

Autonomous Underwater Vehicle (AUV) Market by Shape (Torpedo, Laminar Flow Body, Streamlined Rectangular Style, Multi-hull Vehicle), Type (Shallow, Medium, & Large AUVs), Technology (Imaging, Navigation, Propulsion), Payload - Global Forecast to 2028

Market Report | 2023-06-29 | 257 pages | MarketsandMarkets

AVAILABLE LICENSES:

- Single User \$4950.00
- Multi User \$6650.00
- Corporate License \$8150.00
- Enterprise Site License \$10000.00

Report description:

The autonomous underwater vehicle (AUV) market was valued at USD 1.6 billion in 2022 and is projected to reach USD 4.9 billion by 2028, growing at a CAGR of 22.4% from 2023 to 2028. Development and incorporation of advanced technologies in AUVs, and the upcoming expansion of internet through 5G driving demand for underwater cables provide lucrative opportunities to the autonomous underwater vehicle (AUV) market.

Dual-eye cameras segment of the AUV payload market for cameras is expected to grow with the highest growth rate during the forecast period

The dual-eye cameras segment of the AUV payload market for cameras is projected to grow at a higher CAGR than the high-resolution digital still cameras segment during the forecast period. Growth in this segment can be attributed to the improved accuracy offered by the 3D technology incorporated in these cameras. Dual-eye cameras make it easy to differentiate between mines and mine-like objects.

Archeology & exploration segment to exhibit significant growth in the autonomous underwater vehicle (AUV) market, by application, during the forecast period

During the forecast period, the archeology & exploration applications segment is estimated to grow at the highest growth rate.

AUVs can be useful for underwater exploration activities to extract minerals such as cobalt, zinc, and magnesium; these minerals are used in the fabrication of smartphones, laptops, and hybrid cars, among others.

China in Asia Pacific is expected to hold the largest market share during the forecast period

China held the largest share in the autonomous underwater vehicle (AUV) market in the Asia Pacific region and is expected to

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

retain its position during the forecast period. This is due to AUVs being widely adopted by the Chinese navy. China has three big undersea vehicle developers-Shenyang Institute of Automation (which is developing prototypes of medium and large undersea vessels, including Sea-Whale 2000 and Qianlong (Hidden Dragon) series of AUVs); Shipbuilding Industry Corporation, which is the world's largest shipbuilding conglomerate (it is developing the Haishen ("Poseidon") series of AUVs); and Harbin Engineering University, earlier known as Harbin Institute of Shipbuilding (it has developed AUV models for undersea surveying and mapping, such as the Weilong (Microdragon) 1, 2, and 3).

In determining and verifying the market size for several segments and subsegments gathered through secondary research, extensive primary interviews have been conducted with key officials in the autonomous underwater vehicle (AUV) market. Following is the breakup of the profiles of the primary participants for the report.

-□By Company Type: Tier 1 - 40 %, Tier 2 - 40%, and Tier 3 - 20%

-□By Designation: C-Level Executives -40%, Directors- 40%, and Others - 20%

-□By Region: North America- 40%, Asia Pacific - 30%, Europe- 20%, and RoW - 10%

The report profiles key autonomous underwater vehicle (AUV) players and analyzes their market shares. Players profiled in this report are Kongsberg Group ASA (Norway), Teledyne Technologies Incorporated (US), General Dynamics Corporation (US), Saab AB (Sweden), Exail Technologies SA (France), Lockheed Martin Corporation (US), Fugro N.V. (Netherlands), ATLAS ELEKTRONIK GmbH (Germany), Boston Engineering Corporation (US), L3Harris Technologies, Inc. (US), Graal Tech S.r.l. (Italy), International Submarine Engineering Limited (Canada), Boeing (US), etc.

Research Coverage

The report defines, describes, and forecasts the autonomous underwater vehicle (AUV) market based on type, payload type, technology, shape, application, and region. It provides detailed information regarding drivers, restraints, opportunities, and challenges influencing the growth of the autonomous underwater vehicle (AUV) market. It also analyzes competitive developments such as product launches, acquisitions, expansions, contracts, partnerships, and actions conducted by the key players to grow in the market.

Reasons to Buy This Report

The report will help the market leaders/new entrants with information on the closest approximations of the revenue numbers for the overall autonomous underwater vehicle (AUV) market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and to plan suitable go-to-market strategies. The report also helps stakeholders understand the market pulse and provides information on key market drivers, restraints, challenges, and opportunities.

The report provides insights on the following pointers:

Analysis of key drivers (Increasing capital expenditure of companies in offshore oil & gas industry, rising defense spending in several countries worldwide, and increasing focus on use of renewable energy sources), restraints (High operational costs of AUVs), opportunities (Development and incorporation of advanced technologies in AUVs, and upcoming expansion of Internet through 5G driving demand for underwater cables), and challenges (Slow underwater survey speed owing to use of acoustic communication, and operational hindrances such as natural ocean hazards and bad ocean weather) influencing the growth of the autonomous underwater vehicle (AUV) market.

-□Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the autonomous underwater vehicle (AUV) market

-□Market Development: Comprehensive information about lucrative markets - the report analyses the autonomous underwater vehicle (AUV) market across varied regions.

-□Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the autonomous underwater vehicle (AUV) market

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

-Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players like Kongsberg Group ASA (Norway), Teledyne Technologies Incorporated (US), General Dynamics Corporation (US), Saab AB (Sweden), Exail Technologies SA (France), Lockheed Martin Corporation (US), Fugro N.V. (Netherlands), ATLAS ELEKTRONIK GmbH (Germany), among others in the autonomous underwater vehicle (AUV) market strategies. The report also helps stakeholders understand the pulse of the autonomous underwater vehicle (AUV) market and provides them with information on key market drivers, restraints, challenges, and opportunities.

Table of Contents:

1	INTRODUCTION	32
1.1	STUDY OBJECTIVES	32
1.2	MARKET DEFINITION	33
1.3	STUDY SCOPE	33
1.3.1	MARKETS COVERED	33
FIGURE 1	MARKET SEGMENTATION	33
1.3.2	INCLUSIONS AND EXCLUSIONS	34
1.3.3	REGIONAL SCOPE	34
1.3.4	YEARS CONSIDERED	35
1.4	CURRENCY CONSIDERED	35
1.5	STAKEHOLDERS	35
1.6	SUMMARY OF CHANGES	36
1.6.1	RECESSION IMPACT	36
2	RESEARCH METHODOLOGY	37
2.1	RESEARCH DATA	37
FIGURE 2	RESEARCH FLOW	37
FIGURE 3	RESEARCH DESIGN	38
2.1.1	SECONDARY DATA	39
2.1.1.1	Major secondary sources	39
2.1.1.2	Key data from secondary sources	40
2.1.2	PRIMARY DATA	40
2.1.2.1	Primary interviews with experts	40
2.1.2.2	Breakdown of primaries	41
2.1.3	SECONDARY AND PRIMARY RESEARCH	42
2.1.3.1	Key industry insights	42
2.2	MARKET SIZE ESTIMATION	43
2.2.1	BOTTOM-UP APPROACH	43
FIGURE 4	MARKET SIZE ESTIMATION METHODOLOGY (SUPPLY SIDE): REVENUE FROM SALES OF AUTONOMOUS UNDERWATER VEHICLE PRODUCTS	43
FIGURE 5	MARKET SIZE ESTIMATION METHODOLOGY: BOTTOM-UP APPROACH	44
2.2.2	TOP-DOWN APPROACH	44
2.2.2.1	Approach to derive market share by top-down analysis (demand side)	44
FIGURE 6	MARKET SIZE ESTIMATION METHODOLOGY: TOP-DOWN APPROACH	44
2.3	DATA TRIANGULATION	45
FIGURE 7	DATA TRIANGULATION	45
2.4	RESEARCH ASSUMPTIONS	46
2.5	LIMITATIONS	46
2.6	RISK ANALYSIS	47

