

SpaCe Report

POLICY, STRATEGY, DELIVERY: HOW GOVERNMENTS TURN SPACE AMBITIONS INTO CAPABILITY

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Executive Summary

The central motivation for this report is simple: space governance matters because spending public money matters. European governments have chosen to commit substantial public resources to defense and space. Much of this spending is driven by concerns for security and strategic sovereignty. But public money spent under pressure, even according to a logic of necessity, is still public money. Once resources are committed here, they are not available for other purposes, be that welfare, green transition, psychiatry, or our schools. This makes it important to ask what governments acquire as they hurry to strengthen national and collective defense capabilities, and perhaps more importantly, what those investments leave behind: Do we use investments to grow our knowledge base and our industries, and to serve civilian needs as well as security needs? Do we use them to strengthen the state's governance capabilities to address not only security concerns but other difficult societal problems as well? Do we leave behind expertise, infrastructure, and institutions that can be put to other uses, or do we create new dependencies and cement existing ones, leaving little that society can build on afterwards?

This report grew out of a specific Danish discussion: whether Denmark needs a national space agency to support and align the increasing activity in the space domain. Looking at six European countries – the United Kingdom, Luxembourg, Sweden, Poland, Finland and Norway – convinced us that this is the wrong place to begin. The countries we looked at have organized and reorganized their space governance in distinct ways and for different reasons. Some rely on dedicated agencies; others distribute governance across ministries, agencies, state-owned companies, or specialized organizations. No single institutional form, by itself, solves the governance problems that arise in the space sector.

The report proceeds in five chapters: Chapter 1 introduces our analytical framework of policy, strategy, and delivery. Chapter 2 applies it to space governance in six European countries. Chapter 3 distills six cross-cutting observations of relevance to governments and their administrations. Chapter 4 places these observations in dialogue with the 2024 Draghi report on European competitiveness and Mariana Mazzucato's work on mission-oriented innovation policy, introducing what we identify as one key challenge that Europe faces: to “crowd in” what we term “the industrial middle”. Chapter 5 brings this report back to Denmark through nine contributions from the Danish space ecosystem – from industry, interest organizations, investment, and academic environments – where people reflect on the strengths and fragmentation in the current Danish governance arrangements.

What the European cases show

There is no governance model “to copy”. The countries we examine in Chapter 2 were selected to provide variation within a broadly comparable European institutional setting. All are ESA and NATO members and operate within closely connected European industrial and security structures, but they differ substantially in their administrative traditions, the maturity and scale of their space sectors, and the institutional arrangements through which space policy is delivered. This combination makes it possible to compare how governments have responded differently to similar governance pressures.

The United Kingdom illustrates how governance problems change over time, and demonstrates a willingness to adapt organizational form to those problems. The creation of the UK Space Agency as an arms-length organization in 2010 responded to fragmented civil responsibilities and, crucially, weak budget authority. Sixteen years later, in 2026, its reintegration into a government department addressed a different problem: the growing distance between policy and delivery. The UK country study is also informative in that it illustrates how policy co-ownership between research, defense, and business ministries might be organized.

Luxembourg has produced exceptionally strong alignment between policy, strategy, and delivery by organizing space governance around economic development. Its agency sits in the Ministry of the Economy, and legislation, public investment, research, education and ecosystem development have been used deliberately to attract companies and create markets. That coherence brings considerable advantages, but it also illustrates a trade-off: when one public objective strongly organizes the system, other objectives can become less visible.

Sweden demonstrates how an existing research and technological base can be repurposed as strategic capability. Research funding remains with the Swedish National Space Agency, strategic infrastructure with the state-owned Swedish Space Corporation, and military capability with defense institutions and procurement. This preserves specialist capability but makes coordination all the more important because authority and investment remain distributed across the system.

Poland shows the limits of a well-crafted strategy without an adequate implementation mechanism. For several years, national ambition ran ahead of legislation, funding, and cross-government delivery. More recently, substantial capabilities have nevertheless begun to emerge through defense, ESA participation, and other sectoral routes. The problem has consequently shifted: from insufficient delivery to the coordination of delivery that takes place through separate budgets and institutions from those formally responsible for the national space strategy.

Finland demonstrates that stronger strategic centralization does not necessarily require centralizing operational delivery. Its current model combines coordination at the level of policy and prioritization with distributed funding and specialist functions and delivery, for example in defense, meteorology, communications, and research. The challenge in the Finnish model is therefore less fragmentation per se than it is coordination without sufficient authority over priorities and resources

Norway demonstrates state ownership as part of the delivery architecture. Policy and strategic coordination sit within government, regulation is separated from these functions, while much operational infrastructure is delivered through commercially organized companies in which the state retains substantial ownership. International cooperation provides scale, while national ownership and investment are retained where geography, security, or other national interests make greater control valuable.

Cross-country governance observations:

Several patterns occur across the country studies. Taken together, they shift attention from institutional labels towards the conditions under which governments can turn political ambition into delivery. Chapter 3 develops these observations through a discussion of Denmark and the country cases; here we state them as briefly as possible:

Start with the governance problem, not the institution. The relevant question is not whether a country needs a space agency, but where current arrangements are too fragmented, too slow, too dependent, or otherwise unable to perform the functions government requires.

Institutional form must follow function. Agencies, ministries, committees and distributed arrangements can all work or fail. What matters is whether the chosen arrangement has the mandate, authority, resources and institutional access required to perform the functions assigned to it.

Institutional placement shapes delivery capacity. Where in government responsibility for space is located determines which policy and delivery instruments can be mobilized for the space sector. Institutional ownership affects the authority to convene and align.

Fragmented governance can produce competing understandings of the sector. Different parts of government encounter different actors, capabilities and needs. Without mechanisms for connecting these partial views, policy, investment and procurement decisions may be based on different understandings of the same national space sector.

Budget authority shapes delivery and capability development. Formal responsibility has limited effect without authority over resources that can be committed with sufficient continuity, while institutions controlling major expenditure may shape the sector in practice irrespective of formal policy ownership. The duration and location of spending power influence what capabilities are built, which public purposes they serve, and what becomes de facto policy.

Sovereignty is multidimensional. Operational, infrastructural and industrial sovereignty are distinct and can be secured in different combinations. Procurement therefore does more than buy access to a capability: it also determines which forms of control are retained, which capabilities are developed, and where dependencies are accepted.

The industrial middle and investment of state capability

Europe is entering a period of very large public expenditure on defense and strategic technologies. Not every additional allocation comes directly at the expense of another budget line. Governments can expand spending, borrow, reprioritize, or make use of increased fiscal room. But resources committed to one purpose nevertheless could have had other public uses. Given that substantial public resources are being mobilized in the area of space and defense, we therefore find it prudent to ask what else that spending can accomplish at the same time.

Space provides a particularly relevant place to ask this question, because many of the capabilities involved are not exclusively military. Technologies, data, skills, infrastructure, and companies developed in response to defense demand may also be useful for climate monitoring, communications, emergency preparedness, research, navigation, and a host of other commercial activities. The same expenditure can therefore have very different long-term consequences depending on how procurement and subsequent spending is planned and organized. It can purchase a space capability and little else. Or it can purchase that capability while also strengthening an industrial and knowledge base that can be put to use elsewhere in the public sector or in other commercial domains, either simultaneously or later.

The problem of the industrial middle

There is a risk that the pressure to act quickly works against benefitting from this possibility. Governments seeking new space and defense capabilities on short timescales will naturally turn towards companies already able to deliver at scale. If procurement consistently follows that path, however, Europe may spend enormous sums on immediate acquisition while doing little to build the industrial capacity needed to sustain, adapt, and use those investments for similar or alternative purposes later on.

We describe one part of this problem as the problem of “the industrial middle”: companies that have moved beyond the start-up stage and have proven technologies, specialist expertise, and customers, but have not yet reached the scale of the major industrial primes. These firms often sit awkwardly between existing instruments. Innovation programs are well suited to helping ideas and start-ups emerge; large procurement programs favor organizations already able to deliver at scale. The firms in between may be precisely the ones that need to grow if current public expenditure is to leave behind a broader and more resilient industrial base.

Investment in state capabilities

The capability at stake is not only industrial. Responding to space increasingly requires governments that are themselves capable of governing across boundaries that have traditionally been kept apart: research and industry, public and private, civilian and military, national and European. Doing this well requires the ability to map complex ecosystems, coordinate across ministries, combine different kinds of expertise, procure emerging technologies and decide where national capability matters. These are governance capabilities. If built well, they need not belong to the space or defense sectors alone. They can strengthen the state's ability to respond to other difficult problems where knowledge, industry, and public authority have to be connected across institutional boundaries.

One way to begin strengthening Denmark's state capabilities is to improve the state's understanding of the ecosystem it is trying to govern. Chapter 5 therefore turns to nine perspectives from the Danish space ecosystem – from industry, interest organizations, academic environments, and investment – and asks how current governance arrangements appear from their respective positions: where they work, where they are absent or insufficient, and where fragmentation creates practical problems.

Nina Holm Vohnsen & Rasmus Mondrup, Aarhus Space Centre, Aarhus University, September 2026

1. Introduction

Recent debates on Europe's future competitiveness, not least following the publication of The Future of European Competitiveness (Draghi 2024), have focused the European government's attention on the governance of strategically important technologies and industries. In this report commonly referred to as "the Draghi report", the space sector is singled out as the "forefront of technological innovation", with satellite services, data, and their applications as a critical part of our modern infrastructure (Draghi 2024 Part B: 172). Space is recognized as a critical domain for research and innovation within tech and health, as an emerging and rapidly expanding area of economic growth, as indispensable for security and defense, and as a key arena for international cooperation. Across Europe, and indeed the world, governments are investing heavily in space capabilities while simultaneously adapting their institutional arrangements in the area of space governance to meet new strategic demands: in recent years, several European countries have established new space agencies, strengthened existing ones, and reorganized responsibilities between ministries, agencies, and other public authorities to reflect a changing understanding of what space is.

Governance is understood functionally. The focus is therefore less on whether countries possess particular institutions, such as a national space agency, and more on how governance functions are distributed and connected across the wider governance system.

These developments reflect a broader transformation in how space is understood. Historically, space policy was associated primarily with scientific research and technological development. Today, space is recognized as a source of economic competitiveness, national resilience, strategic autonomy, and security. Satellites support everything from communications, navigation, and weather forecasting to military operations, emergency response, and logistics. As societies become more dependent on space, governments face growing demands not only to formulate national policies and strategies, but also to organize institutions capable of delivering on those ambitions. Against this backdrop, space governance has become an important area of inquiry. No longer a niche policy issue mainly interesting for the space sector itself, but a matter of broader geopolitical and industrial importance for understanding how European states seek to organize innovation, industrial development, and the relationships between their industries, their universities, and their public authorities.

1.1 Purpose: A framework for rethinking space governance

While picking up on a common discussion in the Danish space sector (ought we have a Danish Space Agency?) the purpose of this report is neither to answer that question, nor to propose a governance model for the Danish government to adopt. Rather it is to examine and discuss how different European countries have organized their space sectors to identify the institutional arrangements, responsibilities, and delivery mechanisms, their 'governance capabilities' we might say, that enable them to translate political ambitions in the space area into outcome that is of value to their public.

The report starts from the premise that governance arrangements should be understood as responses to particular national challenges rather than as institutional models to be replicated. European countries have established space agencies and national space authorities for very different reasons, placed them in different parts of government, and assigned them different responsibilities. Some focus primarily on research and innovation; others on industrial development, national infrastructure, security and defense, international representation, or economic competitiveness. Consequently, the relevant question is not whether a country has a space agency, but what functions its institutions are expected to perform, whether they possess the mandate, authority, and resources to perform those functions, and how effectively policy, strategy, and delivery are connected. This forms the central analytical focus throughout the report.

Denmark has developed a strong space sector built on internationally recognized research environments, successful participation in European programs, and close collaboration between universities, industry, and public authorities. However, space increasingly intersects with policy areas extending well beyond the purview of research and innovation, including defense, civil preparedness, industrial development, critical infrastructure, and technological sovereignty. Across Europe, governments are facing this development and have responded in different ways. Some have strengthened cross-ministerial coordination. Others have developed dedicated industrial strategies for the space sector, expanded or repurposed the mandates of existing space agencies and space infrastructure, or established new delivery organizations with broader responsibilities. These differences reflect not competing institutional models for other countries to choose between, but rather reflect a difference in national priorities, political ambitions, and governance challenges.

The comparative analysis that follows is therefore intended as a diagnostic exercise. Denmark is not included as a separate case study because the purpose is not to describe the current Danish governance model as another national example, but to use our European comparison to shed light on the governance questions facing Denmark, or indeed any other nation that wishes to take a look at the current functioning of their space sector. Ultimately, with this report we want to provide the grounds for a more informed discussion about space governance. So rather than asking which country's model Denmark, or other countries, ought to adopt, the report asks what functions a country, here Denmark, needs its space governance system to perform, how those functions are currently organized, and whether existing institutional arrangements remain fit for purpose as the role of space as critical infrastructure and a commercial market evolves.

1.2 What do we mean by space governance?

In this report, space governance refers to the institutional arrangements and coordinating relationships through which public objectives in the space domain are pursued. This includes the way responsibilities are allocated, priorities coordinated, resources mobilized, and political ambitions translated into action. While governments remain the primary focus of the report because they possess formal authority over policy, legislation and public resources, governance functions may also be performed by other actors where coordination, representation, or ecosystem development extend beyond formal governmental institutions.

1.3 Conceptual framework: policy, strategy, delivery

To compare how European countries organize and adapt the governance of their space sectors, we employ a framework built around three analytical dimensions: policy, strategy, and delivery. While these concepts are defined in different ways across academic literature and in policy practice, in this report we use the terms as follows:

Policy concerns legitimacy and political purpose. It refers to how governments understand the role of space, which public objectives they seek to achieve through space activities, and where political responsibility for those ambitions is located.

Strategy concerns prioritization and direction. It refers to the decisions governments make regarding capabilities, partnerships, investment priorities, institutional focus, and other means through which policy ambitions are pursued.

Delivery concerns the organizational arrangements through which policies and strategies are translated into action. It refers to the institutions, mandates, authorities, legal and regulatory frameworks, resources, funding mechanisms, and coordination arrangements responsible for implementation.

The framework does not intend to imply a linear process. In practice, policy, strategy, and delivery influence one another. Delivery mechanisms may influence policy *de facto*, while institutional arrangements may affect what governments perceive to be possible. However, distinguishing between these dimensions provides a useful basis for comparison. It allows countries with different institutional architectures to be analyzed using a common set of questions, making it possible to examine how governments connect political ambition, strategic prioritization, and institutional delivery.

The framework also provides a basis for assessing the degree of alignment between these dimensions. Throughout the report, attention is directed not only towards how countries formulate policy, strategy, and delivery individually, but also towards how coherently these reinforce one another. In this way, the framework shifts the discussion from organizational labels towards governance functions, providing a common analytical basis for comparing European space governance models and for reflecting on the broader governance challenges facing the Danish, and any other, space sector.

2. European space governance: case studies

In this chapter, we examine how six European countries up to August 2026 organized the governance of their space sectors. The purpose is to understand the governance functions that different institutional arrangements were designed to perform, and the conditions under which they succeed or struggled to do so. The analyses focus on how different countries connect policy, strategy, and delivery in response to their individual national priorities and governance challenges. For each country we next discuss the strengths and trade-offs of the given governance arrangement and end with a set of key learnings that stand out from our reading. The countries are selected on the basis of, on the one hand, being ESA and NATO members operating within European industrial and security structure and, on the other hand, differing substantially in their administrative traditions, with regards the maturity and scale of their space sectors, and with regards the institutional arrangements through which space policy is delivered.

2.1 United Kingdom: Adapting to governance challenges

[Note: This case study reflects developments up to August 2026. On 8 September, the UK Government published a new UK Space Strategy integrating growth, defense and national security and concentrating government effort around selected capability areas. While published too late to be incorporated into this review, its direction is consistent with the broader trajectory described below towards closer civil–defense integration and stronger capability prioritization.]

