Global Underwater Hub

UNDERWATER ROBOTICS

Market Intelligence Report

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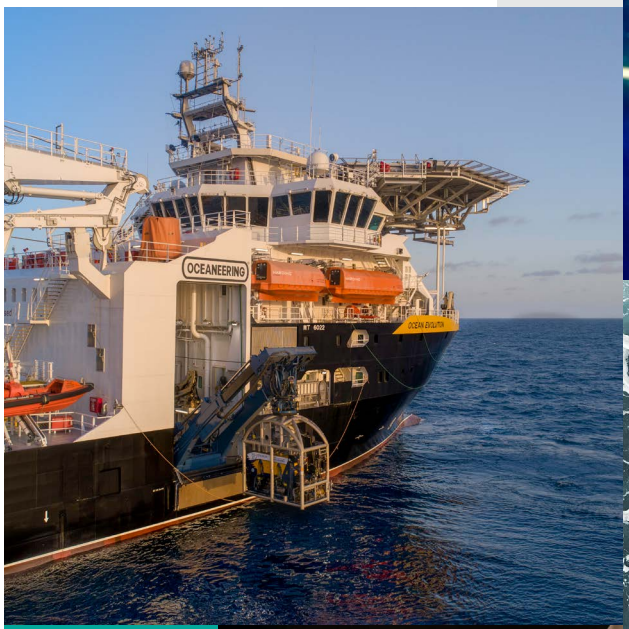

