

Automated Storage and Retrieval System Market by Function (Storage, Distribution, Assembly), Type (Unit Load, Mini Load, Vertical Lift Module, Carousel, Mid Load), Vertical (Automotive, Food & Beverages, E-Commerce, Retail) - Global Forecast to 2028

Market Report | 2023-09-28 | 255 pages | MarketsandMarkets

AVAILABLE LICENSES:

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

Report description:

The ASRS market is estimated to be worth USD 8.7 billion in 2023 and is projected to reach USD 12.7 billion by 2028, at a CAGR of 7.9% during the forecast period. The ASRS market is experiencing robust growth, primarily driven by the burgeoning demand in the e-commerce and automotive sectors. These industries, characterized by complex supply chains and rapid inventory turnover, require highly efficient and accurate storage and retrieval solutions. ASRS systems cater to this need by automating warehouse operations, reducing errors, and optimizing space utilization. Furthermore, the increased emphasis on inventory management and control, fueled by the need for cost reduction and improved customer service, has propelled the adoption of ASRS.

"Unit Load to hold the largest in ASRS market in 2022."

A unit load ASRS is a storage-retrieval machine (SRM) or a crane designed to handle large machinery or equipment (i.e., pallets, gaylords, drums, racks, etc.) that typically weigh over 400 lbs. his system excels in optimizing space utilization by stacking pallets densely, reducing the need for manual labor, and minimizing errors in retrieval and storage processes. Additionally, unit load ASRS is known for its scalability, making it adaptable to a wide range of industries and storage requirements. Its ability to integrate seamlessly with warehouse management software and other automated systems further enhances its appeal in modern supply chain operations.

"Food & Beverages vertical to hold the largest share of ASRS market in 2022."

The food & beverages vertical has undergone a significant evolution in recent years. The growing trend of consuming processed food and packaged eatables is driving the need for advanced manufacturing and warehousing solutions among manufacturers. In the food & beverages vertical, the time-to-market of finished products is significantly less due to the perishability of products.

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

Technological advances in cold chain storage and transport and the growing acceptance of frozen foods among consumers are a few factors influencing the growth of the ASRS market.

"Europe to hold the largest market share of ASRS market in 2022."

Europe has a well-established industrial and manufacturing sector, including automotive, aerospace, pharmaceuticals, and logistics, all of which benefit from the efficiency gains offered by ASRS technology. Additionally, European countries place a strong emphasis on sustainability and resource optimization, driving the adoption of ASRS systems to improve warehouse space utilization and reduce energy consumption. The region has an exceptionally high labor cost; therefore, manufacturers in European countries have been adopting automated solutions to reduce overall operational costs. Implementing these solutions helps manufacturers remain competitive by facilitating efficient management of overall warehousing operations. Furthermore, the region's commitment to technological innovation and digitalization has spurred the growth of the ASRS market, making Europe a hub for advanced automation solutions in warehousing and logistics.

The break-up of the profiles of primary participants:

- By Company Type - Tier 1 - 45%, Tier 2 - 30%, and Tier 3 - 25%
- By Designation - C-level Executives - 35%, Directors - 45%, and Others - 20%
- By Region - North America - 30%, Europe - 25%, Asia Pacific - 35%, and Rest of the World - 10%

Major players in the ASRS market are Daifuku Co., Ltd (Japan), Murata Machinery, Ltd. (Japan), SSI SCHAEFER (Germany), TGW Logistics Group GmbH (Austria) and Kardex Holding AG (Switzerland).

Research Coverage

The report segments the ASRS market by type, vertical, and region. The report also comprehensively reviews drivers, restraints, opportunities, and challenges influencing market growth. The report also covers qualitative aspects in addition to the quantitative aspects of the market.

Reasons to buy the report:

The report will help the market leaders/new entrants with information on the closest approximate revenues for the overall ASRS market and related segments. This report will help stakeholders understand the competitive landscape and gain more insights to strengthen their position in the market and plan suitable go-to-market strategies. The report also helps stakeholders understand the market pulse and provides information on key market drivers, restraints, opportunities, and challenges.

The report provides insights on the following pointers:

- Analysis of key drivers (ASRS demand surges due to better space optimization and high labor costs, Growing adoption of ASRS in the e-commerce vertical, Higher emphasis on inventory management and control to fuel ASRS demand, and Rising demand for ASRS in the automotive vertical is driving the market), restraints (High installation and maintenance cost and Limited technical expertise for overseeing system operations are hindering the growth of the market), opportunities (Growing demand for cold chain systems in the Asia Pacific and Potential growth prospects in healthcare vertical), and challenges (Production and revenue losses attributed to unwanted faults and downtime and Rapid technology advancements are resulting as a risk for ASRS systems to become obsolete) influencing the growth of the ASRS market.
- Product Development/Innovation: Detailed insights on upcoming technologies, research and development activities, and new product launches in the ASRS market.
- Market Development: Comprehensive information about lucrative markets - the report analyses the ASRS market across varied regions.
- Market Diversification: Exhaustive information about new products, untapped geographies, recent developments, and investments in the ASRS market.
- Competitive Assessment: In-depth assessment of market shares, growth strategies, and product offerings of leading players like Daifuku Co., Ltd (Japan), Murata Machinery, Ltd. (Japan), SSI SCHAEFER (Germany), TGW Logistics Group GmbH (Austria) and Kardex Holding AG (Switzerland).

Table of Contents:

1□INTRODUCTION□29

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

1.1	STUDY OBJECTIVES	29
1.2	MARKET DEFINITION	29
1.3	STUDY SCOPE	30
1.3.1	MARKETS COVERED	30
FIGURE 1	ASRS MARKET: SEGMENTATION	30
1.3.2	REGIONAL SCOPE	30
1.3.3	YEARS CONSIDERED	31
1.3.4	INCLUSIONS AND EXCLUSIONS	31
1.4	CURRENCY CONSIDERED	31
1.5	STAKEHOLDERS	31
1.6	SUMMARY OF CHANGES	32
1.7	RECESSION IMPACT	32
2	RESEARCH METHODOLOGY	33
2.1	RESEARCH DATA	33
FIGURE 2	ASRS MARKET: RESEARCH DESIGN	33
2.1.1	SECONDARY DATA	34
2.1.1.1	List of major secondary sources	34
2.1.1.2	Key data from secondary sources	35
2.1.2	PRIMARY DATA	35
2.1.2.1	Breakdown of primaries	35
2.1.2.2	Primary interviews with experts	36
2.1.2.3	Key data from primary sources	36
2.1.3	SECONDARY AND PRIMARY RESEARCH	37
2.1.3.1	Key industry insights	38
2.2	MARKET SIZE ESTIMATION	38
2.2.1	BOTTOM-UP APPROACH	39
2.2.1.1	Approach to arrive at market size using bottom-up analysis (demand side)	39
FIGURE 3	ASRS MARKET: BOTTOM-UP APPROACH	39
2.2.2	TOP-DOWN APPROACH	40
2.2.2.1	Approach to arrive at market size using top-down analysis (supply side)	40
FIGURE 4	ASRS MARKET: TOP-DOWN APPROACH	40
FIGURE 5	MARKET SIZE ESTIMATION METHODOLOGY (SUPPLY SIDE): REVENUE GENERATED FROM SALES OF ASRS PRODUCTS/SOLUTIONS	41
2.3	MARKET BREAKDOWN AND DATA TRIANGULATION	42
FIGURE 6	DATA TRIANGULATION	42
2.4	RESEARCH ASSUMPTIONS	43
2.5	PARAMETERS CONSIDERED TO ANALYZE IMPACT OF RECESSION ON ASRS MARKET	43
2.6	RESEARCH LIMITATIONS	44
2.7	RISK ASSESSMENT	44
FIGURE 7	RISK ASSESSMENT OF RESEARCH STUDY	44
3	EXECUTIVE SUMMARY	45
FIGURE 8	GLOBAL ASRS MARKET, 2019?2028 (USD BILLION)	45
FIGURE 9	UNIT LOAD SEGMENT ACCOUNTED FOR LARGEST MARKET SHARE IN 2022	46
FIGURE 10	FOOD & BEVERAGES VERTICAL ACCOUNTED FOR LARGEST SHARE OF ASRS MARKET IN 2022	46
FIGURE 11	ASIA PACIFIC TO EXHIBIT HIGHEST CAGR IN ASRS MARKET FROM 2023 TO 2028	47
4	PREMIUM INSIGHTS	48
4.1	ASIA PACIFIC TO OFFER LUCRATIVE OPPORTUNITIES FOR PLAYERS IN ASRS MARKET	48

FIGURE 12	ATTRACTIVE GROWTH OPPORTUNITIES FOR PLAYERS IN ASRS MARKET	48
4.2	ASRS MARKET, BY TYPE	48
FIGURE 13	UNIT LOAD SEGMENT TO HOLD LARGEST MARKET SHARE THROUGHOUT FORECAST PERIOD	48
4.3	ASRS MARKET, BY VERTICAL	49
FIGURE 14	FOOD & BEVERAGES AND AUTOMOTIVE VERTICALS TO CAPTURE SUBSTANTIAL MARKET SIZE IN 2023	49
4.4	ASRS MARKET, BY COUNTRY	49
FIGURE 15	INDIA AND CHINA TO REGISTER SIGNIFICANTLY HIGH CAGR IN GLOBAL ASRS MARKET FROM 2023 TO 2028	49
5	MARKET OVERVIEW	50
5.1	INTRODUCTION	50
5.2	MARKET DYNAMICS	50
FIGURE 16	ASRS MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES	50
5.2.1	DRIVERS	51
5.2.1.1	Strong focus on efficient space utilization and cost saving	51
5.2.1.2	Increased adoption of ASRS in e-commerce sector	51
5.2.1.3	Heightened emphasis on achieving operational excellence through precise and efficient inventory management	51
5.2.1.4	Significant demand for ASRS from automakers	52
FIGURE 17	ASRS MARKET: IMPACT ANALYSIS OF DRIVERS	53
5.2.2	RESTRAINTS	53
5.2.2.1	High installation and maintenance costs	53
5.2.2.2	Requirement for technical experts to oversee system operations	54
FIGURE 18	ASRS MARKET: IMPACT ANALYSIS OF RESTRAINTS	54
5.2.3	OPPORTUNITIES	54
5.2.3.1	Growing demand for cold chain systems in Asia Pacific	54
5.2.3.2	Lucrative opportunities presented by thriving healthcare sector	55
FIGURE 19	ASRS MARKET: IMPACT ANALYSIS OF OPPORTUNITIES	55
5.2.4	CHALLENGES	56
5.2.4.1	Production and revenue losses due to unwanted faults and downtime	56
5.2.4.2	Designing flexible and scalable ASRS due to rapidly changing technology and customer requirements	56
FIGURE 20	ASRS MARKET: IMPACT ANALYSIS OF CHALLENGES	56
5.3	SUPPLY CHAIN ANALYSIS	57
FIGURE 21	ASRS SUPPLY CHAIN ANALYSIS	57
5.4	ECOSYSTEM MAPPING	58
FIGURE 22	ASRS ECOSYSTEM ANALYSIS	58
TABLE 1	ROLE OF PARTICIPANTS IN ASRS ECOSYSTEM	59
5.5	PRICING ANALYSIS	60
5.5.1	AVERAGE SELLING PRICE OF ASRS OFFERED BY KEY PLAYERS, BY TYPE	60
FIGURE 23	AVERAGE PROJECT COST OF DIFFERENT TYPES OF ASRS, BY COMPANY	60
TABLE 2	AVERAGE PROJECT COST OF ASRS BASED ON TYPE, BY COMPANY (USD)	60
5.5.2	AVERAGE SELLING PRICE TREND	61
TABLE 3	AVERAGE PROJECT COST OF ASRS, BY TYPE	61
TABLE 4	AVERAGE SELLING PRICE OF VERTICAL LIFT MODULE (VLM) BY REGION	61
FIGURE 24	AVERAGE PROJECT COST OF ASRS, 2019-2028	62
5.6	TRENDS/DISRUPTIONS IMPACTING CUSTOMER BUSINESS	62
FIGURE 25	REVENUE SHIFT AND NEW REVENUE POCKETS FOR AUTOMATED STORAGE AND RETRIEVAL SYSTEM PROVIDERS	62
5.7	TECHNOLOGY ANALYSIS	63
5.7.1	INDUSTRY 4.0	63
5.7.2	5G	63