The UK case is a story of institutional adaptation. Over the past two decades, the central governance challenge has changed several times, and the institutional model changed with it. In 2010, the transition from the British National Space Centre (BNSC) into the UK Space Agency (UKSA) addressed a fragmented governance structure and weak budget authority (see [written evidence UKSA](#)). Fifteen years later, the government identified a different problem: the separation that had developed between those responsible for civil space policy and strategy and those responsible for delivery. In April 2026, the UK Space Agency therefore ceased to exist as a separate executive “arm’s length” agency and was integrated into the Department for Science, Innovation and Technology, bringing civil space strategy, policy and delivery into a single departmental unit ([UKSA Annual Report 2026](#)). Only a few months later, following the reshuffling of government, the institutional setting changed again. In July 2026 the Department for Science, Innovation and Technology was dismantled and its science and innovation responsibilities transferred into an expanded Department for Business, Innovation, Science and Trade. The UK Space Agency continues as a named Directorate within this new department.

At the same time, the UK has since 2021 had an explicitly integrated civil–defense National Space Strategy (UK Government 2021, updated 2022). This does not mean that UK space governance is

centralized. Space matters related to defense remain under the Ministry of Defence and UK Space Command, regulation sits with the Civil Aviation Authority, research funding involves UK Research and Innovation and Science and Technology Facilities Council, and numerous government departments procure or use space-based services independently. The UK's 2025 Strategic Defence Review (Ministry of Defence 2025) describes responsibility within government as "fragmented between departments and multiple agencies", in particular across the civil-military divide, and propose space become anchored in a cross-government ministerial committee to provide strategic direction for the space sector and "enhance private-sector confidence to invest" (Ministry of Defence 2025: 118).

The central UK governance problem is therefore not an absence of common policy or strategic ambition. Rather, it is how to translate an integrated national strategy into coordinated delivery across organizations that retain separate mandates, expertise and responsibilities. The UK case illustrates two things clearly; firstly, it shows how institutional structures can be reorganized in response to changing governance problems, and secondly, it emphasizes that integration at the level of policy does not solve problems of coordination at the delivery level.

2.1.1 Policy: What is space understood to be?

The central UK policy document is the [National Space Strategy](#) from 2021, updated in 2022. This strategy stands out among our case studies as it combines the public, commercial, and defense domains in one strategy jointly owned by the UK Space Agency, the Department for Science, Innovation & Technology, the Ministry of Defence, and the Department for Business, Energy & Industrial Strategy. It presents space as both a critical national infrastructure, an industrial growth sector, a science and innovation domain, a security and defense domain, and an arena for diplomatic and international collaboration and influence. The strategy sets out five goals for UK space activities: to grow and level up the space economy; to promote the values of Global Britain; to lead pioneering scientific discovery and inspire the nation; to protect and defend national interests in and through space; and to use space to deliver for UK citizens and the world (UK Government 2021: 18-20). Space is not conceived as a separate sector serving one governmental objective, but as an infrastructure which is fundamental to both secure communications, navigation, intelligence and military operations, while also enabling public services, environmental monitoring, economic growth and scientific discovery (UK Government 2021).

This broad understanding has subsequently been reinforced. [National Space Strategy in Action](#) (2023), a [Space Industrial Plan](#) (2024), an [Advanced Manufacturing Sector Plan](#) (2025), the [Strategic Defence Review](#) (2025), and [UK Space Agency Corporate Plan](#) (2025), have translated the original policy into more specific priorities for industry and defense. The volume of policy and implementation documents distinguishes the UK from several of the countries examined here: rather than lacking a coherent national understanding of space, sector policy for space, the UK governance challenge increasingly concerns how to prioritize and coordinate the many concurrent objectives attached to space.

2.1.2 Strategy: What is prioritized to achieve it?

The 2021 National Space Strategy organizes its five broad policy goals into four strategic pillars: unlocking growth in the UK space sector; collaborating internationally; growing the UK as a science

and technology superpower; and developing resilient space capabilities and services (UK Government 2021: 22–41). Civil-defense integration is embedded in these strategic choices rather than appearing only at policy level. In developing resilient capabilities, government commits to identifying dual-use requirements and applies the “own–collaborate–access” framework to determine whether particular technologies and services should be controlled nationally, developed with partners or accessed externally (UK Government 2021: 38). This applies to areas including satellite communications, Earth observation, intelligence and surveillance, positioning and navigation, space command and control, and launch.

The 2023 National Space Strategy in Action adds greater specificity and, importantly, attempts to translate the integrated policy into an integrated strategic framework. The Department for Science, Innovation & Technology and the Ministry of Defence describe having brought the responsible departments together within a single coordinated delivery framework overseen by a National Space Board (UK Government 2023: 10). A National Space Council was also established as an interministerial group to provide cross-government political direction for space policy and strategy (*ibid.*). The document explicitly states that this joined-up approach should make it easier to identify dual-use capabilities and areas for joint civil and defense activity.

The Space Industrial Plan of 2024 continues this approach. It is itself a joint civil and defense plan, produced by the Department for Science, Innovation & Technology and the Ministry of Defence, and identifies five capability areas around which the UK wants to concentrate industrial and government effort: space domain awareness; in-orbit servicing, assembly and manufacturing; space data for Earth applications; positioning, navigation and timing; and satellite communications (UK Government 2024: 7–8).

By 2026, the government was further sharpening its focus around selected national capabilities, including satellite communications, in-orbit servicing and manufacturing, space domain awareness and assured access to space. The direction is therefore increasingly translating a broad policy framework into decisions about which capabilities require particular national attention. The UK consequently has substantial integration at both policy and overarching strategy level. The difficulty lies less in agreeing (at least on paper) that civil, commercial, and defense interests belong within the same overall strategic approach than in ensuring that decisions taken through separate government organizations and delivery channels follow that common direction.

2.1.3 Delivery: Who is responsible for implementation?

The UK’s delivery architecture is easiest to understand historically because successive institutional reforms have moved particular governance functions between organizations. From 1985, the British National Space Centre (BNSC) coordinated UK civil space activities across ten government departments, research councils and public bodies. This gave it access to broad expertise, but the participating organizations retained their own responsibilities and budgets (Millard 2005; Written Evidence UKSA). A 2007 House of Commons inquiry identified this as structural limitation: Because funding remained distributed across participating organizations, operating with different priorities and budget cycles, strategic coordination and long-term planning were difficult. The problem was not principally a lack of expertise. It was that responsibility for coordination had not been accompanied by sufficient authority over a corresponding and independent budget (Written Evidence UKSA, Pultarova 2025).

The UK Space Agency (UKSA) was established in 2010 and became a full executive agency of the Department for Business, Innovation, and Skills in April 2011 (Written evidence UKSA). Most civil space responsibilities were transferred into UKSA, giving it strategic leadership of the civil programme as well as responsibility for funding and delivery of civil projects and international programmes. The agency therefore addressed a specific problem: coordination without sufficient authority or resources to deliver. UK Space Agency was never the only organizational vehicle for delivery. Military capabilities remained under the Ministry of Defence, scientific functions with research organizations, and other departments remained important users and procurers of space services. After the 2021 National Space Strategy deliberately integrated civil and defense objectives, the UK increasingly relied on coordination mechanisms to connect these separate delivery systems. The National Space Board and National Space Council were established to provide cross-government coordination and political direction, while the National Space Operations Centre provides a concrete example of joint delivery by UK Space Agency, the UK Space Command and the Met Office.

Over time, civil strategy and policy increasingly sat with UK Space Agency's sponsoring department while the agency became more strongly focused on delivery. The institutional separation that had once strengthened delivery therefore created a new boundary between those shaping policy and those implementing it, as noted in the UK Space Agency review 2024. This public review recommended retaining the space agency's arm's-length status because of its technical expertise and delivery role, while simultaneously calling for clearer division of responsibilities between the agency and the department it belonged to. The problem was that its specialist delivery and arm's length placement came with increasing coordination costs.

In 2025, the British government announced that UK Space Agency would join the Department for Science, Innovation, and Technology from April 2026, with the stated aims of cutting duplication, reducing administrative costs, ensuring clear ministerial oversight, reducing bureaucracy, putting public accountability at the centre of decision-making, and bring together the people who shape space policy and those who deliver it (Department for Science, Innovation and Technology & UK Space Agency 2025). This should not simply be interpreted as a reversal of the decision to establish UKSA in 2010. The governance problem had changed: whereas the BNSC had been unable to translate coordination into delivery because executive authority and resources remained distributed, the reform now addressed a different problem – the institutional distance that had developed between civil policy and delivery.

Despite the successive reforms, most recently following the government reshuffle in the Summer of 2026, delivery remains distributed. The UK Space Command retains responsibility for military space operations and capabilities, the Civil Aviation Authority regulates spaceflight activities, scientific capability and funding involve the research councils, and several departments across government remain procurers of space services. This is why the UK's own Strategic Defence Review of 2025 could still describe the space area as complex and responsibility within government as “fragmented between departments and multiple agencies” (Ministry of Defence 2025), despite the existence of an integrated National Space Strategy, a National Space Board, and a National Space Council. The review recommended stronger ministerial coordination to maximize the connection between the civil space sector and military requirements. The central delivery challenge seems therefore to be coordinating organizations that remain separate for deliberate and valid reasons while asking them to deliver against a common national strategy.

2.1.4 Strengths and trade-offs

The UK's trajectory from BNSC to UK Space Agency to Department for Science, Innovation and Technology and most lately into the Department for Business, Innovation, Science and Trade illustrates an unusual willingness to redesign institutional arrangements when governance problems change. The UK Space Agency founded in 2010 solved the problem of fragmentation, coordination, and budget authority. The integration into DSIT in 2026 addressed the growing distance and lack of coordination between people responsible for space policy, the users of space data across government, and those responsible for delivery in the area. Subsequent placement in the current Department for Business, Innovation, Science and Trade reflects a wider machinery-of-government change rather than a new redesign of space governance.

The trade-off is clear. Arms-length status can protect specialist expertise, the focus on delivery, and organizational autonomy, while integration into a ministry can strengthen political access and strategic coordination. But moving UK Space Agency into a ministry also exposes it more directly to wider machinery-of-government changes: departments can be reorganized, merged, or abolished for reasons largely unrelated to space, as illustrated by the disappearance of DSIT only months after the agency's integration demonstrates.

More fundamentally, the reforms at policy and strategy level do not remove the distributed nature of UK space governance. Civil and defense policy are integrated at strategy level, but delivery remains spread across specialized organizations. The UK therefore shows that whereas an integrated strategy does not require integrated institutions; the central challenge is creating strong enough connections between them. The central tension the UK is now navigating is one between institutional autonomy and political steering. Arms-length agencies provide delivery capacity and operational focus whereas agencies embedded within ministries are better positioned to coordinate and can influence the political direction. The UK case is therefore a clear reminder that institutional design is not a one-off decision about a preferred governance model. Different arrangements solve different governance problems, and those problems themselves evolve and demand new responses.

2.1.5 Key learnings

Governance structures should be capable of adapting as problems change. The UK case does not demonstrate that either an agency or a ministry is inherently superior. It demonstrates that institutional arrangements must be judged against the concrete governance problem they are intended to solve, and how these might be reorganized in dialogue with these problems.

Integrated policy and strategy can co-exist with decentralized delivery. The UK has had a combined civil-defense National Space Strategy since 2021, yet delivery remains distributed across departments and specialized organizations.

Coordination without sufficient executive and financial authority has limits. The BNSC experience demonstrates why responsibility for coordination must be connected to the means required to act on agreed priorities.

The distance between policy and delivery can become a central governance problem. UK Space Agency strengthened civil delivery, but the later separation between departmental strategy and agency delivery created a different coordination challenge.

2.2 Luxembourg: Creating new markets through alignment

Among the countries examined in this report, Luxembourg represents perhaps the clearest example of governance organized around a single overriding objective: economic development. Rather than treating space primarily as a research domain or critical infrastructure, Luxembourg has consistently used space as an instrument of economic diversification and international competitiveness. The result is a governance model in which policy, strategy and delivery reinforce one another unusually closely because they are all directed towards the same overarching objective: economic development. One could almost say that Luxembourg is less concerned with organizing a space sector than with pursuing an economic development strategy through space.

2.2.1 Policy: What is space understood to be?

[The National Space Strategy 2023-2027](#) (2022) is explicit about its purpose:

“The aim of the strategy, and the action plan deriving from it, is to continue developing Luxembourg’s space sector. In doing so, Luxembourg will diversify its economy and assure its long-term future, while making major contributions to the sustainability of activities on Earth and in space” (2022: 5).

Economic diversification is therefore not one objective among several; it is the organizing principle around which Luxembourg’s space governance has been constructed. Unlike many European countries, where space policy has traditionally emerged from research policy, Luxembourg has consistently understood space as an instrument of economic policy. Since the establishment of Société Européenne des Satellites (SES) in 1985, successive governments have used space to diversify the national economy and strengthen Luxembourg’s international competitiveness (Ministry of Economy, Luxembourg 2020: 25). Rather than treating space as a scientific domain in itself, the strategy positions it as a driver of industrial development and long-term economic robustness (Luxembourg Space Agency 2022: 3,6).

This policy orientation also explains why the Luxembourg Space Agency is located within the Ministry of the Economy rather than a ministry responsible for research or science. Its mission is explicitly economic: strengthening the commercial space sector by supporting innovation-driven business development, facilitating collaboration between industry, academia and government, attracting international companies and investment, and increasing the contribution of the space sector to the national economy ([Luxembourg Space Agency n.d.](#)).

Alongside the national space strategy, Luxembourg adopted a [Defence Space Strategy](#) in 2022 (Ministry of Foreign and European Affairs and Directorate of Defence 2022). While this introduces security, resilience and defense as additional policy objectives, it does not replace the economic logic underpinning Luxembourg’s space governance. Instead, it extends it by recognizing the growing strategic importance of space and the increasing relevance of dual-use capabilities.

2.2.2 Strategy: What is prioritized to achieve it?

If Luxembourg's policy defines economic development as the primary objective of space governance, its strategy is concerned with creating the conditions under which new commercial space activities can emerge and grow. Rather than simply supporting an existing space sector, the strategy seeks to attract companies and investment, develop new technological capabilities, and position Luxembourg in areas expected to become commercially significant in the future. In this sense, Luxembourg's strategy is less concerned with supporting an existing market than with creating the conditions under which entirely new commercial space markets can emerge.

This ambition is reflected in the National Space Strategy 2023–2027, which identifies four mutually reinforcing strategic priorities: economic sustainability, sustainability of activities on Earth, the sustainability of activities in space, and the sustainable and responsible use of space resources (Luxembourg Space Agency 2022: 6–7). Although broad in scope, these priorities are linked to the overarching objective of strengthening Luxembourg's economy through the development of a competitive and internationally connected commercial space sector.

Perhaps the clearest illustration of this strategic approach is Luxembourg's early decision to invest in commercial space resources. In 2016, the government launched the SpaceResources.lu initiative with the explicit ambition of positioning Luxembourg as a global center for companies developing technologies related to the exploration and utilization of space resources (Ministry of Economy 2016). At a time when commercial space resource utilization remained highly speculative, Luxembourg sought to create favorable conditions for a future market rather than waiting for one to emerge. To support this ambition, Parliament adopted the Law on the Exploration and Use of Space Resources on 20 July 2017. In the absence of international agreement on ownership rights, the law made Luxembourg's position explicit from its very first article, stating that “space resources are capable of being owned” (Luxembourg Space Agency Law of 20 July 2017: article 1). The purpose of the law was not simply to regulate an existing activity, but to reduce legal uncertainty for companies and investors considering commercial relocation to Luxembourg, and use legislation was used as a strategic instrument for market creation rather than merely a mechanism of legal regulation.

Luxembourg's strategic approach extends beyond legislation and industrial policy. Recognizing that a competitive space economy also depends on long-term access to specialized talent, the government has simultaneously invested in strengthening STEM education from primary school onwards (Ministry of Economy 2020). Rather than treating education as a separate policy domain, Luxembourg explicitly links investments in science, technology, engineering and mathematics to the future capability needs of its space sector. Education therefore becomes another strategic instrument through which government seeks to create the conditions for long-term industrial development.

