Uncrewed Naval Systems

15-16 July 2025, London

Agenda

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CONFERENCE DAY ONE, TUESDAY 15 JULY 2025

0800	**REGISTRATION AND REFRESHMENTS**
0855	**DEFENCE iQ WELCOME** **Anna Baker,** Conference Producer**, Defence iQ**
	BOLSTERING AUKUS AS THE LEADING GLOBAL NAVAL PARTNERSHIP
0900	**CHAIRMAN'S OPENING REMARKS** **Dr. Craig Sawyer,** Chairman, NATO Joint Capability Group for Maritime Unmanned Systems & Deputy Director Strategic Assessment, **US DoN**
0910	**STRATEGIC CONTEXT FOR UNCREWED NAVAL SYSTEMS ACROSS THE ALLIANCE** **Dr. Craig Sawyer,** Chairman, NATO Joint Capability Group for Maritime Unmanned Systems & Deputy Director Strategic Assessment, **US DoN**
0930	**KEYNOTE ADDRESS: THE GEOSTRATEGIC, ECONOMIC AND TECHNOLOGICAL IMPORTANCE OF AUKUS** • Outline of progress made • Collaboration to accelerate the development of a range of advanced capabilities • Next steps to deliver the partnership's potential **Lord Walney,** Vice Chair, **AUKUS All-Party Parliamentary Group**
1000	**VIRTUAL BRIEFING: AUSTRALIAN INVESTMENT INTO UNCREWED NAVAL SYSTEMS (UNS)** • Developing and deploying various UNS for intelligence, surveillance, reconnaissance and strike • Insights into the development and introduction of UNS to complement the Navy's surface combatant fleet and conventionally-armed, nuclear-powered submarines • Collaborative programs to leverage shared expertise and resources to advance uncrewed naval technologies **Commodore Mick Turner,** Director General, **Maritime Integrated Capabilities, Royal Australian Navy**
1030	**MORNING COFFEE AND NETWORKING BREAK**
1100	**LESSONS LEARNED FROM THE BLACK SEA CONFLICT: THE US PERSPECTIVE OF UNCREWED SYSTEMS AND STRATEGIC MARITIME TRENDS** • Insights into Task Force SIX SIX • The experimentation, development and operational integration of small unmanned surface vessels (sUSVs) • Black Sea Conflict and Maritime Warfare: the impact of UxS strategic maritime trends **Rear Admiral Michael Mattis**, Commander, Task Force SIX SIX (CTF 66), **US Navy**
1130	**ROYAL NAVY DEEP DIVE: VISION FOR NAVAL CAPABILITY DEVELOPMENT** • Insights into the integration of autonomy into the naval fleet • Case study examples

- Supporting innovation and development through NavyX

Commodore Marcus Hember, Deputy Director Naval Capability Plans, **Royal Navy**
Commodore Marcus Rose, Deputy Director Underwater Battlespace Capability Develop Directorate, **Royal Navy**
Captain Michael Hutchinson, Captain of XV Patrick Blackett, Head of Experimentation, **Navy X**
Bill Biggs, System of Systems Architect, MHC programme, **UK MoD**

1230	**LUNCH AND NETWORKING BREAK**
	ENHANCING THE TECHNICAL CAPABILITIES OF UNCREWED NAVAL SYSTEMS
1330	**PROTOTYPING TO TEST AND REFINE UNS** • The Uncrewed Maritime Systems Framework • The next generation of autonomous naval systems • Collaboration with academic institutions, industry partners, and other defence organisations to drive innovation in uncrewed systems **Captain Andy Berner,** Commanding Officer, **US Office of Naval Research Global**
1400	**PANEL DISCUSSION: OPERATIONALISING UNCREWED SYSTEMS IN THE MARITIME BATTLESPACE** Uncrewed systems are playing an increasingly central role in naval operations, particularly in Anti-Submarine Warfare (ASW), Mine Warfare, and Intelligence, Surveillance, and Reconnaissance (ISR). This panel will explore how heterogeneous teams of crewed and uncrewed platforms are being deployed in complex maritime environments, and what is required to ensure their effective integration. Key areas of focus include autonomy, command and control, resilience, and capability development. **Discussion Questions:** • What are the most promising operational scenarios for employing mixed teams of crewed and uncrewed systems in ASW, Mine Warfare, and ISR? • How can swarming behaviours be effectively coordinated and controlled in contested maritime environments? • In what ways do uncrewed systems enhance situational awareness and support maritime picture management for effective command and control? • How can navies ensure secure and resilient Positioning, Navigation, and Timing (PNT) in GPS-contested or denied environments? • What role does test and evaluation play in validating uncrewed systems, supporting integration, and accelerating capability development? • How do we operationalise interoperability with partners and allies for complex maritime environments including heterogeneous teams of crewed and uncrewed platforms? **Moderated by:**