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

2.7	APPROACHES TO UNDERSTAND RECESSION IMPACT ON AUV MARKET	47
3	EXECUTIVE SUMMARY	48
FIGURE 8	IMAGING SEGMENT TO DOMINATE AUV MARKET DURING FORECAST PERIOD	49
FIGURE 9	LARGE AUVS SEGMENT TO HOLD LARGEST SHARE OF AUV MARKET IN 2028	49
FIGURE 10	TORPEDO SEGMENT TO RECORD HIGHEST CAGR DURING FORECAST PERIOD	50
FIGURE 11	SENSORS SEGMENT TO HOLD LARGEST SHARE OF AUV PAYLOAD MARKET IN 2023	51
FIGURE 12	ASIA PACIFIC TO DEPICT HIGHEST CAGR DURING FROM 2023 TO 2028	52
4	PREMIUM INSIGHTS	53
4.1	MAJOR OPPORTUNITIES FOR PLAYERS IN AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET	53
FIGURE 13	GROWING DEMAND FOR ENERGY TO DRIVE AUV MARKET FROM 2023 TO 2028	53
4.2	AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET, BY TYPE	54
FIGURE 14	LARGE AUVS SEGMENT TO EXHIBIT HIGHEST CAGR DURING FORECAST PERIOD	54
4.3	AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET IN ASIA PACIFIC, BY APPLICATION AND COUNTRY	54
FIGURE 15	CHINA AND MILITARY & DEFENSE SEGMENT TO ACCOUNT FOR LARGEST MARKET SHARE IN 2023	54
4.4	AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET, BY APPLICATION	55
FIGURE 16	MILITARY & DEFENSE SEGMENT TO HOLD LARGEST SHARE OF AUV MARKET IN 2028	55
4.5	AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET, BY COUNTRY	55
FIGURE 17	INDIA TO EXHIBIT HIGHEST CAGR BETWEEN 2023 AND 2028	55
5	MARKET OVERVIEW	56
5.1	INTRODUCTION	56
5.2	MARKET DYNAMICS	56
FIGURE 18	DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES	56
5.2.1	DRIVERS	57
5.2.1.1	Increasing investments in offshore oil and gas drilling activities	57
5.2.1.2	Rising deployment of advanced technologies to ensure border and maritime security	57
5.2.1.3	Shifting preference toward renewable energy sources	58
5.2.2	RESTRAINTS	58
5.2.2.1	High development, operational, and maintenance costs	58
5.2.3	OPPORTUNITIES	58
5.2.3.1	Integration of NiMH batteries into high-speed AUVs	58
5.2.3.2	Rising use of AUVs to protect subsea cables and seabed environment	59
FIGURE 19	UNDERWATER CONNECTORS MARKET SIZE, 2022 TO 2027	59
5.2.4	CHALLENGES	59
5.2.4.1	Low speed, signal processing, and environmental issues witnessed by AUVs during underwater surveys	59
5.2.4.2	Risk of data loss and increase in research timelines due to challenging marine environment	60
5.3	TRENDS/DISRUPTIONS IMPACTING CUSTOMER BUSINESS	60
5.3.1	REVENUE SHIFTS AND NEW REVENUE POCKETS FOR PLAYERS IN AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET	60
FIGURE 20	REVENUE SHIFTS FOR AUV MARKET	60
5.4	PRICING ANALYSIS: AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET	61
5.4.1	AVERAGE SELLING PRICE TREND	61
TABLE 1	PRICING ANALYSIS FOR AUTONOMOUS UNDERWATER VEHICLES	61
FIGURE 21	AVERAGE SELLING PRICE ANALYSIS	62
5.4.2	AVERAGE COST SPLIT OF AUV COMPONENTS	62
TABLE 2	AVERAGE COST SPLIT OF COMPONENTS WITH RESPECT TO OVERALL AUV COSTS	62
5.5	VALUE CHAIN ANALYSIS	63
FIGURE 22	AUV MARKET VALUE CHAIN ANALYSIS	63
5.6	ECOSYSTEM/MARKET MAPPING	65

FIGURE 23 AUV MARKET ECOSYSTEM 65

TABLE 3 ROLE OF COMPANIES IN AUV ECOSYSTEM 65

5.7 TECHNOLOGY ANALYSIS 66

5.7.1 INTERNET OF THINGS IN AUTONOMOUS UNDERWATER VEHICLES 66

5.7.2 RESEARCH ON STANDARD OPERATING SYSTEMS FOR ROBOTS AND AUTONOMOUS UNDERWATER VEHICLES 66

5.7.3 ARTIFICIAL INTELLIGENCE CHIPS IN AUTONOMOUS UNDERWATER VEHICLES 67

5.8 CASE STUDY ANALYSIS 67

5.8.1 TERRADEPTH'S ABSOLUTE OCEAN INCREASES OPERATIONAL EFFICIENCY FOR S. T. HUDSON 67

5.8.2 LONG-ENDURANCE AUV DEVELOPMENT WITH SHALLOW WATER SIMPLICITY 68

5.9 AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET: PATENT ANALYSIS 69

FIGURE 24 TOP 10 COMPANIES WITH HIGHEST NUMBER OF PATENT APPLICATIONS IN LAST 10 YEARS 69

TABLE 4 TOP 20 PATENT OWNERS IN US IN LAST 10 YEARS 69

FIGURE 25 NUMBER OF PATENTS GRANTED PER YEAR FROM 2012 TO 2022 70

5.9.1 LIST OF MAJOR PATENTS 70

TABLE 5 LIST OF MAJOR PATENTS IN AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET 70

