

Autonomous Underwater Vehicles (AUV) Market to Grow at 17.80% CAGR | Skyquest Technology

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/EINPresswire.com/ -- <u>Autonomous</u>
<u>Underwater Vehicles (AUV) Market</u> size was valued at USD 1.57 billion in 2022



and is poised to grow from USD 1.85 billion in 2023 to USD 6.84 billion by 2031, growing at a CAGR of 17.80% in the forecast period (2024-2031).

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An autonomous underwater vehicle is an unmanned underwater vehicle that operates automatically, powered by propulsion systems such as hybrid, mechanical, electric etc. It is for commercial and military applications, such as intelligence, surveillance and reconnaissance (ISR) activities, border protection patrols, scientific research, oil and gas. It has also become an ideal system for maritime imaging and undersea imaging that can be used in industry, enabling more data to be collected. The extensive hydropower is carried out by multinational underwater vehicles, equipped with low-cost, high-precision technologies, ultra-deep-sea capabilities and multiple sensors for data collection.

Currently, deep sea exploration is increasingly in demand in ocean exploration, which is driving the growth of the autonomous underwater vehicles (AUV) market. Increasing commercial use of such vehicles by scientists and marine experts across the globe is driving the market growth. For example, in 2020, the French National Institute for Marine Research (IFREMER) selected iXblue's undersea technology for a 6000m autonomous underwater vehicle. iXblue is designed primarily for ultra-deepwater analysis and survey-related work. The system includes sonar assembly, sound station and inertial guidance.

Underwater robotic or underwater vehicle technology is supposed to offer exciting opportunities for manufacturing companies operating in the market. Major OEMs have introduced advanced and reliable communication technologies that can solve major problems in underwater vehicles. The development of cost-effective communication technologies for underwater vehicles with excellent turbulence tolerance features will further drive the market growth in the future. Major

manufacturers such as Boeing, Thales and BAE Systems have introduced autonomous vehicles. Independence is expected to dramatically change the landscape of underwater warfare.

The Future Impact of Autonomous Underwater Vehicle (AUV) Market Over the Next 4-5 Years

The following are the key <u>Autonomous Underwater Vehicles (AUV) Trends</u> that will shape the growth of the market in the next 5 years

Technological Innovations

Over the next 4-5 years, the autonomous underwater vehicles (AUV) market will witness significant technological advancements. Sensor upgrades, improved battery life and advanced data processing will enable sophisticated AUVs capable of autonomous communication, accurate mapping and deep-sea exploration.

Expansion in commercial and scientific applications

AUVs are expected to gain increasing acceptance in commercial and scientific applications. Industries such as oil and gas, marine exploration, security and underwater drilling rely heavily on AUVs.

Integrating Structural and Machine Learning

Artificial intelligence (AI) and machine learning (ML) algorithms will play a key role in the future of AUVs. This technology will enable AUVs to autonomously analyze data, adapt to changing environments and make real-time decisions to increase operational efficiency and mission success rates.

Legal and Environmental Considerations

As the AUV industry expands, the regulatory framework for underwater operations and environmental assessment will become more stringent. Companies will need guidance on compliance requirements and environmental management to ensure sustainable use of AUVs.

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Deepening Research and Resource Management Over the Next 10 Years In the longer term, AUVs will help intensify reconnaissance and logistical efforts at sea. Sustainable practices in underwater mining and aquaculture will be supported.

In the longer term, AUVs will help intensify reconnaissance and logistical efforts at sea. Sustainable practices in dredging, aquaculture management and marine ecosystem conservation will be supported, and new opportunities will be opened in the conservation of fragile

ecosystems.

Advances in Underwater Communication and Navigation

Advances in underwater communications technology and navigation systems will improve AUV capabilities for long-term operations and deep-sea operations. Increased communication range and reliable navigation systems will allow AUVs to operate more efficiently in remote and challenging underwater environments.

Increased Autonomous Fleet Surveillance

The market will see an increase in autonomous fleet management systems. Collaborative missions with multiple AUVs integrated with networked networks and Al-driven algorithms will enable efficient, scalable underwater operations over large areas.

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Conclusion: Progress Toward Autonomous Marine Surveys

The autonomous underwater vehicles (AUV) market is poised for dynamic growth driven by technological advancements, expanding applications across industries. Increased environmental awareness as AUV capabilities evolve and regulations the system changes to unlock the full potential of autonomous marine research and must be integrated.

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