CATAPULT
High Value Manufacturing

Building Britain's nuclear manufacturing future

A national consultation on how the UK can capture the economic, industrial and strategic benefits of the nuclear renaissance.

Summer 2026

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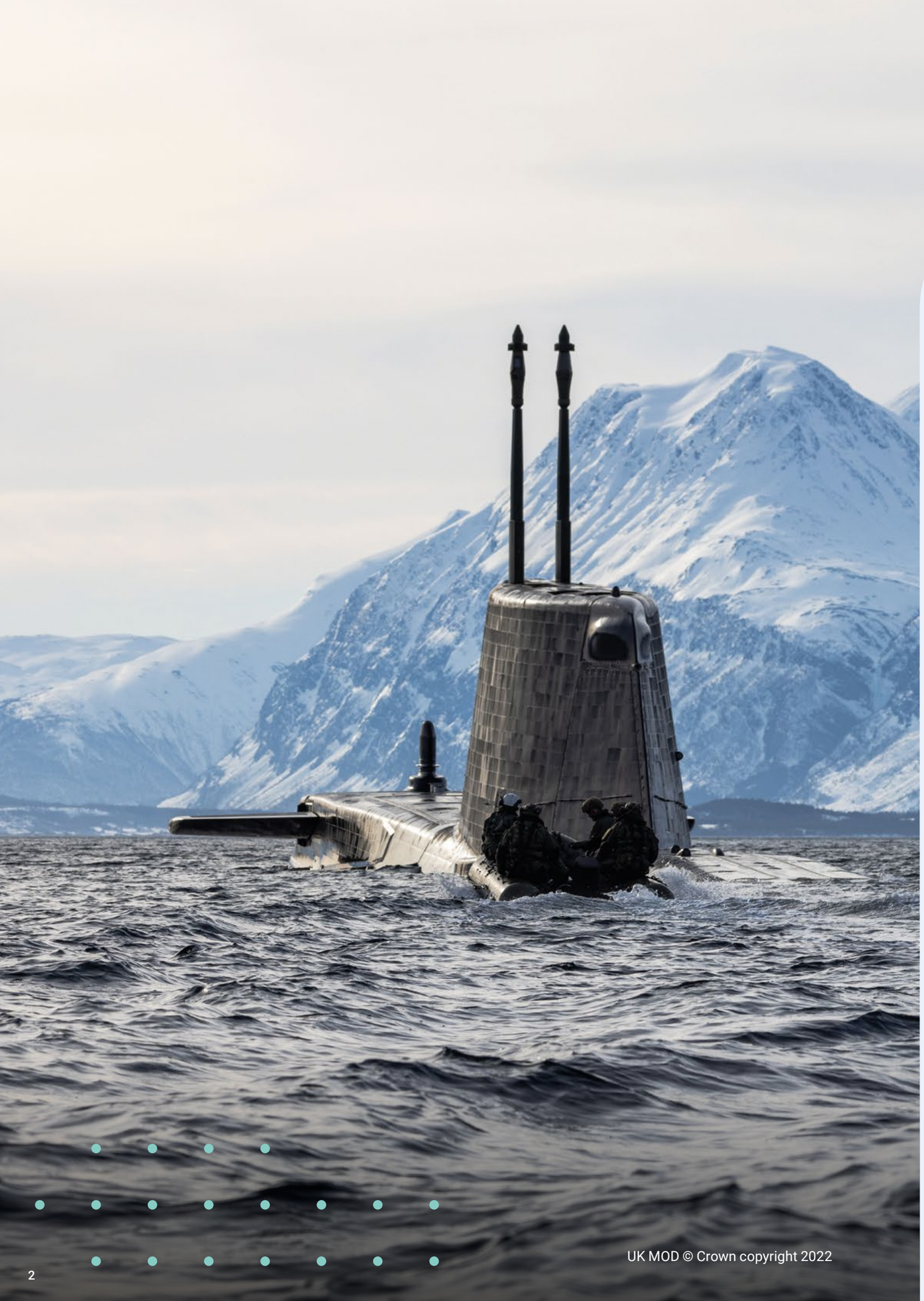

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A national industrial opportunity

The UK is entering the most significant period of nuclear investment in more than half a century.