5.7.3	MACHINE LEARNING	63
5.7.4	ROBOTIC PROCESS AUTOMATION	64
5.7.5	PREDICTIVE ANALYTICS	64
5.7.6	DIGITAL TWIN MODEL BUILDER	64
5.7.7	VOICE RECOGNITION	64
5.8	PORTER'S FIVE FORCES ANALYSIS	64
FIGURE 26	ASRS MARKET: PORTER'S FIVE FORCES ANALYSIS	65
TABLE 5	ASRS MARKET: PORTER'S FIVE FORCES ANALYSIS	65
5.9	KEY STAKEHOLDERS AND BUYING CRITERIA	66
5.9.1	KEY STAKEHOLDERS IN BUYING PROCESS	66
FIGURE 27	INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS FOR TOP 3 VERTICALS	66
TABLE 6	INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS FOR TOP 3 VERTICALS (%)	66
5.9.2	BUYING CRITERIA	67
FIGURE 28	KEY BUYING CRITERIA FOR TOP 3 VERTICALS	67
TABLE 7	KEY BUYING CRITERIA FOR TOP 3 VERTICALS	67
?		
5.10	CASE STUDY ANALYSIS	68
TABLE 8	DELIVERY OF HIGH-DENSITY SECURED ASRS TO MULTI-STORY FACILITY COMPRISING HIGH-VALUE OBJECTS	68
TABLE 9	DEPLOYMENT OF SCALABLE ASRS FROM ADDVERB TECHNOLOGIES TO INCREASE PRODUCTION CAPACITY OF FMCG PRODUCTS	68
TABLE 10	IMPLEMENTATION OF ASRS TO ENSURE ERROR-FREE PICKING AND ORDER FULFILLMENT APPLICATIONS	69
TABLE 11	ADOPTION OF ASRS BY REITAN DISTRIBUTION TO AUTOMATE PALLET STORAGE AND PICKING OPERATIONS	69
5.11	TRADE ANALYSIS	70
5.11.1	IMPORT SCENARIO	70
FIGURE 29	IMPORTS, BY KEY COUNTRY, 2018-2022 (USD MILLION)	70
5.11.2	EXPORT SCENARIO	71
FIGURE 30	EXPORTS, BY KEY COUNTRY, 2018-2022 (USD MILLION)	71
5.12	PATENT ANALYSIS	72
FIGURE 31	TOP 10 COMPANIES WITH HIGHEST NUMBER OF PATENT APPLICATIONS IN LAST 10 YEARS	72
TABLE 12	TOP 20 PATENT OWNERS (US) IN LAST 10 YEARS	72
FIGURE 32	NUMBER OF PATENTS GRANTED ANNUALLY FROM 2013 TO 2022	73
TABLE 13	LIST OF KEY PATENTS RELATED TO ASRS MARKET	73
5.13	KEY CONFERENCES AND EVENTS, 2023-2025	75
TABLE 14	ASRS MARKET: DETAILED LIST OF CONFERENCES AND EVENTS	75
5.14	REGULATORY LANDSCAPE	76
5.14.1	REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS RELATED TO ASRS MARKET	76
TABLE 15	NORTH AMERICA: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS	77
TABLE 16	EUROPE: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS	77
TABLE 17	ASIA PACIFIC: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS	78
TABLE 18	ROW: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS	79
5.14.2	STANDARDS AND REGULATIONS RELATED TO ASRS SOLUTIONS	79
TABLE 19	NORTH AMERICA: SAFETY STANDARDS FOR ASRS MARKET	79
TABLE 20	EUROPE: SAFETY STANDARDS FOR ASRS MARKET	80
6	OFFERINGS AND EMERGING APPLICATIONS OF ASRS	81
6.1	INTRODUCTION	81
6.2	ASRS OFFERINGS	81
FIGURE 33	OFFERINGS IN ASRS MARKET	81

6.2.1	HARDWARE	81
6.2.2	SOFTWARE AND SERVICES	82
?		
6.3	EMERGING APPLICATIONS OF ASRS	83
6.3.1	HEALTHCARE STORAGE AND LOGISTICS	83
6.3.2	LIBRARY AND LABORATORY INVENTORY MANAGEMENT IN ACADEMIC INSTITUTIONS	83
6.3.3	VERTICAL FARMING AND CROP MONITORING AND TRACING	84
6.3.4	ORDER FULFILLMENT AND SUPPLY CHAIN ENHANCEMENT IN FASHION AND APPAREL INDUSTRY	84
6.3.5	WASTE SORTING AND RECYCLING	84
7	FUNCTIONS OF ASRS	85
7.1	INTRODUCTION	85
FIGURE 34	FUNCTIONS OF ASRS	85
7.2	STORAGE	85
7.2.1	ABILITY TO USE MINIMUM SPACE TO STORE MAXIMUM INVENTORY IN ORGANIZED MANNER TO BOOST NEED FOR ASRS	85
7.3	ORDER PICKING	86
7.3.1	NEED FOR FASTER ORDER FULFILLMENT AND ACCURATE ORDER-PICKING PROCESS TO INCREASE DEMAND FOR ASRS	86
7.4	DISTRIBUTION	86
7.4.1	POTENTIAL TO EFFECTIVELY MANAGE INVENTORY AND DISTRIBUTION CHANNELS TO FUEL MARKET GROWTH	86
7.5	ASSEMBLY	87
7.5.1	RIISING PREFERENCE FOR AUTOMATED ASSEMBLY LINES TO BOOST DEMAND FOR ASRS	87
7.6	KITTING	88
7.6.1	INCREASING DEMAND FOR CUSTOMIZED PRODUCTS TO DRIVE ADOPTION OF ASRS FOR KITTING	88
7.7	OTHERS	88
8	LATEST TRENDS IN WAREHOUSING IMPACTING MARKET	89
8.1	INTRODUCTION	89
8.2	MICRO FULFILLMENT CENTERS	89
8.2.1	SIGNIFICANT DEVELOPMENTS IN MICRO FULFILLMENT CENTERS	89
FIGURE 35	KEY ELEMENTS POWERING DEVELOPMENTS IN MFC SPACE	90
8.2.2	ADVANTAGES OF MFCS OVER CFCS	91
8.2.3	ECOSYSTEM OF MICRO FULFILLMENT CENTERS	92
FIGURE 36	ECOSYSTEM ANALYSIS	92
8.2.4	MAJOR COMPANIES LEADING TOWARD MICRO FULFILLMENT CENTERS	92
8.2.5	KEY TECHNOLOGIES INVOLVED IN MICRO FULFILLMENT CENTERS	93
FIGURE 37	KEY TECHNOLOGIES USED IN MICRO FULFILLMENT CENTERS	93
8.2.5.1	Cube storage	93
8.2.5.2	Autonomous mobile robots (AMRs)	94
8.2.5.3	Shuttle systems	94
8.2.5.4	Others	94
8.2.6	BRIEF INFORMATION ON INVESTMENTS IN MICRO FULFILLMENT TECHNOLOGY	95
TABLE 21	OVERVIEW OF RECENT MAJOR FUNDINGS FOR MFCS	96
8.2.7	MICRO FULFILLMENT CENTERS IN US	96
8.3	AUTONOMOUS MACHINES	97
8.4	DARK STORES	97
8.5	DATA ANALYTICS AND AI INTEGRATION INTO WAREHOUSING	98
8.6	CLOUD-BASED WAREHOUSING MANAGEMENT	98
8.7	ROBOTICS	98
9	DEPLOYMENT MODES AND SYSTEM COMPONENTS OF ASRS	99

