



National  
Shipbuilding  
Office

# Quantifying the UK Maritime Autonomy Opportunity – Executive Summary

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For the NPL and NSO

27<sup>th</sup> May 2026

# Document Control

## Document Summary

This study, ‘Quantifying the UK Maritime Autonomy Opportunity’, commissioned by the National Physical Laboratory (NPL) and the National Shipbuilding Office (NSO), provides the first UK-specific, evidence-based assessment of the Maritime Autonomy market.

It quantifies the current economic footprint, explores plausible growth trajectories, and highlights the strategic choices that will determine whether future value is anchored in the UK or captured elsewhere.

This Executive Summary sets out the key findings and strategic opportunities to support informed senior decision-making. The main report provides the supporting analysis and evidence.

## Document information

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The statements, conclusions and recommendations found within the report are not those of the commissioning parties. However, this document will be used by the National Shipbuilding Office as evidence to inform policy for the upcoming Shipbuilding & Maritime Technology Action Plan, which looks to address the challenges faced by the UK maritime autonomy sector. The Action Plan will be released in late 2026. National Physical Laboratory, acting on behalf of the Maritime Autonomy Assurance Testbed (MAAT) programme, will use the evidence in the document to inform the prioritisation of the application of future MAAT outputs, to meet industry and end-user needs.

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# From Early Leadership to Sustained Advantage

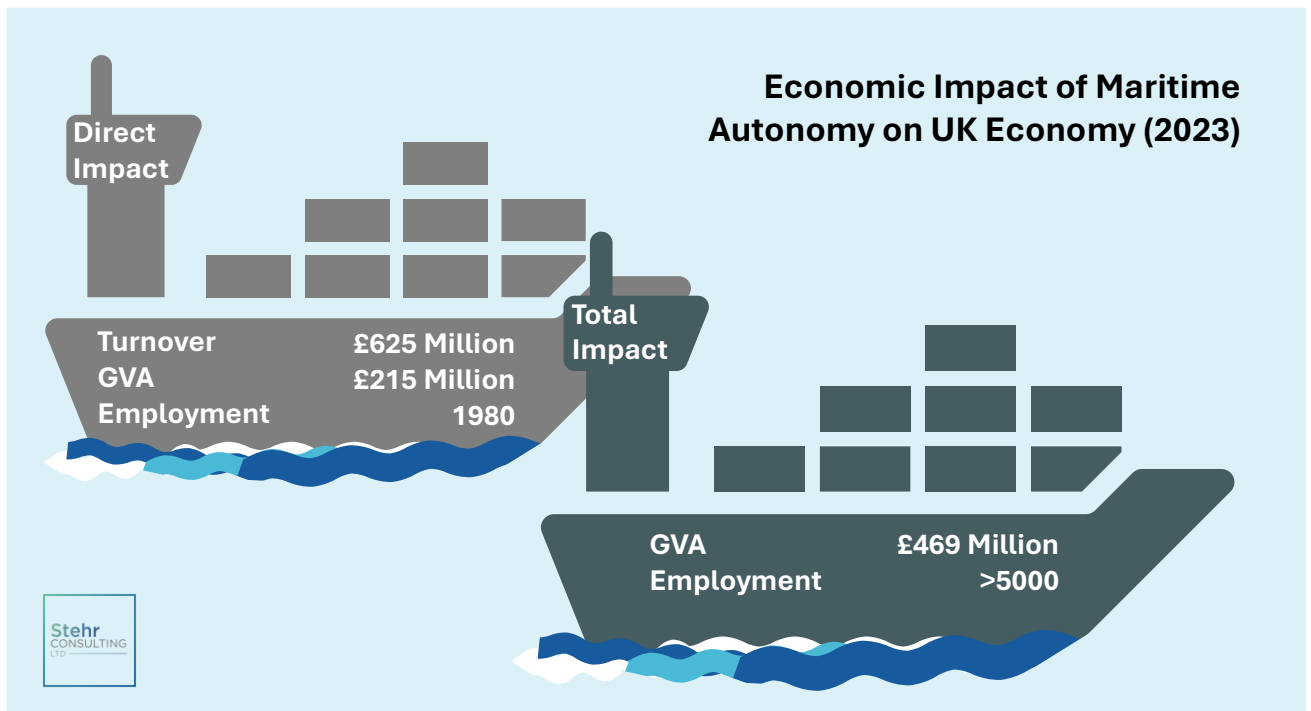
Maritime Autonomy has moved decisively from concept to economic reality, representing a scalable and high-value growth opportunity.

