, it is sufficiently diverse to reveal the main industrial strengths, cooperation patterns, market barriers, and policy requirements shaping the sector.

The respondent cohort is geographically anchored in Denmark, which represents the largest singular responding group with 14 participating entities. Geographically, the participating entities are distributed as follows:

- **Denmark** (14 Organisations out of 22 recipients)**:** Terma A/S, Space Inventor, Danish Technological Institute (DTI), DHI, Phase One, Sternula, QuadSAT, TICRA, Satlab A/S, Danish Aerospace Company (DAC), VACPRO, CeramicSpeed, Gatehouse SatCom and NECAS.
- **Finland** (5 out of 7)**:** ICEYE, Aurora Propulsion Technologies, Gofore, Sensofusion, and Kuva Space.
- **Sweden** (3 out of 17)**:** Ovzon, Arctic Space Technologies, and BruhnBruhn Innovation AB.
- **Norway** (1 out of 6)**:** The Norwegian Defence Research Establishment (FFI).

This balanced geographic distribution ensures that the survey insights capture the specific commercial realities, procurement trends, and regulatory barriers of both EU-member and non-EU-member states in the Nordic region. In terms of organizational maturity, the cohort

represents a healthy mix of traditional, multi-billion-dollar aerospace and defence primes, second-generation New Space constellation operators, specialized hardware and software SMEs, research technology organizations (RTOs), and state research facilities. This cross-sectional representation ensures that the strategic recommendations are grounded in both heavy industrial capacity and agile, commercial-off-the-shelf (COTS) technology innovations.

5.3 Structural Profile and Scale of Participating Entities

The survey cohort can be classified into five distinct structural archetypes based on their operational scale, market positioning, and revenue base, illustrating the complementary division of labour across the Nordic space ecosystem. Please note that the revenue and personnel numbers are based on the survey answers disclosed by the entities themselves.

1. Tier-1 Primes and Integrated Systems Operators This segment comprises established, large-scale organisations capable of serving as lead systems integrators for major defence and space procurement programs:

- **Terma A/S** (Denmark): Annual revenue of €454 million, 2,100+ FTEs.
- **ICEYE** (Finland): Annual revenue exceeding €250 million, 1,000+ FTEs.
- **Ovzon** (Sweden): Annual revenue of SEK 735 million (~€64 million), ~50 FTEs.

2. Second-Generation New Space Satellite Integrators & Operators Fast-growing, vertically integrated commercial enterprises designing, manufacturing, and operating satellite platforms and specialized constellations:

- **Space Inventor** (Denmark): Projected revenue of €22 million to €28 million, ~120 FTEs.
- **Kuva Space** (Finland): Annual revenue of €5 million to €10 million, 65 FTEs.
- **Sternula** (Denmark): Annual revenue of €737,000, 11 FTEs.

3. Subsystem, Component, and Hardware Specialists Specialized hardware innovators, precision manufacturers, and space-qualification service providers producing flight-ready components and subassemblies:

- **Phase One** (Denmark): Annual revenue of ~€30 million, ~125 FTEs.
- **CeramicSpeed** (Denmark): Annual revenue of €21.5 million, 145 FTEs.
- **Satlab A/S** (Denmark): Annual revenue of ~€9 million, 21 FTEs.
- **VACPRO** (Denmark): Annual revenue of €3.5 million, 5 FTEs.
- **Quadsat** (Denmark): Revenue not reported, ~40 FTEs.
- **NECAS** (Denmark): Revenue not reported, 62 FTEs.
- **Aurora Propulsion Technologies** (Finland): Revenue and FTEs not reported in survey submission.

4. Software, Remote Sensing Houses, and Research Technology Organisations (RTOs) Specialists delivering flight software, RF simulation, C2 integration, advanced Earth observation analytics, and technology maturation:

- **Danish Technological Institute (DTI)** (Denmark): Annual revenue of €184 million, ~1,100 FTEs.
- **Gofore** (Finland): Annual revenue of ~€190 million, 1,900 FTEs.
- **DHI (Danish Hydraulic Institute)** (Denmark): Annual revenue of €149 million, 1,129 FTEs.
- **TICRA** (Denmark): Annual revenue of ~€7.8 million, 53 FTEs.
- **BruhnBruhn Innovation AB** (Sweden): Annual revenue of ~€3 million, ~10 FTEs.
- **Sensofusion** (Finland): Annual revenue of €21 million, 130 FTEs.
- **GateHouse SatCom** (Denmark): Revenue not reported, ~103 FTEs.

5. Ground Segment and National Defence Research Facilities Entities managing high-latitude ground network infrastructure or driving national military space research:

- **FFI (Norwegian Defence Research Establishment)** (Norway): Annual turnover of ~€200 million, ~900 FTEs.
- **Arctic Space Technologies** (Sweden): Annual revenue of €2.5 million, 8 FTEs (plus part-time personnel).