	Dr. Craig Sawyer, Chairman, NATO Joint Capability Group for Maritime Unmanned Systems & Deputy Director Strategic Assessment, **US DoN** **Panellists:** **Dr. Stewart Radcliffe,** Head of Solution Innovation – Maritime, **Thales UK** **Dr. Cara LaPointe, CEO, Archytas LLC &** Adjunct Professor, School of Foreign Service, **Georgetown University** **David Manley,** Professor of Naval Architecture, Department of Mechanical Engineering, **University College London** **Nick Childs,** Senior Fellow for Naval Forces and Maritime Security, **IISS**
1500	**AFTERNOON TEA AND NETWORKING BREAK**
	UTLISIING AUTONOMOUS SYSTEMS TO ENHANCE DECISIONMAKING
1530	**STRATEGIC WARGAMING: ENHANCING DECISION-MAKING FOR NATO UNMANNED CONCEPTS** • Wargaming Baltic Sentry • Identifying Capability gaps and insights into UXV operations • Outcomes from experimentation and implications for coordinated operations **David Manley,** Technical Authority for Maritime Survivability, **UK MoD** and Professor of Naval Architecture, **UCL**
1600	**VIRTUAL BRIEFING: MODERNISING GREECE'S DEFENCE CAPABILITIES THROUGH INVESTMENT IN UNCREWED AND AUTONOMOUS SYSTEMS** • Overview of current R&D projects • Emphasis on AI and directed energy weapons • Ambitions going forward **Commander Michail Pothitos,** Head EU Projects - UxV/C-UxV Systems, R&D - Innovation Directorate, **Hellenic Centre for Defence Innovation**
1630	**INSIGHTS INTO THE UK'S NAVAL METEOROLOGY AND OCEANOGRAPHY COMMAND** • Overview of our significance for UxS • Development of the UUV Glider project • Ensuring accurate modelling to provide tactical awareness for sensors **David Goldsworthy**, IW METOC Specialist Advisor Organisation, **Royal Navy** **CPO Natalie Johnston,** METOC IW Group – Glider Ops Lead, **Royal Navy**
1650	**CHAIRMAN'S CLOSING REMARKS** **Dr. Craig Sawyer,** Chairman, NATO Joint Capability Group for Maritime Unmanned Systems & Deputy Director Strategic Assessment, **US DoN**
1655	**END OF CONFERENCE DAY ONE**

DAY TWO, WEDNESDAY 16 JULY 2025

0815	**REGISTRATION AND REFRESHMENTS**
0855	**CHAIRMAN'S OPENING REMARKS** **Dr. Craig Sawyer,** Chairman, NATO Joint Capability Group for Maritime Unmanned Systems & Deputy Director Strategic Assessment, **US DoN**
	AUTONOMOUS MISSIONS ALIGNING WITH THE EVOLVING THREAT CONTEXT
0900	**ENHANCING NAVAL CAPABILTIES THROUGH UNCREWED SYSTEMS** Ministerie van Defensie • Update on the Programme for the Protection of North Sea Infrastructure (PBNI) • Advancing MCM capabilities through unmanned and autonomous systems • Where next? 3-5 year investment in line with the evolving threat environment **Rear Admiral Paul Flos,** Programme Director International Naval Materiel Cooperation, **Netherlands Ministry of Defence**
0930	**TASKFORCE MARITIME UNCREWED' OF THE ROYAL NETHERLANDS NAVY** Royal Netherlands Navy • Develop a clear vision for the future (fleet and operational concept) so that everyone has a clear direction (systems and platforms) • Rapid and effective coupling of innovations ('technology push') with (new) operational applications: threat/opportunity ('capability pull') • Bring together all stakeholders involved in uncrewed operations throughout the entire Defense chain (technical and operational experts) **Dr. Bas Buchner,** Programme Director, Maritime Uncrewed**, Royal Netherlands Navy**
1000	**ITALIAN DEFENCE PERSPECTIVE FOR THE PROTECTION OF CRITICAL UNDERSEA INFRASTRUCTURES** • Strategic overview of current investment priorities • Collaboration with allied partners • Current capability challenges **Rear Admiral Fabrizio Rutteri,** Deputy Director, Joint Capability Directorate, **Italian Defence Staff**
1030	**PORTUGUESE NAVY'S ROADMAP TO UNCREWED NAVAL SYSTEMS AND REPMUS 2025** Marinha Direção de Navios • Integrating uncrewed systems into existing fleet capabilities • Balancing affordability, deliverability, and efficiency • Insights from surface and submarine modernization projects REPMUS 2025 **Lieutenant Commander Tiago Gomes, Portfolio Manager of Ships Directorate, Portuguese Navy**
1100	**MORNING COFFEE AND NETWORKING BREAK**
	BOLSTERING THE PROTECTION OF CRITICAL UNDERWATER INFRASTRUCTURE