5.10 TRADE AND TARIFF ANALYSIS 72

5.10.1 TRADE ANALYSIS 72

5.10.1.1 Trade data for HS code 900630 72

FIGURE 26 IMPORT DATA, BY COUNTRY, 2018-2022 (USD THOUSAND) 73

FIGURE 27 EXPORT DATA, BY COUNTRY, 2018-2022 (USD THOUSAND) 73

5.10.2 TARIFF ANALYSIS 74

TABLE 6 TARIFFS IMPOSED BY US ON EXPORTS OF HIGH-RESOLUTION CAMERAS FOR UNDERWATER USE, 2022 74

TABLE 7 TARIFFS IMPOSED BY SOUTH AFRICA ON EXPORTS OF HIGH-RESOLUTION CAMERAS FOR UNDERWATER USE, 2022 74

TABLE 8 TARIFFS IMPOSED BY CANADA ON EXPORTS OF HIGH-RESOLUTION CAMERAS FOR UNDERWATER USE, 2022 75

TABLE 9 TARIFFS IMPOSED BY UK ON EXPORTS OF HIGH-RESOLUTION CAMERAS FOR UNDERWATER USE, 2022 75

TABLE 10 TARIFFS IMPOSED BY FRANCE ON EXPORTS OF HIGH-RESOLUTION CAMERAS FOR UNDERWATER USE, 2022 75

5.11 KEY CONFERENCES AND EVENTS, 2023-2024 76

TABLE 11 AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET: LIST OF CONFERENCES AND EVENTS 76

5.12 REGULATORY LANDSCAPE 77

5.12.1 NORTH AMERICA 77

5.12.2 EUROPE 77

5.13 PORTER'S FIVE FORCES ANALYSIS 78

TABLE 12 IMPACT OF PORTER'S FIVE FORCES ON AUTONOMOUS UNDERWATER VEHICLES (AUV) MARKET 78

FIGURE 28 PORTER'S FIVE FORCES ANALYSIS 78

5.13.1 INTENSITY OF COMPETITIVE RIVALRY 79

5.13.2 BARGAINING POWER OF SUPPLIERS 79

5.13.3 BARGAINING POWER OF BUYERS 79

5.13.4 THREAT OF SUBSTITUTES 79

5.13.5 THREAT OF NEW ENTRANTS 79

5.14 KEY STAKEHOLDERS AND BUYING CRITERIA 80

5.14.1 KEY STAKEHOLDERS IN BUYING PROCESS 80

FIGURE 29 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS OF AUVS FOR TOP 3 APPLICATIONS 80

TABLE 13 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS OF AUVS FOR TOP 3 APPLICATIONS 80

5.14.2 BUYING CRITERIA 81

FIGURE 30 KEY BUYING CRITERIA FOR TOP 3 APPLICATIONS 81

TABLE 14 KEY BUYING CRITERIA FOR TOP 3 APPLICATIONS 81

6 AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET, BY TECHNOLOGY 82

6.1	INTRODUCTION	83
	FIGURE 31	FUNDAMENTAL CHARACTERISTICS OF AUVS
	FIGURE 32	IMAGING SEGMENT TO GROW AT HIGHEST CAGR DURING 2023-2028
	TABLE 15	AUV MARKET, BY TECHNOLOGY, 2019-2022 (USD MILLION)
	TABLE 16	AUV MARKET, BY TECHNOLOGY, 2023-2028 (USD MILLION)
6.2	COLLISION AVOIDANCE	85
6.2.1	SONARS	85
6.2.1.1	Deployment of sonar technology in AUVs to detect underwater obstacles	85
	TABLE 17	COLLISION AVOIDANCE: AUV MARKET, BY TYPE, 2019-2022 (USD MILLION)
	TABLE 18	COLLISION AVOIDANCE: AUV MARKET, BY TYPE, 2023-2028 (USD MILLION)
6.3	COMMUNICATION	87
	TABLE 19	COMMUNICATION OPTIONS FOR SEARAPTOR AUVS OF TELEDYNE MARINE (US)
6.3.1	ACOUSTIC COMMUNICATION	87
6.3.1.1	Reliance on acoustic sound waves for underwater communication	87
6.3.2	SATELLITE COMMUNICATION	88
6.3.2.1	Adoption of satellite communication to enable real-time data transfer between AUVs and operators	88
	TABLE 20	COMMUNICATION: AUV MARKET, BY TYPE, 2019-2022 (USD MILLION)
	TABLE 21	COMMUNICATION: AUV MARKET, BY TYPE, 2023-2028 (USD MILLION)
6.4	NAVIGATION	89
6.4.1	COMPASS-BASED NAVIGATION	89
6.4.1.1	Use of compass-based systems in AUVs to increase navigation accuracy	89
6.4.2	INERTIAL NAVIGATION	89
6.4.2.1	Adoption of inertial navigation systems in deepwater applications	89
	TABLE 22	NAVIGATION: AUV MARKET, BY TYPE, 2019-2022 (USD MILLION)
	TABLE 23	NAVIGATION: AUV MARKET, BY TYPE, 2023-2028 (USD MILLION)
	TABLE 24	AUV MARKET, BY NAVIGATION TYPE, 2019-2022 (USD MILLION)
	TABLE 25	AUV MARKET, BY NAVIGATION TYPE, 2023-2028 (USD MILLION)
6.5	PROPULSION	91
6.5.1	FIN CONTROL ACTUATORS	91
6.5.1.1	Utilization of fin control actuators in AUVs to provide roll, pitch, and yaw controls	91
6.5.2	PROPULSION MOTORS	92
6.5.2.1	Adoption of propulsion motors in AUVs to enable forward and reverse motions	92
6.5.3	PUMP MOTORS	92
6.5.3.1	Use of DC brushless pump motors to offer variable speed control	92
6.5.4	LINEAR ELECTROMECHANICAL ACTUATORS	92
6.5.4.1	Adoption of electromechanical actuators as low-cost alternative to hydraulic actuators	92
6.5.5	BATTERY MODULES	93
6.5.5.1	Deployment of battery modules in AUVs for energy storage	93
	TABLE 26	TYPES OF BATTERIES
	TABLE 27	AUVS AND THEIR RESPECTIVE BATTERIES
6.5.5.2	Applied battery technologies and alternatives	94
	TABLE 28	PROPULSION: AUV MARKET, BY SYSTEM, 2019-2022 (USD MILLION)
	TABLE 29	PROPULSION: AUV MARKET, BY SYSTEM, 2023-2028 (USD MILLION)
	TABLE 30	PROPULSION: AUV MARKET, BY TYPE, 2019-2022 (USD MILLION)
	TABLE 31	PROPULSION: AUV MARKET, BY TYPE, 2023-2028 (USD MILLION)
6.5.6	PROPULSION SYSTEM TYPES	96
6.5.6.1	Electric system	96