5.4 Value Chain Mapping

The survey reveals a highly sophisticated, structurally logical value chain across the participating Nordic companies and research institutions. The capabilities of the respondent cohort can be mapped across three primary vertical levels:

Upstream (Hardware, Components, Platforms, and Propulsion): At the manufacturing and platform integration level, respondents deliver flight-qualified hardware, precision mechanisms, and propulsion subsystems. **Space Inventor (Denmark)** supplies modular microsatellite and CubeSat buses alongside complete turnkey platforms. **Terma A/S (Denmark)** provides flight-critical Power Conditioning and Distribution Units (PCDUs), Remote Terminal Units (RTUs), and star trackers. **Satlab A/S (Denmark)** manufactures flight-proven Software-Defined Radios (SDR) and RF transceivers, while **CeramicSpeed (Denmark)** delivers high-precision hybrid ceramic bearings for satellite mechanisms and reaction wheels. **Phase One (Denmark)** produces large-format optical sensor payloads and electronics for very-high-resolution Earth observation. Subsystem manufacturing and testing infrastructure are reinforced by **NECAS (Denmark)** through AS9100 contract electronics manufacturing, and **VACPRO (Denmark)** through thermal vacuum (TVAC) space simulation chambers. In propulsion and mobility, **Aurora Propulsion Technologies (Finland)** delivers water-propellant resistojets for orbital manoeuvring alongside propellantless Plasma Deorbit Brakes. Bridging research to high-TRL hardware, **Danish Technological Institute (DTI) (Denmark)** supplies 3D metal printing, topology-optimized space structures, and satellite battery management systems (BMS). Additionally, **Danish Aerospace Company (Denmark)** provides specialized physiological health monitoring and countermeasure systems.

Midstream (Onboard Software, Ground Segment, and Constellation Operations): The data routing, execution, and orbital operations layer is anchored by specialized constellation operators, communication providers, and ground network hosts. **Arctic Space Technologies (Sweden)** delivers high-latitude polar ground station hosting and low-latency data processing. At the operational constellation layer, **ICEYE (Finland)** operates the world's largest commercial Synthetic Aperture Radar (SAR) constellation, **Kuva Space (Finland)** manages hyperspectral satellite constellations and mission infrastructure, **Ovzon (Sweden)** provides integrated multi-orbit SATCOM with steerable beams and on-orbit processing, and **Sternula (Denmark)** operates VHF Data Exchange System (VDE-SAT) networks for maritime messaging. In communications and onboard execution software, **GateHouse SatCom (Denmark)** develops 5G Non-Terrestrial Network (NTN) communication stacks, **BruhnBruhn Innovation AB (Sweden)** provides cloud-native, Kubernetes-compatible onboard operating software (Dacreo) for edge execution in orbit, **TICRA (Denmark)** supplies mission-critical electromagnetic and antenna simulation tools (GRASP, ARRAY), and **Quadsat (Denmark)** delivers drone-based RF antenna testing and calibration solutions.

Gomspace satellite featuring CeramicSpeed bearings, image: CeramicSpeed

Downstream (Analytics, Intelligence Fusion, and Defence Integration): The data processing, geolocation, and intelligence fusion layer translates raw orbital data into actionable tactical intelligence. **ICEYE (Finland)** deploys modular, containerized tactical SAR analytics units (ISR Cell) and delivers AI-driven target detection and coherent change detection directly to armed forces. **Kuva Space (Finland)** provides automated hyperspectral change detection, anomaly identification, and material characterization. **Sensofusion (Finland)** develops RF detection and line-of-bearing geolocation algorithms to identify GNSS jammers and remote transmitters from orbit. **DHI (Denmark)** delivers automated dark vessel detection, sea-ice classification, and satellite-derived bathymetry, while **Gofore (Finland)** provides Space Situational Awareness (SSA) digital twins, user interfaces, and multi-sensor data processing. **Terma A/S (Denmark)** integrates multi-domain orbital intelligence into operational military command layers using its NATO STANAG 4559-compliant JIMAPS C4ISR framework. Finally, the **Norwegian Defence Research Establishment (FFI) (Norway)** contributes across the downstream domain through operational concept development (CONOPS), maritime surveillance analytics, and C2 data distribution architectures for defence decision-makers.

5.5 Military Capabilities and Technology Readiness Level (TRL) Assessment

Based on the survey, the technological offerings of the Nordic space-defence industrial base align directly with critical NATO strategic and tactical requirements. In addition to extensive research and development capabilities, the regional industry delivers mature, highly reliable systems operating at Technology Readiness Levels (TRL) 7 through 9. This table maps the respondent capabilities, corresponding entities, military utility, and operational readiness:

Capability Area	Key Organisations	Primary Offerings & Added Value	TRL Range
Sovereign ISR & Earth Observation	ICEYE (FI) Kuva Space (FI) DHI (DK) Phase One (DK)	All-weather SAR radar imaging; hyperspectral Earth observation, pattern and anomaly detection; dark vessel geolocation and coastal bathymetry mapping; targeting and target tracking.	TRL 7 - 9
Onboard Computing & Edge Processing	BruhnBruhn (SE) DTI (DK)	Cloud-native platform; Kubernetes onboard environment; distributed fleet processing; real-time in-orbit data reduction and compressed decision cycles and kill chains.	TRL 3 - 7
Resilient SATCOM & VDES Networks	Gatehouse SatCom (DK) Ovzon (SE) Sternula (DK)	GEO/HEO multi-orbit secure communication terminals; direct terminal-to-terminal orbital processing; anti-spoofing and secure maritime VDE-SAT messaging.	TRL 6 - 9
RF Detection & Electronic Warfare	QuadSAT (DK) Satlab (DK) Sensofusion (FI)	SpectraLoc passive RF sensors; dronebased antenna calibration; passive line-ofbearing geolocation of electronic jammers and air defence sensors.	TRL 3 - 9
Space Control, Mobility & Protection	Aurora Propulsion (FI)	Miniaturized water resistojets; propellantless Plasma Deorbit Brakes; active satellite escort, threat avoidance, and orbital inspection drones.	TRL 6 - 9
Ground Segment & C4ISR Integration	Arctic Space (SE) Terma (DK) Gofore (FI)	High-latitude mobile LEO antenna hosting; secure data center routing; JIMAPS NATO STANAG 4559 compliant C4ISR intelligence fusion and command software.	TRL 7 - 9

5.6 Systemic Industrial Bottlenecks and Regional Constraints

While the survey results demonstrate advanced technological capabilities across the Nordic region, they also expose four critical, systemic bottlenecks that restrict the region's ability to operate as a fully integrated, cohesive space-defence ecosystem. Resolving these bottlenecks

is a prerequisite for maximizing regional competitiveness and technological sovereignty. The four primary barriers are detailed below:

The SME 'Valley of Death' in Capital Scaling: While early-stage research and development grants and national innovation seed funding are widely accessible across the Nordic countries, there is a severe shortage of specialized growth and scale-up capital. Deep-tech space hardware developers face immense financial friction when transitioning from low-TRL prototypes to high-volume, industrialized flight-ready production. Securing Series B and Series C venture capital for specialized manufacturing infrastructure remains difficult within the Nordic capital markets, leaving many highly innovative SMEs vulnerable and preventing them from scaling into prime contractors.

Constrained Domestic Markets and Risk-Averse Procurement: Limited national defence budgets and sparse domestic space acquisitions force Nordic space companies to internationalize immediately to survive. This hurdle is reinforced by a risk-averse public procurement culture where defence agencies favour legacy hardware from major primes over agile, commercial New Space solutions. Lacking domestic reference contracts, regional SMEs face significant barriers when competing for international tenders.

Fragmented Regulatory, Licensing, and Liability Regimes: Sovereign orbital permits, launch licensing, safety audits, and absolute third-party liability limitations remain strictly divided along national borders. There is currently no unified, cross-border regulatory framework to coordinate operations. An operator must navigate distinct, often conflicting insurance requirements and bureaucratic review timelines in Sweden, Norway, Finland, and Denmark, adding substantial administrative friction and delaying response times for responsive tactical launches.

Acute Scarcity of Space-Flight Engineering Talent: There is an ongoing, highly competitive regional shortage of specialized human talent. The rapid expansion of the commercial and defence space sectors has created an acute deficit of senior guidance, navigation, and control (GNC) systems engineers, flight-grade software developers, and satellite payload integration experts. Nordic space firms frequently find themselves competing for the same limited pool of regional talent, restricting their ability to rapidly scale development teams and execute high-tempo military programs.

6. OPPORTUNITIES FOR DANISH SMES TO TAP INTO SPACE-RELATED DEFENCE MARKETS

The strategic realignment of Northern European security, paired with significant expansions in national defence budgets across Sweden, Finland, and Norway, offers an accessible and growing market for Danish space-sector companies. To successfully enter and scale within these defence supply chains, Danish SMEs can pursue a multi-track operational roadmap

6.1 Active Consortia Building and Cross-Border Supply Chain Integration

Danish space SMEs possess specialized, agile technologies but often lack the standalone scale to bid directly on major defence tenders issued by regional procurement agencies such as

Sweden's FMV, Finland's Defence Logistics Command (LOGCMD), or Norway's NDMA. To overcome this, Danish companies should pursue two complementary routes to market:

- **Domestic Consortia:** Coordinated through e.g. CenSec (Center for Defence, Space & Security), Danish companies can assemble integrated multi-disciplinary consortia. Combining complementary offerings, such as Space Inventor's satellite buses, Gatehouse Satcom's communication stacks, and Terma's power systems, enables Danish industry to propose complete, low-risk subsystem solutions directly to international buyers.

- **Integration into Nordic Prime Supply Chains:** For many specialized SMEs, the most direct and realistic market-entry route is embedding as tier-2 or tier-3 subsystem and component suppliers within established prime contractor supply chains across Finland, Norway, and Sweden. Supplying high-reliability hardware, flight software, or payload subsystems to prime integrators, such as Saab, OHB Sweden, Kongsberg, or ICEYE, provides a practical entry point into national defence programs without the administrative overhead of acting as a lead contractor.