9.1	INTRODUCTION	99
9.2	DEPLOYMENT MODES OF ASRS	99
9.2.1	STANDALONE	99
9.2.2	INTEGRATED	99
9.3	ASRS COMPONENTS	100
9.3.1	RACK STRUCTURE	100
9.3.2	CONTROL SYSTEM	100
9.3.3	RETRIEVAL SYSTEM	100
9.3.4	OTHERS	101
10	ASRS MARKET, BY TYPE	102
10.1	INTRODUCTION	103
	FIGURE 38 ASRS MARKET, BY TYPE	103
	FIGURE 39 UNIT LOAD SEGMENT TO HOLD LARGEST SHARE OF ASRS MARKET IN 2023	103
	TABLE 22 ASRS MARKET, BY TYPE, 2019-2022 (USD MILLION)	104
	TABLE 23 ASRS MARKET, BY TYPE, 2023-2028 (USD MILLION)	104
10.2	UNIT LOAD	105
10.2.1	INCREASING ADOPTION OF UNIT-LOAD ASRS TO RESOLVE OPERATIONAL AND PRODUCTIVITY ISSUES TO DRIVE MARKET	105
	TABLE 24 UNIT LOAD: ASRS MARKET, BY VERTICAL, 2019-2022 (USD MILLION)	106
	TABLE 25 UNIT LOAD: ASRS MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	106
	TABLE 26 UNIT LOAD: ASRS MARKET, BY REGION, 2019-2022 (USD MILLION)	107
	TABLE 27 UNIT LOAD: ASRS MARKET, BY REGION, 2023-2028 (USD MILLION)	107
10.3	MINI LOAD	107
10.3.1	RISING DEPLOYMENT OF MINI-LOAD ASRS IN SPACE-CONSTRAINED FACILITIES TO FUEL MARKET GROWTH	107
	TABLE 28 MINI LOAD: ASRS MARKET, BY VERTICAL, 2019-2022 (USD MILLION)	108
	TABLE 29 MINI LOAD: ASRS MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	109
	TABLE 30 MINI LOAD: ASRS MARKET, BY REGION, 2019-2022 (USD MILLION)	109
	TABLE 31 MINI LOAD: ASRS MARKET, BY REGION, 2023-2028 (USD MILLION)	109
	?	
10.4	VERTICAL LIFT MODULE (VLM)	110
10.4.1	GROWING IMPLEMENTATION OF VLMS IN ORDER PICKING, KITTING, AND INVENTORY STORAGE APPLICATIONS TO BOOST SEGMENTAL GROWTH	110
	TABLE 32 VLM: ASRS MARKET, BY VERTICAL, 2019-2022 (USD MILLION)	110
	TABLE 33 VLM: ASRS MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	111
	FIGURE 40 ASIA PACIFIC TO HOLD SIGNIFICANT SHARE OF ASRS MARKET FOR VERTICAL LIFT MODULES THROUGHOUT FORECAST PERIOD	111
	TABLE 34 VLM: ASRS MARKET, BY REGION, 2019-2022 (USD MILLION)	112
	TABLE 35 VLM: ASRS MARKET, BY REGION, 2023-2028 (USD MILLION)	112
10.5	CAROUSEL	112
10.5.1	VERTICAL CAROUSEL	112
10.5.1.1	Rising use of vertical carousel to save floor space to fuel segmental growth	112
10.5.2	HORIZONTAL CAROUSEL	113
10.5.2.1	Increasing adoption of horizontal carousel to ensure improved flexibility and high efficiency in item picking to support segmental growth	113
	TABLE 36 CAROUSEL: ASRS MARKET, BY VERTICAL, 2019-2022 (USD MILLION)	113
	TABLE 37 CAROUSEL: ASRS MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	114
	TABLE 38 CAROUSEL: ASRS MARKET, BY REGION, 2019-2022 (USD MILLION)	114
	TABLE 39 CAROUSEL: ASRS MARKET, BY REGION, 2023-2028 (USD MILLION)	114

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

10.6 MID LOAD 115

10.6.1 ELEVATING DEMAND FOR MID-LOAD ASRS IN ASSEMBLY, HIGH-DENSITY STORAGE, AND ORDER FULFILLMENT APPLICATIONS TO CONTRIBUTE TO MARKET GROWTH 115

TABLE 40 MID LOAD: ASRS MARKET, BY VERTICAL, 2019-2022 (USD MILLION) 115

TABLE 41 MID LOAD: ASRS MARKET, BY VERTICAL, 2023-2028 (USD MILLION) 116

TABLE 42 MID LOAD: ASRS MARKET, BY REGION, 2019-2022 (USD MILLION) 116

TABLE 43 MID LOAD: ASRS MARKET, BY REGION, 2023-2028 (USD MILLION) 116

11 ASRS MARKET, BY VERTICAL 117

11.1 INTRODUCTION 118

FIGURE 41 ASRS MARKET, BY VERTICAL 118

FIGURE 42 FOOD & BEVERAGES VERTICAL TO LEAD ASRS MARKET IN 2023 119

TABLE 44 ASRS MARKET, BY VERTICAL, 2019-2022 (USD MILLION) 119

TABLE 45 ASRS MARKET, BY VERTICAL, 2023-2028 (USD MILLION) 120

11.2 AUTOMOTIVE 121

11.2.1 INCREASING ADOPTION OF ASRS BY AUTOMAKERS FOR RAW MATERIAL HANDLING AND MOVING GOODS TO MANUFACTURING UNITS AND WAREHOUSES 121