6.5.6.2	Mechanical system	97
6.5.6.3	Hybrid system	97
6.6	IMAGING	97
6.6.1	SIDE-SCAN SONAR (SSS) IMAGERS	98
6.6.1.1	Adoption of side-scan sonar imagers in shallow water surveys	98
6.6.2	MULTIBEAM ECHO SOUNDERS (MBES)	98
6.6.2.1	Use of multibeam echo sounders for seabed mapping	98
6.6.3	SUB-BOTTOM PROFILERS (SBPS)	98
6.6.3.1	Reliance on sub-bottom profilers to detect layers within sediments	98
6.6.4	LED LIGHTING	99
6.6.4.1	Deployment of LED lighting to provide higher light output	99
TABLE 32	IMAGING: AUV MARKET, BY TYPE, 2019-2022 (USD MILLION)	99
TABLE 33	IMAGING: AUV MARKET, BY TYPE, 2023-2028 (USD MILLION)	99
TABLE 34	IMAGING: AUV MARKET, BY SYSTEM, 2019-2022 (USD MILLION)	100
TABLE 35	IMAGING: AUV MARKET, BY SYSTEM, 2023-2028 (USD MILLION)	100
7	AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET, BY TYPE	101
7.1	INTRODUCTION	102
FIGURE 33	AUV CLASSIFICATION, BY DEPTH	102
TABLE 36	FEATURES OF DIFFERENT AUV TYPES	103
FIGURE 34	LARGE AUVS SEGMENT TO EXHIBIT HIGHEST CAGR FROM 2023 TO 2028	103
TABLE 37	AUV MARKET, BY TYPE, 2019-2022 (USD MILLION)	104
TABLE 38	AUV MARKET, BY TYPE, 2023-2028 (USD MILLION)	104
TABLE 39	AUV MARKET, BY TYPE, 2019-2022 (UNITS)	104
TABLE 40	AUV MARKET, BY TYPE, 2023-2028 (UNITS)	104
7.2	SHALLOW AUVS	105
7.2.1	ADOPTION OF SHALLOW AUVS IN OCEAN OBSERVATION, ROUTE MAPPING, AND MINE-HUNTING APPLICATIONS	105
TABLE 41	APPLICATIONS AND OEMS OF SHALLOW AUVS	105
TABLE 42	SHALLOW AUV MARKET, BY TECHNOLOGY, 2019-2022 (USD MILLION)	106
TABLE 43	SHALLOW AUV MARKET, BY TECHNOLOGY, 2023-2028 (USD MILLION)	106
TABLE 44	SHALLOW AUV MARKET, BY APPLICATION, 2019-2022 (USD MILLION)	107
TABLE 45	SHALLOW AUV MARKET, BY APPLICATION, 2023-2028 (USD MILLION)	107
TABLE 46	SHALLOW AUV MARKET, BY APPLICATION, 2019-2022 (UNITS)	107
TABLE 47	SHALLOW AUV MARKET, BY APPLICATION, 2023-2028 (UNITS)	108
TABLE 48	SHALLOW AUV MARKET, BY SHAPE, 2019-2022 (USD MILLION)	108
TABLE 49	SHALLOW AUV MARKET, BY SHAPE, 2023-2028 (USD MILLION)	108
7.3	MEDIUM AUVS	109
7.3.1	UTILIZATION OF MEDIUM AUVS IN MILITARY APPLICATIONS	109
TABLE 50	APPLICATIONS AND OEMS OF MEDIUM AUVS	109
TABLE 51	MEDIUM AUV MARKET, BY TECHNOLOGY, 2019-2022 (USD MILLION)	110
TABLE 52	MEDIUM AUV MARKET, BY TECHNOLOGY, 2023-2028 (USD MILLION)	110
TABLE 53	MEDIUM AUV MARKET, BY SHAPE, 2019-2022 (USD MILLION)	110
TABLE 54	MEDIUM AUV MARKET, BY SHAPE, 2023-2028 (USD MILLION)	111
TABLE 55	MEDIUM AUV MARKET, BY APPLICATION, 2019-2022 (USD MILLION)	111
TABLE 56	MEDIUM AUV MARKET, BY APPLICATION, 2023-2028 (USD MILLION)	111
7.4	LARGE AUVS	112
7.4.1	USE OF LARGE AUVS IN DEEPWATER MAPPING AND SURVEY APPLICATIONS	112
TABLE 57	APPLICATIONS AND OEMS OF LARGE AUVS	113

TABLE 58	LARGE AUV MARKET, BY TECHNOLOGY, 2019-2022 (USD MILLION)	113
TABLE 59	LARGE AUV MARKET, BY TECHNOLOGY, 2023-2028 (USD MILLION)	114
TABLE 60	LARGE AUV MARKET, BY APPLICATION, 2019-2022 (USD MILLION)	114
TABLE 61	LARGE AUV MARKET, BY APPLICATION, 2023-2028 (USD MILLION)	115
TABLE 62	LARGE AUV MARKET, BY SHAPE, 2019-2022 (USD MILLION)	115
TABLE 63	LARGE AUV MARKET, BY SHAPE, 2023-2028 (USD MILLION)	115
8	AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET, BY SHAPE	117
8.1	INTRODUCTION	118
FIGURE 35	TORPEDO SEGMENT TO GROW AT HIGHEST CAGR FROM 2023 TO 2028	118
TABLE 64	AUV MARKET, BY SHAPE, 2019-2022 (USD MILLION)	118
TABLE 65	AUV MARKET, BY SHAPE, 2023-2028 (USD MILLION)	119
8.2	TORPEDO	119
8.2.1	USE OF TORPEDO AUVS IN MARINE ENGINEERING APPLICATIONS	119
FIGURE 36	EXHIBIT OF TORPEDO AUVS	120
TABLE 66	TORPEDO: AUV MARKET, BY TYPE, 2019-2022 (USD MILLION)	120
TABLE 67	TORPEDO: AUV MARKET, BY TYPE, 2023-2028 (USD MILLION)	120
8.3	LAMINAR FLOW BODY	121
8.3.1	ADOPTION OF LAMINAR FLOW BODY AUVS TO ENSURE BORDER SECURITY	121
FIGURE 37	EXHIBIT OF LAMINAR FLOW BODY AUVS	121
TABLE 68	LAMINAR FLOW BODY: AUV MARKET, BY TYPE, 2019-2022 (USD MILLION)	121
TABLE 69	LAMINAR FLOW BODY: AUV MARKET, BY TYPE, 2023-2028 (USD MILLION)	122
8.4	STREAMLINED RECTANGULAR STYLE	122
8.4.1	UTILIZATION OF STREAMLINED RECTANGULAR STYLE AUVS TO COLLECT UNDERWATER INFORMATION	122
TABLE 70	STREAMLINED RECTANGULAR STYLE: AUV MARKET, BY TYPE, 2019-2022 (USD MILLION)	122
TABLE 71	STREAMLINED RECTANGULAR STYLE: AUV MARKET, BY TYPE, 2023-2028 (USD MILLION)	123
8.5	MULTI-HULL VEHICLE	123
8.5.1	ACCEPTANCE OF MULTI-HULL VEHICLE AUVS TO SURVEY SEAFLOORS AND STUDY THEIR MAGNETIC PROPERTIES	123
FIGURE 38	EXHIBIT OF MULTI-HULL VEHICLES	124
TABLE 72	MULTI-HULL AUV MARKET, BY TYPE, 2019-2022 (USD THOUSAND)	124
TABLE 73	MULTI-HULL AUV MARKET, BY TYPE, 2023-2028 (USD THOUSAND)	125
9	AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET, BY PAYLOAD TYPE	126
9.1	INTRODUCTION	127
FIGURE 39	SENSORS SEGMENT TO WITNESS HIGHEST CAGR DURING FORECAST PERIOD	127
TABLE 74	AUV MARKET, BY PAYLOAD TYPE, 2019-2022 (USD MILLION)	127
TABLE 75	AUV MARKET, BY PAYLOAD TYPE, 2023-2028 (USD MILLION)	128
9.2	CAMERAS	128
TABLE 76	CAMERAS: AUV MARKET, BY APPLICATION, 2019-2022 (USD MILLION)	128
TABLE 77	CAMERAS: AUV MARKET, BY APPLICATION, 2023-2028 (USD MILLION)	129
TABLE 78	CAMERAS: AUV MARKET, BY TYPE, 2019-2022 (USD MILLION)	129
TABLE 79	CAMERAS: AUV MARKET, BY TYPE, 2023-2028 (USD MILLION)	129
9.2.1	HIGH-RESOLUTION DIGITAL STILL CAMERAS	130
9.2.1.1	Use of high-resolution digital still cameras to monitor fixed underwater assets	130
9.2.2	DUAL-EYE CAMERAS	130
9.2.2.1	Adoption of dual-eye cameras to form 3D images	130
9.3	SENSORS	130
TABLE 80	SENSORS: AUV MARKET, BY APPLICATION, 2019-2022 (USD MILLION)	130
TABLE 81	SENSORS: AUV MARKET, BY APPLICATION, 2023-2028 (USD MILLION)	131