Across civil and defence programmes, more than £100 billion is expected to be invested over the next decade. Alongside this, growing demand for secure and affordable energy, increasing geopolitical uncertainty and the rapid growth of AI-enabled infrastructure are creating renewed urgency around the UK's long-term energy and industrial resilience.

Yet investment alone will not guarantee success.

It is an opportunity to strengthen sovereign capability, support regional growth, create high-value jobs, improve energy security, enhance defence resilience and reinforce the UK's position as a globally competitive advanced manufacturing nation.

If the UK is to maximise the value of this opportunity, government and industry must work together to strengthen and scale the manufacturing capability, supply chains, innovation, skills and industrial capacity needed to deliver at scale. Without this, there is a real risk that a significant proportion of the economic value associated with the UK's nuclear ambitions will be captured overseas.

The opportunity is considerable, as economic modelling by HVM Catapult alongside international benchmarking sets out, including:

- More than £100 billion of planned civil and defence nuclear investment
- Up to £9 billion of manufacturing capability investment
- 15,000–23,000 additional skilled jobs
- 300–500 additional nuclear-capable businesses, including a strong pipeline of high-potential growth firms able to scale into strategic supply chain roles
- Significant export opportunities in a rapidly growing global market
- A potential ambition to capture 40–60% of value within UK supply chains.

Countries including France, Czechia, Poland, South Korea, the United States and Canada are moving quickly to strengthen their nuclear manufacturing ecosystems and secure leadership positions in future supply chains, against a backdrop of increased competitiveness and investment. If the UK is to compete, it must act now to identify where it can lead, where it needs to invest and how government and industry can work together to accelerate delivery.

As UK government develops its nuclear strategy, the opportunity extends beyond delivering new nuclear projects. It is about building the manufacturing capacity, supply chains and industrial foundations that will underpin UK competitiveness, resilience and economic growth for decades to come.

HVM Catapult 10-year nuclear strategy

The nature of nuclear delivery is changing.

Future nuclear programmes will increasingly rely on modular, factory-based manufacturing, digital engineering and repeatable production processes. This creates an opportunity for the UK to move beyond being primarily a purchaser of nuclear technology and become a globally competitive manufacturer of high-value nuclear components, systems and services.

At the same time, growing alignment between civil and defence nuclear programmes creates a unique opportunity to strengthen domestic capability through shared infrastructure, skills, manufacturing assets and transferable supply chains.

Success will depend not only on technological innovation, but on the UK's ability to industrialise, test, certify and scale manufacturing capability quickly enough to compete internationally.

Our mission

Within 10 years, we believe we can build a globally competitive UK nuclear manufacturing ecosystem capable of delivering both high-value nuclear island and balance of plant systems at an industrial scale, while capturing >40–60% domestic value and establishing the UK as a leading exporter as part of the roll out of small modular reactors (SMR), advanced modular reactors (AMR) and micro modular reactors (MMR).

System integration is required to coordinate infrastructure, supply chain capability, digital systems and market alignment. HVM Catapult is well positioned to perform this role as a system integrator, with industry, research and government partners, ensuring that interventions deliver coherent, system-wide impact at requisite scale and speed to make the sector leading over time.

HVM Catapult proposes to be the system integrator for four pillars, which together help close the gap between innovation and industrial deployment, enabling the UK to move from fragmented capability to coordinated industrial delivery at scale.

HVM Catapult 10-year nuclear strategy continued

1. System integration and market development

What is it?

Alignment of supply with:

- Demand pipelines
- Export opportunities
- Investment flows
- Technology roadmaps

Includes:

- OEM, supplier and prime engagement to improve visibility of future opportunities and create more UK primes
- Export integration
- Demand visibility and factory planning

What does it solve?

- Demand uncertainty
- Export growth
- UK supplier access to opportunities within primes

What will it contribute?

- Optimise deployment of capability
- Anchors long-term growth and investment viability
- Alignment of UK supply chain capability with prime demand

2. Industrialisation and infrastructure

What is it?

Shared national manufacturing and qualification capability.

Includes:

- Qualification centres (materials, welding, destructive, and non-destructive testing)
- Manufacturing testbeds (modular build, advanced fabrication)

What does it solve?

- Lack of UK industrial-scale capability
- Qualification bottlenecks and overseas dependence
- High capital barriers to entry

What will it contribute?