6.2 Leveraging Adjacent Industrial Competencies

Danish firms can accelerate their defence market entry by adapting mature commercial and dual-use capabilities to military space requirements:

- **Additive Manufacturing:** Initiatives such as the European Defence Fund's DISCMAM project—with CenSec as a partner—enable SMEs to apply advanced metal 3D printing and topology optimization to fabricate lightweight, International Traffic in Arms Regulations (ITAR) free structural components and satellite brackets.

- **Simulation, Verification, and Testing:** Advanced commercial tools—such as Terma's TEMU processor emulation software, VACPRO's thermal vacuum simulation chambers, and QuadSAT's drone-based RF antenna testing systems—directly address critical integration, simulation, and calibration bottlenecks in regional satellite programs.

6.3 Security Compliance and Onboarding Protocols

Operating within defence supply chains requires navigating structured security compliance regimes based on the operational sensitivity of each specific contract:

- **Facility Security Clearance (FSC):** Verifies that an SME's physical facilities, secure IT systems, and data-handling infrastructure comply with national and NATO standards. In Denmark, this is administered by the Danish Defence Intelligence Service (FE) or Politiets Efterretningstjeneste (PET) and typically requires a 3- to 5-month onboarding timeline.

- **Personnel Security Clearance (PSC):** Required for engineers, software developers, and project managers handling classified data or defence hardware, coordinated at the relevant national classification level (e.g., NATO SECRET).

- **Swedish Security Protection Requirements:** In procurements involving classified information or security-sensitive operations, Swedish authorities and primes utilize Security Protection Agreements (*säkerhetsskyddsavtal*, or SUA) under Swedish security legislation and regulations (including FFS 2025:3). Rather than being an automatic prerequisite for all commercial supply activities, the requirement for—and specific level of—a security protection agreement is assessed on a case-by-case basis depending on the security sensitivity of the work. Danish SMEs participating in sensitive payload integration or secure launch infrastructure at Esrange should anticipate these requirements and coordinate early with contracting authorities.

- **Cross-Border Prequalification:** Registering on recognized supplier validation platforms such as JOSCAR (Joint Supply Chain Accreditation Register) streamlines onboarding with major European primes by pre-verifying quality management (AS9100), financial viability, and cybersecurity baselines.

6.4 Dedicated Funding Channels and Avenues to Export

SMEs can bypass traditional procurement cycles by leveraging non-thematic defence funding conduits and regional innovation infrastructure:

- **NATO DIANA and Regional Test Centers:** The NATO Defence Innovation Accelerator for the North Atlantic (DIANA) provides non-dilutive grant funding and fast-track dual-use technology validation. Beyond VTT's secure 6G and quantum testbeds in Finland, SMEs can access a growing regional network of affiliated DIANA accelerator sites and test centers across the Nordic-Baltic region (including maritime and deep-tech facilities in Denmark, Norway, and Sweden) to validate dual-use solutions under operational conditions.

- **European Defence Fund (EDF) Non-Thematic SME Calls:** Dedicated EDF SME funding calls offer up to 100% reimbursement of eligible costs, enabling small-business consortia to develop disruptive space technologies directly without requiring a tier-1 prime coordinator.

- **Thematic Regional Industry Forums:** Rather than relying solely on domestic exhibitions, SMEs should actively engage in specialized regional defence and space events—such as DALO Industry Days in Denmark, SecD-Day in Finland, the Nordic Space Conference, and the Winter Satellite Workshop—to establish direct contact with Nordic procurement executives, end-users, and prime integrators.

6.5 Trade Council and Foreign Service Support

Danish SMEs can actively utilize the institutional support of the Trade Council in the Danish Foreign Ministry, the Danish Foreign Service and the International Business Advisors located at regional business hubs (Erhvervshusene) in Denmark to navigate Nordic defence market entry. Danish embassies across the Nordic region provide tailored advisory services for Danish companies in their export journeys, including:

- **Export Preparedness & Market Mapping:** Identifying targeted market opportunities within local defence markets.
- **Strategic Matchmaking:** Mapping stakeholders and facilitating meetings with with key Nordic defence stakeholders in the private and public sector
- **Delegations & Network Access:** Organizing focused export delegations, industry roundtables, and bilateral meetings to lower market-entry barriers for Danish companies.

7. NORDIC COOPERATION OPPORTUNITIES

The geopolitical realignment of the Nordic region creates a unique window of opportunity to establish concrete, cross-border industrial and operational collaborative frameworks. Based on our industry survey, the respondents are hoping that rather than pursuing redundant parallel programs, the Nordic defence administrations should focus on four practical, high-potential cooperation areas:

7.1 Federated Architectures and Shared Constellations

AI generated image

The most immediate operational opportunity lies in the federation of existing and planned national space assets. By establishing a federated constellation model, each participating nation can retain sovereign, high-priority command over its own satellites for national requirements.