The National Space Strategy 2022–27 continues this approach. This strategic orientation is reflected throughout the National Space Strategy. Alongside strengthening existing industrial capabilities, the strategy emphasizes attracting international companies, supporting entrepreneurship, facilitating access to finance, developing specialized skills, strengthening research and innovation, and positioning Luxembourg within emerging international value chains (Luxembourg Space Agency 2022). These initiatives illustrate that Luxembourg's strategy extends well beyond identifying priority technologies or sectors. Instead, it seeks to shape the legal, financial, educational and institutional conditions under which new commercial space markets can emerge, attract investment and mature over time.

In summary, Luxembourg's strategy illustrates a government deliberately using strategic prioritization to align legislation, investment, education and institutional development around a common economic objective. Rather than viewing industrial development as a consequence of successful space activities, Luxembourg treats it as the central purpose around which its space strategy is organized.

2.2.3 Delivery: Who is responsible for implementation?

Rather than relying on a single delivery institution, Luxembourg has aligned specialized agencies, public investment programs, research organizations, educational initiatives and international partnerships around the common objective of building a commercially competitive space sector. While the primary delivery institution remains Luxembourg Space Agency, implementation mechanisms in Luxembourg therefore extend well beyond that.

Luxembourg Space Agency (LSA) was established in 2018 as part of the Ministry of the Economy. Unlike many space agencies, LSA was not established primarily to conduct scientific research or manage national space missions. Instead, its mission is explicitly economic: strengthening collaboration across the space sector, supporting innovation-driven business development, facilitating access to funding, promoting academic collaboration, attracting international investment and positioning Luxembourg internationally as a competitive location for commercial space activities (Luxembourg Space Agency n.d.). In this sense, the agency itself reflects the national policy objective. Its purpose is not space exploration as such, but economic development through space.

Delivery is further reinforced through a series of specialized programs and institutions. LuxIMPULSE, implemented through a Luxembourg–ESA agreement, provides a national funding mechanism that enables projects to proceed outside ESA's optional programs, allowing “quicker processes and enhanced protection of the intellectual property generated during the projects.” (Luxembourg Space Agency 2022: 15) For the period 2023–2027, the program is allocated €110 million (Luxembourg Space Agency 2022: 15). Similarly, the European Space Resources Innovation Centre (ESRIC), established in 2020 as a partnership between the Luxembourg Space Agency, the Luxembourg Institute of Science and Technology and ESA, provides dedicated research and innovation capacity supporting Luxembourg's long-term ambitions within space resources (Luxembourg Space Agency 2022: 13). Together, these initiatives demonstrate how public investment is used not simply to support existing companies, but to strengthen the wider ecosystem on which future commercial markets depend.

Capability development likewise forms part of Luxembourg's delivery architecture. Alongside investments in research infrastructure, initiatives such as the Space Campus established in 2022 provide a shared environment for talent development, including a specialized educational program such as a Master in Space Resources, to ensure that workforce development progresses alongside industrial development (Luxembourg Space Agency 2022: 24). Rather than treating education, research, and industry as separate policy domains, Luxembourg integrates them into a common delivery system supporting long-term economic competitiveness.

Finally, implementation of the Defence Space Strategy is coordinated by the Directorate of Defence and the Luxembourg Armed Forces. Here, dual-use systems are designed from the outset for both civilian and military purposes, and identified as a guiding principle of implementation (Luxembourg Defence Space Strategy 2022: 5). Rather than representing a separate governance model, defense

delivery extends the broader Luxembourg approach by integrating security objectives into an already well-established commercial and industrial ecosystem.

2.2.4 Strengths and trade-offs

Luxembourg demonstrates the advantages of organizing governance around a single overriding objective. Policy, strategy and delivery reinforce one another unusually closely because they are all directed towards economic development. Rather than distributing responsibility across multiple ministries with competing priorities, Luxembourg has concentrated the governance of its commercial space sector within the Ministry of the Economy and equipped it with a dedicated agency whose mandate is closely aligned with the government's broader industrial ambitions. This creates a governance model capable of combining legislation, investment, research, education and ecosystem development around a coherent long-term direction.

The Luxembourg case also illustrates how governments can move beyond supporting existing industries towards actively shaping future markets. Rather than waiting for commercial opportunities to emerge, Luxembourg has repeatedly sought to reduce uncertainty, attract investment and develop capabilities before markets have fully matured. The SpaceResources.lu initiative, the 2017 Space Resources Law, LuxIMPULSE, ESRIC and long-term investments in education all illustrate a state acting not simply as regulator or funder, but as an active market creator.

However, Luxembourg's greatest strength may also represent its principal governance trade-off. Because policy, strategy and delivery are so consistently organized around economic development, other public purposes – such as scientific excellence, exploratory research or broader societal applications – risk becoming secondary unless they can be connected to the same economic logic. The Luxembourg model therefore demonstrates not only the advantages of strong institutional alignment, but also the importance of recognizing what becomes less visible or indeed impossible when governance is organized around a single dominant objective.

2.2.5 Key learnings

Governments can deliberately create markets. Luxembourg demonstrates that governments need not merely regulate markets. Through legislation, public investment, education and institutional design, they can actively create the conditions under which entirely new commercial markets emerge.

Strong alignment can strengthen implementation. The Luxembourg case illustrates the advantages of organizing policy, strategy and delivery around a single overriding objective. When legislation, investment, education and institutions reinforce one another, governments may be better positioned to pursue long-term strategic ambitions.

Economic objectives shape institutional design. The location of the Luxembourg Space Agency within the Ministry of the Economy reflects a broader governance principle: institutional arrangements tend to mirror the primary public purpose governments assign to the space sector.

Alignment also involves trade-offs. Governance organized around one dominant objective can produce clarity and coherence but may also risk subordinating other public purposes unless mechanisms exist to balance competing societal objectives.

2.3 Sweden: From research infrastructure to strategic capability

The Swedish case illustrates how a governance system originally developed to facilitate and support scientific research and technological development through international cooperation can be adapted to meet new security and defense demands. The Swedish National Space Agency is located under the Ministry of Education and Research and continues to perform the central civil functions associated with research funding, innovation, and international representation. This institutional anchoring, however, is only part of the Swedish governance structure. Operational infrastructure is delivered through the state-owned and commercially run Swedish Space Corporation, SSC Space, which operates Esrange Space Center for both commercial and public purposes. Additionally, defense capabilities are developed through the Swedish Armed Forces, the Defence Materiel Administration (FMV), the Civil Contingencies Agency (MSB), and several ministries (Ministry of Defence 2024: 28-35).

The Swedish case is therefore not simply one of a research-oriented space agency being confronted by a new security agenda. It is a case of a distributed governance architecture in which research funding, commercial operations, strategic infrastructure and military procurement are located in different institutions with separate and partially aligned strategies and mandates. Since the adoption of [the Defence and Security Strategy for Space](#) (Ministry of Defence 2024), Sweden has begun mobilizing these different parts of the system to transform inherited research and technological capabilities into operational and strategic capacity. The central governance question is whether these separate institutions and funding streams can be sufficiently coordinated as the political purpose of Swedish space activities expands.

2.3.1 Policy: What is space understood to be?

The 2018 [A Strategy for Swedish Space Activities](#) issued by the Swedish Ministry of Education and Research, defines space as a shared domain, “a common resource that all countries have the same right to use and explore for peaceful purposes” (Government Offices of Sweden 2018: 2). Space activities are associated primarily with research and innovation, environmental monitoring, communications, navigation and societal benefit and is described as a domain that binds sectors and countries together (Government Offices of Sweden 2018: 1, 5-7). The strategy recognizes that modern society has become dependent on space-based services for many core functions and that this dependence creates vulnerability. Its response is nevertheless framed primarily around maintaining a safe, predictable and peaceful extra-terrestrial environment. It opposes the placement of weaponry in space, seeks to prevent space from becoming “an arena for conflicts,” and identifies space debris as the largest human-created threat to the extra-terrestrial environment (Government Offices of Sweden 2018: 2-3).

Security and defense were therefore not absent from Swedish space policy in 2018. The strategy emphasized that space activities had growing foreign-policy, security-policy and defense-policy

implications, but these considerations nevertheless remained subordinate to a civil understanding of space centered on peaceful use, research excellence, international cooperation and societal services.

The Defence and Security Strategy for Space (Ministry of Defence 2024) represents a change in emphasis. Adopted in response to the EU's Space Strategy for Security and Defence (2023) and with the explicit intent to be a "loyal NATO Ally" (Ministry of Defence 2024: 12) it describes modern societies as fundamentally dependent on space systems and treats that dependence as both a strategic asset and a security vulnerability. Space becomes not only infrastructure supporting society but an operational domain through which Sweden must protect its interests, support its total defense, and its gateway to prove itself a dependable ally to NATO, the EU, and their Nordic neighbors. The strategy states that Sweden must secure its "defense and security interests in and through space" and be prepared to take "technical, political, diplomatic and military measures when necessary" (Ministry of Defence 2024: 5).

This does not mean that the ambition to maintain space as a peaceful domain has simply been abandoned. As in the 2018 civil strategy, the two understandings coexist. Space remains a domain for scientific discovery, societal services and international cooperation, but it is understood as critical infrastructure, an operational defense domain, a source of strategic autonomy. The policy shift lies in the elevation of the security and defense considerations from a secondary dimension of civil policy into the organizing purpose of a separate defense strategy

2.3.2 Strategy: What is prioritized to achieve it?

Read together, it is clear that the Swedish approach is one of "science diplomacy" in which research and industry are mobilized towards integrating the Swedish space domain in regional and international cooperation rather than, for instance, building or scaling sovereign national programs:

The government frames the 2018 civil strategy as a platform for peaceful international cooperation (Government Offices of Sweden 2018: 2). The government describes space as "a common resource that all countries have the same right to use and explore for peaceful purposes" (Government Offices of Sweden 2018: 2), it emphasizes that space activities have substantial "foreign policy, security policy and defense policy dimensions" (Government Offices of Sweden 2018: 3), acknowledging that space is increasingly a critical infrastructure on which societies are becoming increasingly dependent. To support international cooperation the government sets three long-term objectives aimed at making Swedish space sector more competitive: supporting the technological development of space activities for civil and military activities (Government Offices of Sweden 2018: 4). It also commits to modernizing the legal framework, stating that Swedish space legislation should both meet international commitments and "enable private investment in Swedish space activities" (Government Offices of Sweden 2018: 4). Lastly, the strategy notes that "Swedish space research and research in space physics maintain high standards in international comparisons and are cited more often than the global average," and sets objectives to keep that standard and to guarantee researchers access to the infrastructure they need (Government Offices of Sweden 2018: 7).

The Swedish National Space Agency's updated institutional strategy from 2024 shows that the civil agency itself is attempting to adapt to changing geopolitical conditions. It establishes three long-

term goals: the agency should become the coordinating expert authority for Swedish space activities; ensure access to secure, reliable and nationally relevant products and services based on space infrastructure; and strengthen Swedish competitiveness (Swedish National Space Agency 2024: 10–12). It explicitly identifies the need to coordinate dual-use technology development, civil-military cooperation and national space situational awareness (Swedish National Space Agency 2024: 10). It also proposes a national satellite program and continued development of Esrange (Swedish National Space Agency 2024). International cooperation is again central to this model: in 2024, almost SEK 1 billion (more than 75 per cent of the Swedish National Space Agency's appropriation) was directed towards ESA programs (Swedish National Space Agency 2026). The 2026 budget added a further SEK 100 million annually for ESA participation during 2026–2028 (Swedish National Space Agency 2025).

In the 2024 defense and security strategy for space, the overall aim is to secure Sweden's defense and security interests by establishing the country as a significant and responsible space actor through both national and international activity (Ministry of Defence 2024: 38). The defense strategy adds a more selective approach to national capability-building. Sweden will make strategic choices between ownership, international cooperation and commercial access, while developing sovereign capabilities for reconnaissance and surveillance and strengthening access to launch infrastructure. The objective is therefore not complete self-sufficiency, but greater control over capabilities regarded as critical to national freedom of action (Ministry of Defence 2024).

Defence Minister Pål Jonson framed the reasoning bluntly when the strategy was adopted: "Space is an arena for cooperation", and Sweden needs to be ready "to take technical, political, diplomatic and military measures when necessary" (Ministry of Defence 2024: 5). Where the 2018 national strategy treated security as one dimension among research, industry and cooperation, and kept the emphasis firmly on peaceful and commercial use, the 2024 strategy relates security to military capability, resilience and alliance alignment, and it names space as a domain where Sweden may need to act with military means. This also reflects the wider change in Swedish security politics with the NATO membership in 2024 ([Government Offices of Sweden n.d.](#)).

2.3.3 Delivery: Who is responsible for implementation?

On the civil side, the Swedish National Space Agency is an administrative authority under the Ministry of Education and Research. It funds national research and technological development, manages Swedish participation in ESA and EU programs, processes applications for launch at Esrange, supports industrial innovation, and represents Sweden in international space cooperation. Its 2024 strategy positions it as the potential coordinating center of the wider system, including civil-military cooperation and national space situational awareness.

Operational infrastructure, however, is delivered through SSC Space, a state-owned company whose mandate combines commercial and research activities. SSC is responsible for operating Esrange, while its public mission includes launching rockets and balloons for research and technological development. This makes SSC neither an ordinary administrative authority nor a conventional private company, but a commercially organized state delivery institution managing strategic national infrastructure. Esrange was established as a European scientific facility in the 1960s and transferred to Swedish ownership through SSC in 1972. Its functions have since expanded to include ground-station services, spacecraft operations, rocket and engine testing, suborbital launches and

the development of potential future orbital-launch infrastructure. Spaceport Esrange was inaugurated in 2023, but orbital capability is still being established with the first launch currently planned for 2028.

The Swedish state is financing this transformation directly. In June 2026, SSC received a capital contribution of SEK 386 million intended to support its transformation in accordance with both the civil strategy for Swedish space activities and the Defence and Security Strategy for Space. This creates a concrete link between changing policy objectives and investment in an existing delivery organization rather than assigning all new responsibilities to the national space agency (SSC 2026).

Defence delivery follows a separate institutional chain. The Swedish Armed Forces define operational requirements and operate military capabilities. FMV procures and delivers equipment, while FOI contributes research and technical expertise. The procurement announced in January 2026 represents the transition from experimentation towards operational capability, with the Swedish government allocating SEK 1.3 billion to approximately ten reconnaissance and surveillance satellites, with delivery scheduled between 2026 and 2028. FMV contracted Finnish ICEYE and Planet Labs for SAR and electro-optical systems and services.

Swedish delivery is therefore not centered on one national agency. Research funding and international participation are managed by the Swedish Space Agency; strategic infrastructure and commercial services by the Swedish Space Corporation and Esrange; and operational military capability through the Armed Forces and FMV's procurement system.

2.3.4 Strengths and trade-offs

A central strength of the Swedish model is the range of capabilities already present within the country. Firstly, Sweden possesses an internationally recognized research and innovation community, where researchers and industry are embedded in European networks and alliances through Sweden's pursuit of participation in regional and European programs. Secondly, the Swedish state owns an operational company and strategic launch infrastructure developed over several decades. Thirdly, the Swedish approach has consistently been one of "science diplomacy" where the established "way of doing things" has been to pursue international alliances and complementarity. Sweden, therefore, does not need to construct a national space capability from the beginning. Instead, it can extend and adapt existing scientific infrastructure and governance capability towards new commercial, governmental, and defense purposes.

The main trade-off in the Swedish government model is that authority and resources remain distributed. With its 2024 strategy, the Swedish Space Agency seeks to become the coordinating authority and calls for the agency to lead civil-military cooperation and coordinate national space situational awareness. Meanwhile, it does not operate Esrange, nor does it direct or control defense procurement, and the larger part of funding into the space area and operational capability is being channeled through SSC, FMV and the Armed Forces. The Swedish Space Corporation on the other hand, does manage Esrange, but the defense investments needed to develop its civil, defense, and commercial uses are controlled elsewhere, not least by FMV and the Armed Forces. These institutional specializations may be individually effective, but they create a continuing need to align policy, knowledge, budgets and priorities across different parts of government. Sweden may therefore be

developing a coordinating center at the same time as delivery power becomes increasingly distributed through other channels making the key question whether the agency's coordinating ambition is supported by sufficient authority.