9.3.1	CONDUCTIVITY, TEMPERATURE, AND DEPTH (CTD) SENSORS	131
9.3.1.1	Deployment of CTD sensors in AUVs to evaluate water composition	131
9.3.2	BIOGEOCHEMICAL SENSORS	132
9.3.2.1	Turbulence probes	132
9.3.2.1.1	Use of turbulence probes to understand marine life and environmental changes	132
9.3.2.2	Oxygen, nitrate, chlorophyll, and photosynthetically active radiation (PAR) sensors	132
9.3.2.2.1	Reliance on sensors to measure oxygen, nitrate, chlorophyll, and PAR in water	132
9.4	SYNTHETIC APERTURE SONARS	132
9.4.1	UTILIZATION OF SYNTHETIC APERTURE SONARS FOR UNDERWATER ACOUSTIC IMAGING	132
TABLE 82	SYNTHETIC APERTURE SONARS: AUV MARKET, BY APPLICATION, 2019-2022 (USD MILLION)	133
TABLE 83	SYNTHETIC APERTURE SONARS: AUV MARKET, BY APPLICATION, 2023-2028 (USD MILLION)	133
9.5	ECHO SOUNDERS	134
9.5.1	INTEGRATION OF ECHO SOUNDERS IN AUVS TO ENABLE OPERATORS TO VIEW SEABED	134
TABLE 84	ECHO SOUNDERS: AUV MARKET, BY APPLICATION, 2019-2022 (USD MILLION)	134
TABLE 85	ECHO SOUNDERS: AUV MARKET, BY APPLICATION, 2023-2028 (USD MILLION)	134
9.6	ACOUSTIC DOPPLER CURRENT PROFILERS	135
9.6.1	USE OF ACOUSTIC DOPPLER CURRENT PROFILERS TO MEASURE CURRENT VELOCITIES AND WATER DEPTH	135
TABLE 86	ACOUSTIC DOPPLER CURRENT PROFILERS: AUV MARKET, BY APPLICATION, 2019-2022 (USD MILLION)	135
TABLE 87	ACOUSTIC DOPPLER CURRENT PROLIFERS: AUV MARKET, BY APPLICATION, 2023-2028 (USD MILLION)	135
9.7	OTHERS	136
TABLE 88	OTHERS: AUV MARKET, BY APPLICATION, 2019-2022 (USD MILLION)	136
TABLE 89	OTHERS: AUV MARKET, BY APPLICATION, 2023-2028 (USD MILLION)	137
10	AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET, BY APPLICATION	138
10.1	INTRODUCTION	139
FIGURE 40	ARCHAEOLOGY & EXPLORATION SEGMENT TO DEPICT HIGHEST CAGR DURING FORECAST PERIOD	139
TABLE 90	AUV MARKET, BY APPLICATION, 2019-2022 (USD MILLION)	139
TABLE 91	AUV MARKET, BY APPLICATION, 2023-2028 (USD MILLION)	140
10.2	MILITARY & DEFENSE	140
TABLE 92	MILITARY & DEFENSE: AUV MARKET, BY REGION, 2019-2022 (USD MILLION)	141
TABLE 93	MILITARY & DEFENSE: AUV MARKET, BY REGION, 2023-2028 (USD MILLION)	141
TABLE 94	NORTH AMERICA: AUV MARKET FOR MILITARY & DEFENSE APPLICATIONS, BY COUNTRY, 2019-2022 (USD MILLION)	141
TABLE 95	NORTH AMERICA: AUV MARKET FOR MILITARY & DEFENSE APPLICATIONS, BY COUNTRY, 2023-2028 (USD MILLION)	142
TABLE 96	EUROPE: AUV MARKET FOR MILITARY & DEFENSE APPLICATIONS, BY COUNTRY, 2019-2022 (USD MILLION)	142
TABLE 97	EUROPE: AUV MARKET FOR MILITARY & DEFENSE APPLICATIONS, BY COUNTRY, 2023-2028 (USD MILLION)	143
TABLE 98	ASIA PACIFIC: AUV MARKET FOR MILITARY & DEFENSE APPLICATIONS, BY COUNTRY, 2019-2022 (USD MILLION)	143
TABLE 99	ASIA PACIFIC: AUV MARKET FOR MILITARY & DEFENSE APPLICATIONS, BY COUNTRY, 2023-2028 (USD MILLION)	144
TABLE 100	ROW: AUV MARKET FOR MILITARY & DEFENSE APPLICATIONS, BY REGION, 2019-2022 (USD MILLION)	144
TABLE 101	ROW: AUV MARKET FOR MILITARY & DEFENSE APPLICATIONS, BY REGION, 2023-2028 (USD MILLION)	144
10.2.1	BORDER SECURITY & SURVEILLANCE	145
10.2.1.1	Use of sonar technology-enabled AUVs for border security and surveillance	145
10.2.2	ANTI-SUBMARINE WARFARE	145
10.2.2.1	Adoption of AUVs to address anti-submarine warfare challenges in ocean and littoral zones	145
10.2.3	ANTI-TRAFFICKING & CONTRABAND MONITORING	145
10.2.3.1	Implementation of communication technology-powered AUVs for tracking illegal activities	145
10.2.4	ENVIRONMENTAL ASSESSMENT	145
10.2.4.1	Utilization of AUVs to collect current and tidal data	145
10.2.5	MINE COUNTERMEASURE IDENTIFICATION	146