FIGURE 43 UNIT-LOAD ASRS TO HOLD LARGEST MARKET SHARE FOR AUTOMOTIVE VERTICAL THROUGHOUT FORECAST PERIOD 121

TABLE 46 AUTOMOTIVE: ASRS MARKET, BY TYPE, 2019-2022 (USD MILLION) 122

TABLE 47 AUTOMOTIVE: ASRS MARKET, BY TYPE, 2023-2028 (USD MILLION) 122

TABLE 48 AUTOMOTIVE: ASRS MARKET, BY REGION, 2019-2022 (USD MILLION) 122

TABLE 49 AUTOMOTIVE: ASRS MARKET, BY REGION, 2023-2028 (USD MILLION) 123

11.3 METALS & HEAVY MACHINERY 123

11.3.1 ELEVATING DEMAND FOR ASRS BY METAL AND HEAVY MACHINERY MAKERS TO FACILITATE INTRALOGISTICS MOVEMENT OF LARGE AND HEAVY COMPONENTS AND GOODS 123

TABLE 50 METALS & HEAVY MACHINERY: ASRS MARKET, BY TYPE, 2019-2022 (USD MILLION) 124

TABLE 51 METALS & HEAVY MACHINERY: ASRS MARKET, BY TYPE, 2023-2028 (USD MILLION) 124

TABLE 52 METALS & HEAVY MACHINERY: ASRS MARKET, BY REGION, 2019-2022 (USD MILLION) 124

TABLE 53 METALS & HEAVY MACHINERY: ASRS MARKET, BY REGION, 2023-2028 (USD MILLION) 125

11.4 FOOD & BEVERAGES 125

11.4.1 PRESSING NEED FOR EFFICIENT STORAGE, RETRIEVAL, AND TRANSPORTATION SOLUTIONS WITH RISING DEMAND FOR PROCESSED AND PACKAGED FOOD 125

TABLE 54 FOOD & BEVERAGES: ASRS MARKET, BY TYPE, 2019-2022 (USD MILLION) 126

TABLE 55 FOOD & BEVERAGES: ASRS MARKET, BY TYPE, 2023-2028 (USD MILLION) 126

TABLE 56 FOOD & BEVERAGES: ASRS MARKET, BY REGION, 2019-2022 (USD MILLION) 126

TABLE 57 FOOD & BEVERAGES: ASRS MARKET, BY REGION, 2023-2028 (USD MILLION) 127

11.5 CHEMICALS 127

11.5.1 INCREASING USE OF ASRS BY CHEMICAL COMPANIES TO REDUCE WORKFORCE AND MAXIMIZE SPACE UTILIZATION 127

TABLE 58 CHEMICALS: ASRS MARKET, BY TYPE, 2019-2022 (USD MILLION) 128

TABLE 59 CHEMICALS: ASRS MARKET, BY TYPE, 2023-2028 (USD MILLION) 128

TABLE 60 CHEMICALS: ASRS MARKET, BY REGION, 2019-2022 (USD MILLION) 128

TABLE 61 CHEMICALS: ASRS MARKET, BY REGION, 2023-2028 (USD MILLION) 129

11.6 HEALTHCARE 129

11.6.1 RISING USE OF ASRS BY DRUG MANUFACTURERS TO ADHERE TO SAFETY NORMS 129

TABLE 62 HEALTHCARE: ASRS MARKET, BY TYPE, 2019-2022 (USD MILLION) 130

TABLE 63 HEALTHCARE: ASRS MARKET, BY TYPE, 2023-2028 (USD MILLION) 130

TABLE 64 HEALTHCARE: ASRS MARKET, BY REGION, 2019-2022 (USD MILLION) 130

TABLE 65 HEALTHCARE: ASRS MARKET, BY REGION, 2023-2028 (USD MILLION) 131

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

11.7 SEMICONDUCTOR & ELECTRONICS 131

11.7.1 GROWING NEED FOR ASRS BY SEMICONDUCTOR AND ELECTRONICS MANUFACTURERS OWING TO HIGH ADOPTION OF AI AND IIOT TECHNOLOGIES 131

TABLE 66 SEMICONDUCTOR & ELECTRONICS: ASRS MARKET, BY TYPE, 2019-2022 (USD MILLION) 132

TABLE 67 SEMICONDUCTOR & ELECTRONICS: ASRS MARKET, BY TYPE, 2023-2028 (USD MILLION) 132

TABLE 68 SEMICONDUCTOR & ELECTRONICS: ASRS MARKET, BY REGION, 2019-2022 (USD MILLION) 132

TABLE 69 SEMICONDUCTOR & ELECTRONICS: ASRS MARKET, BY REGION, 2023-2028 (USD MILLION) 133

11.8 RETAIL 133

11.8.1 SURGING USE OF ASRS BY RETAIL COMPANIES FOR QUICKER AND ACCURATE ORDER PICKING, PACKING, AND SHIPPING PROCESSES 133

TABLE 70 RETAIL: ASRS MARKET, BY TYPE, 2019-2022 (USD MILLION) 134

TABLE 71 RETAIL: ASRS MARKET, BY TYPE, 2023-2028 (USD MILLION) 134

TABLE 72 RETAIL: ASRS MARKET, BY REGION, 2019-2022 (USD MILLION) 134

TABLE 73 RETAIL: ASRS MARKET, BY REGION, 2023-2028 (USD MILLION) 135

11.9 AVIATION 135

11.9.1 GROWING DEMAND FOR ASRS BY AIRCRAFT MANUFACTURERS TO STORE, HANDLE, AND TRACK AIRCRAFT COMPONENTS REQUIRED DURING ASSEMBLY 135

TABLE 74 AVIATION: ASRS MARKET, BY TYPE, 2019-2022 (USD MILLION) 136

TABLE 75 AVIATION: ASRS MARKET, BY TYPE, 2023-2028 (USD MILLION) 136

TABLE 76 AVIATION: ASRS MARKET, BY REGION, 2019-2022 (USD MILLION) 136

TABLE 77 AVIATION: ASRS MARKET, BY REGION, 2023-2028 (USD MILLION) 137

11.10 E-COMMERCE 137

11.10.1 INCREASING ADOPTION OF ASRS BY E-COMMERCE COMPANIES TO REDUCE DELIVERY TIME 137

FIGURE 44 VLM AND CAROUSEL SEGMENTS TO RECORD SIGNIFICANTLY HIGHER CAGRS IN ASRS MARKET FOR E-COMMERCE DURING FORECAST PERIOD 138