However, during routine operations, the satellites can be cross tasked and scheduled as a shared regional asset. This would allow data from Danish optical sensors, Finnish SAR radar, hyper-spectral imaging sensors, and Norwegian maritime surveillance receivers to be pooled, providing a vastly superior temporal revisit rate across the strategically contested Arctic and Baltic regions than any single nation could achieve on its own. This would require only common mission planning.

Denmark, Finland, Norway, and Sweden are actively developing independent Earth observation capabilities, including BIFROST microsatellite for Arctic surveillance, ICEYE's SAR satellites, Kuva Space's hyperspectral assets, Space Norway's Saga (MicroSAR) and Arctic Ocean Surveillance (AOS) networks, and GNA-3 military communication satellite.

Currently, the Shared Constellation Concept might include capabilities listed in the following table:

Federated Shared Constellation Concept		
National Asset	Capability	Contribution to Shared Nordic Model
Denmark: BIFROST	Optical and multispectral sensing	Sovereign national tasking and contribution to regional surveillance.
Finland: ICEYE	Synthetic Aperture Radar	All-weather, day-and-night imaging for Arctic and Baltic monitoring.
Norway: Saga / MicroSAR	C-Band radar and maritime surveillance	High North maritime awareness and Arctic coverage.
Sweden: GNA-3	Baltic Sea reconnaissance	Tactical surveillance and secure communications testing.
Shared outcome: Nordic shared data pool and federated scheduling for improved Arctic and Baltic revisit rates.		

7.2 Onboard Software Standardization and Interoperability

The surveyed software providers suggest that to unlock the full potential of a federated constellation, the Nordic space sector should transition away from legacy, hardware-locked flight software toward standardized, cloud-native onboard operating environments. Currently, satellite software remains largely proprietary and locked to specific hardware architectures, preventing cross-border interoperability.

By adopting containerized architectures, satellites function as decentralized edge-computing nodes capable of executing dynamically uploaded applications independent of underlying hardware. This open software layer enables on-orbit edge processing, where machine learning models perform automated target recognition (ATR) and real-time data reduction, drastically compressing the tactical kill chain by downlinking immediate threat alerts rather than massive volumes of raw sensor data.

Standardizing this environment across national borders would ensure seamless interoperability, enabling dynamic, cross-border "tip-and-cue" operations where algorithms developed by Nordic software houses can execute across any allied satellite to automatically cue radar, optical, or signal intelligence (SIGINT) assets to track electronic jammers or dark vessels in real time

7.3 Joint Reference Missions and Tactical Testbeds

According to the survey responses, SMEs across the region face a persistent barrier in securing flight heritage to validate their technologies in a space environment. The Nordic defence administrations should fund joint, mission-oriented flagship reference missions. Rather than relying on research grants, a joint Nordic tactical surveillance mission should be funded directly to address shared operational requirements, such as a high-latitude maritime tracking mission.

Such a mission would act as an industrial integration engine, explicitly combining Danish platform integration (Space Inventor), Swedish launch and ground tracking (SSC and Esrange), Finnish SAR/hyperspectral payloads (ICEYE and Kuva Space), Norwegian ground segment networks (KSAT), and ITAR-free propulsion subsystems (Aurora Propulsion). Launching a

concrete, shared reference mission validates local technologies under operational conditions, providing SMEs with the vital flight heritage needed to secure global exports.

7.4 Sovereign, ITAR-Free Supply Chains

The European space sector has been repeatedly bottlenecked by export control restrictions, specifically the United States International Traffic in Arms Regulations (ITAR), which can delay, restrict, or block the export of European-built space systems containing US-sourced components.

The Nordic region is uniquely positioned to establish completely sovereign, ITAR-free satellite supply chains. By actively utilizing European-sourced components, the Nordic defence industry can guarantee national security of supply. Establishing an ITAR-free supply chain eliminates export bottlenecks and ensures that Nordic-built tactical satellites can be rapidly customized, launched, and exported to allied nations without requiring third-party regulatory approval.

8. EXPECTATIONS FOR GOVERNMENTS AND DEFENCE DECISION MAKERS

To unlock the full potential of the Nordic space-defence cluster and transition from fragmented national efforts into an integrated regional powerhouse, industry players interviewed for this study have formulated three core requirements for Nordic governments and military procurement authorities:

8.1 Regulatory Harmonization and the "Nordic Space Corridor":

The persistent national division of licensing regimes, orbital permits, and insurance requirements creates a significant barrier for commercial launch providers, satellite manufacturers, and constellation operators. Nordic defence and economic ministries should establish a permanent **Nordic Space Roundtable**. This regulatory working group, comprising the Swedish National Space Agency (SNSA), NOSA (Norway), TEM (Finland), and the Danish Agency for Higher Education and Science, should actively coordinate licensing procedures, standardize liability limits, and align space safety frameworks.