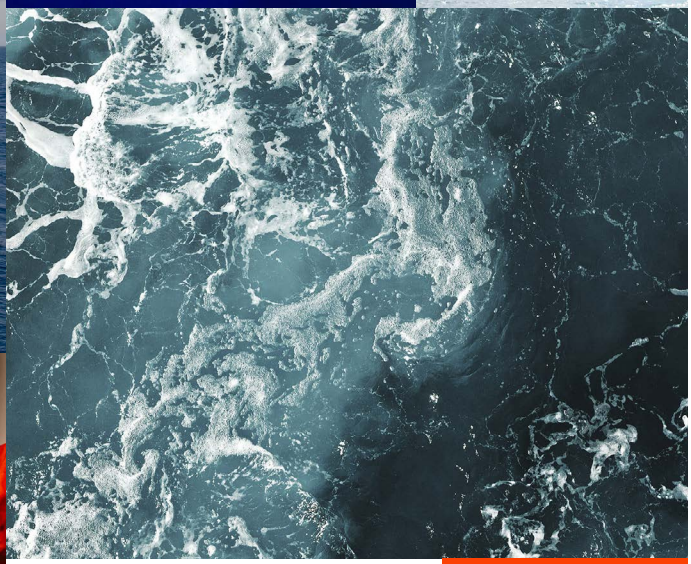

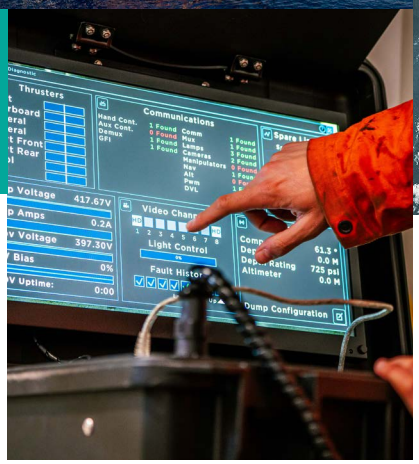

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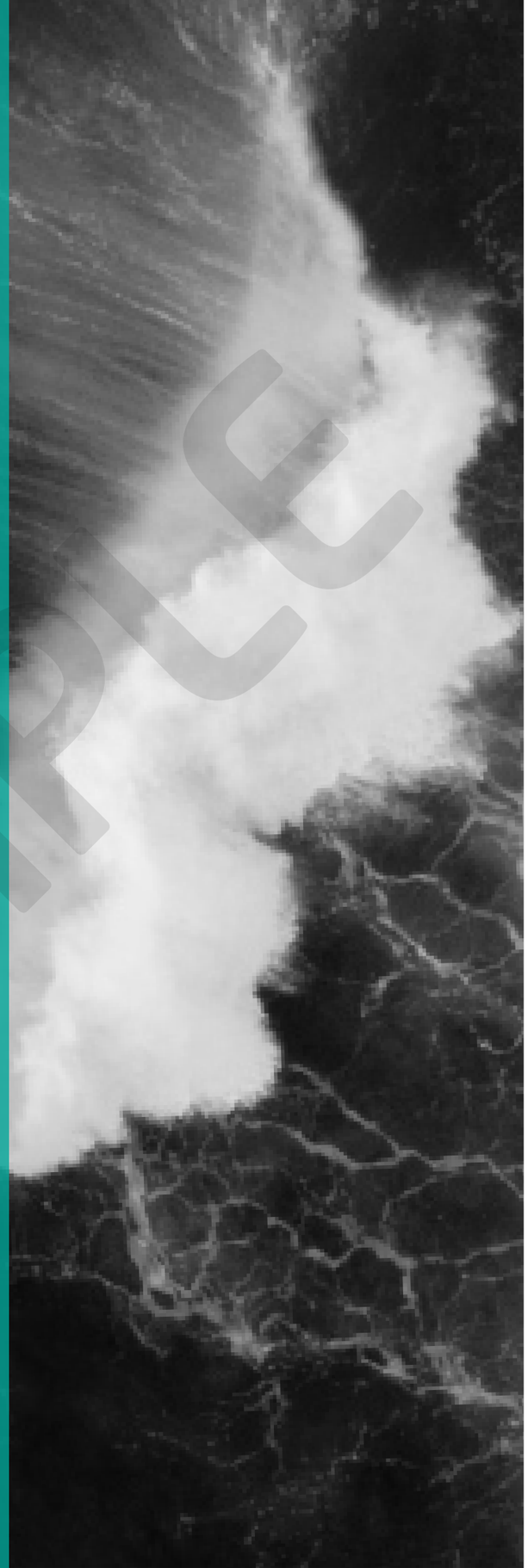


Underwater Robotics

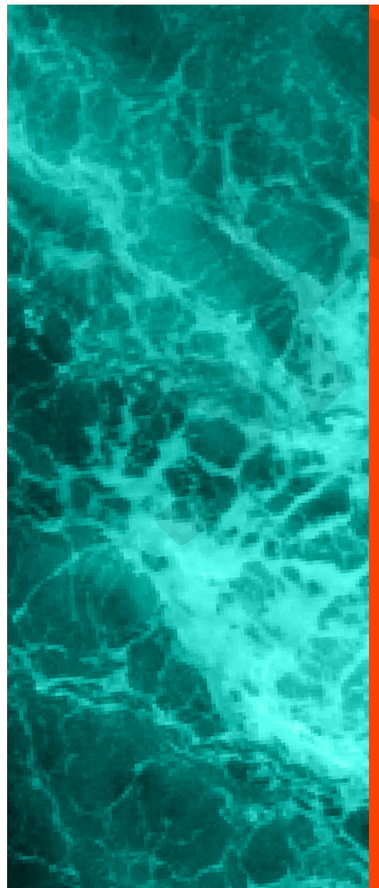
Market Intelligence Report by Global Underwater Hub

Global Underwater Hub (GUH) is pleased to share this report focused on underwater robotics and autonomy in 2026, which is a key area of focus for the organisation.

To concentrate efforts in this area, GUH has a dedicated strategic programme and industry forum for underwater robotics and autonomy. This is designed to align genuine subsea demand and challenges with the supply chain that can provide the solutions.

Subsea robotics spans hardware, peripherals, sensors, autonomy, and AI, offering a prime opportunity for the United Kingdom to take a world-leading position in this field.

Global Underwater Hub has mapped over 1,600 supply chain companies involved in products and services related to the underwater industry. Robotics and related applications feature prominently at the top of the list of popular areas in which UK supply chain companies are involved, supporting the view that the UK is home to genuine world-class capability.



Overview

An underwater robot is a purpose-built machine engineered to operate in submerged environments, often in conditions that are hazardous, deep or otherwise inaccessible to divers. These robots are designed to perform a wide range of tasks, from simple visual inspections to complex interventions such as repairs, maintenance and data collection. Their use has become increasingly vital across multiple sectors due to their ability to operate safely, efficiently and continuously in challenging underwater conditions.