TABLE 78 E-COMMERCE: ASRS MARKET, BY TYPE, 2019-2022 (USD MILLION) 138

TABLE 79 E-COMMERCE: ASRS MARKET, BY TYPE, 2023-2028 (USD MILLION) 138

TABLE 80 E-COMMERCE: ASRS MARKET, BY REGION, 2019-2022 (USD MILLION) 139

TABLE 81 E-COMMERCE: ASRS MARKET, BY REGION, 2023-2028 (USD MILLION) 139

11.11 OTHER VERTICALS 139

TABLE 82 OTHER VERTICALS: ASRS MARKET, BY TYPE, 2019-2022 (USD MILLION) 140

TABLE 83 OTHER VERTICALS: ASRS MARKET, BY TYPE, 2023-2028 (USD MILLION) 140

TABLE 84 OTHER VERTICALS: ASRS MARKET, BY REGION, 2019-2022 (USD MILLION) 140

TABLE 85 OTHER VERTICALS: ASRS MARKET, BY REGION, 2023-2028 (USD MILLION) 141

12 ASRS MARKET, BY REGION 142

12.1 INTRODUCTION 143

FIGURE 45 ASRS MARKET IN CHINA TO GROW AT HIGHEST CAGR DURING FORECAST PERIOD 143

TABLE 86 ASRS MARKET, BY REGION, 2019-2022 (USD MILLION) 143

TABLE 87 ASRS MARKET, BY REGION, 2023-2028 (USD MILLION) 144

12.2 NORTH AMERICA 144

12.2.1 NORTH AMERICA: RECESSION IMPACT 145

FIGURE 46 NORTH AMERICA: SNAPSHOT OF ASRS MARKET 145

TABLE 88 NORTH AMERICA: ASRS MARKET, BY COUNTRY, 2019-2022 (USD MILLION) 146

TABLE 89 NORTH AMERICA: ASRS MARKET, BY COUNTRY, 2023-2028 (USD MILLION) 146

TABLE 90 NORTH AMERICA: ASRS MARKET, BY TYPE, 2019-2022 (USD MILLION) 146

TABLE 91 NORTH AMERICA: ASRS MARKET, BY TYPE, 2023-2028 (USD MILLION) 147

TABLE 92 NORTH AMERICA: ASRS MARKET, BY VERTICAL, 2019-2022 (USD MILLION) 147

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

TABLE 93	NORTH AMERICA: ASRS MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	148
12.2.2	US	148
12.2.2.1	Substantial technological advancements in retail sector to accelerate demand for ASRS	148
12.2.3	CANADA	149
12.2.3.1	Booming manufacturing and automotive sectors to contribute to market growth	149
12.2.4	MEXICO	149
12.2.4.1	Rising preference for convenience foods and prepared meals to drive market	149
12.3	EUROPE	150
12.3.1	EUROPE: RECESSION IMPACT	150
FIGURE 47	EUROPE: SNAPSHOT OF ASRS MARKET	151
TABLE 94	EUROPE: ASRS MARKET, BY COUNTRY, 2019-2022 (USD MILLION)	151
TABLE 95	EUROPE: ASRS MARKET, BY COUNTRY, 2023-2028 (USD MILLION)	152
TABLE 96	EUROPE: ASRS MARKET, BY TYPE, 2019-2022 (USD MILLION)	152
TABLE 97	EUROPE: ASRS MARKET, BY TYPE, 2023-2028 (USD MILLION)	152
TABLE 98	EUROPE: ASRS MARKET, BY VERTICAL, 2019-2022 (USD MILLION)	153
TABLE 99	EUROPE: ASRS MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	153
12.3.2	GERMANY	154
12.3.2.1	High demand for ASRS from automotive sector to drive market	154
12.3.3	UK	154
12.3.3.1	Increasing adoption of ASRS by auto manufacturers and component providers to stimulate market growth	154
12.3.4	FRANCE	155
12.3.4.1	Strong industrial and manufacturing sector to boost ASRS demand	155
12.3.5	REST OF EUROPE	155
12.4	ASIA PACIFIC	155
12.4.1	ASIA PACIFIC: RECESSION IMPACT	156
FIGURE 48	ASIA PACIFIC: SNAPSHOT OF ASRS MARKET	156
TABLE 100	ASIA PACIFIC: ASRS MARKET, BY COUNTRY, 2019-2022 (USD MILLION)	157
TABLE 101	ASIA PACIFIC: ASRS MARKET, BY COUNTRY, 2023-2028 (USD MILLION)	157
TABLE 102	ASIA PACIFIC: ASRS MARKET, BY TYPE, 2019-2022 (USD MILLION)	158
TABLE 103	ASIA PACIFIC: ASRS MARKET, BY TYPE, 2023-2028 (USD MILLION)	158
TABLE 104	ASIA PACIFIC: ASRS MARKET, BY VERTICAL, 2019-2022 (USD MILLION)	158
TABLE 105	ASIA PACIFIC: ASRS MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	159
12.4.2	CHINA	159
12.4.2.1	Expanding automotive, electronics, and manufacturing verticals to create opportunities for ASRS suppliers	159
12.4.3	JAPAN	160
12.4.3.1	Thriving manufacturing sector to boost market growth	160
?		
12.4.4	AUSTRALIA	160
12.4.4.1	Food & beverages and healthcare verticals to contribute to market growth	160
12.4.5	INDIA	161
12.4.5.1	Rapid industrial development to boost demand for ASRS	161
12.4.6	MALAYSIA	161
12.4.6.1	Growing use of ASRS in warehouses of e-commerce companies to fuel market growth	161
12.4.7	TAIWAN	161
12.4.7.1	Robust electronics & semiconductor industry to drive market	161
12.4.8	INDONESIA	162
12.4.8.1	Increasing demand for ASRS in retail and e-commerce sectors to accelerate market growth	162