- Enables UK firms to participate in nuclear supply chains at all tiers
- Reduces time-to-market and certification delays
- Accelerates project delivery timelines through faster domestic qualification and testing
- Strengthens UK industrial resilience and supply chain security
- Unlocks private investment by lowering barriers to entry and de-risking capital deployment

3. Supply chain scaling

What is it?

Programmes to increase number, capability and competitiveness of UK suppliers particularly high-growth potential SMEs.

Includes:

- SME readiness
- Capability uplift (skills, processes and quality standards)
- Faster qualification and navigation of regulatory pathways
- Support for high-potential growth businesses to scale within nuclear supply chains

What does it solve?

- Insufficient number of nuclear-capable firms
- Low SME participation
- Fragmented supply chain
- Limited routes for high-potential growth firms to access nuclear markets and scale with confidence

What will it contribute?

- Builds critical mass of suppliers
- Enables domestic capture of work packages
- Builds a stronger pipeline of high-potential growth businesses able to enter and expand within nuclear supply chains

4. Digital transformation

The nuclear manufacturing sector will become a priority focus for the government's ambitions for industrial AI adoption. Working through HVM Catapult and the National AI Champion for Advanced Manufacturing, a **Nuclear AI Pathfinder Programme** will establish nuclear manufacturing as a pathfinder sector within the UK Government's Industrial AI for Advanced Manufacturing Adoption Plan, using the Scan–Pilot–Scale model to accelerate adoption of AI-enabled traceability, quality, inspection, planning and factory optimisation across the nuclear supply chain, while maintaining the sector's safety, assurance and regulatory requirements.

What is it?

Deployment of a national digital manufacturing system, including a dedicated AI adoption pathway for nuclear manufacturing

This includes how AI can be applied safely and effectively in nuclear manufacturing environments, drawing on the work of HVM Catapult's National AI Champion to support sector adoption:

- PLM/MES/QMS adoption
- Digital traceability
- Standardised data frameworks
- AI adoption pathway for nuclear manufacturing using a Scan–Pilot–Scale approach

What does it solve?

- Out of date quality assurance systems
- Supply-chain pressures related to testing materials and improved planning schedules
- High rework and audit burden
- Lack of interoperability across supply chain
- Slow and fragmented adoption of AI across the nuclear manufacturing base
- Lack of nuclear-specific pathways for testing AI in assured manufacturing environments

What will it contribute?

- Drives productivity, quality and competitiveness
- Enables scalable, repeatable and sustainable manufacturing
- Supports faster adoption of AI-enabled manufacturing processes in nuclear settings

Consultation with industry

To have maximum impact and support delivery of the government's nuclear strategy, HVM Catapult's 10-year nuclear strategic framework must be shaped by and designed in collaboration with industry.

With that in mind, we are launching a six-month consultation on our proposed framework with industry, government, academia and regional partners.

The consultation will inform both HVM Catapult's long-term strategic priorities and wider discussions with government and delivery partners on the future direction and industrial opportunities associated with the UK's civil and defence nuclear ambitions.

The objective is to identify where the UK can build genuine competitive advantage, understand the barriers preventing firms from entering and scaling within nuclear supply chains and determine the actions needed to unlock investment, productivity and long-term growth.

It is not intended to duplicate the many wider policy debates already underway on the UK's nuclear future. Instead, it focuses on the specific contribution HVM Catapult can make as a delivery partner to government to accelerate innovation adoption, strengthen manufacturing capability, scale supply chains and bring the convening power needed to align government, primes, SMEs, high-potential growth businesses and researchers around practical actions that help turn the UK's nuclear ambition into industrial delivery.

This includes understanding how HVM Catapult can support high-potential growth businesses in line with wider national innovation and scaling priorities, including those set out by Innovate UK.

It will also help determine how HVM Catapult can contribute most effectively alongside other organisations already active in the sector, complementing rather than duplicating existing efforts.

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We are seeking views on seven key questions:

1. Which nuclear manufacturing capabilities should be prioritised to maximise industrial competitiveness, resilience and economic value in the next 10-15 years?

2. What unmet innovation, manufacturing, qualification or supply chain needs are limiting the UK's ability to compete and scale?

3. What demand signals, volume, timing, contracts or policy/regulatory/funding commitments would unlock private investment in those capabilities?