2.3.5 Key learnings

Research infrastructure can be transformed into strategic infrastructure: Sweden demonstrates that scientific infrastructure developed over decades can be extended towards commercial and defense purposes without necessarily abandoning its original research mission.

A national space agency may constitute only one part of the delivery architecture: Swedish research funding and international representation are centered on SNSA, while infrastructure is operated by SSC and military capability is delivered through FMV and the Armed Forces.

Coordinating ambition must be matched by mandate and resources: The Swedish Space Agency seeks to become the coordinating expert authority for all Swedish space activity, but this role will depend on whether it receives the authority and resources required to align institutions controlling separate budgets and delivery mechanisms.

Sovereignty is multidimensional: A state can acquire sovereign operational control through foreign-built systems without acquiring the domestic industrial capacity required to manufacture, repair, adapt, or replace them.

2.4 Poland: Delivery without an integrated program

Editorial note: Most of the key Polish documents are available in Polish only. Given the absence of authorized translations, we have relied on AI translation and the assistance of Mariusz T. Kłoda, PhD, Nicolaus Copernicus University in Toruń (New Technologies and Space Exploration in Commercial Law – Laboratory). We are thankful to Kłoda for assisting us through a background interview and for helping ensure we have not misunderstood the documents. However, the following analysis and conclusions here are our own, and we take full responsibility for any potential misunderstandings that remain.

The Polish case is instructive because its central governance problem has changed remarkably quickly. For much of the period after the Polish Space Strategy was adopted in 2017, political ambition ran ahead of the institutional, legal, and financial mechanisms needed to deliver it. On paper, the strategies were assigned to the relevant public administration authorities, consistent with their constitutional and statutory tasks, but their effectiveness and ability to deliver was another matter. The National Space Programme meant to be the main implementation instrument of the strategy was never adopted, key legislation was held up since 2013, and in 2024 Poland's Supreme Audit Office concluded that the government had not built an adequate system for implementing and monitoring its space strategy (Supreme Audit Office [NIK] 2024: 7, 15; [Polish Space Agency 2024a](#)).

By 2026, however, the picture looks different, and part of the shift comes from the security pressure created by Russia's war in Ukraine. Poland has adopted its first comprehensive Space Activities Act, raised its financial commitment to ESA, begun acquiring and operating national military satellite capabilities, committed major resources into secure satellite communications, and agreed with ESA to set up a new center for civil security and resilience in Warsaw ([Adamowski 2026](#)). Delivery, in other words, is now happening. What is still missing is the integrated, multi-institution, multi-budget National Space Programme meant to connect these activities to the adopted policy and strategy. Poland therefore illustrates what happens when delivery occurs through several sectoral routes without the national program originally intended to connect them.

2.4.1 Policy: What is space understood to be?

Two documents frame Polish space governance. The first is the [Polish Space Strategy of 2017](#), adopted by the Council of Ministers and coordinated by the minister competent for the economy, currently the Minister of Development and Technology. Under the Council of Ministers' resolution of 26 January 2017, coordination of the strategy was entrusted to that minister, who also holds the statutory task of shaping and conducting Poland's space policy, including cooperation with the European Union and the European Space Agency. The Polish Space Agency (POLSA) sits under that minister. The strategy treats space as three things at once: an industrial and technological sector, a source of public services and applications, and a matter of national security and defense. Its objectives include raising the competitiveness of Polish industry, widening the use of satellite data in the economy and public administration, developing national capabilities for security and defense, creating favorable conditions for the sector, and building the skilled workforce it needs (OECD & European Commission 2025). The strategy placed strong emphasis on moving Poland beyond participation in international programs towards developing national industrial and institutional capabilities. The mechanism for that was a National Space Programme (Krajowy Program Kosmiczny, KPK): a multi-instrument, multi-budget and multi-institution program that could combine funding and delivery across several ministries and public bodies. Rather than leaving POLSA solely responsible for implementation, it was meant to coordinate the different institutions and funding streams through which the strategy would be carried out.

The second document is the [National Security Strategy of 2020](#), also under revision, which places space inside Poland's wider security and defense architecture (President of the Republic of Poland 2020: 7, 18-19). Responsibility for it sits with the Council of Ministers, in particular the Minister of National Defence, together with the President of the Republic of Poland, an arrangement that follows from the [Act on the Defence of the Fatherland of 2022](#) and the constitutional position of those authorities. The strategy expects military activity to take place across more domains, including outer space, and calls for a national integrated situational-awareness system built on national Earth-observation satellites, national satellite communications and military capabilities for operations in space (President of the Republic of Poland 2020: 18-19).

The relationship between these two documents is significant. The 2017 strategy treats security and defense as one purpose of national space development among several; the 2020 strategy makes space capability part of the state's ability to deter and defend. They also sit with different authorities: the civil strategy with the minister competent for the economy, the security strategy with the Council of Ministers (the Minister of National Defence) and the President of the Republic of Poland. Both pre-date Russia's full-scale invasion of Ukraine in February 2022, which has since sharpened the urgency

around these capabilities and is part of what is now driving the updates to both. As in several other cases in this report, space in Poland has moved from being mainly an emerging industrial and technological sector towards also being strategic infrastructure and an operational security domain. Poland's model has therefore always held a civil-military division. POLSA itself is dual-use: one of its Vice-Presidents, the Vice-President for Defence Affairs, is an active-duty officer responsible for security, defense and the development of technologies with both military and civilian uses, an arrangement set out in POLSA's Organizational Regulations ([Polish Space Agency Organisational Regulations](#)). Both the strategy and its implementation program are now under review, and in early 2026 the responsible minister said the strategy would be updated first, with a new National Space Programme to follow once the revised strategy is adopted ([Kaczanowski 2026](#)).

2.4.2 Strategy: What is prioritized to achieve it?

The central instrument the 2017 strategy relied on was the National Space Programme. The strategy set it out as the mechanism that would turn strategic ambition into coordinated, funded delivery, providing advisory, financial and educational support and, above all, combining instruments, budgets and institutions across government rather than resting on a single ministry or agency (Council of Ministers 2017: 16-17). That mechanism was never established. Several versions were developed; POLSA led the work at first, then responsibility passed to the minister responsible for the economy. A proposed National Space Programme for 2023-2027 reached the Government Analysis Centre in 2022, which assessed it "positively with reservations." Its concerns included the implementation schedule, the implications for POLSA, financing, and the staffing and workload required in both POLSA and the responsible ministry. Poland's Supreme Audit Office [NIK] subsequently identified weak coordination between the ministry and POLSA, as well as the late involvement of the Ministry of Finance, as important reasons why the program failed to progress (NIK 2024: 18-19). The Minister of Finance had not been brought in at the start, even though securing the money was one of the program's central problems. Among the problems presented, the draft National Space Programme was not submitted for consideration by the Council of Ministers at all. Instead, in September 2023, the minister approved a smaller document, the Krajowy Program Kosmiczny, działania Ministra Rozwoju i Technologii na lata 2023-2027 (so-called small National Space Programme), which was never published in the official journal. The Supreme Audit Office was clear that the activities included in this legal instrument were of a preparatory and pilot nature, could not stand in for the cross-government National Space Programme the 2017 strategy had envisaged (NIK 2024: 16-20). That gap matters, because the original program was meant precisely to solve the problem that arises when space objectives cut across ministries with different responsibilities and budgets. Poland did not simply wait for it. From 2023 onwards, the government began pursuing individual objectives through other routes.

The first route has been ESA participation used as a tool of national capability-building. In 2023 Poland raised its ESA contribution, including €85 million for the CAMILA Earth-observation program and further funding for optional programs, technology development, and skills ([Polish Space Agency 2024b](#)). CAMILA is meant to build a Polish Earth-observation constellation and ground segment while bringing Polish industry into the work. At the ESA Ministerial Council in November 2025, Poland committed almost €550 million to optional ESA programs for 2026 to 2028, covering Earth observation, secure connectivity, space transportation, in-orbit servicing, space safety, exploration and technology development ([Poland Insight 2025](#)).

The second route is direct defense capability. The 2024 NIK audit was much more positive about the Ministry of National Defence than about the civilian governance system. The ministry had developed its own departmental plan for implementing the Polish Space Strategy and, in 2023, adopted a concept for treating space as an operational domain within the Armed Forces (NIK 2024: 8, 49). This defense route has moved quickly. By May 2026, the MikroSAR program had put four radar satellites in orbit, operated by ARGUS, a military satellite reconnaissance agency, which reached operational readiness for military use of the system. The contract with ICEYE, worth about PLN 860 million, covers the radar satellites and a mobile ground segment (Mitkow 2026; Ministry of National Defence 2026).

The third route runs through internal security and secure connectivity. In July 2026 the Minister of Internal Affairs and Administration committed PLN 2.8 billion (€656 million) to Poland's part in the IRIS² secure-connectivity constellation (Ministry of Internal Affairs and Administration 2026).

The fourth is industrial policy, which is starting to acquire its own instruments. In July 2026 the government announced a PLN 500 million space investment fund to finance research, new technologies, start-ups, spin-offs and first industrial deployments, alongside investment in a national network of space-industry infrastructure (Space24 2026). Polish strategy is therefore visible in actual spending, even though it is not being delivered through the single mechanism the 2017 strategy imagined. ESA participation, military procurement, secure-connectivity investment and industrial-policy instruments each carry part of the national ambition through separate funding and institutional channels.

2.4.3 Delivery: Who is responsible for implementation?

The Polish Space Agency (POLSA) was established after Poland joined the European Space Agency in 2012, through the [Act on the Polish Space Agency of 26 September 2014](#). The reasoning behind it was explicitly comparative. The explanatory material accompanying the legislation noted that the space sector differs from ordinary markets because public authorities remain major funders and customers and argued that states active in space need institutions able to coordinate, represent and support their national interests ([justification to the draft Act on the Polish Space Agency 2014](#)). POLSA was given a broad portfolio: supporting research and industry, contributing to space policy, international cooperation, promoting satellite applications, education and skills, and supporting national security and defense ([Act on the Polish Space Agency 2014](#)). The agency was deliberately given a civil-military character on purpose rather than being confined exclusively to research or commercial development.

Performance is where the case turns. The [2024 review by Poland's Supreme Audit Office](#) found that POLSA had carried out only part of its assigned tasks. It did not maintain the register of space objects, because the necessary legal provisions were missing, and it did not provide the support foreseen in its founding act, because the implementing regulation was never issued. The audit records that issuing that regulation was the responsibility of the minister competent for the economy ([draft regulation of the Minister of Development and Technology on the detailed purpose, conditions and procedure for granting support by the Polish Space Agency](#)), not the agency, so POLSA was legally barred from carrying out some of the very tasks its founding law assigned to it (NIK 2024: 7). The Supreme Audit Office found that it had prepared an earlier National Space Programme draft unreliably during the period when it owned the process, producing a document that carried substantive and formal errors, that its own Council could not adopt, and that did not meet the standard of a

multi-tool, multi-budget and multi-institution program. The agency had also gone through real staffing and management instability. Read together, the audit shows why the shortcomings cannot be laid on the agency alone. Missing legislation, absent regulations, uncertain financing and weak coordination between ministries all limited what POLSA could deliver. Creating an agency does not on its own create the conditions it needs to work.

Some of the gaps presented have now been closed. The [Space Activities Act of 13 February 2026](#) came into force on 18 April 2026. That covers, among other things, licensing, inspection and enforcement, and making entries in the National Register of Space Objects. For civilian activities, the President of POLSA holds the powers of a public administrative authority. It puts the agency in charge of the national register. Activities run by bodies subordinate to or supervised by the Minister of National Defence stay under that minister (Space Activities Act 2026, Arts. 6-7, 44). The Act strengthens POLSA's formal administrative role and draws a clearer line between civilian and military space activities. Amendments alongside it also widen POLSA's statutory responsibilities, including the use of satellite data in the economy, public administration, science, education, defense and national security.

POLSA's own structure was revised from January 2026 as well. It now has dedicated units for programs, space security, Earth observation, navigation and connectivity, and space law, while the Vice-President for defense and security keeps the specific task of developing dual-use capabilities. These changes look like an effort to strengthen the formal and technical delivery functions the Supreme Audit Office's report had marked as weak. Whether the new structures and legal authority will be matched by enough long-term staffing, funding, and political weight is too early.

At the same time, some of the largest new space investments do not run through POLSA. Military reconnaissance is being developed through the Ministry of National Defence and its procurement and operational structures. Secure government communications are now financed through the Ministry of Internal Affairs and Administration. Much of the industrial capability-building goes through ESA or separate financial instruments. A further delivery body is being added at European level. In July 2026 Poland and ESA agreed to establish a Centre for Civil Security and Resilience in Warsaw, the first ESA center of its kind on the Alliance's eastern flank, meant to complement ESA's existing centers and support European security and resilience, including dual-use applications ([Adamowski 2026](#); [European Space Agency 2026](#)). The resulting architecture is therefore spread wide. POLSA remains the central civil space agency and has gained stronger regulatory powers, but much of the operational and financial delivery is happening through defense, internal security, ESA programs and new industrial-policy mechanisms

2.4.4 Strengths and trade-offs

Poland shows, historically, what happens when strategic ambition is not matched by the institutional machinery to carry it out. The 2017 strategy envisaged a National Space Programme able to align activity across government, and because that program was never adopted, responsibility remained formally distributed without a sufficiently strong mechanism for connecting budgets, priorities and implementation. The 2024 NIK audit is especially useful because it separates agency failure from system failure. POLSA, it points out, was not provided the legislation, regulations, or financing they need to carry out the tasks they had been given. This is an important governance lesson: a mandate

without authority and resources to enable it produces a situation in which the responsible authority cannot deliver.

By 2026, however, Poland demonstrates a second pattern. The absence of the integrated National Space Programme has not prevented delivery in general. Instead, ministries and other actors with clearer missions and access to real budgets have started delivering particular capabilities through their own routes. Poland is moving quickly from a fairly immature governance system towards operational capability, and it is using ESA participation strategically to build domestic industry and technical skill rather than treating membership as an end in itself ([Polish Space Agency 2023](#)).

But it also creates a new trade-off. The original governance problem was too little delivery. The emerging one may become how to coordinate increasingly substantial delivery spread across the state. Defense, internal security, industrial development, ESA participation, research, regulation and commercial support remain institutionally separate even as the money going into each grows. The National Space Programme was conceived in the first place because no single organization controlled all relevant budgets and responsibilities. Poland therefore raises an important question for governments considering space-governance reform. When an integrated delivery mechanism fails, sectoral actors with sufficient authority and resources may eventually move ahead without it. This can accelerate capability-building, particularly under conditions of urgency, but it does not remove the original need for national prioritization and coordination. It changes the task from mobilizing delivery to aligning it. The Polish case also warns against judging a national space agency apart from the system it sits in. POLSA's effectiveness has been shaped less by its own leadership and capacity, than by ministerial decisions on legislation and budgets and where responsibilities are otherwise placed by government

2.4.5 Key learnings

An agency can only deliver what the system around it allows. Poland had a national strategy and a dedicated space agency in POLSA but neither could deliver while the legislation, implementing program, financing, and cross-government coordination were missing.

A strategy needs a real implementation mechanism. The cross-government National Space Programme that was meant to turn Poland's 2017 strategy into funded delivery was never adopted, so ambition ran ahead of what any single body could deliver. For nations considering an agency, its tasks, legal form, and chain of command should be matched to the staff and money behind them, with priorities ranked, so the mandate does not outrun the capacity

Coordination may become the central problem as capability grows. When the integrated program never appeared, Poland still moved ahead after 2023 through separate routes in defense, internal security, ESA, and industrial policy. That kept delivery alive but perhaps changed the problem from too little delivery into aligning delivery spread across the state. Any governance model, agency or not, needs a mechanism to set national priorities and coordinate across ministries and budgets once the money starts flowing.

2.5 Finland: Centralizing direction, retaining decentralized delivery

Finland provides an unusual example of a competitive space sector without a dedicated national space agency. Responsibility is distributed across ministries, agencies and research organizations according to their existing mandates (Finnish Government 2025: 18). At the center sits the Finnish Space Committee, which operates under the Ministry of Economic Affairs and Employment and provides the principal mechanism for cross-government coordination (2025: 9). This decentralized model has allowed space expertise to remain embedded within the organizations responsible for defense, communications, weather, research, industrial development and other applications.

