

Maritime Autonomous Systems Centre of Expertise

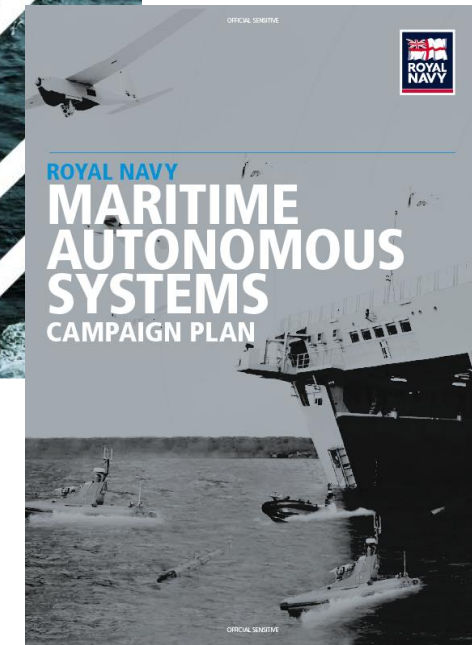
Accelerating the deployment of MAS – the new UK DE&S centre of expertise

- *Growing demand for UK MAS and increased portfolio focus on opportunities and challenges*
- *Supporting the UK Uncrewed Systems Strategy for maritime*
- *Delivering a common commercial approach for the acquisition and support of MAS*

May 24

Strategic Context

- An RN goal for distributed & disaggregated capability
 - A shift away from complex platforms
 - At the heart of the RN Integrated Review proposition
- Early progress in exploring disruptive technologies & in mine countermeasures
- An imperative to *field* & scale autonomy & AI, much faster than currently planned
- A need for a more agile and adaptive delivery programme

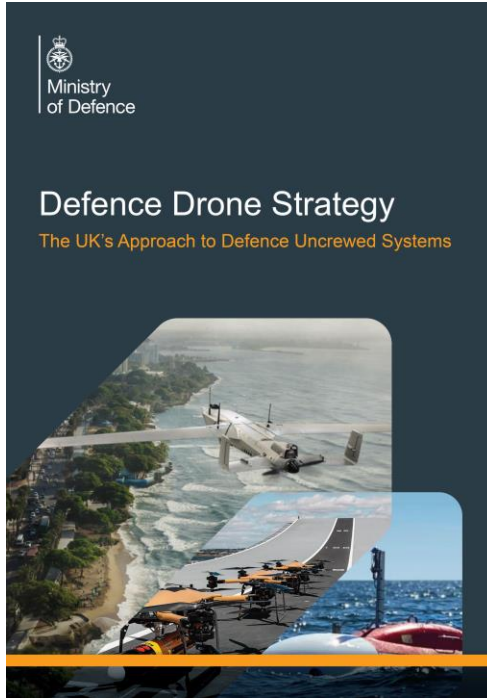


Delivery Programme Context

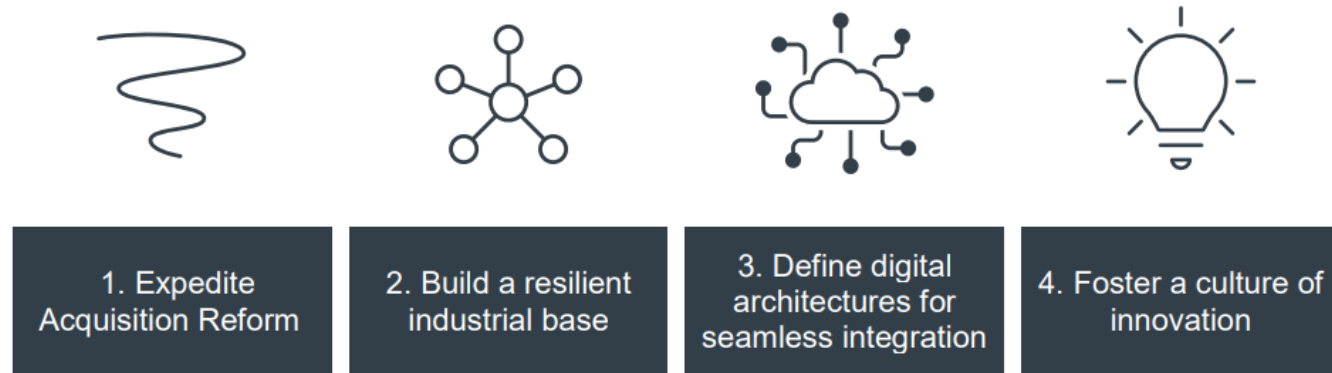
- **Salvage & Marine Operations**
 - A mature and growing programme operating & supporting underwater vehicles
- **Mine Hunting Capability**
 - Block 1 systems now beginning to demonstrate the value of MAS on operations
 - Block 2 funding now gives the means to achieve scale & a pivot with a more incremental programme & a platform for a bigger change
- **Submarine Delivery Agency – Autonomy Unit**
 - A varied and growing programme of prototyping, experimentation & evaluation
- **NavyX**
 - User led experimentation & exploration with a key focus on autonomy
- **FCG**
 - Proven frameworks & a broad autonomy programme across all domains