4. What would encourage you to invest, get involved and/or enter the UK nuclear sector?

5. How can qualification, testing, assurance and certification be made easily accessible to help more manufacturers and SMEs confidently enter and grow within nuclear supply chains?

6. What role should digital technologies and AI play in improving productivity, quality, assurance and competitiveness across nuclear manufacturing?

7. How can the UK maximise the economic, industrial and strategic value created by nuclear investments to date?

Get involved

We need your insight to help shape, improve and future-proof our approach, ensuring it meets the demands of the nuclear manufacturing landscape and seizes the moment to create long-term industrial strength, economic value and international competitiveness for the UK's nuclear sector.

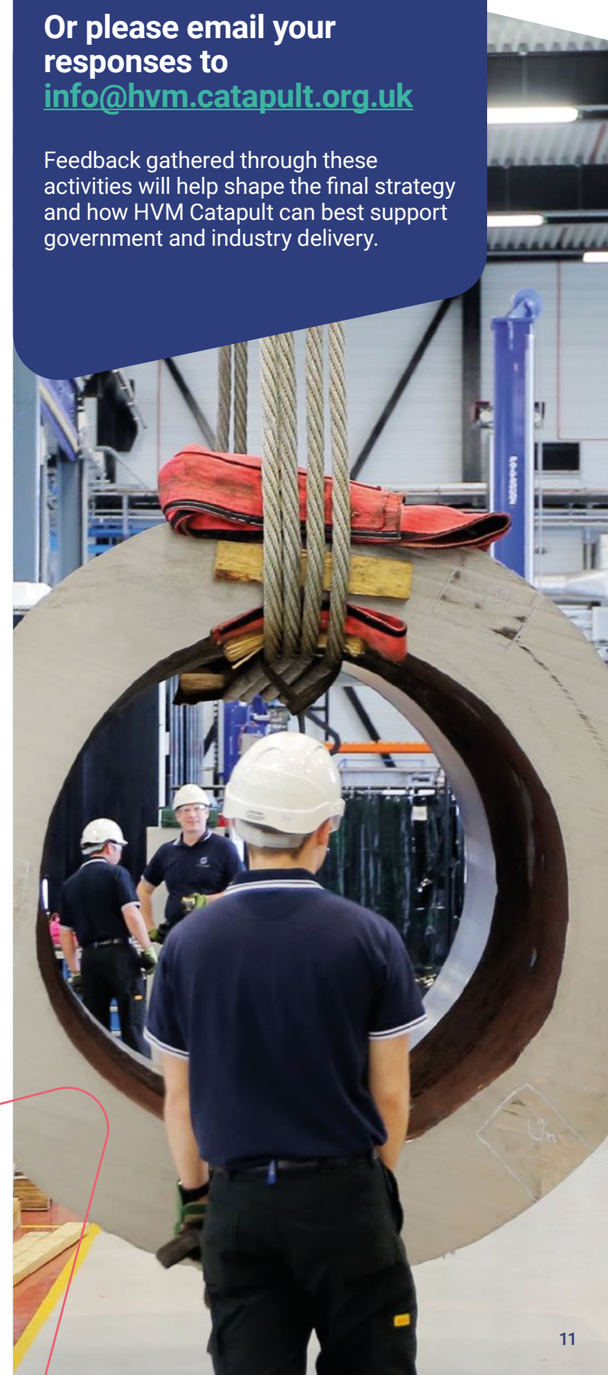
Our consultation will have a programme of engagement opportunities, including:

- The National Nuclear Manufacturing Conference (NNMC) at the Manufacturing Technology Centre on 9 July 2026
- A series of regional industry forums across the UK's key nuclear and advanced manufacturing clusters in Scotland, Wales, East Anglia, Midlands, North West, South West and North East/Yorkshire
- Targeted engagement with government, industry, academia and trade bodies
- Stakeholder roundtables and consultation workshops
- Opportunities for written submissions and evidence gathering.

Complete an online questionnaire at:
hvm.catapult.org.uk/nuclear/

Or please email your responses to
info@hvm.catapult.org.uk

Feedback gathered through these activities will help shape the final strategy and how HVM Catapult can best support government and industry delivery.



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Contact us

hvm.catapult.org.uk

@HVM_Catapult

High Value Manufacturing Catapult

@hvmcatapult.bsky.social

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