However, Finland is currently reconsidering whether the same governance model remains adequate as the significance of space expands. The [National Space Strategy 2030](#), published in 2025, explicitly called for an assessment of the national space administration. That assessment was completed in May 2026. Its central conclusion is not that Finland necessarily needs a space agency. Rather, it suggests that Finland may need a stronger central political direction, strategic coordination and an integrated view of funding, while retaining much of the existing decentralized operational delivery ([Ministry of Economic Affairs and Employment 2026](#)).

2.5.1 Policy: What is space understood to be?

Finland's earlier [Space Strategy 2025](#), adopted in 2018, was organized primarily around economic growth. Its vision was to make Finland "the world's most attractive and agile space business environment" (Ministry of Transport and Communications & Ministry of Economic Affairs and Employment 2018: 1), supported by market access, international influence and research. By 2023, however, the Finnish Space Committee concluded that both the space sector itself and the geopolitical and security environment had changed enough to require a new strategy (Finnish Government 2025: 11). The Minister of Economic Affairs appointed a working group to revise the strategy in 2030 ([Ministry of Economic Affairs and Employment 2024](#)). The resulting [National Space Strategy 2030](#) considerably broadens the political meaning assigned to space. Its vision is that by 2030 Finland should have "the world's most advanced space operating environment, which generates benefits for society as a whole" (Finnish Government 2025: 10). Space remains an economic and innovation domain, but it is now also understood as infrastructure supporting public administration, critical societal functions, security, defense, and security of supply. The strategy names the growing importance of space in security and defense as one of the reasons for its revision (Finnish Government 2025: 11). The new strategy is equally direct about Finland's limitations. Finland has finite resources and cannot develop every capability nationally. It therefore calls for deliberate choices about which capabilities Finland must possess itself and which can be accessed through international cooperation or partnerships. As the strategy puts it, Finland must identify "the areas in which Finland must be self-sufficient and the capabilities that can be built with partnerships" (Finnish Government 2025: 19). The expertise of Finnish companies and research environments should, where possible, be used in building those national capabilities. This selective approach is closely tied to international cooperation. Finland describes its national ability to operate in space as resting to a large extent on European cooperation. The EU Space Programme provides operational services, ESA is central to research and capability development, and NATO, the EU and bilateral partnerships increasingly provide frameworks for defense and security cooperation (Finnish Government 2025: 16, 20). Space is therefore

no longer framed mainly as a promising new economy. It has become a cross-cutting societal capability with Finland stating that national self-sufficiency must be selective rather than comprehensive.

2.5.2 Strategy: What is prioritized to achieve it?

The Space Strategy 2030 organizes Finnish space ambitions around four objectives. The utilization of space services should, by 2030, be embedded across all areas of Finnish society, supporting public administration, critical infrastructure, and defense, not just the commercial sector (Finnish Government 2025: 22). Finland should be an “inspiring, safe, and predictable environment for space actors” (Finnish Government 2025: 24) which involves up-to-date legislation. Finland should have the national capacity to produce and utilize space services, including space situational awareness, secure communications, and data analytics (Finnish Government 2025: 26-27). Lastly, Finland should be “a reliable and sought-after actor playing an active role in the space sector” (Finnish Government 2025: 28). The strategy places particular emphasis on integrating space services into existing sectors rather than treating space as a separate policy domain. Government, critical infrastructure, and security actors are encouraged to use satellite navigation, Earth observation, secure communications, and other space-based services, while Business Finland is tasked with supporting innovation and new application (Finnish Government 2025: 22-24).

Capability-building follows the selective principle established in the policy. The Space Committee, responsible ministries, defense, and security authorities and the National Emergency Supply Agency are tasked with determining which expertise, resources, and infrastructure must be available within Finland and which can be supplemented through international cooperation. Administrative branches are expected to cooperate when developing or acquiring capabilities and to avoid unnecessary duplication (Finnish Government 2025: 27). The strategy also makes industrial ownership part of the national capability question. Public R&D funding is intended to support new space businesses and attract private capital, while Tesi, Solidium and other public financial actors are identified as instruments through which long-term domestic ownership of strategically important companies can be supported (Finnish Government 2025: 25-26). The strategy itself recognizes this, tasking the Ministry of Economic Affairs and Employment and the Space Committee to assess whether the governance model remained appropriate (Finnish Government 2025: 25).

2.5.3 Delivery: Who is responsible for implementation?

Finland's delivery model is decentralized both politically and operationally. Under the Act on Space Activities (63/2018), the Ministry of Economic Affairs and Employment is responsible for the overall guidance, monitoring and development of civilian space activities. The Ministry of Defence separately holds overall responsibility for guiding and supervising the Defence Forces' space activities (Act on Space Activities 63/2018, [see Section 2-3](#)). Between these and other administrative branches sits the Finnish Space Committee. It operates under the Ministry of Economic Affairs and Employment and brings together senior representatives from government, public authorities, industry and research. Its functions include steering implementation of the national strategy, facilitating cross-government cooperation, coordinating international representation and advising on regulation and funding (Finnish Government 2025: 9, 33-35). It is supported by working groups covering

areas including navigation, remote sensing, space defense and security, space traffic management, science, communications and business ([Ministry of Economic Affairs and Employment n.d](#)).

Operational functions remain with specialist organizations. Business Finland provides R&D and innovation funding and supports commercialization; the Finnish Meteorological Institute plays a central role in weather, Earth observation and space situational awareness; Traficom handles communications, frequencies and relevant licensing functions; the Defence Forces develop military capabilities; and other ministries retain responsibility for applications within their own policy domains. The strategy therefore attempts to coordinate existing institutions rather than replacing their specialist functions with a central space organization. A concrete example is Finland's new Space Situational Awareness Centre, which began operating in 2025 ([Ministry of Transport and Communications 2024](#)). Rather than creating one unified organization, Finland established a civilian function at the Finnish Meteorological Institute, supported by the National Land Survey, alongside a separate Defence Forces center. The two remain organizationally independent but are designed to cooperate closely and avoid duplication ([Finnish Government 2025](#)).

The financial architecture follows the same logic. There is no common cross-government space budget. Each administrative branch prepares and finances its own activities. The 2026 governance review notes that ESA contributions are financed through the Ministry of Economic Affairs and Employment and Business Finland, other international activities through other relevant ministry budgets, and military space activities through the defense budget. It concludes that no organization currently holds responsibility for overall strategic budget planning for space ([Ministry of Economic Affairs and Employment 2026](#)).

The 2026 Working Evaluation group addresses this gap directly. It describes the existing system as decentralized at both the political/strategic and executive levels. Each ministry develops, prioritizes and finances the space capabilities relevant to its own responsibilities. The Space Committee can bring these perspectives together, but it has no decision-making or budget authority. The review also identifies the absence of a common procurement organization capable of managing major cross-government space-capability acquisitions ([Ministry of Economic Affairs and Employment 2026: 8-11](#)).

Historically, the coordinating machinery itself was very lightly resourced. The review records that between 2018 and 2025 the Space Committee secretariat contained no full-time members and had no dedicated operating budget ([Ministry of Economic Affairs and Employment 2026: 9](#)). The current committee, appointed for 2025–2028, already has a substantially strengthened secretariat consisting of five full-time Ministry officials as well as part-time representatives from other ministries and agencies. This indicates some strengthening of coordination, although government has not yet formally adopted the broader institutional reforms proposed by the review.

2.5.4 Strengths and trade-offs

The Finnish decentralized structure keeps space expertise closely connected to the societal functions it supports. Meteorological expertise remains within the Meteorological Institute, communications competence within Traficom and the relevant ministries, defense capability within the defense system, and R&D funding within organizations already equipped to administer innovation programs. The 2026 review itself notes that decentralization has created broad ownership across government

and allows highly specialized expertise to remain embedded in organizations where it can be combined with knowledge of end-users and sector-specific needs (Ministry of Economic Affairs and Employment 2026: 23).

The same structure, however, weakens Finland's ability to view space as one strategic whole. The review finds that the Space Committee's weak cross-government mandate and historically limited resources have contributed to the absence of a clear leadership and decision-making structure. Budget proposals arrive separately from different administrative branches, making it difficult for decision-makers to see the overall scale of space investment or to prioritize between competing needs. The review warns that this can produce imbalance, sub-optimization, duplication and inconsistent implementation (Ministry of Economic Affairs and Employment 2026: 23-24).

This does not lead the working group to conclude that operational delivery should necessarily be centralized. It evaluates three alternatives to the status quo. The first strengthens the existing Space Committee and secretariat. The second creates a dedicated Space Policy and Strategy Unit (APSY) together with a national space program, centralizing political leadership and strategic coordination while leaving execution with existing ministries, agencies and research organizations. The third goes further by creating both a central policy unit and a national space agency to centralize much of operational delivery as well (Ministry of Economic Affairs and Employment 2026: 7-8). The assessment concludes that the existing model needs to be strengthened. A strengthened Space Committee could provide a feasible short-term response, but over the longer term the working group finds that the APSY model, centralized political and strategic direction combined with continued decentralized implementation, corresponds well to Finland's emerging needs. By contrast, it does not consider the full centralization model involving a new space agency to be practicable (Ministry of Economic Affairs and Employment 2026: 25-28).

Creating a single agency could provide clearer leadership and simplify prioritization, but it would also require extracting specialist functions from ministries, agencies and research institutions where they are currently embedded. The review warns that this could narrow expertise, weaken links to end-users and disrupt functions that currently work effectively. By keeping implementation decentralized while strengthening strategic direction, Finland could retain specialized expertise while creating a stronger mechanism for deciding priorities, coordinating funding and avoiding duplication.

Finland therefore demonstrates that centralization is not a single institutional choice. Political direction, strategic prioritization, budget coordination and operational delivery can be organized separately. A system may need stronger central authority over the first three without requiring the creation of a central agency responsible for the fourth. This question is becoming still more relevant as defense becomes a larger part of Finnish space activity. The Ministry of Defence now describes space as an increasingly important operational domain and is preparing a dedicated defense space strategy, while defense representatives remain integrated into the Space Committee, its secretariat and working groups. Finland's challenge now goes beyond simply connecting ministries interested in space: it has to maintain coherent strategic direction as increasingly consequential civil and military capabilities develop through separate institutional systems.

2.5.5 Key learnings

Strategic centralization does not require centralized delivery. Finland demonstrates that political direction, strategic prioritization and oversight of funding can be strengthened without transferring operational functions into a single national space agency.

Decentralized delivery can preserve specialist capability. Keeping space functions within defense, meteorology, communications, research, and industrial bodies allows expertise to remain close to the organizations and users that need it. The trade-off is a greater need to coordinate between the authorities responsible for delivery.

Coordination requires authority as well as representation. A cross-government committee can connect institutions and knowledge, but its ability to shape national direction will remain limited if budgets, procurement decisions, and implementation authority sit elsewhere. Finland's review therefore emphasizes that coordination through representation alone is not enough: coordination must be backed by a clear mandate and the authority to make consequential decisions.

Distributed delivery increases the need for shared prioritization. As space becomes relevant to more parts of government, particularly defense and critical infrastructure, separate ministries may each be capable of delivering within their own mandates while still producing an incoherent national whole. The governance task here becomes creating a mechanism with authoritative representation through which priorities, investments, and consideration about sovereignty and dependencies can be considered and weighed against each other across the entire system.

2.6 Norway: State ownership as delivery architecture

Norway provides an example of a space governance model in which political responsibility is relatively concentrated while operational delivery is deliberately distributed across different organizational forms. Overall responsibility for civilian space policy lies with the Ministry of Trade, Industry and Fisheries. The Directorate for Space Activities (Direktoratet for romvirksomhet, previously Norsk Rom-senter) acts as the government's strategic adviser, coordinates national space activities and administers public programs and funding. It does not, however, operate most of Norway's space infrastructure itself. Instead, satellites, ground infrastructure and launch facilities are delivered through commercially organized companies in which the Norwegian state retains substantial ownership and strategic influence.

This arrangement has become increasingly significant as space has moved from being primarily a means of addressing Norway's geographical and societal needs towards also being understood as critical infrastructure and a security capability. [Norway's 2025 National Security Strategy](#) explicitly identifies space technology as strategically important and commits the government to ensuring Norwegian ownership in strategically important sectors, including space (Office of the Prime Minister 2025). At the same time, the new Space Act, which entered into force on 1 July 2026, strengthens the regulatory side of the system, giving statutory form to a supervisory function that had already been

placed with the Norwegian Civil Aviation Authority three years earlier ([Lov om aktiviteter i verdensrommet 2025](#); [Luftfartstilsynet n.d.](#)). Norway therefore illustrates a governance model in which policy, coordination, regulation and operational delivery are separated institutionally, while the state uses ownership, investment and procurement to retain influence over strategic capabilities.

2.6.1 Policy: What is space understood to be?

The primary policy document is Meld. St. 10 (2019-2020), *Høytflyvende satellitter – jordnære formål* [eng.: High-flying satellites – down-to-earth purposes], [The Government Strategy for Norwegian Space Activities](#) (Ministry of Trade, Industry and Fisheries 2019). It defines four goals for the Norwegian space activities: promoting profitable companies, growth, and employment; meeting important needs of society and user groups; ensuring satisfactory protection of important space infrastructure; and securing Norwegian foreign, security, and defense policy interests in space activities and in outer space (Ministry of Trade, Industry and Fisheries 2019: 8). The strategy privileges none of the four. It states that the main purpose of Norwegian public investment in space is that it should be a tool for Norwegian interests, and describes that investment as utility-oriented, emphasizing business development and concrete national user needs across nearly all sectors of society (Ministry of Trade, Industry and Fisheries 2019: 8). It then calls the government's own attitude to organizing the activity pragmatic, weighted towards using whatever available means can meet national needs cost-effectively (Ministry of Trade, Industry and Fisheries 2019: 8).

Rather than privileging one of these purposes, the strategy reflects a characteristically pragmatic understanding of space as an instrument through which several national objectives can be pursued simultaneously. It states that the principal objective of public funding is to advance Norwegian interests and that Norwegian investment has historically been oriented towards practical benefits, business development and concrete national user needs (Ministry of Trade, Industry and Fisheries 2019: 8). Geography has shaped these needs. Norway's maritime territory and activities in "the High North" have created demand for satellite communications, navigation, search and rescue, environmental monitoring and maritime surveillance. The 2019-2020 strategy describes international cooperation as a very efficient way to meet national needs, while noting that Norway has developed its own solutions where particular national requirements justify doing so, as with the Norwegian satellites for monitoring maritime traffic (Ministry of Trade, Industry and Fisheries 2019: 10). This combination of international cooperation and selective national capability-building has become a feature of Norwegian space policy.

The strategy also presents space as economic infrastructure. It describes the Norwegian space industry as the product of many years of investment by both government and industry, and attributes the suppliers' standing as world leaders in certain niches to public policy instruments, a willingness in industry to invest for the long term, and demanding national customers. Space-based services support the maritime sector, fisheries, the offshore industry, aviation and land-based transport (Ministry of Trade, Industry and Fisheries 2019: 9).

The 2025 National Security Strategy carries this broad understanding of space forward but changes its strategic context considerably. It commits Norway to strengthening military capabilities "on land, at sea, in the air, in cyberspace and in space" (Office of the Prime Minister 2025: 18) and links Norway's geographical position in the Arctic to intelligence, surveillance, military presence and closer

cooperation with the United States, including specifically “intelligence, special forces and space activities” (Office of the Prime Minister 2025: 20). Most interesting, for our interest in governance, the strategy states that Norway should maintain adequate national capability and seek to maintain control and expertise in strategically important areas and “take steps to ensure that there are Norwegian-owned companies” in sectors including space technology (Office of the Prime Minister 2025: 29).

Ownership therefore becomes part of Norway's conception of national security. This is not a policy of complete self-sufficiency: the same National Security Strategy explicitly states that Norway “will never be fully self-sufficient” and requires binding international partnerships (Office of the Prime Minister 2025: 29). Rather, Norway appears to be making deliberate choices about where international dependence is acceptable and where national ownership, control, or competence is considered strategically necessary.