The origins of underwater robotics trace back to the 1950s, where early developments were driven primarily by defence applications. Over time, the technology expanded into the oil and gas industry, where it has played a crucial role in subsea exploration and infrastructure maintenance. The scope of underwater robotics has broadened significantly, with applications spanning aquaculture, offshore wind, marine science, environmental monitoring, subsea mining and national security.

These robotic systems are now integrated across the entire lifecycle of underwater projects from early-stage site surveys and environmental assessments, through to construction, operational support and late-stage decommissioning. While inspection remains the most common use case, particularly for autonomous and semi-autonomous systems, there is a growing push toward enabling more complex intervention capabilities such as valve turning, debris removal and structural repairs.

However, non-autonomous robotics solutions have more capabilities in terms of tasks they can undertake as they can intervene and repair when required.

One of the key advantages of underwater robotics is its ability to replace human divers in high-risk environments. Traditional diving operations are limited by depth, duration and safety concerns. Robotics, on the other hand, can operate at extreme depths for extended periods without fatigue or risk to life. This has led to a significant shift in how subsea operations are conducted, with robots now performing many of the tasks once handled manually by divers. The dexterity and skills of a human mean that divers will be always be required in some scenarios, so will never be replaced entirely by robotics

The UK has long been a global leader in underwater robotics, with a strong ecosystem of innovative companies, research institutions and testing facilities. Companies have developed cutting-edge solutions that are deployed worldwide, reinforcing the UK's reputation as a centre of excellence in this field.

The capabilities of robotics solutions differ depending on their onboard sensors, manipulators and propulsion systems, as well as their ability to withstand pressure at various depths. As technology advances, increased autonomy, improved energy efficiency and enhanced data processing capabilities are all driving the next generation of underwater robotic systems.

Underwater robotics is a dynamic and strategically important field that continues to evolve rapidly. It plays a critical role in enabling safe, efficient and sustainable operations beneath the waves, and the UK is well-positioned to remain at the forefront of this global industry.

Abbrevations

ROV - Remotely Operated Vehicle
AUV – Autonomous Underwater Vehicle
USV – Uncrewed Surface Vessel
AI – Artificial Intelligence.

ROV Types

1. Observation-class

Purpose: Basic visual inspections and monitoring
Features: Equipped with cameras and lights; minimal tooling
Use cases: Marine biology, hull inspections, pipeline inspection
Water depth: 300-1,000m

2. Light work-class

Purpose: Intermediate tasks between observation and heavy work
Features: Smaller manipulators, limited tooling
Use cases: Surveying, light intervention, cable inspection
Water depth: Less than 2,000m

3. Work-class

Purpose: Heavy-duty industrial tasks
Features: Robotic arms, manipulators, tool skids, high power
Use cases: Oil and gas operations, subsea construction, pipeline inspection maintenance and repair, and emergency response
Water depth: 300-1,000m

4. Micro & mini

Purpose: Shallow, rapid-deployment tasks
Features: Lightweight, portable, limited depth capability
Use cases: Aquaculture, small vessel hull inspections
Water depth: Around 300m

5. Specialised

Purpose: Explicitly designed for detailed visual and sonar inspections
Features: Ideal for digging trenches, and burying cables or pipelines
Use cases: Used by navies for detecting and neutralising underwater mines

Credit: Oceaneering


Credit: HPR ROV

Market Size Summary

As projects, whether oil and gas, floating offshore wind or aquaculture, move into deeper waters, it will necessitate the increased need for robotics, as divers will be unable to reach these depths.

Global Underwater Hub recognises the robotics market as a core strategic opportunity for the underwater supply chain. The volume and scale required is substantial and currently exceeds the likely full capacity of the existing supply chain. As such, it can offer the necessary demand to support new entrants, expansion and up-manning if a dependable pipeline of projects can be guaranteed.