The primary objective of this harmonization should be the creation of a unified **Nordic Space Corridor.** Under this framework, a single orbital permit or launch license approved by one Nordic national authority would be recognized across all member states. Standardizing these regulations lowers administrative friction, accelerates launch preparation timelines for commercial providers like Isar Aerospace at Andøya or Firefly at Esrange, and facilitates the rapid deployment of joint tactical constellations.

8.2 The SME Testbed Access and Voucher Scheme

The extremely high cost of acquiring, maintaining, and utilizing specialized testing facilities remains a critical barrier for space technology SMEs. The Nordic region contains highly complementary testing infrastructure, including Esrange’s engine testbeds in Sweden, Andøya’s environmental testing laboratories in Norway, Sodankylä’s geophysical satellite tracking in

Finland, and DTU Space's cleanrooms and thermal vacuum (TVAC) calibration chambers in Denmark.

Originally suggested by the Nordic Innovation's recent study "Nordic Space Technology Ecosystem" (2026), Governments should establish a cross-border **SME Testbed Access Scheme** utilizing a voucher model. Under this program, national innovation agencies (such as Export and Investment Fund of Denmark (EIFO), Business Finland, and Innovation Norway) would issue small, flexible vouchers directly to local space startups and SMEs. These vouchers would grant SMEs affordable, subsidized access to specialized testing and validation facilities in neighbouring Nordic countries. Facilitating the cross-border use of existing infrastructure allows SMEs to validate their hardware locally, accelerating Technology Readiness Level (TRL) maturation while preventing the costly duplication of redundant test facilities across different countries.

8.3 Joint Public-Purpose Procurement Frameworks

Commercial New Space companies require concrete reference contracts to scale their manufacturing operations and secure private venture capital. Nordic governments should coordinate unified, public-purpose demand and act as "first customers" for regional space solutions.

Prior to European Space Agency (ESA) subscription windows and EU multiannual financial framework procurements (such as GOVSATCOM and IRIS²), the Nordic defence procurement authorities, DALO (Denmark), FDF Logistics Command (Finland), NDMA (Norway), and FMV (Sweden), should establish a unified procurement framework. By aggregating their purchasing power and establishing common technical specifications, the Nordic governments can secure high-value industrial work packages for regional suppliers, maximizing the Nordic industrial footprint in major European space programs.

9. CONCLUSIONS AND RECOMMENDATIONS

The structural realignment of European security, paired with the rapid commercialization of space technologies across Northern Europe, has created an unprecedented market opportunity for the Danish space sector. To capitalize on these dynamics, the study presents targeted recommendations for both corporate and governmental actors:

9.1 For Danish Industrial Actors and SMEs

Form Targeted Consortia: Danish companies should immediately coordinate through national industry associations and clusters to establish integrated, multi-disciplinary consortia, combining hardware, software, and calibration specialties to propose complete, low-risk sub-system solutions to foreign defence primes.

Initiate Security Clearance Processing Pre-emptively: Since acquiring FSC and PSC clearances represents a critical path constraint that can take several months, Danish space SMEs should prioritize establishing prime-contractor relationships to sponsor these clearances.

Target European Defence Fund's Non-Thematic SME Grants: Consortia should prioritize bidding for EDF Non-thematic SME calls to secure 100% non-repayable funding, allowing them to build and qualify technology demonstrators while de-risking R&D and establishing international relationships.

Promote a Unified Nordic Narrative: Rather than participating in international space and defence forums as fragmented national delegations, Danish industry associations should partner with regional counterparts to present a unified Nordic narrative, marketing a highly integrated, sovereign, and end-to-end Arctic space capability to global prime buyers. The Trade Council in the Danish Foreign Ministry, the Danish Foreign Service and the International Business Advisors located at regional business hubs (Erhvervshusene) in Denmark can assist with access to relevant networks.

9.2 For Government Decision-Makers and National Defence Administrations

Establish a Nordic Space Capability Framework: National defence administrations should establish a formalized framework to coordinate capability programs (NORDEFCO COPA CAPA) and harmonize technical, operational, and safety requirements across Denmark, Finland, Norway, and Sweden, standardizing satellite manoeuvrability, orbital disposal rules, and secure communications protocols.

Fund a Joint Federated Flagship Mission: Governments should actively pool financial resources to procure a joint Nordic flagship reference mission. This mission should utilize a complete, self-reliant regional supply chain—combining Danish platform integration, Swedish launch infrastructure, Finnish radar/hyperspectral payloads, and Norwegian ground segment operations—to demonstrate a sovereign, ITAR-free regional capability.

Establish Cross-Border Voucher Scheme: National innovation agencies should immediately coordinate and launch the SME Testbed Access Scheme, issuing flexible vouchers to grant local startups affordable access to specialized testing infrastructure across the Nordic region.

APPENDIX A: NORDIC SPACE-DEFENCE ORGANISATIONAL DIRECTORY

This directory maps the lead administrative authorities, military space commands, defence procurement agencies, and major innovation centres across the Nordic countries. The list is not exhaustive but can be used as a starting point for go-to-market activities.