10.2.5.1	Deployment of AUVs for detection and clearance of mines	146
10.3	OIL & GAS	146
TABLE 102	OIL & GAS: AUV MARKET, BY REGION, 2019-2022 (USD MILLION)	146
TABLE 103	OIL & GAS: AUV MARKET, BY REGION, 2023-2028 (USD MILLION)	146
TABLE 104	NORTH AMERICA: AUV MARKET FOR OIL & GAS APPLICATIONS, BY COUNTRY, 2019-2022 (USD MILLION)	147
TABLE 105	NORTH AMERICA: AUV MARKET FOR OIL & GAS APPLICATIONS, BY COUNTRY, 2023-2028 (USD MILLION)	147
TABLE 106	EUROPE: AUV MARKET FOR OIL & GAS APPLICATIONS, BY COUNTRY, 2019-2022 (USD MILLION)	148
TABLE 107	EUROPE: AUV MARKET FOR OIL & GAS APPLICATIONS, BY COUNTRY, 2023-2028 (USD MILLION)	148
TABLE 108	ASIA PACIFIC: AUV MARKET FOR OIL & GAS APPLICATIONS, BY COUNTRY, 2019-2022 (USD MILLION)	148
TABLE 109	ASIA PACIFIC: AUV MARKET FOR OIL & GAS APPLICATIONS, BY COUNTRY, 2023-2028 (USD MILLION)	149
TABLE 110	ROW: AUV MARKET FOR OIL & GAS APPLICATIONS, BY REGION, 2019-2022 (USD MILLION)	149
TABLE 111	ROW: AUV MARKET FOR OIL & GAS APPLICATIONS, BY REGION, 2023-2028 (USD MILLION)	149
10.3.1	PIPELINE SURVEY	150
10.3.1.1	Use of side-scan sonars to detect and track pipelines in real time	150
10.3.2	GEOPHYSICAL SURVEY	150
10.3.2.1	Adoption of AUVs to inspect traditional sites and survey routes	150
10.3.3	DEBRIS/CLEARANCE SURVEY	151
10.3.3.1	Deployment of time-efficient AUVs in debris assessment	151
10.3.4	BASELINE ENVIRONMENTAL ASSESSMENT	151
10.3.4.1	Use of AUVs to classify seabed types	151
10.4	ENVIRONMENT PROTECTION & MONITORING	151
TABLE 112	ENVIRONMENT PROTECTION & MONITORING: AUV MARKET, BY REGION, 2019-2022 (USD MILLION)	151
TABLE 113	ENVIRONMENT PROTECTION & MONITORING: AUV MARKET, BY REGION, 2023-2028 (USD MILLION)	152
TABLE 114	NORTH AMERICA: AUV MARKET FOR ENVIRONMENT PROTECTION & MONITORING APPLICATIONS, BY COUNTRY, 2019-2022 (USD MILLION)	152
TABLE 115	NORTH AMERICA: AUV MARKET FOR ENVIRONMENT PROTECTION & MONITORING APPLICATIONS, BY COUNTRY, 2023-2028 (USD MILLION)	152
TABLE 116	EUROPE: AUV MARKET FOR ENVIRONMENT PROTECTION & MONITORING APPLICATIONS, BY COUNTRY, 2019-2022 (USD THOUSAND)	153
TABLE 117	EUROPE: AUV MARKET FOR ENVIRONMENT PROTECTION & MONITORING APPLICATIONS, BY COUNTRY, 2023-2028 (USD THOUSAND)	153
TABLE 118	ASIA PACIFIC: AUV MARKET FOR ENVIRONMENT PROTECTION & MONITORING APPLICATIONS, BY COUNTRY, 2019-2022 (USD MILLION)	153
TABLE 119	ASIA PACIFIC: AUV MARKET FOR ENVIRONMENT PROTECTION & MONITORING APPLICATIONS, BY COUNTRY, 2023-2028 (USD MILLION)	154
TABLE 120	ROW: AUV MARKET FOR ENVIRONMENT PROTECTION & MONITORING APPLICATIONS, BY REGION, 2019-2022 (USD MILLION)	154
TABLE 121	ROW: AUV MARKET FOR ENVIRONMENT PROTECTION & MONITORING APPLICATIONS, BY REGION, 2023-2028 (USD MILLION)	154
10.4.1	HABITAT RESEARCH	155
10.4.1.1	Use of AUVs to examine marine habitat	155
10.4.2	WATER SAMPLING	155
10.4.2.1	Adoption of AUVs to measure salinity and other physical characteristics of water	155
10.4.3	FISHERY STUDY	156
10.4.3.1	Acceptance of AUVs to measure overfishing impact	156
10.4.4	EMERGENCY RESPONSE	156
10.4.4.1	Use of AUVs in post-hurricane assessment of subsea infrastructure	156