Overall tooling market

The combined ROV and diver tooling industry was estimated to be worth around $[redacted] in 2026, the majority of which was for ROV tools. It is predicted that the overall market will grow, particularly owing to the current levels of investment in oil and gas, which is the main sector for the tools. The primary industry is still oil and gas, but demand is rising in other sectors, such as aquaculture and ocean science. Oil and gas, accounts for just over two-thirds of the overall market share, valuing it at around $[redacted]

Typically, around [redacted] of the work ROVs tend to do is in the inspection, repair and maintenance (IRM) stage of a project, while the vast majority of the rest, circa [redacted], is in the project's construction phase. Of the $[redacted] market size for ROV tolling the market value for IRM work approximately equates to $[redacted], while the construction phase is estimated to be worth around $[redacted]

All figures are for 2026.

Tooling type	Tooling market share	Market size ($USD)
ROV	[redacted]	$[redacted]
Diver	[redacted]	$[redacted]
Total		$[redacted]

Credit: Rovtech

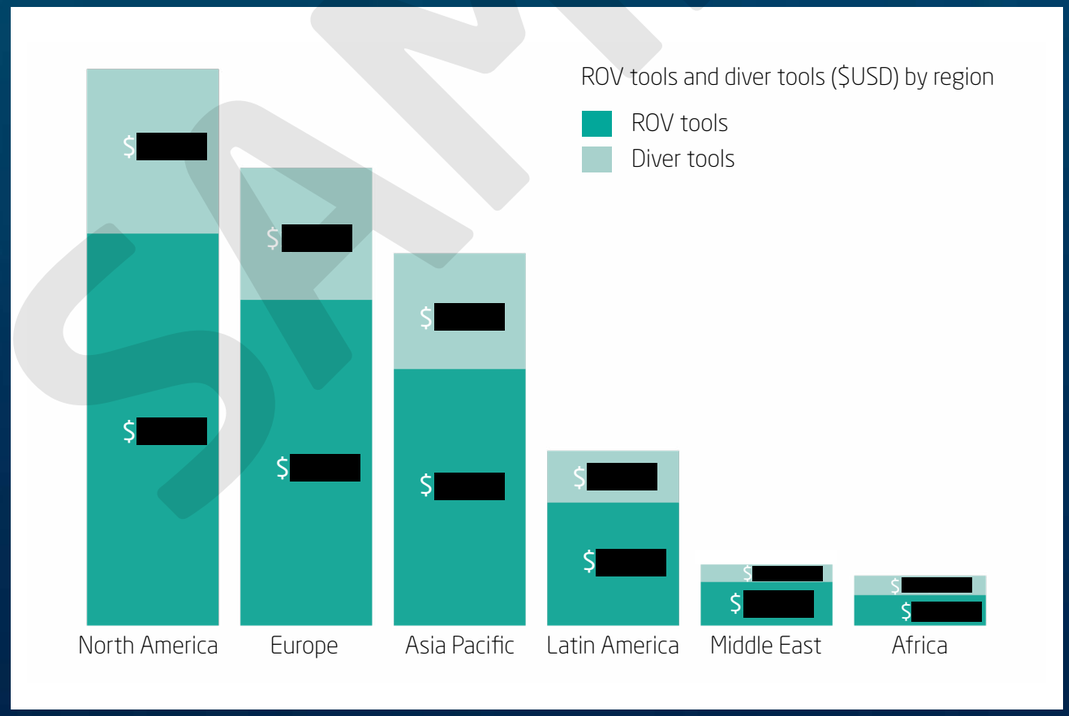
Continental split of tooling market

The tooling market is mainly found in the predominant oil and gas basins, with North America the largest continent, which is led almost entirely by the USA. The figures in North America, in particular the USA, have been attributed to the increase in exploration of oil and gas within the region in recent years.

Europe is the second-largest continent by market size, behind North America. This is due to the continued desire to have oil and gas as a core part of the energy mix, particularly in countries like Norway, less so in the UK at the moment. While both countries are focused on energy security, they are taking different approaches to oil and gas usage as part of the energy transition.

While there are the largest contients the largest country by market share can be found in Asia where China has almost exclusively all of the Asia-pacific market share. However, this dominance does not offer much opportunity to new entrants to export, as Chinese demand is met almost exclusively by Chinese supply. Australia is beginning to grow it's market presence in the region.

As has been noted, tooling is mainly used in IRM and construction work, which explains why oil and gas is the dominant market sector. Activity in offshore wind will increase at some stage; however, at the moment, that remains some way off.



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