2.6.2 Strategy: What is prioritized to achieve it?

Norway's strategy is combining extensive international participation with selective investment in capabilities responding to specifically Norwegian needs. The 2019-2020 strategy describes international cooperation as an efficient means of gaining access to capabilities that would be uneconomic to reproduce nationally, while reserving national investment for areas where Norwegian geography, civil or commercial requirements, or strategic interests make domestic solutions valuable (Ministry of Trade, Industry and Fisheries 2019: 8-9).

The 2026 budget proposal makes this approach considerably more explicit. The Ministry identifies space as fundamental to the functioning of modern society and to national security, particularly in the High North, while recognizing that Norway cannot develop and exploit the best space-based solutions without a competitive domestic sector. It therefore combines continued participation in ESA and EU programs with more targeted national investment. Three space-related functions are identified as fundamental national functions: positioning, navigation and timing; space surveillance; and satellite-based surveillance and Earth observation (Ministry of Trade, Industry and Fisheries 2025: 22).

A central new mechanism is the Norwegian Programme for Space Capabilities (NORKAP), established for 2026. Rather than replacing participation in ESA, NORKAP is intended to combine ESA instruments with national measures so that capabilities and technologies developed through international programs can be adapted more deliberately to Norwegian societal and user needs (Ministry of Trade, Industry and Fisheries 2025: 189). The government's budget proposal explicitly connects this national follow-up to Norwegian security and High North interests. Alongside NORKAP, Norway is strengthening participation in the EU's Secure Connectivity program and continuing to develop national capabilities in space security, Earth observation and space situational awareness (Ministry of Trade, Industry and Fisheries 2025: 22, 188). Norway's strategy is therefore neither primarily to build independently nor simply to purchase access internationally. It uses ESA and EU participation where cooperation provides scale and access, while investing nationally where geography, security and specific user requirements justify greater Norwegian control. Andøya's launch infrastructure, national satellite systems and the state-owned communications infrastructure operated by Space Norway are examples of the latter approach.

2.6.3 Delivery: Who is responsible for implementation?

Norway's delivery architecture combines a directorate, two directly state-owned companies (Space Norway and Andøya Space), a jointly owned ground-station operator (Kongsberg Satellite Services), and two coordination committees: the Space Committee (Romutvalget) and the Space Security Committee (Romsikkerhetsutvalget). The Directorate for Space Activities (Direktoratet for romvirksomhet; NOSA in its own English-language material) is a government administrative body under the Ministry of Trade, Industry and Fisheries (Ministry of Trade, Industry and Fisheries 2025: 186; Norwegian Space Agency n.d.). It took its new name on 1 September 2025, following a decision in Council of State on 28 March 2025 (Ministry of Trade, Industry and Fisheries 2025: 186). Its 2026 main instruction describes it as "the state's strategic adviser for space activities" and gives it responsibility for advising the Ministry and other government authorities, following up Norway's international cooperation, administering public grants, supporting infrastructure, business development and innovation, and coordinating Norwegian space activities (Ministry of Trade, Industry and Fisheries 2026a: 2-3). Importantly, its coordinating mandate has recently been strengthened. The Directorate serves as secretariat for both the Space Committee (Romutvalget) and Space Security Committee (Romsikkerhetsutvalget), coordinates administrative and user interests, and is explicitly required to facilitate civil-military cooperation, including "multi-use solutions under national control" (Ministry of Trade, Industry and Fisheries 2026a: 2-3). Civil-military cooperation is also included as a formal performance indicator in its 2026 assignment letter (Ministry of Trade, Industry and Fisheries 2026c: 5). The Directorate nevertheless does not itself operate Norway's principal satellites, ground stations or launch infrastructure. Those functions are largely delivered through companies.

Space Norway is wholly owned by the Norwegian state through the Ministry of Trade, Industry and Fisheries (Ministry of Trade, Industry and Fisheries 2025: 257). The government's stated rationale is that the company should manage and develop "safety-critical and cost-effective space-related infrastructure" (Ministry of Trade, Industry and Fisheries n.d.) that meets important Norwegian societal needs. Unlike an administrative agency, Space Norway operates commercially while owning and operating strategic national infrastructure. The state puts it in category 1, the group that competes with other firms, where the ownership objective is "the highest possible return over time within sustainable limits" (Ministry of Trade, Industry and Fisheries 2025: 255).

The Arctic Satellite Broadband Mission shows what this hybrid role looks like in practice. Space Norway's two ASBM satellites were launched in August 2024, and the company took over their operation in October (Space Norway 2024). They carry payloads for the Norwegian Armed Forces, the US Space Force and the commercial operator Viasat. One of the two also carries a Norwegian-built instrument that measures radiation in space and passes the data to the European Commission, which uses it in work on the next generation of Galileo satellites (Space Norway n.d.).

Kongsberg Satellite Services (KSAT) provides the principal ground-station component of this architecture. It operates several hundred antennas across more than 40 ground-station locations and delivers Earth-observation services but has a different ownership structure: Space Norway owns 50 per cent and Kongsberg Defence & Aerospace the remaining 50 per cent (Kongsberg Satellite Services n.d.). KSAT therefore combines indirect state ownership with industrial ownership rather than being a wholly state-owned company.

Andøya Space performs another delivery function. The Norwegian state owns 90 per cent of the company, the remaining 10 per cent is privately held (Ministry of Trade, Industry and Fisheries 2026b:

88). The government's stated rationale for this ownership is unusually explicit: maintaining national control over a launch complex for small satellites and testing facilities for the Norwegian Armed Forces and defense industry, while ensuring industry, researchers and public authorities have access to infrastructure for technology testing and research (Ministry of Trade, Industry and Fisheries 2026b: 88). Andøya has now progressed beyond being a prospective launch facility. On 5 September 2026, the German company Isar Aerospace reached orbit from Andøya - the first time a European company has placed a payload in orbit using its own vehicle launched from continental Europe (European Space Agency 2026).

A further part of the architecture is now regulation. [Norway's 1969 Space Act](#) (Lov om oppskyting av gjenstander fra norsk territorium m.m. ut i verdensrommet 1969) was replaced by a new Space Act adopted in December 2025 and brought into force on 1 July 2026. The new law establishes a much more comprehensive system governing authorization of space activities, operator obligations, liability, insurance, supervision and administrative sanctions ([Lov om aktiviteter i verdensrommet 2025 §§ 5–27](#)). The Norwegian Civil Aviation Authority (Luftfartstilsynet) supervises space activities, and has done so since 1 January 2023 (Luftfartstilsynet n.d.). The 2026 budget documentation names it as national supervisory authority for space activities and satellites (Ministry of Trade, Industry and Fisheries 2025: 186). Its role therefore predates the new Act by three years. The Act wrote into law an arrangement the government had already made administratively, which means Norway separated supervision from the rest of its space administration by decision first and by statute afterwards.

Norway therefore deliberately separates strategic advice and coordination, regulation and operational delivery. The Ministry sets political direction and exercises state ownership; the Directorate coordinates, advises and administers programs; the Civil Aviation Authority regulates; while operational delivery sits with companies of different kinds from Space Norway to Andøya Space to KSAT. Space Norway is category 1 with a return objective (Ministry of Trade, Industry and Fisheries 2025: 255, 257); Andøya Space is category 2, partly financed through appropriations, with a return objective only for its competitive activity (Ministry of Trade, Industry and Fisheries 2025: 256; 2026b: 88); KSAT is jointly held with industry (Kongsberg Satellite Services n.d.).

2.6.4 Strengths and trade-offs

A central strength of the Norwegian model is that public purpose does not require direct administrative delivery. Norway has used several organizational forms to perform different governance functions: an administrative Directorate for advice and coordination, a separate regulator, and commercially organized companies for operational infrastructure. State ownership provides a mechanism through which the government can maintain national influence over strategically important assets without requiring a government agency to operate satellites, ground stations or launch infrastructure itself.

This model also helps explain how the Norwegian space sector has developed. The 2019–2020 strategy explicitly attributes industrial development to a combination of sustained public and private investment and demanding national customers. Public funding of research, development and infrastructure created long-term opportunities for industry, while public needs in sectors such as maritime surveillance, communications and defense created markets in which Norwegian companies could develop specialist capabilities (Ministry of Trade, Industry and Fisheries 2019: 9). The state has therefore acted not only as funder but as owner, investor and customer.

This becomes increasingly relevant in the current security environment. Norway's 2025 National Security Strategy explicitly links national security to Norwegian ownership of companies in strategically important sectors, including space technology (Office of the Prime Minister 2025: 29). In the Norwegian case, state ownership is therefore not merely an historical feature of the economy. It is increasingly articulated as a strategic instrument for maintaining national control over critical capability.

The model nevertheless creates its own coordination challenges. Operational responsibility is deliberately distributed between organizations with different legal forms, incentives and responsibilities. The Directorate coordinates space activity but does not exercise ownership authority over Space Norway or Andøya, nor does it direct the Armed Forces. Corporate ownership remains with the Ministry, regulation lies with the Civil Aviation Authority, and defense requirements originate elsewhere in government. The strengthening of the Directorate's coordinating and civil-military mandate in 2026 can therefore itself be read as a response to the increasing need to connect these separate parts of the delivery system.

There is also a potential governance tension in the state's multiple roles. The Norwegian state is simultaneously policymaker, funder, major customer and owner of strategically significant companies. The new regulatory structure gives statutory form to a separation between some of these functions by placing supervision with the Civil Aviation Authority rather than the Directorate or the companies themselves. The Norwegian case thus demonstrates that state ownership can strengthen strategic control, but that ownership, regulation and operational delivery must be institutionally distinguished if the state is to perform several roles within the same sector.

Finally, Norway illustrates that national control and international dependence are not opposites. Its budget remains heavily oriented towards ESA, EU and other international programs, and major Norwegian systems incorporate foreign technologies and partners. At the same time, Norway deliberately retains national ownership of infrastructure it considers particularly important. The model is therefore selective rather than self-sufficient: international cooperation provides scale, while state ownership and national programs are used where particular societal, geographical or security interests require greater control.

2.6.5 Key Learnings

State ownership can itself constitute a delivery mechanism. A government does not need an administrative agency to operate strategic infrastructure directly. Norway uses commercially organized companies to deliver satellites, ground services and launch infrastructure while retaining substantial public ownership and strategic influence.

The state can be more than a funder. Norwegian space-sector development has been supported by the state acting simultaneously as investor, infrastructure owner and demanding customer. This has helped create markets and capabilities around concrete national needs.

Different governance functions can be deliberately separated. Policy and ownership sit primarily with the Ministry of Trade, Industry and Fisheries; strategic advice, funding and coordination with the Directorate; regulatory supervision with the Civil Aviation Authority; and operational delivery with specialized companies. The relevant question is therefore not

whether one organization performs all necessary functions, but whether the functions are clearly assigned and effectively connected.

Distributed delivery requires active coordination. Norway's strengthening of the Directorate's civil-military and cross-government coordinating mandate in 2026 illustrates that even a mature institutional system must adapt as space becomes relevant to more parts of government.

International cooperation and national control can coexist. Norway relies extensively on ESA, EU programs and international partners while deliberately retaining ownership and domestic capacity in areas regarded as strategically important. The relevant strategic choice is not between independence and dependence, but where national control is considered necessary.

3. Implications for governance: Denmark and beyond

This chapter uses the country studies as an entry point into a broader discussion of space governance and institutional design. Denmark provides the immediate point of reference, but the issues identified are not confined to the Danish case and are relevant to governments and stakeholders more generally as they reconsider how national space governance should be organized.

3.1 An agency does not in itself solve coordination and delivery problems

In the Danish space ecosystem, it is often discussed whether Denmark would be better off with a space agency. Upon examining how countries such as Finland, Sweden, Norway, Luxembourg, Poland, and the United Kingdom organize their space sectors, we propose a more relevant starting point is: Which are the problems we are trying to solve? In Europe, countries have established space agencies for very different reasons. Some focus primarily on research and international cooperation. Others focus on industrial development, infrastructure, defense, economic growth, or national capability-building. There is no single “space governance model” for Denmark to copy, because each country’s mode of organizing its space sector reflects the national governance problems and the national governance functions a particular government has sought to alleviate and strengthen. The task for government is therefore not to identify a particular model to copy, but must begin with answering a different set of questions:

Where in the space domain is Denmark currently too fragmented, too slow, too dependent, or too invisible?

Which functions commonly carried out by space agencies are currently fragmented, weakly coordinated, or insufficiently resourced?

In which areas do Denmark wish to mobilize and strengthen its space ecosystem (research and innovation, industrial growth, defense, green transition, pharmaceuticals, exports, international partnerships)?

Where would the mandate and capacity to coordinate these activities, manage the trade-offs between them, identify future capability needs, and translate political ambitions into national capabilities best be placed?

These are ultimately questions about how policy, strategy, and delivery are organized and connected. This is where the debate about a Danish space agency can sometimes become misleading. Agencies across Europe vary greatly in authority, budget, portfolio, and political positioning because they have been designed to perform different functions. The first task is therefore to identify the functions our current governance structure cannot perform, and equally important, why. Only once these questions have been answered can it be determined whether a space agency is the best solution, and if so, which mandate, authority, and resources it would require to deliver the desired outcome.

3.2 Function must take precedence over governance form

None of the six countries examined has responded to the growing demands on the space sector by preserving their existing structures. In each case, the changes made have come down to decisions about mandate, budget, and institutional placement. The United Kingdom reorganized its space governance model twice in sixteen years, dissolving BNSC into the arms-length agency UKSA in 2010, only to fold it back into first the Department for Science, Innovation and Technology and then the Department for Business, Innovation, Science, and Trade in 2026. When Norway renamed its coordinating space mechanism from Norwegian Space Centre to the Norwegian Space Agency in 2019, they also broadened its mandate. Finland recently reviewed its own space governance model to “assess how the operating model of the national administration meets the needs of the developing space operating environment” (2025: 25). The trigger across the cases is the same: the functions a country needs its space governance to perform have either changed or were inadequate.

This pattern points towards a useful question to ask about any space governance model: Which are the key functions that a country needs its governance mechanisms in the space area to do? Is it to set political direction, is it translating political ambition into implementable strategies, is it representing national interests internationally, is it to stimulate industrial growth and its domestic space sector, is it holding together an ecosystem of companies and universities, connecting the civilian and military sides of space, or making sure space serves all ministries’ needs and not just those of research and defence?

Countries split these functions differently. Some concentrate them in a single agency while others spread them across several bodies, held together by committees or cross-ministerial coordination. As we have shown in the case studies, there is no governance model which in itself outperforms the others: a well-conceived organizational form does not guarantee the necessary functions actually get performed. If coordination is placed within a governance structure (be that a cross-ministerial coordinating body or an arms-length space agency) no budget of its own, it will fail at delivery. So will an agency that holds a budget but does not have the right access to the ministers shaping the political direction. Authority without resources, or resources without authority, are two different scenarios, yet they both fail to align policy, strategy, and delivery. To sum up: If a governance function sits with an institution that lacks the mandate, the budget, or the right institutional placement, it does not matter whether it is called a space agency, a committee, or a ministry within government.

3.3 Institutional placement shapes delivery capacity

One of the things the comparative analysis keeps returning to is the importance of where ownership for space policy is placed, because it will determine which delivery mechanisms are available. In Denmark, responsibility for space has, so far, been anchored within the ministry which, at any given moment, has been responsible for research and higher education. This placement has produced important strengths: internationally recognized research environments and close relationships between universities and the private space sector, anchored in strong ESA participation. But it also means that when space policy intersects with industrial development, defense, critical infrastructure, civil preparedness, or foreign policy, as it increasingly does, the institution responsible for space governance is not naturally positioned to act in those domains. They can participate, consult, and advise

– if asked. But they do not control the relevant budgets, they do not sit at the relevant tables by default, and they do not carry the mandate to coordinate and drive delivery in those areas.

