A military capable and assured XLAUV

Herne®

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BAE SYSTEMS

Herne is a modular, highly configurable Extra Large Autonomous Underwater Vehicle (XLAUV); a military capability at the forefront of the underwater battlespace.

With a flexible and innovative design approach, the Herne XLAUV provides a new military capability enabling navies to cover more of the underwater battlespace than ever before. Positioning Herne XLAUV at the forefront of the battlespace removes reliance and risk to large platforms and critical resources whilst providing a range of new mission capability.

At the core of Herne's configurable design is the latest in battery, propulsion and autonomy technology, providing maximum mission endurance. With large adaptable payload modules comprising of underwater and surface capability; Herne is capable of hosting a wide range of mission-specific payloads that can be configured to meet various mission profiles including defensive and expeditionary roles.

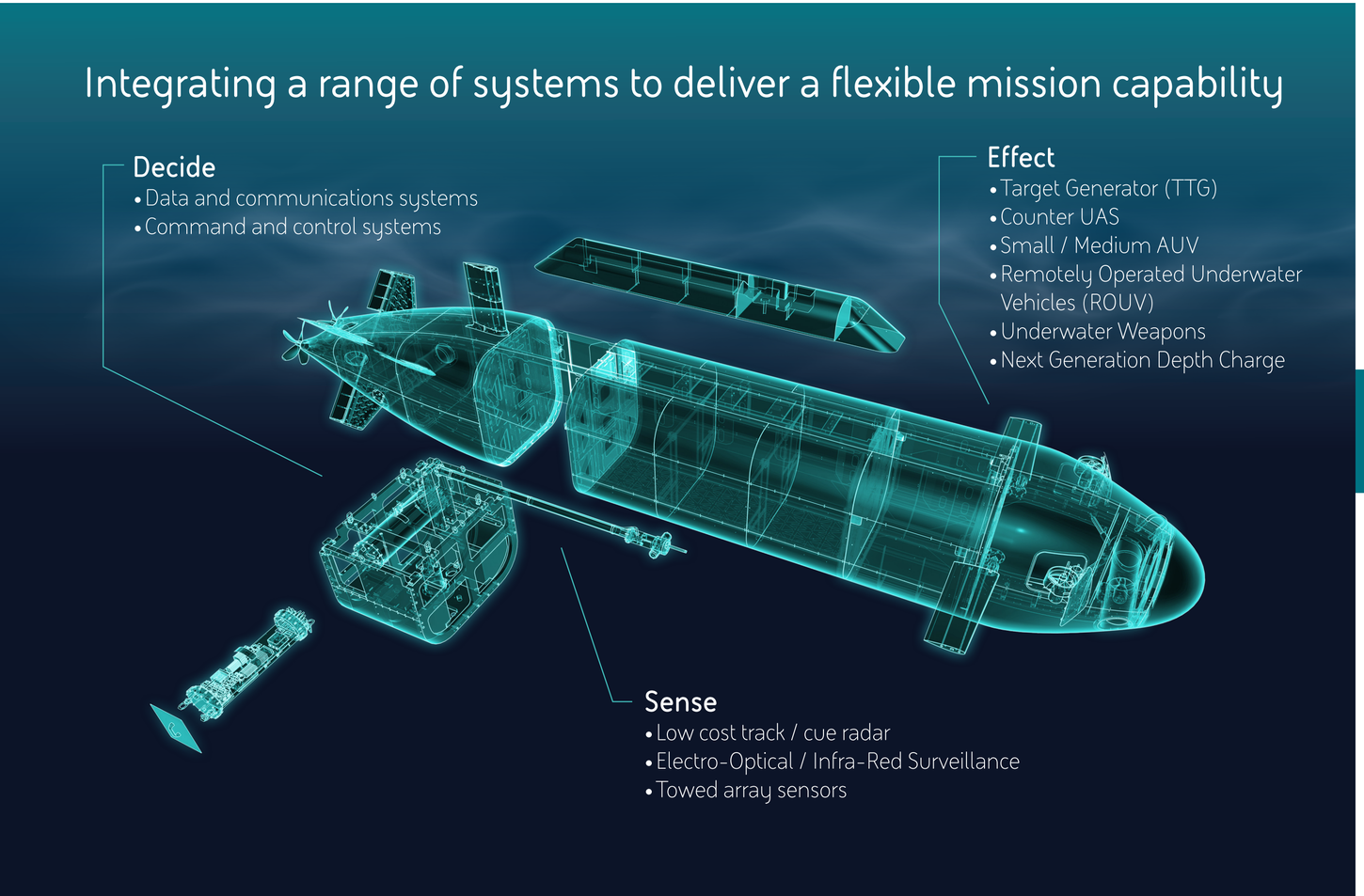
Powered by Nautomate®

The proven autonomous control system for surface and subsurface platforms.

Proven experience in military underwater platform design

Leveraging our extensive knowledge of the underwater battlespace, the Herne XLAUV integrates the latest military technologies to advance the capabilities of navies around the world.

- **Military assured design** – Designed to work specifically in a military application, and meet required military standards.
- **Trusted autonomous systems** – Herne's sophisticated command chain design is underpinned by years of pedigree in surface autonomy.
- **Proven software** – Understanding that mission profiles can change, Herne's software has been specifically designed to have the ability to be reconfigured for each operation.
- **Signature management** – Every component has been intrinsically designed to have a low signature.
- **Secure data and communications** – Robust and secure data and communications packages sit at the core of the design to enable effective communication with the host platform.
- **Payload integration** – With proven experience in payload integration, Herne's modular design allows for multiple potential payload options including ROUVs, range extenders and advanced sonars.
- **Accurate navigation** – Integrated on the Herne XLAUV platform is a tried and trusted navigation system.
- **Secure digital network and battlespace integration** – Trusted to safely share data across a wider digital battlespace network.
- **Established naval architecture** – Trusted by navies around the world to design the most complex naval platforms, Herne's design benefits from a rich heritage in naval architecture.



Modular design approach

Core to Herne's unique design is the level of flexibility with adaptable modules to allow the platform to be adapted to meet mission requirements. Key features of the modular design include:

- **Agnostic platform design** – the modular and agnostic approach to the XLAUV design allows for flexible design and or platform size, providing capability enhancements where required.
- **Launch and recovery** – Herne has been designed with multiple ways to launch and recover including from the harbour, a ship or submarine.
- **Payload space** – Large and flexible payload space, capable of hosting a wide range of mission-specific payloads.
- **Ease of service and maintenance** – The flexible modules enable easy access to all internal components for easy maintenance.

Applications

Configurable to deliver a flexible mission capability

- Anti-Submarine Warfare (ASW)
- Protecting Critical National Infrastructure
- Intelligence, Surveillance and Reconnaissance (ISR)

Collaboration network

We have established collaborative relationships to design, develop and deliver world-leading XLAUV solutions. We continue to welcome small enterprises to larger defence primes to join our AUV collaboration network to integrate the best technologies and provide market-leading capability to navies around the world.

Our AUV network includes:

Steller Systems

CELLULA ROBOTICS

A proven in-water demonstrator

In 2024 we successfully collaborated with Cellula Robotics to conduct an in-water UK demonstration of Herne XLAUV. This fast-paced demonstration showcased our advanced autonomous behaviours in an Intelligence, Surveillance and Reconnaissance (ISR) scenario, showcasing just one of the many flexible mission configurations Herne can be used for.

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