The UK already hosts a market generating over £600m in annual turnover, supporting around 2,000 high-value jobs, with a wider economic footprint approaching £0.5bn in total Gross Value Added (GVA<sup>1</sup>). More importantly, this is not a static opportunity.

Under credible growth pathways, the market could expand to a multi-billion-pound scale by the 2040s, with outcomes highly sensitive

to decisions taken in the next few years. The transition now underway is not about who invents the technology, but who proves it at scale, sets the rules, and captures long-term value.

The UK has the capability to lead, but leadership is not automatic. The choices made now will determine whether this becomes a globally anchored UK growth engine, or a market where domestic innovation is outpaced, integrated and monetised elsewhere.



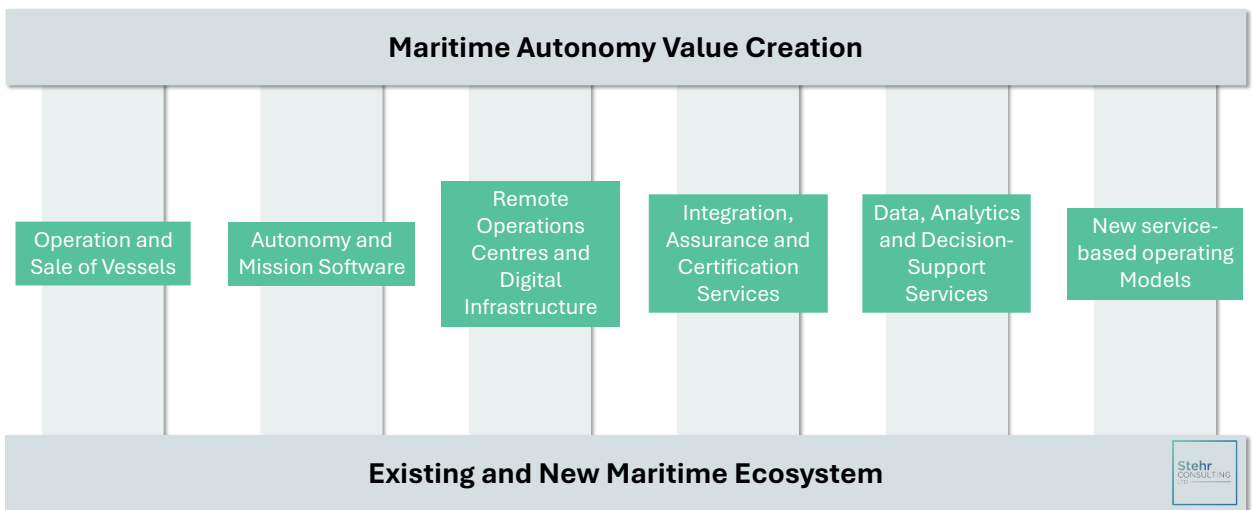
<sup>1</sup> Gross Value Added (GVA) measures the contribution to the economy of an individual producer, industry or sector. It is calculated as the value of goods and services produced (output) minus the cost of intermediate inputs used in production, and represents a key component of Gross Domestic Product (GDP).

# The Opportunity

## A High-Value, Dual-Use Market

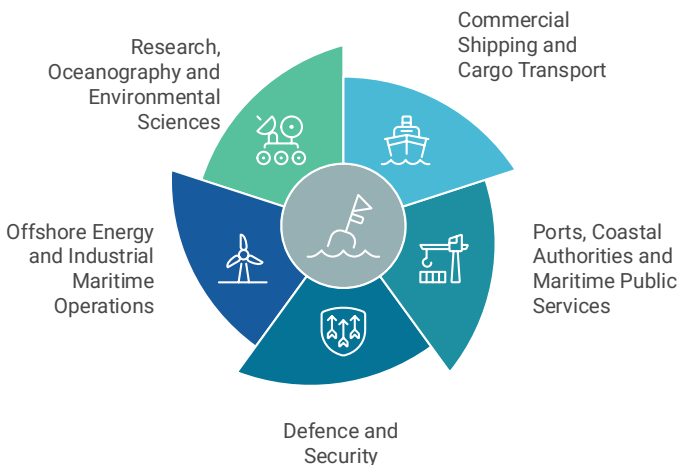
Maritime Autonomy is a cross-cutting, system-of-systems market that enables Maritime platforms and operations to be delivered with reduced onboard crewing through a combination of autonomy,

remote supervision, new operating models and shore-based infrastructure. Crucially, the opportunity is not confined to uncrewed vessels alone. Value is created across a broader ecosystem.



## Broad Demand

These capabilities are increasingly applied across both commercial and defence:



The result is a high-growth, dual-use market that cuts across traditional Maritime boundaries and is tightly linked to national priorities around defence capability, energy security, productivity, safety and resilience.