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

10.5 OCEANOGRAPHY 156

10.5.1 DEPLOYMENT OF AUVS BY RESEARCHERS TO RECEIVE TIME AND SPATIAL SCALE-RELATED DATA 156

TABLE 122 OCEANOGRAPHY: AUV MARKET, BY REGION, 2019-2022 (USD MILLION) 157

TABLE 123 OCEANOGRAPHY: AUV MARKET, BY REGION, 2023-2028 (USD MILLION) 157

TABLE 124 NORTH AMERICA: AUV MARKET FOR OCEANOGRAPHY APPLICATIONS, BY COUNTRY, 2019-2022 (USD MILLION) 157

TABLE 125 NORTH AMERICA: AUV MARKET FOR OCEANOGRAPHY APPLICATIONS, BY COUNTRY, 2023-2028 (USD MILLION) 158

TABLE 126 EUROPE: AUV MARKET FOR OCEANOGRAPHY APPLICATIONS, BY COUNTRY, 2019-2022 (USD THOUSAND) 158

TABLE 127 EUROPE: AUV MARKET FOR OCEANOGRAPHY APPLICATIONS, BY COUNTRY, 2023-2028 (USD THOUSAND) 159

TABLE 128 ASIA PACIFIC: AUV MARKET FOR OCEANOGRAPHY APPLICATIONS, BY COUNTRY, 2019-2022 (USD THOUSAND) 159

TABLE 129 ASIA PACIFIC: AUV MARKET FOR OCEANOGRAPHY APPLICATIONS, BY COUNTRY, 2023-2028 (USD THOUSAND) 159

TABLE 130 ROW: AUV MARKET FOR OCEANOGRAPHY APPLICATIONS, BY REGION, 2019-2022 (USD THOUSAND) 160

TABLE 131 ROW: AUV MARKET FOR OCEANOGRAPHY APPLICATIONS, BY REGION, 2023-2028 (USD THOUSAND) 160

10.6 ARCHEOLOGY & EXPLORATION 160

10.6.1 USE OF AUVS TO LOCATE UNDERWATER ARCHEOLOGICAL SITES 160

TABLE 132 ARCHEOLOGY & EXPLORATION: AUV MARKET, BY REGION, 2019-2022 (USD MILLION) 161

TABLE 133 ARCHEOLOGY & EXPLORATION: AUV MARKET, BY REGION, 2023-2028 (USD MILLION) 161

TABLE 134 NORTH AMERICA: AUV MARKET FOR ARCHEOLOGY & EXPLORATION APPLICATIONS, BY COUNTRY, 2019-2022 (USD MILLION) 161

TABLE 135 NORTH AMERICA: AUV MARKET FOR ARCHEOLOGY & EXPLORATION APPLICATIONS, BY COUNTRY, 2023-2028 (USD MILLION) 162

TABLE 136 EUROPE: AUV MARKET FOR ARCHEOLOGY & EXPLORATION APPLICATIONS, BY COUNTRY, 2019-2022 (USD THOUSAND) 162

TABLE 137 EUROPE: AUV MARKET FOR ARCHEOLOGY & EXPLORATION APPLICATIONS, BY COUNTRY, 2023-2028 (USD THOUSAND) 163

TABLE 138 ASIA PACIFIC: AUV MARKET FOR ARCHEOLOGY & EXPLORATION APPLICATIONS, BY COUNTRY, 2019-2022 (USD MILLION) 163

TABLE 139 ASIA PACIFIC: AUV MARKET FOR ARCHEOLOGY & EXPLORATION APPLICATIONS, BY COUNTRY, 2023-2028 (USD MILLION) 163

TABLE 140 ROW: AUV MARKET FOR ARCHEOLOGY & EXPLORATION APPLICATIONS, BY REGION, 2019-2022 (USD MILLION) 164

TABLE 141 ROW: AUV MARKET FOR ARCHEOLOGY & EXPLORATION APPLICATIONS, BY REGION, 2023-2028 (USD MILLION) 164

10.7 SEARCH & SALVAGE OPERATIONS 164

10.7.1 ADOPTION OF AUVS TO DETECT SHIPWRECKS 164

TABLE 142 SEARCH & SALVAGE OPERATIONS: AUV MARKET, BY REGION, 2019-2022 (USD MILLION) 165

TABLE 143 SEARCH & SALVAGE OPERATIONS: AUV MARKET, BY REGION, 2023-2028 (USD MILLION) 165

TABLE 144 NORTH AMERICA: AUV MARKET FOR SEARCH & SALVAGE OPERATIONS APPLICATIONS, BY COUNTRY, 2019-2022 (USD MILLION) 166

TABLE 145 NORTH AMERICA: AUV MARKET FOR SEARCH & SALVAGE OPERATIONS APPLICATIONS, BY COUNTRY, 2023-2028 (USD MILLION) 166

TABLE 146 EUROPE: AUV MARKET FOR SEARCH & SALVAGE OPERATIONS APPLICATIONS, BY COUNTRY, 2019-2022 (USD THOUSAND) 167

TABLE 147 EUROPE: AUV MARKET FOR SEARCH & SALVAGE OPERATIONS APPLICATIONS, BY COUNTRY, 2023-2028 (USD THOUSAND) 167

TABLE 148 ASIA PACIFIC: AUV MARKET FOR SEARCH & SALVAGE OPERATIONS APPLICATIONS, BY COUNTRY, 2019-2022 (USD THOUSAND) 167

TABLE 149 ASIA PACIFIC: AUV MARKET FOR SEARCH & SALVAGE OPERATIONS APPLICATIONS, BY COUNTRY, 2023-2028 (USD THOUSAND) 168

TABLE 150 ROW: AUV MARKET FOR SEARCH & SALVAGE OPERATIONS APPLICATIONS, BY REGION, 2019-2022 (USD THOUSAND) 168

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

TABLE 151	ROW: AUV MARKET FOR SEARCH & SALVAGE OPERATIONS APPLICATIONS, BY REGION, 2023-2028 (USD THOUSAND)	168
11	REGIONAL ANALYSIS	170
11.1	INTRODUCTION	171
FIGURE 41	ASIA PACIFIC SEGMENT TO GROW AT HIGHEST CAGR FROM 2023 TO 2028	171
TABLE 152	AUV MARKET, BY REGION, 2019-2022 (USD MILLION)	171
TABLE 153	AUV MARKET, BY REGION, 2023-2028 (USD MILLION)	172
11.2	NORTH AMERICA	172
FIGURE 42	NORTH AMERICA: AUV MARKET SNAPSHOT	173
TABLE 154	NORTH AMERICA: AUV MARKET, BY COUNTRY, 2019-2022 (USD MILLION)	173
TABLE 155	NORTH AMERICA: AUV MARKET, BY COUNTRY, 2023-2028 (USD MILLION)	174
TABLE 156	NORTH AMERICA: AUV MARKET, BY APPLICATION, 2019-2022 (USD MILLION)	174
TABLE 157	NORTH AMERICA: AUV MARKET, BY APPLICATION, 2023-2028 (USD MILLION)	174
11.2.1	IMPACT OF RECESSION ON MARKET IN NORTH AMERICA	175
FIGURE 43	PRE- AND POST-RECESSION ANALYSIS OF AUV MARKET IN NORTH AMERICA	175
11.2.2	US	176
11.2.2.1	Reliance on AUVs for subsea inspection and mapping	176
11.2.2.2	Rules and regulations for AUVs	177
11.2.2.2.1	Introduction of regulations for AUV operators and manufacturers	177
11.2.3	CANADA	178
11.2.3.1	Adoption of AUVs to conduct surveys under thick ice layers	178
11.2.4	MEXICO	179
11.2.4.1	Utilization of AUVs in underwater habitat research	179
11.3	EUROPE	179
FIGURE 44	EUROPE: AUV MARKET SNAPSHOT	180
TABLE 158	EUROPE: AUV MARKET, BY COUNTRY, 2019-2022 (USD MILLION)	181
TABLE 159	EUROPE: AUV MARKET, BY COUNTRY, 2023-2028 (USD MILLION)	181
TABLE 160	EUROPE: AUV MARKET, BY APPLICATION, 2019-2022 (USD MILLION)	182
TABLE 161	EUROPE: AUV MARKET, BY APPLICATION, 2023-2028 (USD MILLION)	182
11.3.1	IMPACT OF RECESSION ON MARKET IN EUROPE	183
FIGURE 45	PRE- AND POST-RECESSION ANALYSIS OF AUV MARKET IN EUROPE	183
11.3.2	UK	183
11.3.2.1	Execution of contracts to deliver AUV demonstrations	183
11.3.2.2	Rules and regulations in UK	184
11.3.2.2.1	Development of regulatory frameworks for MAS	184
11.3.3	GERMANY	184
11.3.3.1	Introduction of innovative AUVs for oceanography applications	184
11.3.4	FRANCE	185
11.3.4.1	Reliance on AUVs and other robotic systems for minehunting	185
11.3.5	ITALY	185
11.3.5.1	Adoption of AUVs to explore underwater archeological sites	185
11.3.6	SPAIN	186
11.3.6.1	Utilization of AUVs to limit illegal drug trading	186
11.3.7	REST OF EUROPE	186
11.4	ASIA PACIFIC	186
FIGURE 46	ASIA PACIFIC: AUV MARKET SNAPSHOT	187
TABLE 162	ASIA PACIFIC: AUV MARKET, BY COUNTRY, 2019-2022 (USD MILLION)	187
TABLE 163	ASIA PACIFIC: AUV MARKET, BY COUNTRY, 2023-2028 (USD MILLION)	188