Country / Market	Lead Defence Procurement Authority	National Space Agency & Administrative Authority	Lead Military Space Command / Unit	Key Regional Industry Cluster, RTO, or Innovation Hub
Denmark	DALO (FMI) (Danish Defence Acquisition and Logistics Organisation)	Danish Agency for Higher Education and Science (Ministry of Higher Education and Science)	Joint Arctic Command (JACO) (Nuuk, Greenland)	CenSec (Center for Defence, Space & Security) Confederation of Danish Industries Danish Chamber of Commerce Space Denmark DTU Space Space Connect North Space Tech Center (Aalborg University)
Finland	FDF Logistics Command (Finnish Defence Forces)	Finnish Space Committee (Ministry of Economic Affairs and Employment - TEM)	Air Force Space Operations Centre	VTT Technical Research Centre of Finland Business Finland & ESA BIC Finland NATO DIANA Test Hubs (Espoo and Oulu)
Norway	NDMA (Norwegian Defence Materiel Agency / Forsvarsmateriell) Space Norway AS (State-Owned)	Norwegian Space Agency (NOSA) (Ministry of Trade, Industry and Fisheries)	Armed Forces Joint Space Command	FFI (Norwegian Defence Research Establishment) Norwegian Space Cluster & NIFRO ESA BIC Norway
Sweden	FMV (Swedish Defence Materiel Administration)	Swedish National Space Agency (SNSA / Rymdstyrelsen) (Ministry of Education and Research)	Air Force Space Division	ESA BIC Sweden & Big Science Sweden SSIC (Swedish Space Innovation Cooperation) Innovatum Science Park
Iceland (Emerging Partner)	N/A (Relies on allied networks)	Iceland Research Institute for Space Science (IRISS)	N/A (Relies on allied networks)	Iceland Space Agency (ISA) Geimgarður Space Park Space Iceland

APPENDIX B: ACRONYMS AND TECHNICAL TERMS

5G NTN — 5G Non-Terrestrial Network
AI — Artificial Intelligence
AIS — Automatic Identification System
AOCS — Attitude and Orbit Control System
AOS — Arctic Ocean Surveillance
AS9100 — Quality Management System for Aviation, Space, and Defence Organizations
ASAT — Anti-Satellite
ASBM — Arctic Satellite Broadband Mission
ASIC — Application-Specific Integrated Circuit
ASIM — Atmosphere-Space Interactions Monitor
ATR — Automated Target Recognition
AUV — Autonomous Underwater Vehicle
BMS — Battery Management System
C-UAS — Counter-Unmanned Aircraft Systems
C2 — Command and Control
C4ISR — Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance
C4ISTAR — Command, Control, Communications, Computers, Intelligence, Surveillance, Target Acquisition, and Reconnaissance
CenSec — Center for Defence, Space & Security
CMOS — Complementary Metal-Oxide-Semiconductor
CONOPS — Concept of Operations
COP — Common Operational Picture
COTS — Commercial Off-The-Shelf
CSD — Coordinated Stream Data / Classified Storage & Distribution
CWIX — Coalition Interoperability Exploration, Experimentation, Examination Exercise (NATO)
DAC — Danish Aerospace Company
DALO / FMI — Danish Defence Acquisition and Logistics Organisation (*Forsvarsministeriets Materiel- og Indkøbsstyrelse*)
DHI — Danish Hydraulic Institute
DIANA — Defence Innovation Accelerator for the North Atlantic (NATO)
DISCMAM — Developing Additive Manufacturing Capabilities for Defence Logistics (EDF Project)
DSP — Digital Signal Processing / Digital Signal Processor
DTI — Danish Technological Institute
DTU Space — National Space Institute at the Technical University of Denmark
ECDIS — Electronic Chart Display and Information System
EDF — European Defence Fund
EGSE — Electrical Ground Support Equipment
EIFO — Export and Investment Fund of Denmark (*Danmarks Eksport- og Investeringsfond*)
ELINT — Electronic Intelligence
EM — Electromagnetic
EMS — Electronic Manufacturing Services