# How Big Is The Opportunity?

## The Market Today

This study finds that Maritime Autonomy is not a nascent or speculative market; to the contrary, it is already establishing a strong foothold in the UK market.

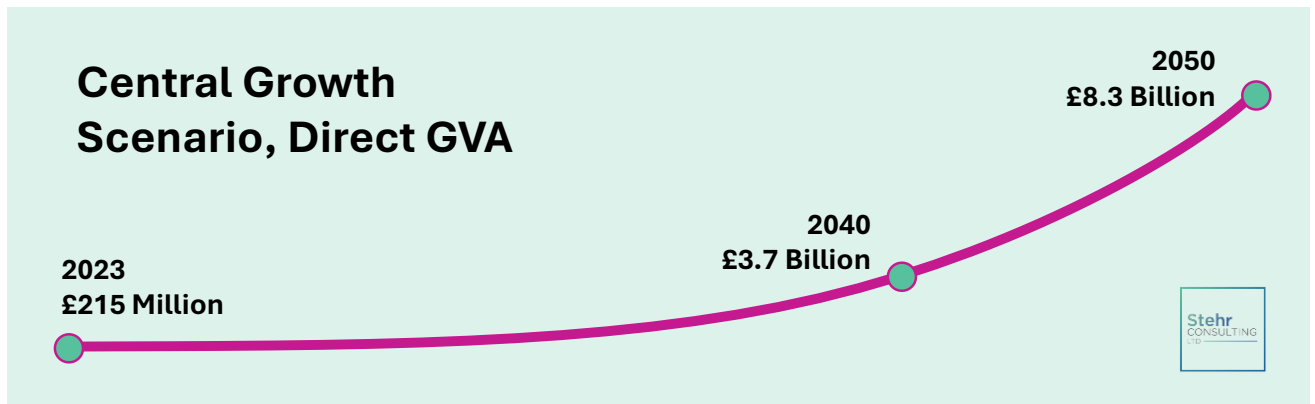
In 2023, the UK Maritime Autonomy market is estimated to have directly generated £625 million in turnover, corresponding to £215 million in GVA and 1,980 jobs. When wider supply-chain and induced impacts<sup>2</sup> are included, the total economic footprint rises to approximately £469 million in GVA and

over 5,000 jobs supported across the wider economy.

This footprint is characterised by a large and highly innovative Small and Medium-sized Enterprise (SME) base, which together contributed 37% of annual turnover in 2023<sup>3</sup>, complemented by larger defence and engineering organisations whose Maritime Autonomy activity represents a smaller than expected proportion of diversified portfolios.

## High Potential for Growth

Looking forward, the analysis suggests that growth potential is substantial, but not guaranteed, and sensitive to different factors, policy and investment decisions.



Using a blended combination of qualitative and quantitative methods, a range of plausible growth trajectory scenarios was developed, building on detailed market analysis. Under a central growth trajectory,

the UK Maritime Autonomy market GVA could reach around **£3.7 billion by 2040 and £8.3 billion by 2050**, representing an average annual growth rate of 14% from 2030 to 2040, followed by 8% from 2040 to 2050.

<sup>2</sup> Induced impacts refer to the economic activity generated through the spending by employees within maritime autonomy companies, thereby supporting additional activity across other industries.

<sup>3</sup> This consists of 26% from companies with reported annual turnover below £50 million, and an additional 11% estimated from companies without disclosed financial information.

# Outcomes Depend on Choices

The scale of the future UK Maritime Autonomy market varies materially depending on near-term strategic choices. The widespread difference between growth trajectories highlights a key conclusion.

**The size of the future opportunity is highly sensitive to decisions taken now.**

These decisions will determine the speed of adoption, the location of value creation, and the UK's long-term competitive position. Action is needed to:

- **Set clear strategic ownership** and coordination mechanisms across government and delivery bodies for Maritime Autonomy as a national capability;
- **Accelerate the development and implementation of predictable, proportionate regulatory and assurance pathways** that support deployment and international acceptance;
- **Use defence procurement programmes** and experimentation as a consistent early-stage market to mature capability and create exportable reference cases;
- **Provide sustained, multi-year demand signals** through procurement pipelines across defence, offshore energy and public maritime services;
- **Target support toward high-value areas of the value chain**, including autonomy software, remote operations, system integration and assurance services;
- **Enable and maintain accessible UK based test, trial and early-deployment environments** for autonomous and remotely operated maritime systems;
- **Support SME scale-up through access to finance**, procurement routes and assurance readiness to retain capability, IP and value within the UK;
- **Leverage the UK's leadership** in regulation, assurance, insurance and standards-setting as an explicit tool to support exports and international market access.