This brings the question of institutional placement to the forefront. A Danish Space Office being embedded within a science and education ministry, will almost inevitably struggle with industrial policy, strategic procurement, defense coordination, and security considerations. Not because it lacks ambition or talent, but because those functions require different institutional relationships, different budget flows, different decision-making cultures, and access to different parts of government. In contrast, Luxembourg Space Agency, embedded in the Ministry of Economy with a mandate focused on economic diversification, naturally connects space to market creation and investment instruments. And Norway's agency, sitting under the Ministry of Trade and Industry, naturally connects space to commercial development and infrastructure. The placement of those institutions are not incidental arrangements. They reflect deliberate choices about what space governance is for and subsequent attempts to align policy, strategy, and delivery.

3.4 Fragmented governance produces competing understandings of the sector

When responsibilities for space are distributed across multiple institutions without strong coordinating mechanisms, there is a risk that different parts of government develop different understandings of what the national space sector is, what their capabilities are, which actors matter most, and consequently which capabilities should be prioritized. These different understandings are not merely reflections of different ministerial interests but may also reflect incomplete or partial knowledge of the sector, including its supply chains and its intersection with other sectors. This becomes consequential when such partial understandings shape subsequent policy priorities, investment decisions, and procurement strategies.

The comparative cases examined in this report illustrate this challenge in different ways. Finland explicitly acknowledges that its decentralized governance model enables broad participation across ministries, while at the same time making coordination more difficult, risking fragmented decision-making. The United Kingdom's decision to integrate the UK Space Agency into the Department for Science, Innovation and Technology was motivated partly by a desire to reduce the growing distance between those responsible for policy, those responsible for delivery, and the many government departments increasingly dependent on space capabilities. Poland similarly demonstrates how responsibilities distributed across institutions without sufficiently integrated delivery mechanisms can produce implementation gaps. Although the institutional arrangements differ considerably, they all point towards the same governance challenge: as space becomes relevant to a growing number of policy domains, effective coordination becomes increasingly important both to avoid duplication of effort and to maintain a sufficiently shared understanding of the sector itself.

An example of this dynamic may currently be observed in Denmark. Much of Denmark's civil space administration is anchored in the Danish Agency for Higher Education and Science, whose Danish Space Office has built extensive relationships with universities, industry, ESA, and the wider research and innovation ecosystem. As space has increasingly become associated with defense, critical infrastructure, and geopolitics, other parts of the Danish state have begun rapidly establishing their own networks, and developing their own parallel mappings of the Danish space sector. Such initiatives reflect the growing political importance of space and a genuine effort across different parts of

government to build knowledge about a rapidly evolving strategic domain. At the same time, they create one of the practical consequences of fragmented institutional responsibility: private companies increasingly receive requests from multiple public authorities who, unknown to each other, seek similar information. For the companies participating in such initiatives, this requires time and resources and makes it difficult to judge which engagements should be prioritized.

This observation should not be interpreted as an argument that all mapping activities ought to be centralized, nor that different authorities should necessarily possess identical understandings of the sector. Defense, research, export promotion, industrial development, and foreign policy will inevitably emphasize different actors, capabilities, and opportunities. But when multiple authorities interact with an emerging strategic domain without communication or strong mechanisms for coordination between them, organizational fragmentation can produce different and potentially competing understandings of the sector. Fragmentation becomes a problem with significant consequences when different institutions begin making decisions based on different understandings of the sector they are each seeking to govern and otherwise interact with.

The governance challenge is therefore to establish mechanisms through which different public authorities can continuously develop and maintain a sufficiently shared understanding of the national space sector to support coherent strategic prioritization.

3.5 Budget authority shapes delivery and capability development

One of the clearest lessons in this report is that formal policy and strategy ownership without authority over an independent budget will struggle to be consequential. In the UK, the BNSC had coordination responsibility and expertise, but without a budget of its own, it could not set priorities, align investments, or make multi-year commitments to partners, including ESA. When the UK created the UK Space Agency in 2010, the critical change was financial. An institution that can control its own resources can make different decisions than one which must negotiate every decision through the budget processes of other bodies.

This has direct relevance for Denmark. An institution may have formal responsibility for policy and strategy, but if it does not control resources, its ability to shape outcomes remains limited. Budget authority also has a temporal dimension. Building capability depends not only on the amount of funding available, but on the period over which it can be committed with sufficient predictability. Denmark's strategy for space research and innovation sets a direction towards 2035, while the funding arrangements through which it is implemented operate over shorter periods. The governance question is therefore not simply who controls a budget, but whether strategic ambitions are translated into commitments with a sufficiently long and predictable horizon for companies, research environments and public bodies to build capability.

Where budget authority is located matters just as much. A ministry or authority that controls major investments may exert some of the most significant influence over the sector's future direction, whether or not they are formally designated as a policymaker in the field. If Danish defense were to systematically rely on foreign suppliers for strategic space capabilities while making limited use of procurement to stimulate domestic industry, the responsible authority would not simply be making procurement decisions. The authority would, de facto, be pursuing a policy of national technological dependence rather than industrial capability-building, regardless of what a national space strategy

might say. In this context, procurement is no longer merely a means of implementing policy. It may itself function as a policy mechanism.

The location of spending power also influences which public purposes space investment is organized to serve. If defense procurement becomes one of the principal channels through which new space capabilities are acquired, defense requirements will understandably shape those investments. But space capabilities are not exclusively defense capabilities. The same technological and infrastructural base may also serve climate monitoring, civil preparedness, critical infrastructure, communications, transport, agriculture, research and public administration. Denmark's strategy for space research and innovation already reflects this breadth of uses, explicitly connecting space technologies to security and preparedness as well as climate, nature, agriculture, construction and transport.

But this broader public value cannot be secured through research and innovation initiatives alone. If an increasing share of space investment is delivered through defense procurement, these considerations must also enter the decisions made there. Government should ask whether major investments can, where technically and operationally appropriate, also strengthen capabilities required elsewhere in society. This requires coordination at the points where requirements are defined, budgets allocated, and procurement decisions made. Governance arrangements must therefore combine an overview of wider government needs with sufficient authority to bring those needs into procurement and investment decisions. Otherwise, government may successfully meet an urgent defense need while foregoing much of the wider public value that the same investment could have generated.

3.6 Dimensions of sovereignty: infrastructural, operational, and industrial

Countries that rely heavily on buying space capabilities, often based on short-term considerations of price, availability, and speed, may gradually produce forms of dependence they never consciously chose. A concern raised across the space ecosystem is that the rapidly increasing European public investment in space capabilities may cluster around the same limited group of suppliers, reinforcing existing industrial constellations while alternative technologies and suppliers remain unable to develop or scale.

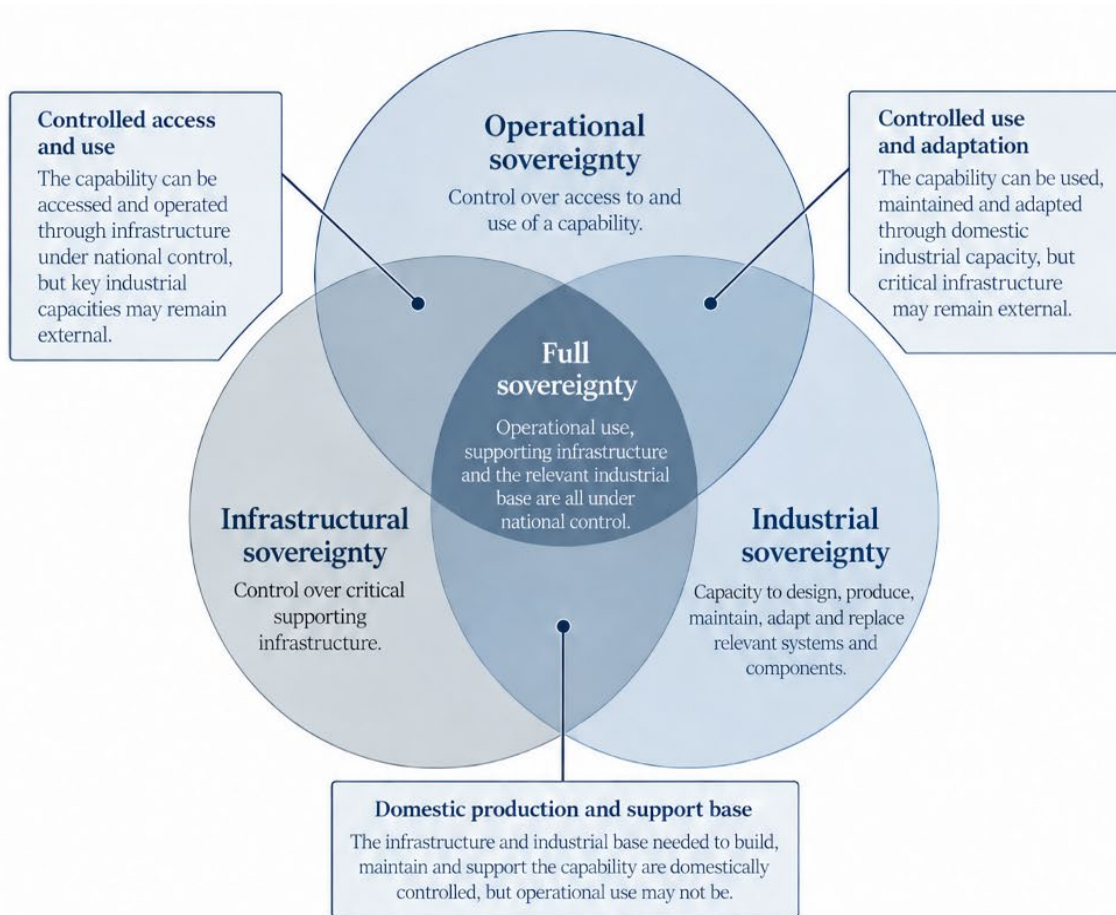
One way of framing these decisions is to distinguish between buying access to space capabilities and building domestic capacity. The buying approach focuses on acquiring access to space capabilities by purchasing relevant services, technologies, or access to the infrastructure required to solve a particular problem. Under current geopolitical conditions, there is considerable pressure to act quickly. The building approach treats procurement decisions not solely as purchases, but also as investments in domestic industrial development, technological competence, operational knowledge, and long-term strategic autonomy. It builds capacity through long-term contracts, domestic participation requirements, and deliberate investment in national supply chains. In countries where procurement decisions are not made deliberately based on an explicit government strategy, the national approach will emerge as a patchwork of procurement decisions, contracting choices, and investment priorities.

The distinction between buying and building space capabilities is useful but also potentially misleading: Governments may purchase technologies or systems developed elsewhere while simultaneously using them to build national operational knowledge, infrastructure, or industrial capabilities. All countries examined in this report rely extensively on international cooperation, foreign suppliers, and multinational programs. No country attempts to become self-sufficient in the space domain. Therefore, we want to encourage governments to deliberately decide where to retain or develop national capability and control, and which forms of dependence on alliances or markets they are prepared to accept. To make this distinction more precise and operable, we suggest distinguishing between three dimensions of a sovereign capability:

Operational sovereignty: the ability to control tasking, data, access, and operational use.

Infrastructural sovereignty: control over spaceports, testing equipment, ground stations, legal frameworks, and other supporting infrastructure.

Industrial sovereignty: the ability to design, manufacture, maintain, modify, and replace the relevant underlying systems.



Examples of space capabilities

Launch	Space-based surveillance	Secure communication
Infrastructural sovereignty: Control of launch site and critical ground infrastructure.	Infrastructural sovereignty: Control of ground segment, receiving stations and supporting data infrastructure.	Infrastructural sovereignty: Control of ground stations, terminals and supporting communication infrastructure.
Operational sovereignty: Ability to secure and control access to launch for national missions.	Operational sovereignty: Ability to task the system, access data and use it for national purposes.	Operational sovereignty: Ability to secure, prioritise and control communications access and use.
Industrial sovereignty: Capacity to design, produce, maintain or adapt relevant launch systems and components.	Industrial sovereignty: Capacity to design, produce, maintain or adapt relevant satellites, sensors and data systems.	Industrial sovereignty: Capacity to design, produce, maintain or adapt relevant communication systems and components.

Procurement for space capabilities may reduce dependency in one dimension while preserving it in another. The strategic task for governments is to determine:

- Which dimensions of sovereignty matter for which technologies and capabilities?
- At which level should sovereignty be secured - nationally, through bilateral or regional arrangements, collectively at European level, or through wider multinational arrangements?
- What are the longer-term economic, industrial, democratic and societal implications of outsourcing a capability rather than developing it domestically?
- What governance structures are needed to align procurement decisions with these considerations?

4. Discussion: The Draghi-report and industrial growth

The comparative analysis presented in this report has focused on governance functions rather than economic performance or innovation policy. Nevertheless, the governance questions identified resonate strongly with broader European debates about competitiveness, industrial policy, strategic autonomy, and the necessity for (and the capability of) the state to lead missions and create new markets in order to solve the complex problems we face regarding security, climate change, and technological development. This chapter discusses the report's findings in relation to two influential contributions to those debates: Draghi's report on European competitiveness (hereafter the Draghi report) and the work of Mariana Mazzucato and Rainer Kattel on mission-oriented innovation and dynamic state capabilities.

4.1 The missing policy object: "the industrial middle"

The Draghi report's purpose is to identify ways to increase economic growth in Europe. Economic growth is important, it argues, to ensure that Europe remains independent enough in terms of security and technology to protect core values such as freedom, democracy, and equality (Draghi 2024, Part A). Among current barriers to growth, the report finds that "innovative companies that want to scale up in Europe are hindered at every stage" (Draghi 2024, Part A: 6). The report states that a lack of contracts leads these companies to seek finance for scaling up mainly, but not only, in the US. These findings are consistent with patterns we observe in the Danish space industry.

The Draghi report identifies the current security threats that Europe faces as an additional barrier to growth. Of relevance here is the report's observation that the defense industry in Europe is fragmented to a degree that hinders its ability to produce at scale, while it also "suffers from lack of standardization and interoperability of equipment" again contributing to driving companies that want to grow their business overseas (Draghi 2024, Part A: 7). The Draghi report's proposed solution to this problem is to coordinate EU spending in the defense area, so that the significant financial resources are not diluted "across multiple different national models and EU instruments" (Draghi 2024, Part A: 8) but might instead be used in a coordinated effort to grow and expand Europe's own industrial base.

We term the group of companies caught between early-stage support and large-scale procurement "the industrial middle": These are neither early-stage start-ups, which continue to receive considerable attention through ESA, innovation funding, and venture capital investment. Nor are they large prime contractors capable of delivering at speed and quantum to the major defense programs. Rather, they are established companies with proven technologies, specialized expertise, and international customers, but without the scale of production required to compete for the largest institutional procurements. Europe has invested considerably in entrepreneurship and company growth in the space domain through instruments ranging from ESA's business incubators to EU's CAS-SINI initiative to strengthen the creation and early growth of new companies. However, access to early finance and business development does not resolve the bottle neck problem and the challenge identified by the Draghi report and here: the development of an "industrial middle" capable

of scaling production, participating in strategic procurement programs, and become regular suppliers within European value chains.

Since the Draghi report's release and the re-election of President Trump in November 2024, European governments, including the Danish government, has increasingly shifted towards strengthening European sourcing and industrial capacity. However, the urgency with which many defense capabilities are currently being acquired tends to favor companies that already possess the production capacity, certification, investment capital, and organizational capacity to hire staff, expand production facilities, and deliver to the magnitude that defense procurement requires. Consequently, defense procurement remains strongly concentrated among the established contractors (Kapstein et al. 2026: 224). As a result, the group of companies affected by the scale-up bottleneck identified by Draghi – what we term the industrial middle – risk being excluded from benefitting from the unprecedented public spending in the space area currently allocated through the defense budgets.

A striking feature of the Danish space sector is that most companies, if not all, fall into this category: They are space companies with proven technologies, specialized capabilities, and international customers, but who lack the scale of the major European and American primes. Ironically, in the current massive influx of funding to the space sector through defense procurement might end up further cementing existing primes and industrial hierarchies rather than using the investment to expand the industrial base.

If procurement strategies are not subordinate to policy that explicitly considers how “the industrial middle” can participate and grow, Europe could risk cementing its existing industrial structure rather than expanding and scaling it. Or, as we discuss in section 3.6, European governments might miss the opportunity to secure greater industrial sovereignty while deepening current dependencies or creating new ones.