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

12.4.9	SOUTH KOREA	162
12.4.9.1	Strong focus on providing high-quality semiconductors and electronic products to support adoption of ASRS	162
12.4.10	REST OF ASIA PACIFIC	163
12.5	ROW	163
12.5.1	ROW: RECESSION IMPACT	163
TABLE 106	ROW: ASRS MARKET, BY REGION, 2019-2022 (USD MILLION)	163
TABLE 107	ROW: ASRS MARKET, BY REGION, 2023-2028 (USD MILLION)	163
TABLE 108	ROW: ASRS MARKET, BY TYPE, 2019-2022 (USD MILLION)	164
TABLE 109	ROW: ASRS MARKET, BY TYPE, 2023-2028 (USD MILLION)	164
TABLE 110	ROW: ASRS MARKET, BY VERTICAL, 2019-2022 (USD MILLION)	164
TABLE 111	ROW: ASRS MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	165
12.5.2	SOUTH AMERICA	165
12.5.2.1	Focus of food processing companies on automation to increase deployment of ASRS	165
12.5.3	MIDDLE EAST	165
TABLE 112	MIDDLE EAST: ASRS MARKET, BY COUNTRY, 2019-2022 (USD MILLION)	166
TABLE 113	MIDDLE EAST: ASRS MARKET, BY COUNTRY, 2023-2028 (USD MILLION)	166
12.5.3.1	Saudi Arabia	166
12.5.3.1.1	Growing aviation, automotive, and e-commerce sectors to drive market	166
12.5.3.2	UAE	167
12.5.3.2.1	Booming manufacturing sector to boost demand for ASRS	167
12.5.3.3	Rest of Middle East	167
12.5.4	AFRICA	167
12.5.4.1	Rising adoption of warehouse automation solutions to increase demand for ASRS	167
13	COMPETITIVE LANDSCAPE	168
13.1	OVERVIEW	168
13.2	STRATEGIES ADOPTED BY KEY PLAYERS	168
TABLE 114	OVERVIEW OF STRATEGIES DEPLOYED BY KEY ASRS MANUFACTURERS	168
13.3	REVENUE ANALYSIS OF TOP COMPANIES	170
FIGURE 49	FIVE-YEAR REVENUE ANALYSIS OF TOP PLAYERS IN ASRS MARKET	170
13.4	MARKET SHARE ANALYSIS	170
TABLE 115	ASRS MARKET SHARE ANALYSIS, 2022	171
FIGURE 50	ASRS MARKET: SHARE OF KEY PLAYERS	171
13.5	COMPANY EVALUATION MATRIX, 2022	173
13.5.1	STARS	173
13.5.2	EMERGING LEADERS	173
13.5.3	PERVASIVE PLAYERS	173
13.5.4	PARTICIPANTS	173
FIGURE 51	ASRS MARKET (GLOBAL) COMPANY EVALUATION MATRIX, 2022	174
13.5.5	ASRS MARKET: COMPANY FOOTPRINT	175
TABLE 116	COMPANY FOOTPRINT	175
TABLE 117	TYPE: COMPANY FOOTPRINT	176
TABLE 118	VERTICAL: COMPANY FOOTPRINT	177
TABLE 119	REGION: COMPANY FOOTPRINT	179
13.6	SMALL AND MEDIUM-SIZED ENTERPRISES (SMES) EVALUATION MATRIX, 2022	180
13.6.1	PROGRESSIVE COMPANIES	180
13.6.2	RESPONSIVE COMPANIES	180

13.6.3	DYNAMIC COMPANIES	180
13.6.4	STARTING BLOCKS	180
FIGURE 52	ASRS MARKET (GLOBAL) SMES EVALUATION MATRIX, 2022	181
13.6.5	COMPETITIVE BENCHMARKING	182
TABLE 120	ASRS MARKET: LIST OF KEY STARTUPS/SMES	182
TABLE 121	ASRS MARKET: COMPETITIVE BENCHMARKING OF KEY STARTUPS/SMES	183
13.7	COMPETITIVE SCENARIO	184
TABLE 122	ASRS MARKET: PRODUCT LAUNCHES, 2021-2023	184
TABLE 123	ASRS MARKET: DEALS, 2021-2023	186
TABLE 124	ASRS MARKET: OTHERS, 2021-2023	189
14	COMPANY PROFILES	196
(Business overview, Products offered, Recent Developments, MNM view)*		
14.1	KEY PLAYERS	196
14.1.1	DAIFUKU CO., LTD.	196
TABLE 125	DAIFUKU CO., LTD.: COMPANY OVERVIEW	196
FIGURE 53	DAIFUKU CO., LTD.: COMPANY SNAPSHOT	197
TABLE 126	DAIFUKU CO., LTD.: PRODUCTS OFFERED	198
TABLE 127	DAIFUKU CO., LTD.: DEALS	198
TABLE 128	DAIFUKU CO., LTD.: OTHERS	198
14.1.2	MURATA MACHINERY, LTD.	200
TABLE 129	MURATA MACHINERY, LTD.: COMPANY OVERVIEW	200
TABLE 130	MURATA MACHINERY, LTD.: PRODUCTS OFFERED	200
TABLE 131	MURATA MACHINERY, LTD.: OTHERS	201
14.1.3	SSI SCHAEFER	202
TABLE 132	SSI SCHAEFER: COMPANY OVERVIEW	202
TABLE 133	SSI SCHAEFER: PRODUCTS OFFERED	202
TABLE 134	SSI SCHAEFER: OTHERS	203
14.1.4	TGW LOGISTICS GROUP GMBH	205
TABLE 135	TGW LOGISTICS GROUP GMBH: COMPANY OVERVIEW	205
TABLE 136	TGW LOGISTICS GROUP GMBH: PRODUCTS OFFERED	205
TABLE 137	TGW LOGISTICS GROUP GMBH: PRODUCT LAUNCHES	206
TABLE 138	TGW LOGISTICS GROUP GMBH: DEALS	206
TABLE 139	TGW LOGISTICS GROUP GMBH: OTHERS	207
14.1.5	KARDEX HOLDING AG	209
TABLE 140	KARDEX HOLDING AG: COMPANY OVERVIEW	209
FIGURE 54	KARDEX HOLDING AG: COMPANY SNAPSHOT	210
TABLE 141	KARDEX HOLDING AG: PRODUCTS OFFERED	211
TABLE 142	KARDEX HOLDING AG: PRODUCT LAUNCHES	211
TABLE 143	KARDEX HOLDING AG: OTHERS	212
14.1.6	BEUMER GROUP GMBH & CO. KG	214
TABLE 144	BEUMER GROUP GMBH & CO. KG: COMPANY OVERVIEW	214
TABLE 145	BEUMER GROUP GMBH & CO. KG: PRODUCTS OFFERED	214
TABLE 146	BEUMER GROUP GMBH & CO. KG: PRODUCT LAUNCHES	215
TABLE 147	BEUMER GROUP GMBH & CO. KG: DEALS	215
TABLE 148	BEUMER GROUP GMBH & CO. KG: OTHERS	216
14.1.7	HONEYWELL INTERNATIONAL INC.	217
TABLE 149	HONEYWELL INTERNATIONAL INC.: COMPANY OVERVIEWS	217

