

# Autonomous Underwater Gliders Market Growth: From US\$ 1.7 Billion in 2023 to US\$ 4.7 Billion by 2034 | TMR

Autonomous Underwater Gliders Market to Reach US\$ 4.7 Bn by 2034, Growing at a 10.0% CAGR from US\$ 1.7 Bn in 2023

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Autonomous Underwater Gliders Market Outlook 2034: Valued at US\$ 1.7 Bn in 2023, the market is estimated to grow at a CAGR of 10.0%, reaching US\$ 4.7 Bn by 2034"

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autonomous underwater gliders (AUG) market, valued at USD 1.7 billion in 2023, is projected to experience a compound annual growth rate (CAGR) of 10.0% from 2024 to 2034, reaching USD 4.7 billion by the end of the forecast period. This impressive growth is driven by increased investments in underwater research, advancements in maritime defense technology, and the growing utilization of unmanned underwater vehicles (UUVs) across various applications.

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Analyst Viewpoint

The autonomous underwater gliders market is witnessing rapid advancements due to heightened investment in underwater research and exploration. AUGs, especially winged models propelled by buoyancy engines, offer a highly efficient solution for deep-sea surveys with minimal human intervention. These vehicles have become indispensable tools for oceanographic research, ecosystem studies, and environmental monitoring.

Furthermore, the integration of advanced sensors and high-tech features by key industry players enables AUGs to autonomously detect, track, and relay critical information on moving underwater targets. This capability positions AUGs as pivotal assets in enhancing maritime defense strategies worldwide. Market Introduction Unmanned underwater vehicles (UUVs) encompass two primary categories: autonomous underwater vehicles (AUVs) and remotely operated vehicles (ROVs). Within the AUV category, autonomous underwater gliders (AUGs) have emerged as highly specialized vehicles designed to operate without tethers, utilizing onboard power and navigation systems. Their unique design—incorporating wings to create horizontal motion—enables energyefficient and prolonged underwater missions.

Key applications of AUGs include oceanographic research, deep-sea exploration, maritime surveillance, and naval warfare. Recent trends also



Autonomous Underwater Gliders Market

reveal their use in filmmaking, particularly for underwater documentaries, as well as in efforts to rehabilitate marine ecosystems.

#### Market Drivers

1. Increase in Investment in Underwater Research

The rising focus on underwater research has fueled demand for AUGs capable of conducting extensive, energy-efficient surveys. These gliders are ideal for deep-water exploration, enabling the collection of physical, chemical, and biological data essential for understanding marine ecosystems.

For instance, DEEP, a U.K.-based exploration company, invested £100 million in 2023 to establish a deep-diving center in Tidenham. This center is part of the company's long-term goal to establish a permanent human presence beneath the ocean surface.

#### 2. Surge in Focus on Enhancing Maritime Defense

Maritime defense agencies worldwide are leveraging AUGs for their capability to perform tasks such as mine detection, surveillance, anti-submarine warfare, and rapid response operations. These vehicles can be equipped with Integrated Service Router (ISR) devices and advanced sensors to track intruding targets and detect underwater mines. In February 2024, Japan's Maritime Self-Defense Force (JMSDF) contracted AUGs for oceanographic surveys, emphasizing their critical role in national security strategies.

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## **Regional Insights**

### 1. North America

North America led the market in 2023, driven by significant adoption of unmanned systems in naval operations. The U.S. Navy's partnerships with civilian contractors have resulted in innovative launches, such as the deployment of the Teledyne-owned Slocum glider with Littoral Battlespace Sensing capabilities. This pioneering project demonstrated the potential of AUGs in mine countermeasure missions.

### 2. Europe

In Europe, rising investments in marine research are bolstering market growth. The Scottish Association for Marine Science (SAMS) deployed robotic gliders in 2023 to monitor ocean currents for signs of climate change. Additionally, EU-funded initiatives like Eurofleets+ and GROOM II aim to expand the use of marine autonomous systems for sustainable research.

### 3. Asia Pacific

The Asia Pacific region is witnessing increased adoption of AUGs, particularly in defense applications. Countries like Japan and China are focusing on enhancing their maritime security and surveillance capabilities through advanced AUG technology.

### Competitive Landscape

Leading companies in the autonomous underwater gliders market are innovating to enhance energy efficiency, mission duration, and data collection capabilities. Key players include:

• Teledyne Technologies Incorporated: In March 2024, Teledyne partnered with Kongsberg Discovery to integrate an advanced echo sounder into the Slocum G3s Glider, expanding its oceanographic monitoring applications.

• KONGSBERG: A prominent player in maritime solutions, KONGSBERG has developed cuttingedge AUG systems tailored for defense and research purposes.

• Saab AB: Known for its robust underwater vehicle portfolio, Saab AB continues to invest in advanced AUG technologies.

• General Dynamics Mission Systems, Inc.: The company's expertise in military-grade

autonomous systems positions it as a key contributor to the AUG market.

• ECA GROUP: Specializes in designing underwater robots and gliders equipped with high-tech sensors for environmental monitoring and defense.

Key Market Developments

• February 2024: Teledyne Webb Research unveiled the Slocum Sentinel Glider, a nextgeneration AUV designed for diverse oceanographic missions.

• 2022: DeepOcean partnered with Akvaplan-niva to explore the use of ROVs and AUGs in environmental studies for offshore energy developments.

#### Market Segmentation

By Depth

- Deep
- Medium
- Shallow

## By Shape

- Streamlined Regular Style
- Laminar Flow Body
- Torpedo
- Multi-hull Vehicle

# By Product

- Linear Electromechanical Actuator
- Fin Control Actuator
- Pump Motor
- Propulsion Motor

# By Application

- Search & Salvage Operation
- Oceanography
- Oil & Gas
- Archaeological Exploration
- Military & Defense
- Environmental Protection & Monitoring

By Region

- North America
- Europe
- Asia Pacific
- Latin America
- Middle East & Africa

Conclusion

The autonomous underwater gliders market is poised for remarkable growth, fueled by technological advancements, increased investments in marine research, and expanding defense applications. With North America and Europe at the forefront, the industry is set to benefit from ongoing innovations and collaborations among leading players.

As nations prioritize underwater research and maritime security, AUGs will continue to play a pivotal role in addressing global challenges, from climate change monitoring to national defense. The forecasted market expansion underscores the growing importance of autonomous technologies in shaping the future of underwater exploration and security.

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