

FROM A SPACE STRATEGY TO SPACE INDUSTRIALISATION

How the United Kingdom Can Turn Space Innovation into a Globally Competitive Industrial Capability

Hans Karlsen CEng, FRAeS, MBA

Strategic Authority | Board Advisor | Mission Delivery Architect
Space | Aerospace | Defence

The opportunity is no longer simply to invent the future of space. It is to industrialise it.

Executive Summary

The global space economy is expected to grow from around US\$630 billion in 2023 to US\$1.8 trillion by 2035. The UK's goal is not just to participate but to capture a share of this growth's industrial, commercial, and strategic value.

The UK has a strong space ecosystem, including top universities, satellite communication expertise, aerospace capabilities, financial markets, a skilled workforce, and international partnerships. But innovation alone doesn't ensure industrial strength; converting it into scalable capability, competitive companies, resilient supply chains, exports, and national advantage is crucial.

This paper suggests UK space policy should focus on Space Industrialisation—building an integrated industrial system that turns science, tech, capital, skills, and demand into global capabilities and national value.

Recent initiatives, like the March 2026 UK government investment of over £500 million, aim to scale businesses, strengthen capabilities, and boost growth through strategic procurement. The next step is creating a coherent industrial framework.

The core idea is simple: projects produce outputs; industries develop lasting capability. The UK should shift from managing programs to creating conditions for a competitive space industry to scale, invest, and achieve strategic goals.

1. The National Opportunity

The United Kingdom is at a pivotal point in the evolution of its space economy. The country has demonstrated that it can create innovative technologies, companies and scientific capability. The next challenge is to create the industrial scale and repeatability required to turn those strengths into sustained national advantage.

This is particularly important because space is no longer a specialist technology sector operating at the edge of the economy. Space-enabled services increasingly underpin communications, positioning and navigation, Earth observation, logistics, agriculture, financial services, emergency response, defence and critical national infrastructure.

The economic opportunity is therefore much larger than the traditional definition of the space sector. Value will increasingly arise not only from satellites, launch systems and ground infrastructure, but from the services, productivity and resilience enabled by them.

The strategic question is not simply: “How do we support the space sector?” It is: “How do we intentionally build one of the world’s most competitive space industries?”

2. Space as Foundational Infrastructure

Throughout history, enduring economic growth has been accelerated by infrastructure that enables other industries. Railways transformed trade; electricity transformed manufacturing; digital networks transformed information. Space is becoming another foundational layer.

This changes the way space should be considered by government and industry. Its value lies not only in what the space industry produces, but in the wider economic activity, resilience and national capability that space enables.

A mature national space strategy should therefore connect space policy with industrial strategy, defence and security, digital infrastructure, finance, advanced manufacturing, skills, export policy and regional economic development.

The objective is not to make government the sector's permanent funder. It is to create the conditions in which public demand, private investment and international markets reinforce one another and allow successful capabilities to scale.

2. The UK’s Strategic Starting Position

The U.K. does not start from a position of weakness but from a position of strength based on the following:

- Internationally respected U.K. universities, science and research institutions.
- World-leading satellite communications and space-enabled service expertise.
- A globally competitive aerospace industry and advanced engineering base.
- World-leading Civil Aviation Authority supporting space, industrial, and regulatory regimes.
- Strong financial, investment and insurance markets.
- A growing launch, in-orbit servicing and space-domain-awareness ecosystem.
- Highly skilled technical, commercial and managerial talent.
- Strong regulatory, legal and institutional foundations that enable industrial success.
- Deep international partnerships through Europe, allies and global markets.

Its challenge is integration. The opportunity is to integrate existing strengths into a coherent industrial system in which capability, investment, demand and export growth reinforce one another.

4. From Innovation to Industrial Capability

Innovation is the starting point of industrial success, not its end point. Too many promising technologies struggle to progress beyond prototypes, demonstrators or niche markets. The transition from innovation to industrial capability requires a deliberate system for moving technology through development, qualification, production, deployment, commercialisation and export.

Industrialisation requires more than technology. It requires manufacturing capacity, supply chains, skilled people, intellectual property, capital, customers, standards, regulation, leadership and access to international markets.

Industrial capability follows credible demand. Where demand is uncertain, investment in people, factories, tooling and supply chains becomes difficult to justify. Where government and commercial customers provide credible long-term demand, private capital can invest with greater confidence.

This is why procurement is not simply an acquisition function. Used strategically, procurement can help create markets, accelerate scale and build enduring national capability while still demanding competition, value for money and delivery performance.

5. Creating Industries — Not Projects

A successful project delivers an output, and industry repeatedly creates value.

Projects are essential. Satellites must be designed and launched, and missions completed. But programmes should fit within a wider industrial architecture, judged not only by success but also by the lasting capability they create. Industries build enduring national capabilities, supported by an ecosystem that amplifies value and market growth.

A successful programme can establish a customer base, support investment, expand manufacturing, develop skills, and generate exports, creating a reinforcing industrial cycle rather than isolated projects. This relies on government, industry, academia, investors, and customers working towards shared national goals. It also demands a shift from activity-based management to outcome-focused control, focusing on required capabilities, necessary changes, barriers, and effective interventions.

This is the practical contribution of the **Mission Effect™ philosophy and the associated Effects-Based Mission Delivery™ (EBMD) doctrine**: aligning strategy, governance and execution around the outcome that must be achieved rather than around activity alone.