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

FIGURE 55	HONEYWELL INTERNATIONAL INC.: COMPANY SNAPSHOT	218
TABLE 150	HONEYWELL INTERNATIONAL INC.: PRODUCTS OFFERED	218
TABLE 151	HONEYWELL INTERNATIONAL INC.: PRODUCT LAUNCHES	219
14.1.8	KION GROUP AG	220
TABLE 152	KION GROUP AG: COMPANY OVERVIEW	220
FIGURE 56	KION GROUP AG: COMPANY SNAPSHOT	221
TABLE 153	KION GROUP AG: PRODUCTS OFFERED	222
TABLE 154	KION GROUP AG: PRODUCT LAUNCHES	222
TABLE 155	KION GROUP AG: OTHERS	223
14.1.9	KNAPP AG	224
TABLE 156	KNAPP AG: COMPANY OVERVIEW	224
TABLE 157	KNAPP AG: PRODUCTS OFFERED	224
TABLE 158	KNAPP AG: DEALS	225
TABLE 159	KNAPP AG: OTHERS	226
14.1.10	KUKA AG	227
TABLE 160	KUKA AG: COMPANY OVERVIEW	227
FIGURE 57	KUKA AG: COMPANY SNAPSHOT	228
TABLE 161	KUKA AG: PRODUCTS OFFERED	229
TABLE 162	KUKA AG: OTHERS	229
14.1.11	MECALUX, S.A.	231
TABLE 163	MECALUX, S.A.: COMPANY OVERVIEW	231
TABLE 164	MECALUX, S.A.: PRODUCTS OFFERED	231
TABLE 165	MECALUX, S.A.: OTHERS	232
14.1.12	SYSTEM LOGISTICS S.P.A.	233
TABLE 166	SYSTEM LOGISTICS S.P.A.: COMPANY OVERVIEW	233
TABLE 167	SYSTEM LOGISTICS S.P.A.: PRODUCTS OFFERED	233
TABLE 168	SYSTEM LOGISTICS S.P.A.: OTHERS	234
14.1.13	TOYOTA INDUSTRIES CORPORATION	235
TABLE 169	TOYOTA INDUSTRIES CORPORATION: COMPANY OVERVIEW	235
FIGURE 58	TOYOTA INDUSTRIES CORPORATION: COMPANY SNAPSHOT	236
TABLE 170	TOYOTA INDUSTRIES CORPORATION: PRODUCTS OFFERED	237
TABLE 171	TOYOTA INDUSTRIES CORPORATION: PRODUCT LAUNCHES	237
TABLE 172	TOYOTA INDUSTRIES CORPORATION: DEALS	237
TABLE 173	TOYOTA INDUSTRIES CORPORATION: OTHERS	238
14.1.14	IHI CORPORATION	239
TABLE 174	IHI CORPORATION: COMPANY OVERVIEW	239
FIGURE 59	IHI CORPORATION: COMPANY SNAPSHOT	240
TABLE 175	IHI CORPORATION: PRODUCTS OFFERED	240
TABLE 176	IHI CORPORATION: DEALS	241
14.2	OTHER PLAYERS	242
14.2.1	AUTOMATION LOGISTICS CORPORATION	242
TABLE 177	AUTOMATION LOGISTICS CORPORATION: COMPANY OVERVIEW	242
14.2.2	AUTOCRIB	242
TABLE 178	AUTOCRIB: COMPANY OVERVIEW	242
14.2.3	FERRETTO GROUP SPA	243
TABLE 179	FERRETTO GROUP SPA: COMPANY OVERVIEW	243
14.2.4	HANEL GMBH & CO. KG	244

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

TABLE 180 HANEL GMBH & CO. KG: COMPANY OVERVIEW 244

14.2.5 INVATA INTRALOGISTICS 244

TABLE 181 INVATA INTRALOGISTICS: COMPANY OVERVIEW 244

14.2.6 MIAS GMBH 245

TABLE 182 MIAS GMBH: COMPANY OVERVIEW 245

14.2.7 OCADO GROUP PLC 245

TABLE 183 OCADO GROUP PLC: COMPANY OVERVIEW 245

14.2.8 SENCORPWHITE, INC 246

TABLE 184 SENCORPWHITE, INC: COMPANY OVERVIEW 246

14.2.9 VIASTORE SYSTEMS GMBH 247

TABLE 185 VIASTORE SYSTEMS GMBH: COMPANY OVERVIEW 247

14.2.10 VIDMAR 247

TABLE 186 VIDMAR: COMPANY OVERVIEW 247

14.2.11 WESTFALIA TECHNOLOGIES, INC. 248

TABLE 187 WESTFALIA TECHNOLOGIES, INC.: COMPANY OVERVIEW 248

14.2.12 WITRON LOGISTIK + INFORMATIK GMBH 248

TABLE 188 WITRON LOGISTIK + INFORMATIK GMBH: COMPANY OVERVIEW 248

*Details on Business overview, Products offered, Recent Developments, MNM view might not be captured in case of unlisted companies.

15 ADJACENT MARKET 249

15.1 RFID MARKET 249

15.2 INTRODUCTION 249

FIGURE 60 RFID MARKET, BY OFFERING 250

FIGURE 61 TAGS SEGMENT TO DOMINATE RFID MARKET DURING FORECAST PERIOD 250

TABLE 189 RFID MARKET, BY OFFERING, 2018-2021 (USD MILLION) 251

TABLE 190 RFID MARKET, BY OFFERING, 2022-2030 (USD MILLION) 251

15.3 TAGS 251

15.3.1 USE OF TAGS TO IDENTIFY ASSETS OR PERSONS 251

15.4 READERS 252

15.4.1 FIXED READERS 252

15.4.1.1 Adoption of fixed readers due to their ruggedness and cost-efficiency 252

15.4.2 HANDHELD READERS 253

15.4.2.1 Implementation of handheld readers owing to their mobility 253

15.5 SOFTWARE & SERVICES 253

15.5.1 INCREASING ADOPTION OF DATA ANALYSIS AND CLOUD-BASED DATA STORAGE SOLUTIONS TO DRIVE DEMAND FOR SOFTWARE & SERVICES 253

16 APPENDIX 255

16.1 INSIGHTS FROM INDUSTRY EXPERTS 255

16.2 DISCUSSION GUIDE 256

16.3 KNOWLEDGESTORE: MARKETANDMARKETS' SUBSCRIPTION PORTAL 258

16.4 CUSTOMIZATION OPTIONS 260

16.5 RELATED REPORTS 260

16.6 AUTHOR DETAILS 261

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

Automated Storage and Retrieval System Market by Function (Storage, Distribution, Assembly), Type (Unit Load, Mini Load, Vertical Lift Module, Carousel, Mid Load), Vertical (Automotive, Food & Beverages, E-Commerce, Retail) - Global Forecast to 2028

Market Report | 2023-09-28 | 255 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*

Country*

Date

Signature