MAS & the Defence Drone Strategy



There are four key objectives to deliver the vision:



The focus will be on six areas to accelerate frontline capability & provide industry with a clearer interface into the relevant areas of defence.



What problem are we fixing?

- An imperative from our customers for a more agile, experimental style of acquisition
- A need for proven delivery pathways for assuring, integrating and sustaining MAS capabilities at scale
- An opportunity for greater efficiency and to go faster through collaboration
- A scarcity of SQEP and a lack of a career pathway across MOD, developing & retaining MAS skills
- A need to better commercially engage small and medium MAS companies and non-traditional suppliers
- A lack of ownership & focus for enabling elements such as Naval Strike Network, test harnesses & certification



A Plan for Change

- Exploit the CoE brand, linking together our existing delivery teams across Maritime, expanding capacity to meet a growing need
- A core focus on surface & underwater MAS
- A programme bias towards underwater capabilities & Seabed Warfare
- Establish an initial community of interest and expand



Portfolio level opportunities and common challenges

- A cross-cutting focus on learning from experience & information management across the community
- Developing common commercial tools & approaches
- Working together to secure clearance to operate across a growing envelope of autonomous operations
- Pioneering new approaches to MAS integration and the management of design authority responsibilities
- Exploring the opportunities to operate from common infrastructure & collaborating on operations from host platforms
- Data standards & exploitation
- Working to expand the pool of MOD MAS expertise



MASCoE – Recent Highlights

- Shaping strategic context – Uncrewed Systems Strategy & a set of strategic goals
- Category management – developing from concept to strategy implementation
- Regulation – establishing a framework and plan
- System of systems integration & design authority – being progressed as part of MHC Block 2 & with NSN
- Infrastructure – ongoing dialogue around Devonport & Faslane
- Host platforms – cross pollination around operating & launch & recovery
- Staff – lots of recycling!

Goals for the Next Phase

- Implementing the MAS Category Strategy
- An increasingly integrated delivery response across MCM, Seabed Warfare, ASW and HM.
- To rebalance and grow our delivery enterprise to reflect our strategy and forward programme.
- Addressing the regulatory & certification challenge.
- Achieving Level 4 (uncrewed and without human intervention) autonomy.
- Increased co-ordination and planning for experimentation.

MAS Category Strategy Key Points

Category challenges

- Fragmented procurement approach
- Sub-optimal support solutions
- Lack of data to enable optimal decision making
- High transactional costs to MOD and Industry
- Inconsistent standards which prevent interoperability and interchangeability
- Limited ability to respond to opportunistic demands
- Supplier performance

Priority Business Requirements

- Compliant with Defence Drone strategy
- Rapid time to deployment
- Improved availability & operational efficiencies
- Coherent & simplified through life support solution
- Good quality granular cost data
- Improved supplier performance
- Efficient procurement processes that facilitate timely acquisition
- Improved UK support base

Opportunity Groups



Through Life Support Solutions

Optimisation of support solutions through improved Inter-operability from specification harmonisation, introduction of support agreements, management of key performance metrics, specification rationalisation / simplification and inventory management.



Data Management & Exploitation

Development and management of internal & external KPIs. Introduction of cost modelling. Creation of the data infrastructure to manage key data.



Demand Management

Consolidated demand picture providing suppliers early visibility of requirements.



Supplier & Contract Management

Introduction of performance management and supplier relationship management. Identification of supply chain risks and opportunities.



Specification Optimisation

Simplification/standardisation of specifications. Supplier hardware/software compatibility improvements.



Optimal Sourcing Solutions

Development of framework agreement or optimised sourcing solution for sub-categories falling outside that framework.