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

TABLE 164	ASIA PACIFIC: AUV MARKET, BY APPLICATION, 2019-2022 (USD MILLION)	188
TABLE 165	ASIA PACIFIC: AUV MARKET, BY APPLICATION, 2023-2028 (USD MILLION)	188
11.4.1	IMPACT OF RECESSION ON MARKET IN ASIA PACIFIC	189
FIGURE 47	PRE- AND POST-RECESSION ANALYSIS OF AUV MARKET IN ASIA PACIFIC	190
11.4.2	CHINA	190
11.4.2.1	Deployment of AI-powered AUVs for smart underwater navigation	190
11.4.3	INDIA	191
11.4.3.1	Adoption of AUVs to conduct offshore crude pipeline inspections	191
11.4.4	JAPAN	191
11.4.4.1	Use of AUVs to safeguard coastal areas	191
11.4.5	REST OF ASIA PACIFIC	192
11.5	ROW	192
TABLE 166	ROW: AUV MARKET, BY REGION, 2019-2022 (USD MILLION)	192
TABLE 167	ROW: AUV MARKET, BY REGION, 2023-2028 (USD MILLION)	192
TABLE 168	ROW: AUV MARKET, BY APPLICATION, 2019-2022 (USD MILLION)	193
TABLE 169	ROW: AUV MARKET, BY APPLICATION, 2023-2028 (USD MILLION)	193
11.5.1	IMPACT OF RECESSION ON MARKET IN ROW	194
FIGURE 48	PRE- AND POST-RECESSION ANALYSIS OF AUV MARKET IN ROW	194
11.5.2	SOUTH AMERICA	194
11.5.2.1	Acceptance of AUVs for offshore oil and gas drilling	194
11.5.3	MIDDLE EAST & AFRICA	194
11.5.3.1	Employment of AUVs for seabed mapping and oil and gas explorations	194
12	COMPETITIVE LANDSCAPE	196
12.1	OVERVIEW	196
12.1.1	INTRODUCTION	196
12.2	KEY PLAYER STRATEGIES	196
12.2.1	OVERVIEW OF STRATEGIES ADOPTED BY KEY PLAYERS IN AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET	196
12.3	REVENUE ANALYSIS OF TOP PLAYERS	199
FIGURE 49	REVENUE ANALYSIS OF TOP PLAYERS IN AUV MARKET, 2020-2022	199
12.4	MARKET SHARE ANALYSIS OF KEY PLAYERS IN AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET IN 2022	199
FIGURE 50	MARKET SHARE ANALYSIS OF KEY PLAYERS IN AUV MARKET IN 2022	200
TABLE 170	AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET: DEGREE OF COMPETITION	200
TABLE 171	AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET: RANKING ANALYSIS FOR KEY PLAYERS	201
12.5	EVALUATION MATRIX FOR KEY COMPANIES, 2022	202
12.5.1	STARS	202
12.5.2	PERVASIVE PLAYERS	202
12.5.3	EMERGING LEADERS	202
12.5.4	PARTICIPANTS	202
FIGURE 51	AUV MARKET: COMPANY EVALUATION MATRIX, 2022	203
12.6	COMPETITIVE BENCHMARKING	204
12.6.1	COMPANY FOOTPRINT, BY APPLICATION (25 COMPANIES)	204
TABLE 172	COMPANY FOOTPRINT, BY PRODUCT (25 COMPANIES)	205
12.6.2	COMPANY FOOTPRINT, BY REGION (25 COMPANIES)	206
12.6.3	COMPANY FOOTPRINT	207
12.7	EVALUATION MATRIX FOR STARTUPS/SMES, 2022	208
12.7.1	PROGRESSIVE COMPANIES	208
12.7.2	RESPONSIVE COMPANIES	208

12.7.3 DYNAMIC COMPANIES 208

12.7.4 STARTING BLOCKS 208

FIGURE 52 AUV MARKET (GLOBAL): STARTUPS/SMES EVALUATION MATRIX, 2022 209

TABLE 173 LIST OF KEY STARTUPS/SMES 209

12.8 COMPETITIVE SCENARIOS AND TRENDS 210

12.8.1 PRODUCT LAUNCHES/DEVELOPMENTS 210

TABLE 174 AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET: PRODUCT LAUNCHES/DEVELOPMENTS, 2020-2021 210

12.8.2 DEALS 210

TABLE 175 AUTONOMOUS UNDERWATER VEHICLE (AUV) MARKET: DEALS, 2020-2023 210

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Autonomous Underwater Vehicle (AUV) Market by Shape (Torpedo, Laminar Flow Body, Streamlined Rectangular Style, Multi-hull Vehicle), Type (Shallow, Medium, & Large AUVs), Technology (Imaging, Navigation, Propulsion), Payload - Global Forecast to 2028

Market Report | 2023-06-29 | 257 pages | MarketsandMarkets

To place an Order with Scotts International:

- ☐ - Print this form
- ☐ - Complete the relevant blank fields and sign
- ☐ - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User	\$4950.00
	Multi User	\$6650.00
	Corporate License	\$8150.00
	Enterprise Site License	\$10000.00
		VAT
		Total

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*	<input type="text"/>	Phone*	<input type="text"/>
First Name*	<input type="text"/>	Last Name*	<input type="text"/>
Job title*	<input type="text"/>		
Company Name*	<input type="text"/>	EU Vat / Tax ID / NIP number*	<input type="text"/>
Address*	<input type="text"/>	City*	<input type="text"/>

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Zip Code*	<input type="text"/>	Country*	<input type="text"/>
		Date	2025-05-19
		Signature	<div></div>