4.2 “Crowding in” the industrial middle

Where the Draghi report makes the case for Europe's need to strengthen industrial competitiveness and facilitate the industrial ability to scale up, Mariana Mazzucato argues that if governments are to effectively address the challenges faced by their populations related to climate change, health, and security, their mode of engagement with the private sector must move towards actively shaping markets and pursuing mission-oriented leadership (Mazzucato 2013). Kattel and Mazzucato (2018) identify two central means through which government can aptly assume this role and give direction to the development they seek: Firstly, through coordinated public procurement, investment, regulation, and long-term strategic setting of direction, broadly in line with the recommendations of the Draghi report. Secondly, by actively seeking to shape markets in ways that “crowd in” private and third sector innovation (Kattel & Mazzucato 2018). “Crowding in” here refers to the design of governance arrangements that mobilize actors across private industry, research institutions, and civil society around shared public purposes. This approach is actively promoted by the OECD (2026) as a key principle of mission-oriented governance.

From this perspective, the task for the Danish government is to invest, not only in the technologies they immediately need, but in what Mazzucato and Kattel term “dynamic state capabilities” (Kattel & Mazzucato 2018: 18). These include the ability of a state to engage with a broad ecosystem and exercise leadership; the ability to identify and use policy instruments coherently and adaptively; the ability to coordinate across organizational boundaries within and outside government and combine

diverse areas of expertise; and finally, and highly relevantly for this report, the capability of a state to reflect at a systems-level and reorganize accordingly.

The comparative cases examined in this report suggest that whether governments are able to act “capably” and perform the role implied by the Draghi report depends on how policy, strategy, and delivery are institutionally organized. Dynamic capabilities are not simply organizational attributes – something a government may possess or learn. They are shaped by institutional placement, budget authority, procurement mechanisms, coordination arrangements and the ability to develop a shared understanding of the ecosystem being governed: you cannot “crowd in” actors you cannot see from your ministerial silos, you cannot coordinate what you do not have the muscle or authority to convene and connect, and you cannot grow what you do not have the budget or mandate to support.

In the light of the Draghi report (2024) and OECD's (2026) recommendations, the question for Denmark, and indeed for Europe more broadly, is what kind of governance structure and arrangement can “crowd in” the capabilities and participation from the industrial middle. Our analysis suggests that the central challenge and opportunity of national space governance is not simply to coordinate actors across the sector but to mobilize them around shared public purposes that will necessarily transcend any one ministry's or department's area of responsibility.

5. Applying the framework: Perspectives from the Danish space ecosystem

The purpose of this report has been to develop a framework through which governments can examine how policy ambitions, strategic priorities, and delivery mechanisms are organized and aligned. One outcome of this analysis is a set of questions, found in the report's Chapter 3, that may help structure discussions in countries reconsidering their national space governance. These questions do not prescribe institutional solutions. Instead, they invite reflection on where existing governance arrangements may no longer align with emerging political ambitions or changing strategic circumstances.

In section 3.1, we propose that governments considering reforms to their national space governance may benefit from asking the following questions:

- Where in the space domain is Denmark currently too fragmented, too slow, too dependent, or too invisible?
- Which functions commonly carried out by space agencies are currently fragmented, weakly coordinated, or insufficiently resourced?
- In which areas do Denmark wish to mobilize and strengthen its space ecosystem (research and innovation, industrial growth, defense, green transition, pharmaceuticals, exports, international partnerships)?
- Where would the mandate and capacity to coordinate these activities, manage the trade-offs between them, identify future capability needs, and translate political ambitions into national capabilities best be placed?

Questions three and four concern political priorities and institutional design and therefore ultimately fall within the responsibility of government. The first two, however, concern the functioning of the existing governance system and may benefit from perspectives drawn from across the wider space ecosystem. Governments rarely experience governance structures in the same way as those operating within them.

To illustrate how the framework may be used in practice, we have therefore invited members of the Danish space ecosystem, including present and former representatives from industry, universities, public authorities, intermediary organizations, and investment funds to reflect on questions one and two. Their contributions are not presented here as representative of their sector, nor as empirical evidence supporting the report's conclusions. Rather, they are meant to demonstrate of how the analytical framework developed in this report can be used to structure a broader conversation about the future of Danish space governance, which is ultimately the aim of this report.

5.1 Jakob Clod Asmund, Major, Royal Danish Air Force Academy

Denmark's space sector is most fragmented where space capabilities matter directly to the state, especially in security policy, procurement, implementation and operational use. The Danish Defence is establishing a space operations centre, but Denmark still lacks an overarching strategic function able to connect national interests, dependencies, and capability development across sectors. The risk is that authorities acquire technologies and services that solve narrow tasks while creating dependencies and vulnerabilities that are greater than the problem they address. Satellite communications is a good example. A solution procured for a specific defence or emergency-management need may depend on a single foreign provider, constellation or technical architecture. It may work well in daily operations, yet offer limited national control over access, priority, and continuity during crisis or conflict.

The issue extends far beyond military operations. Police, emergency services, financial systems, agriculture, fisheries and other critical societal functions also depend on reliable space-based services. Procurement and partnerships should therefore be assessed not only against one sector's immediate need, but also against their contribution to national resilience. A capability acquired for the Danish Defence or the Danish Emergency Management Agency may also support other sectors, while civilian use can help sustain expertise, testing and redundancy.

Denmark therefore needs, at minimum, a permanent and properly resourced cross-government staff that continuously maps critical dependencies, coordinates initiatives and connects authorities, industry and research. Its institutional location is secondary: What matters is a clear mandate, a recognised point of access and the ability to collect, assess, and distribute knowledge across the Danish space ecosystem.

5.2 Desiree Della Monica Ferreira, Professor, DTU Space

From my perspective, working in a research institution that delivers science and hardware to long-duration international missions, Denmark's principal opportunity is to strengthen continuity between political ambition, research capability, industrial development, and delivery. The Danish space ecosystem already contains considerable scientific, technological, and commercial strengths. The next step is to connect these strengths more systematically over the long time-horizons that space activities require.

One practical opportunity is to complement short-term, project-based funding with mechanisms that support continuity across successive projects. Major scientific and technological capabilities depend on long development cycles, stable specialist teams, and sustained investment in facilities, infrastructure, and knowledge. Greater continuity would make it easier to retain expertise, mature promising technologies, and translate strong research results into future missions, industrial opportunities, and societal applications.

Project-based funding is important for competition and renewal. It can, however, be reinforced by instruments that preserve critical capabilities between projects, maintain access to specialized facilities and technical teams, and help universities, companies, and public authorities build on previous investments. Denmark already has a national space strategy. A valuable next step is to support its implementation through sustained coordination, clearer pathways from strategic priorities to concrete programs, and funding mechanisms that reflect the long timescales of missions, infrastructure,

and capability development. By combining the existing strategy with long-term capability planning and coordinated implementation, Denmark can further increase the scientific, industrial, and societal value created by its space activities.

5.3 Hjalti Pall Thorvardarson, COO Daniense, former CEO of Rovsing A/S

With over 16 years in the European space sector, including eight as CEO of a Danish space SME Rovsing A/S, I have extensive insight into space governance across ESA and international institutional space missions and governance. Unlike nations with dedicated space agencies, Denmark relies on the Space Office with a largely administrative role. This largely hands-off approach leaves the country distanced from the vital political maneuvering and side-room bargaining that happen before official ESA meetings, where the real positioning occurs. As a result, individual Danish actors are left to advocate for themselves, creating a fragmented effort with far less impact than the unified fronts of other member states, and without the active pressuring and protection that other nations have in a clearer agency-driven mandate.

While industry pressure and improved space domain focus has improved strategic coordination and visibility from the Space Office, significant gaps remain. Anchoring the office solely within the Ministry of Science, Higher Education, and Digital Affairs limits its mandate, both internationally, within ESA, and what is more decremental is, domestically. With many stakeholders across ministries and governmental bodies, the setup with a Space Office lacks the mandate and authority to set the scene. Without a central agency to coordinate strategy, Denmark struggles to maximize its return on investment, promote national capabilities, and fully leverage space-based assets into the public sector. A stronger and more strategically positioned governing body should ensure development of space capabilities which benefit Denmark nationally and internationally. This would require increased investment but also yield greater return.

5.4 Søren Gram Riisgaard, founder and CEO of Space Denmark

Denmark's space sector is largely invisible internationally, except where individual actors and organisations have driven internationalisation from the bottom-up. This results in a sporadic, reactive, and poorly coordinated approach to marketing the Danish space sector. This makes us less competitive than our European neighbours, but it can be remedied by strategically investing in nation branding and international marketing of our space ecosystem.

Examples of bottom-up activities are, on one hand, the trade promotion activities organised by organisations like Danish Industry, CenSec, the Trade Council, ICDK, Space Ventures DK, and us in Space Denmark, and on the other hand, the engagement of individual actors, such as companies, universities, and GTS institutes. While individually valuable, these activities represent a fragmented approach to internationalisation.

Instead, we ought to look to our neighbours for a cohesive approach. For instance, countries like Norway, Finland, and Scotland all have ambitious international engagement and public diplomacy strategies.

Another country that outperforms Denmark on space nation branding is Lithuania. This Baltic nation is smartly coordinating the presence of its ecosystem at major international events by hosting impressive international pavilions, and at home, it organises the annual “Vilnius Space Days” – both contributing to the outward appearance of a cohesive space ecosystem.

In comparison, Denmark falls behind, and we are often met by surprised international space clusters that “had no idea” that Denmark even has a space sector. This is an issue that can be easily solved through coordinated, and national, marketing.

Denmark should focus less on discussing which part of the ecosystem should receive the attention and funding, and instead start promoting the space sector as a whole.

5.5 Gert Kryger Villemos, CTO OwIO Cloud, former system engineer Terma, CGI, Telespazio and Leanspace

Denmark is currently too dependent on ESA, too slow in turning public investment into commercial demand, and too invisible as an advocate for commercialization in European space policy.

The weakness is not research or technical competence. Denmark supports strong researchers and companies through ESA programs, grants and technology development. The problem is what happens afterwards. Companies can spend years executing agency-funded R&D without developing a meaningful commercial customer base. A company surviving primarily on R&D contracts remains a contractor, not a scalable product company. The Danish space strategy set PhDs as a target. It is not; it is a step on the path.

SpaceX illustrates the alternative. NASA's critical contribution was becoming an anchor customer. By purchasing services rather than prescribing how they should be built, NASA gave SpaceX an order book that enabled further R&D, private investment and commercial expansion.

This points to functions that are currently weak or fragmented: strategic public procurement, coordination of national space demand, and commercial advocacy. Space-related needs are spread across defence, climate, maritime, telecommunications and research authorities. A Danish space agency should aggregate these needs and turn them into early commercial contracts for Danish companies. At European level, Denmark should also push ESA and EU institutions toward buying commercial products and services rather than repeatedly funding bespoke developments.

Government's role should evolve from primarily funding R&D to de-risking markets, creating anchor customers and advocating for commercial procurement. The objective should be to make Danish companies less dependent on agencies.

5.6 Jeppe Nørregaard Krusager, Defence and Security, Dansk Industri

Denmark has many of the ingredients needed to succeed in space. Danish companies, research institutions, and public authorities have developed internationally recognized capabilities in satellite technologies, satellite communications, advanced engineering, maritime applications, Earth observation and increasingly in defense and security-related services.

The challenge is therefore not a lack of capability. Rather, Denmark risks being too fragmented, too slow, and at times too invisible in a rapidly evolving international space sector. While individual organizations perform strongly, there is no institution with a sufficiently broad mandate to align priorities, coordinate activities across sectors and provide long-term strategic leadership for the ecosystem.

Space is increasingly a strategic strength position for Denmark, with relevance for industrial competitiveness, national security, critical infrastructure, and technological sovereignty. Realizing this potential requires more than strategy papers. It requires institutions capable of translating ambitions into concrete capabilities and international influence.

In that regard, one of the most important governance challenges is the lack of a strong domestic demand signal. Across Europe, public procurement is increasingly used not only to acquire services, but also to build national capabilities and create markets in which innovative companies can mature and scale. Denmark has world-class space companies, but the domestic market remains limited. More strategic public procurement could help create a stronger home market, accelerate capability development and strengthen Denmark's position in international programs.

For this reason, I believe Denmark would benefit from a dedicated institution with the mandate, resources and visibility to coordinate national activities, represent Danish interests internationally and help align public investments with long-term capability development. Whether called a space agency or something else is ultimately secondary. The important point is that Denmark needs a stronger centre of gravity for its space ecosystem if it wishes to realize the full potential of space as a national strategic strength.

5.7 Innovation Fund Denmark, Domain group for Space, Security and Defence

The current funding mechanisms largely support application-oriented research in the space sector, whilst demonstration projects aimed at subsequent commercialization have been less well represented. There is therefore a need to strengthen high-TRL activities if this balance is to be changed. There is a lack of funding to support an accelerator-based model for commercial activities in Low Earth Orbit and lunar-related markets, as mentioned in the Space Strategy, partly with a view to attracting industry from outside the space sector.

The Danish space sector lacks major players in upstream space and within key infrastructure (e.g. launch, testing, lunar surface technology, etc.) who can support the sector's development by sourcing technology from smaller technology companies. Conversely, it appears that downstream activities and the development of space-related services are functioning relatively well.

The sector is dependent on the major space operators initiating projects that can drive development by creating demand for new technology and innovative solutions. There is a need to challenge and drive the market forward by creating a 'pull' effect, thereby helping to stimulate a European market that is not dominated by large private players who 'lead the way'.

5.8 Niels Vejrup Carlsen, Founding Partner, Final Frontier

Europe is falling behind in space and defence, and Denmark is part of that problem. We have excellent universities, strong engineers and plenty of ambitious founders, but we are still much better at producing technology than at building companies that can scale it.

Right now budgets are exploding. That is an enormous opportunity, but simply increasing budgets will not solve the problem. If we do not increase competition and radically improve the speed of innovation, much of that money risks ending up in what is still a fairly stagnant incumbent industry. Small, agile companies can move much faster, but they need access to customers, procurement, and capital.

That is where I see fragmentation in Denmark. We have good initiatives in many places, but for a startup the route from promising technology to an operational capability and then to a scalable company is still too difficult. Research, public customers, procurement, industry, and venture capital do not connect well enough or fast enough.

I am therefore less concerned with whether Denmark calls something a space agency than whether the important functions actually work. Can we identify promising technologies early? Can companies test them with real users? Can public procurement create a first market? Can we provide the private venture and growth capital needed to scale the winners?

Space infrastructure is already critical infrastructure. If Europe wants strategic autonomy, we need the ability to produce, control, maintain and replace more of it ourselves. Denmark has many of the ingredients. We need to get much better at turning them into capability and competitive companies.

5.9 Nina Holm Vohnsen & Rasmus Mondrup, Aarhus Space Centre, AU

One issue we would encourage the Danish authorities to consider carefully is whether the current influx of defense-related investment into the space sector unintentionally narrows the portfolio of national space ambitions. Defense is fast becoming a powerful delivery mechanism, not only in industry but also for research and innovation. As argued throughout this report, however, delivery mechanisms do not merely determine how policy is implemented; they also influence which technologies mature, which companies grow, and which capabilities receive sustained public investment. When one policy domain becomes the dominant source of funding and procurement, it inevitably shapes the future composition of the ecosystem.

This development brings significant opportunities. Increased defense spending is likely to strengthen important technological capabilities and expand parts of the Danish space industry. At the same time, Denmark has internationally recognized strengths in health technologies, pharmaceuticals, climate science, agriculture, architecture, and environmental monitoring, all of which increasingly depend on or develop in direct response to space-based technologies and data.

From our perspective, the governance challenge is therefore not to choose between defense and civilian applications, but to ensure that the institutional arrangements responsible for delivering Danish space policy continue to support a sufficiently broad portfolio of national ambitions. Procurement

and investment should strengthen national capabilities without unintentionally narrowing them. As space becomes increasingly important across society, governments will inevitably face difficult choices about priorities and resource allocation. The challenge is to ensure that today's urgent investments also create opportunities for tomorrow's scientific discoveries, commercial growth, and societal applications. In our view, one of the defining tasks of future Danish space governance will be to maintain that balance.

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