EO — Earth Observation
ESA — European Space Agency
ESA BIC — European Space Agency Business Incubation Centre
ESS — Environmental Stress Screening
EU — European Union
EUMETSAT — European Organisation for the Exploitation of Meteorological Satellites
EVA — Extravehicular Activity
EW — Electronic Warfare
FDF — Finnish Defence Forces
FE — Danish Defence Intelligence Service (*Forsvarets Efterretningstjeneste*)
FFI — Norwegian Defence Research Establishment (*Forsvarets forskningsinstitutt*)
FMV — Swedish Defence Materiel Administration (*Försvarets materielverk*)
FMN — Federated Mission Networking
FPGA — Field-Programmable Gate Array
FSC — Facility Security Clearance
FTE — Full-Time Equivalent
GDP — Gross Domestic Product
GEO — Geostationary Earth Orbit
GNC — Guidance, Navigation, and Control
GNSS — Global Navigation Satellite System
GOVSATCOM — Governmental Satellite Communications (EU Program)
GPS — Global Positioning System
HAPS — High-Altitude Platform Station
HEO — Highly Elliptical Orbit
HMI — Human-Machine Interface
IALA — International Association of Marine Aids to Navigation and Lighthouse Authorities
ICEYE — Finnish SAR Satellite Manufacturer and Data Provider
IISS — International Institute for Strategic Studies
IMO — International Maritime Organization
IoT — Internet of Things
IP Core — Intellectual Property Core
IRIS² — Infrastructure for Resilience, Interconnectivity and Security by Satellite (EU Constellation)
IRISS — Iceland Research Institute for Space Science
ISA — Iceland Space Agency
ISL — Inter-Satellite Laser Link
ISRU — In-Situ Resource Utilization
ISR — Intelligence, Surveillance, and Reconnaissance
ISTAR — Intelligence, Surveillance, Target Acquisition, and Reconnaissance
ITAR — International Traffic in Arms Regulations (United States)
ITU — International Telecommunication Union
JACO — Joint Arctic Command (Denmark / Nuuk, Greenland)
JEWEL — Joint Early Warning System (Franco-German initiative)
JIMAPS — Joint Integrated Mission Architecture & Processing System (Terma)
JOSCAR — Joint Supply Chain Accreditation Register

KDA — Kongsberg Defence & Aerospace
KSAT — Kongsberg Satellite Services
LEO — Low Earth Orbit
LOGCMD — Logistics Command (Finnish Defence Forces Logistics Command)
MDA — Maritime Domain Awareness
MEO — Medium Earth Orbit
MEPE — Multimodal Electric Propulsion Engine
ML — Machine Learning
MMS — Maritime Messaging Service / System
MOC — Mission Operations Center
NASA — National Aeronautics and Space Administration (United States)
NATO — North Atlantic Treaty Organization
NDMA — Norwegian Defence Materiel Agency (*Forsvarsmateriell*)
NDT — Non-Destructive Testing
NEO — Norsk Elektro Optikk
NIFRO — Norwegian Forum for Space Industry and Research (*Norsk Industri- og Forskernettverk for Romvirksomhet*)
NKOM — Norwegian Communications Authority (*Nasjonal kommunikasjonsmyndighet*)
NORDEFCO — Nordic Defence Cooperation
NORDEFCO COPA CAPA — NORDEFCO Cooperation Area Capability
NOSA — Norwegian Space Agency (*Norsk Romsenter*)
OLCC — Orbital Launch Control Center (Esrange)
OPIR — Next-Generation Overhead Persistent Infrared (US Space Force)
PCBA — Printed Circuit Board Assembly
PCDU — Power Conditioning and Distribution Unit
PET — Danish Security and Intelligence Service (*Politiets Efterretningstjeneste*)
PNT — Positioning, Navigation, and Timing
PSC — Personnel Security Clearance
QPU — Quantum Processing Unit
R&D — Research and Development
R2B — Research-to-Business
RF — Radio Frequency
RISC-V — Open Standard Instruction Set Architecture for Microprocessors
RPO — Rendezvous and Proximity Operations
RTO — Research and Technology Organisation
RTU — Remote Terminal Unit
SADM — Solar Array Drive Mechanism
SAM — Surface-to-Air Missile
SAR — Synthetic Aperture Radar
SATCOM — Satellite Communications
SBIRS — Space-Based Infrared System (United States)
SDB — Satellite-Derived Bathymetry
SDaaS — Space Data-as-a-Service
SDR — Software-Defined Radio
SIGINT — Signals Intelligence

SME — Small and Medium-sized Enterprise
SNSA — Swedish National Space Agency (*Rymdstyrelsen*)
SPARC — Scalable Processor Architecture (e.g., LEON processors)
SSA / SDA — Space Situational Awareness / Space Domain Awareness
SSC — Swedish Space Corporation
SSIC — Swedish Space Innovation Cooperation
STANAG — Standardization Agreement (NATO)
SUA — Security Umbrella Agreement / Security Undertaking Agreement
SvalSat — Svalbard Satellite Station
TA — Target Acquisition
TEM — Finnish Ministry of Economic Affairs and Employment (*Työ- ja elinkeinoministeriö*)
Tip & Cue — Operational surveillance methodology combining wide-area SIGINT/RF/SAR with dynamic optical/SAR targeting
TRL — Technology Readiness Level
TSA — Technology Safeguards Agreement (US–Norway)
TT&C — Telemetry, Tracking, and Command / Control
TVAC — Thermal Vacuum
UAV — Unmanned Aerial Vehicle
UI/UX — User Interface / User Experience
US / USA — United States / United States of America
USV — Unmanned Surface Vehicle
VDES / VDE-SAT — VHF Data Exchange System / Satellite VDES
VHF / UHF — Very High Frequency / Ultra High Frequency
VHR / VHR EO — Very High Resolution / Very High Resolution Earth Observation
VR / XR — Virtual Reality / Extended Reality
VTT — Technical Research Centre of Finland (*Teknologian tutkimuskeskus VTT Oy*)