1130	**A DANISH APPROACH TO UNCREWED MARITIME SYSTEMS** DANISH MINISTRY OF DEFENCE ACQUISITION AND LOGISTICS ORGANISATION • Implementing the Saildrone Voyager in Denmark – goals, approach and early lessons • Structured development across four focus areas • Reflections on capability needs and lessons from early-stage implementation **Ane Todbjerg Sønderstrup,** Head of Section, Maritime Drones and Autonomous Systems, **Danish Ministry of Defence - Acquisitions and Logistics Organisation**
1200	**ITALIAN NATIONAL UNDERWATER HUB – AN ECOSYSTEM DEDICATED TO SUPPORTING INNOVATION, RESEARCH, AND DEVELOPMENT IN THE UNDERWATER DIMENSION** • Strategic overview of key programmes • Current challenges • Pathway for the future **Rear Admiral Giulio Cappelletti,** Deputy Director of the Operational Structure of the National Underwater Center, **Italian Navy**
1230	**VIRTUAL BRIEFING: INNOVATIVE DEVELOPMENTS TO MODERNISE THE AUTONOMOUS ROMANIAN NAVAL FLEET** • Investment into uncrewed systems to protect undersea infrastructure • Current challenges • Ambitions for the future **Lieutenant-Commander Florin Constantinoiu**, Head of Innovation, **Romanian Navy HQ**
1300	**LUNCH AND NETWORKING BREAK**
1400	**INTERACTIVE ROUNDTABLE DISCUSSIONS**

ROUNDTABLE 1: AUTONOMY, AI, AND DECISION-MAKING

The evolving role of autonomy and AI in naval warfare

Moderated by Dr. Craig Sawyer, Chairman, NATO Joint Capability Group for Maritime Unmanned Systems & Deputy Director Strategic Assessment, **US DoN**

Discussion Points:

- What levels of autonomy are currently feasible and desirable in UxS?
- How can AI be trusted in high stakes maritime environments?
- What are the ethical and legal implications of autonomous decision-making?

ROUND TABLE 2: SECURITY, RESILIENCE, AND COUNTERMEASURES

Protecting and defending uncrewed systems in contested environments

Moderated by Senetas

SENETAS

Discussion Points:

- What are the primary vulnerabilities of UxS to cyber, electronic, and physical threats?
- How can navies build resilience into UxS platforms and networks?
- What counter UxS strategies are emerging, and how should navies respond?

	• How do we ensure transparency and accountability in AI-driven systems?	• How do we balance stealth, survivability, and cost in UxS design? • Role of deception and decoys in UxS operations
	ROUND TABLE 3: ANTI-SUBMARINE WARFARE (ASW) AND THE SUBSURFACE THREAT LANDSCAPE Responding to the growing undersea threat with uncrewed and distributed systems **Moderated by Thales** **Discussion Points:** • How do you coordinate your assets, and how do you ensure interoperability with other nations? • How are adversaries enhancing their submarine stealth and capabilities? • What role can UxS play in distributed ASW across vast ocean areas? • How do autonomous platforms (e.g. USVs, UUVs, UAVs) contribute to persistent undersea surveillance? • What are the implications of GPS-denied environments and cyber threats on ASW operations?	**ROUND TABLE 4: LOGISTICS, SUSTAINMENT, AND INDUSTRIAL BASE** Building and maintaining a sustainable UxS ecosystem **Moderated by Nick Childs,** Senior Fellow for Naval Forces and Maritime Security, **The International Institute for Strategic Studies (IISS)** **Discussion Points:** • What are the logistical and maintenance challenges of UxS fleets? • How can navies ensure secure and resilient supply chains for critical components? • What role should commercial industry and startups play in UxS innovation? • How do we scale production while maintaining quality and adaptability? • What infrastructure and training is needed to support long-term UxS operations?
1500	**AFTERNOON TEA AND NETWORKING BREAK**	
	RESEARCH AND EVALUATION NEEDED TO PROPEL TECHNOLOGICAL INNOVATION	
1530	**ACADEMIC INSIGHTS: OPERATIONALISING DIGITAL TWIN DATA FOR TACTICAL UNCREWED NAVAL ASSETS** • Empirical and theoretical validation of digital twin models for uncrewed naval systems (UNS) • Predictive threat vector analytics: Enhancing tactical adaptability in uncrewed naval in real time operations • A Kuwaiti researcher's perspective: Aligning academia, industry, and fleet modernisation for UNS **Captain Ali Ashour FRINA, FIES, FIMarEST,** Researcher UoS PDRC & Senior Engineering Officer, **MOI-KCG – State of Kuwait**	

	Professor Erkan Oterkus, Director of The PeriDynamics Research Centre (PDRC) Director of Ocean Energy Research, Department of Naval Architecture, Ocean & Marine Engineering**,** **University of Strathclyde**
1600	**CHAIRMAN'S CLOSING REMARKS** **Dr. Craig Sawyer, Chairman,** NATO Joint Capability Group for Maritime Unmanned Systems & Deputy Director Strategic Assessment, **US DoN**
1605	**END OF CONFERENCE**