Benefits

- Improved through life support
- Increased coherence
- More efficient routes to market
- Minimise duplication of effort
- Better supply market leverage
- Improved speed of market access
- Improved flexibility to respond to opportunistic demand and technology cycle
- Delivering equipment at required operational readiness
- Delivering at optimal whole life cost

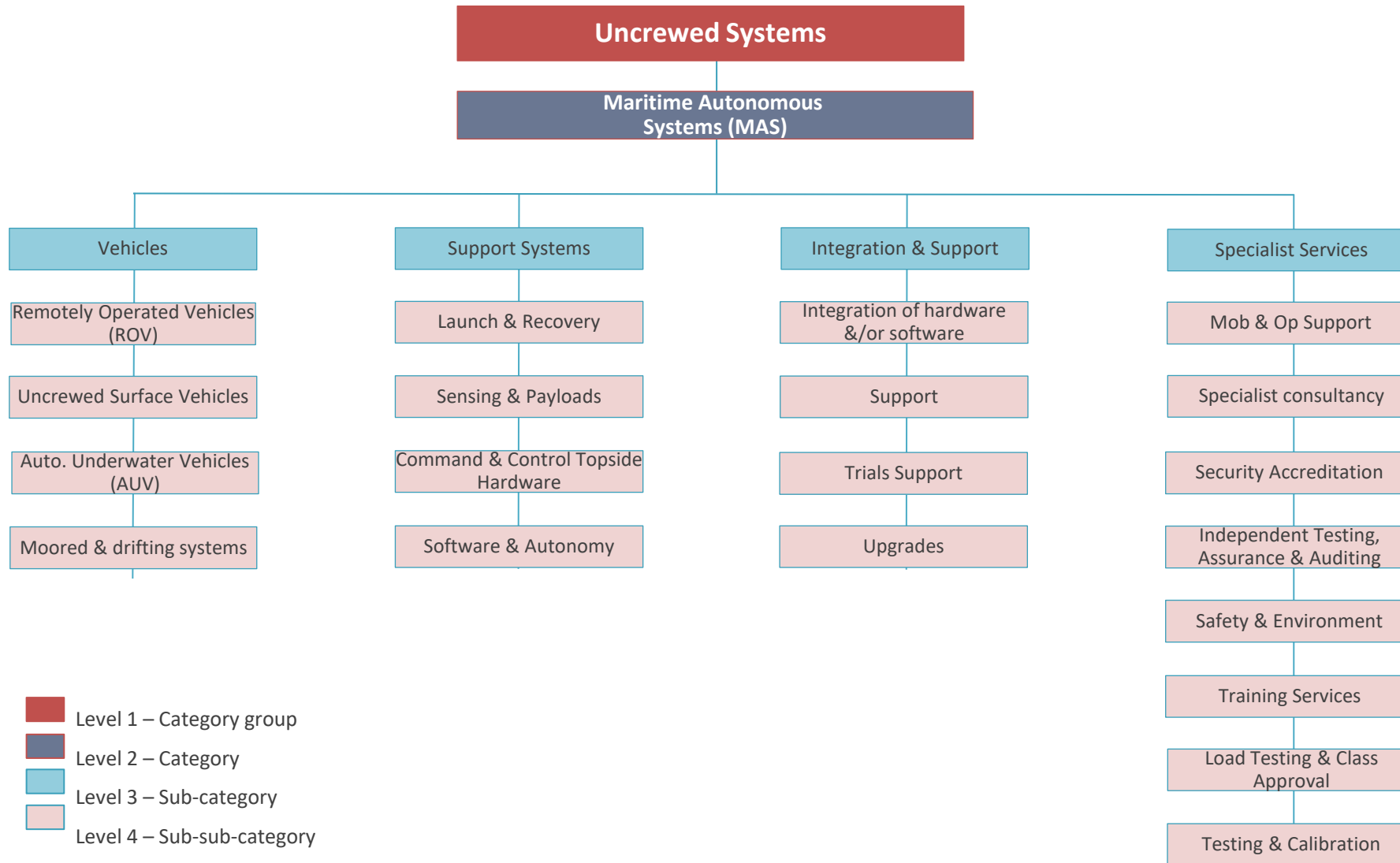
MHC Case study

- In the region of:
 - 21 USVs
 - 24 medium UUVs
 - 14 towed hunting payloads
 - 14 neutralisation payloads
 - 7 sweep payloads