# Strategic Implications for the UK

## Economic Value and Productivity

- 1 Maritime Autonomy has the potential to deliver high-value economic growth, not only through platform manufacture but increasingly through software, services, assurance and operating models, areas where the UK already holds strong comparative advantages.  
Unlike traditional shipbuilding-led growth, autonomy enables value creation to occur across a much wider geography, including inland technology hubs, centres of digital engineering expertise and regional innovation clusters.

## Maximising UK Strengths

- 2 The UK's opportunity is underpinned by a rare combination of strengths: a deep and innovative SME base, world-leading assurance and regulatory capability, strong defence-civil crossover, and international credibility in safety-critical systems. These assets position the UK to capture value well beyond platform manufacture, particularly in software, services and assurance-led exports.

## Defence, Security and Sovereignty

- 3 For defence, Maritime Autonomy is no longer optional. It is becoming central to force structure, operational resilience and mass. Programmes such as MCM and the Hybrid Navy concept illustrate how autonomy underpins future naval capability.  
From a sovereignty perspective, the study shows that the elements of the Maritime Autonomy value chain where control is increasingly important are found in the cognitive and assurance layers, (autonomy software, command-and-control, system integration and certification) rather than in hull fabrication alone. These capabilities are central to preserving freedom of action, export credibility and long-term resilience.

## Export Competitiveness

- 4 Global demand for Maritime Autonomy is accelerating, driven by defence modernisation, offshore energy expansion and Maritime security concerns. The UK is well-positioned to compete internationally - but only if it can demonstrate domestic deployment, regulatory credibility and assured capability at scale.  
Without this, there is a clear risk of value leakage, as overseas companies scale faster, test earlier and establish operational dominance in the UK and allied markets.  
The evidence in this study highlights the factors shaping market scale, competitiveness and value capture, providing a clear basis for prioritising near-term strategic decisions.

# What Decisions Does This Inform?

This Executive Summary (and the wider report) is intended to provide a shared evidence base to support near-term strategic decision-making across government, industry and finance.

## Decisions for Government and Public Bodies

For government departments, regulators and public bodies, the analysis informs decisions on strategic positioning, prioritisation and intervention, including:

- Whether Maritime Autonomy should be treated as a strategic national capability, requiring coordinated ownership and alignment across defence, transport, energy, industrial strategy and innovation policy.
- How to prioritise assurance, regulation and test infrastructure as enabling levers - reducing deployment friction, accelerating adoption and improving the UK's attractiveness to private capital and international partners.
- How procurement and demand signals can be used effectively, particularly in defence and public Maritime services, to support market development without distorting competition or crowding out commercial innovation.
- Where sovereign control is critical (for example, in assurance, command-and-control and integration), and where global supply chains can be safely leveraged without undermining long-term resilience or freedom of action.

## Decisions for Industry

For technology developers, operators, primes and supply-chain organisations, the report supports decisions on strategy, investment and collaboration, including:

- Which segments and applications offer higher adoption rates of autonomy, suggesting where market momentum is likely to emerge first.
- How value is shifting across the Maritime Autonomy ecosystem, from platforms toward software, services, assurance and operating models - and where differentiation and competitive advantage are most likely to be sustained.
- How domestic deployment, assurance and regulatory credibility link directly to export success, shaping route to market and international positioning.
- Where collaboration, integration and scale-up are essential, and where fragmented or isolated approaches are likely to limit competitiveness against international peers.

# Decisions for Investors

For investors, lenders and financial institutions, the study provides clarity to support risk assessment and capital allocation, including:

- The current scale, structure and maturity of the UK Maritime Autonomy market, grounded in company-level evidence rather than aspirational forecasts.
- Understanding the conditions under which Maritime Autonomy becomes investable at scale, including the role of procurement visibility, assurance artefacts and repeatable service-based revenue models.
- How regulatory certainty and structured assurance reduce technical and deployment risk, improving investability relative to other emerging technology markets.
- How the UK's opportunity compares internationally, and where it sits on the spectrum between global leadership, competitive parity and potential value leakage.

## A Clear Message for Decision-Makers

This study shows that the UK already has a material Maritime Autonomy market and the underlying strengths to lead internationally. However, future leadership is contingent, not guaranteed. The scale and location of value creation will be shaped by near term strategic choices rather than technology readiness alone.

Maritime Autonomy represents a high value growth opportunity spanning defence, exports and advanced services. Realising that opportunity will require deliberate alignment across deployment, assurance, regulation and demand signals. Without this alignment, there is a clear risk that value is created elsewhere and imported back into the UK at scale.



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