6. The Five Foundations of Space Industrialisation

The Five Foundations

From strategy to mission success



STRONGER INDUSTRIES | GREATER SOVEREIGN CAPABILITY | LASTING IMPACT

7. The Six Mission Assets

The Six Mission Assets

Industrialisation can also be understood as the deliberate development and transformation of a national “stock of value”. Six mission assets are particularly important:

						
MISSION ASSET	Financial	Manufactured	Intellectual	Human	Social	Natural
STRATEGIC ROLE	Engine of growth	Means of delivery	Foundation of authority	Catalyst of action	Licence to operate	Sustainable frontier
INDUSTRIAL STOCK	Sovereign and private investment; sustainable revenues	Advanced manufacturing; launch and assembly infrastructure	Patents; proprietary systems; organisational knowledge	Skills; leadership; technical and commercial competence	Stakeholder trust; political and commercial consensus	Environmental resources; long-term orbital sustainability

The strategic task is not to accumulate these assets independently, but to transform and compound them. Financial capital can become manufacturing capacity and skilled people; intellectual property can become export revenue; customer demand can attract investment; and industrial capability can create further demand. The **Mission Effect™** philosophy focuses on these transformations and on whether they collectively produce the intended national outcome.

8. What Needs to Change

The UK does not require another strategy that simply describes ambition. It requires an industrial architecture that connects policy, investment, procurement and delivery around measurable outcomes.

1. Define National Missions Around Outcomes

Identify the strategic capabilities the UK needs and the outcomes they must deliver, rather than starting with individual projects or technologies.

2. Architect the Industrial System

Map the companies, technologies, facilities, skills, capital, supply chains, infrastructure and international partnerships required to deliver each mission.

3. Create or Capitalise on Credible Demand

Use government procurement and commercial anchor customers to create a sufficiently Predictable Market Signal That Supports Private Investment And Industrial Scale.

4. Build Scale Deliberately

Identify promising companies and capabilities early, then address barriers to growth or scaling across finance, skills, regulation, manufacturing, market access, and leadership.

5. Design For Export from The Outset

Treat international markets as part of the industrial architecture, not as a downstream activity after domestic development is complete.

6. Measure National Value

Track capability, resilience, productivity, exports, inward investment, high-value employment, intellectual property and strategic outcomes alongside conventional programme measures.

9. Measuring Industrial Success

Industrial success should ultimately be judged by outcomes, not activity. Relevant measures include:

- Sovereign and strategic capability created or strengthened.
- Globally competitive UK companies and increased export revenues.
- Manufacturing capacity, supply-chain resilience and productivity.
- Private capital attracted and sustained by credible demand.
- High-value employment, skills and leadership capability.
- Intellectual property retained, commercialised and exported.
- Dual-use technologies and space-enabled applications adopted across the economy.
- Inward investment and international partnerships.
- Contribution to national resilience, security and economic growth.

These indicators provide a more complete view of industrial maturity than programme spend, project milestones or the number of technologies supported. They ask the more important question: has the intervention increased the UK's ability to deliver valuable outcomes repeatedly, competitively and at scale?

10. From Strategy to Industrial Effect

The UK already possesses many of the ingredients required for success. The opportunity now is to connect them. The emerging policy emphasis on scaling companies, strengthening strategic capabilities and using government purchasing power provides an important foundation. The next step is to make the system coherent.

11. Conclusion

The United Kingdom has the scientific excellence, engineering capability, entrepreneurial talent and international relationships required to become a leading space economy. The question is whether those strengths can be integrated into an industrial system that can compete and scale globally.

Space industrialisation requires a different mindset. It means moving beyond supporting individual innovations and projects toward the deliberate architecture of enduring capability. It means treating procurement as a strategic demand mechanism, capital as an enabler of scale, skills as industrial infrastructure, intellectual property as a source of competitive authority, and export markets as part of the design.

The UK does not need another space strategy that simply describes ambition. It needs an industrial architecture that converts ambition into capability, capability into competitive advantage, and competitive advantage into enduring national value.

About the Author

Hans Karlsen is a **Chartered Aerospace Engineer, CEO, NED, Board Advisor, and Fellow of the Royal Aeronautical Society**, as well as a globally recognised aerospace, space, defence, and satellite communications strategist with a proven record of shaping industries, building successful ventures, and delivering high-consequence programmes. Combining board-level perspective, entrepreneurial resilience, and deep operational experience, he helps organisations align stakeholders, navigate complexity, and turn ambitious missions into successful commercial and strategic outcomes at national and global levels.

Hans originated the **Mission Effect™** philosophy and the **Effects-Based Mission Delivery™ (EBMD)** framework. Developed from practical experience and mission delivery success across complex missions and high-technology environments, they provide a structured approach to aligning strategy, governance and execution around measurable strategic outcomes.

[\(Select to View Website\)](#)

[Email Hans Karlsen](#)

Author's Note

This paper is intended as a strategic discussion and independent contribution to the debate on the future of UK space industrialisation. It does not represent the policy or position of any government department, organisation or client unless expressly stated.

Selected Sources

1. World Economic Forum & McKinsey & Company, Space: The \$1.8 Trillion Opportunity for Global Economic Growth (2024).
2. UK Government, Space firms to scale-up and thrive in Britain with government backing for bolder strategy (4 March 2026).
3. UK Government, The UK's Modern Industrial Strategy: year one (8 July 2026).

© 2026 Hans Karlsen / Karlsen Associates Ltd. All rights reserved.

Mission Effect™ and **Effects-Based Mission Delivery™ (EBMD)** are proprietary intellectual property of Hans Karlsen / Karlsen Associates Ltd.

This paper may be shared or referenced for personal, educational and non-commercial purposes, provided the author and source are acknowledged. No part may be reproduced, adapted, distributed or used for commercial purposes without prior written permission.