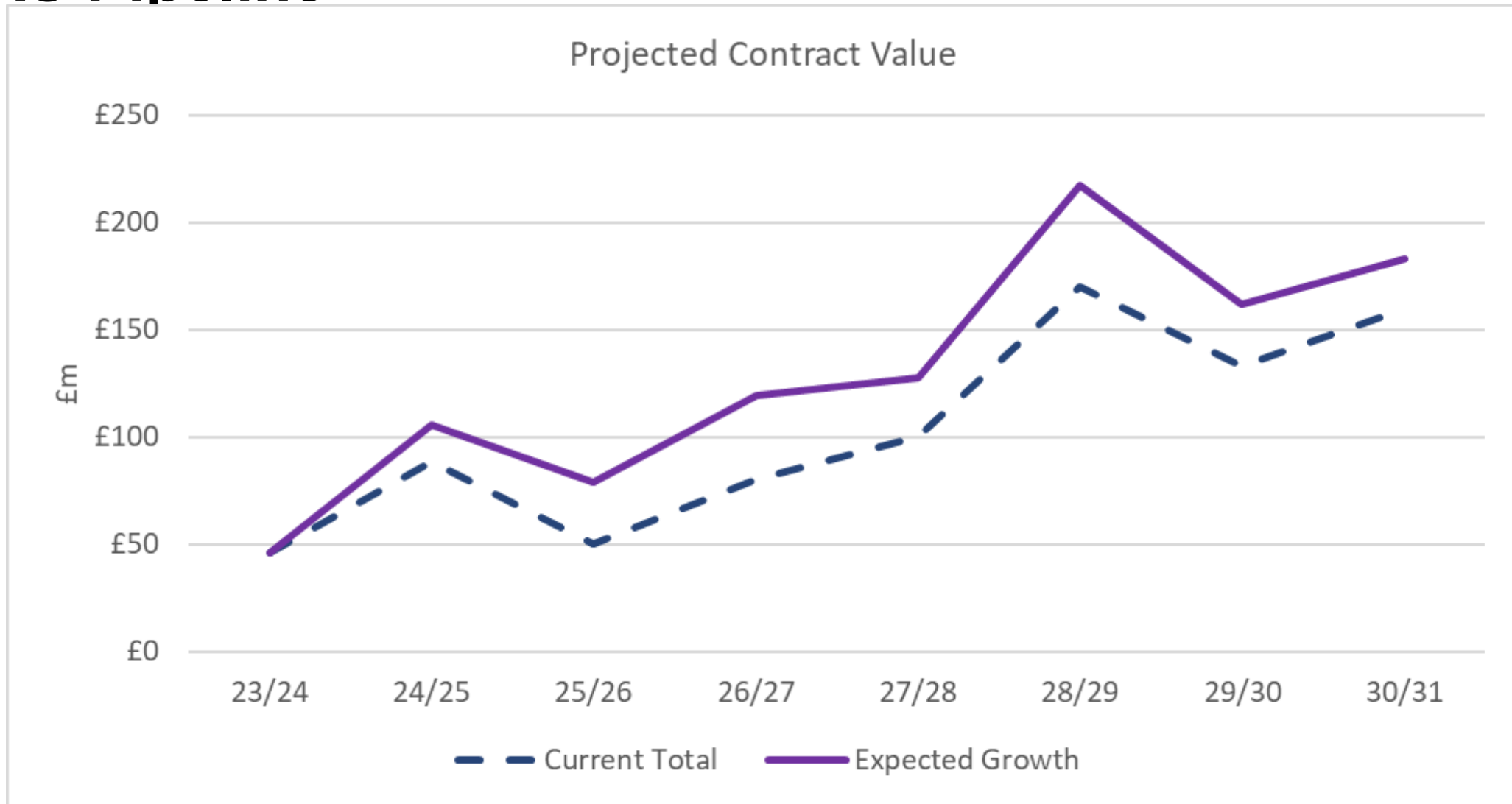
Delivering in

- *Mission System 4 – 2029*
- *Mission System 5 – 2030*
- *Mission System 6 – 2031*

MAS Taxonomy – Existing & Pipeline mapped by value



MAS Pipeline



Next steps

- Industry engagement on the strategy
- Implementation planning and execution
- Framework development / modification
- Consultation on & signposting of early requirements
- Pipe cleaning of new arrangements

Questions?