

Field-Programmable Gate Array (FPGA) Market by Configuration (Low-end FPGA, Mid-range FPGA, High-end FPGA), Technology (SRAM, Flash, Antifuse), Node Size (<16 nm, 20-90 nm, >90 nm), Vertical (Telecom, Data Center) and Region - Global Forecast to 2030

Market Report | 2025-10-27 | 389 pages | MarketsandMarkets

AVAILABLE LICENSES:

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

Report description:

The global field-programmable gate array (FPGA) market is projected to reach USD 19.34 billion by 2030 from USD 11.73 billion in 2025 at a CAGR of 10.5%. The market is experiencing robust growth driven by the wide adoption of AI technologies and the rollout of 5G infrastructure across key industries. As AI workloads become increasingly complex, FPGAs are being deployed to accelerate real-time data processing, sensor fusion, and adaptive learning in industries such as aerospace & defense and automotive. The expansion of 5G networks is fueling demand for FPGAs due to their ability to support high-bandwidth, low-latency communication and reconfigurable signal processing. Their flexibility in adapting to evolving standards and protocols makes FPGAs indispensable for next-generation telecom equipment and edge computing systems. Together, these trends are reinforcing FPGA's role as a critical enabler of intelligent, high-performance, and future-ready digital infrastructure.

<https://mnmimg.marketsandmarkets.com/Images/fpga-market-img-overview.webp>

"SRAM technology to hold largest market share in 2025"

SRAM-based FPGAs are expected to hold the largest share of the FPGA market in 2025, owing to their superior reconfigurability, high-speed performance, and suitability for complex digital systems. These devices allow designers to dynamically reprogram hardware functions, making them ideal for applications requiring frequent updates and design flexibility, such as AI acceleration, data center networking, and advanced telecommunications. The continued advancement of SRAM technology enables higher logic density, improved energy efficiency, and enhanced security features, reinforcing its dominance across performance-critical

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

sectors. Moreover, the growing adoption of adaptive computing architectures, where FPGA logic is reconfigured in real time to optimize workloads, is further expanding the use of SRAM-based FPGAs in next-generation computing and communication systems.

"Data centers and computing vertical to record highest CAGR during forecast period"

The data centers and computing segment is projected to register the highest CAGR in the FPGA market, driven by the rising adoption of FPGAs for AI inference, cloud acceleration, and high-performance computing workloads. FPGAs offer unmatched parallel processing capability, reconfigurability, and power efficiency, making them highly effective in optimizing data throughput and reducing latency for real-time applications. Major cloud service providers and hyperscale operators are increasingly integrating FPGA-based accelerators to handle diverse workloads in AI, machine learning, and analytics. Additionally, the transition toward heterogeneous computing architectures and the growing demand for customizable hardware to support evolving algorithms are propelling FPGA deployment in large-scale computing infrastructures, positioning this segment for sustained high growth.

"Europe to hold significant market share for FPGA in 2025"

Europe is set to capture a significant share of the global FPGA market in 2025, driven by its strong industrial base, strategic digital investments, and a coordinated push toward technological sovereignty. The region's leadership in automotive electronics, industrial automation, telecommunications, and defense is fueling sustained demand for reconfigurable computing solutions. Ongoing initiatives under the European Chips Act and Horizon Europe are fostering innovation in semiconductor design, manufacturing, and high-performance computing, creating a favorable environment for FPGA adoption. In April 2024, the OPTIMA initiative developed an FPGA-based chip platform under the EuroHPC JU to optimize and port industrial applications onto HPC systems, helping advance Europe's capabilities in programmable computing with energy-efficient designs. Moreover, Europe's emphasis on AI acceleration, edge intelligence, and open hardware architectures (such as RISC-V) is positioning FPGAs as a core enabler of next-generation computing infrastructure. With robust R&D ecosystems in Germany, France, and the Netherlands, alongside growing collaborations between academia and industry, Europe is expected to strengthen its position as a key hub for advanced FPGA innovation and deployment.

Extensive primary interviews were conducted with key industry experts in the FPGA market to determine and verify the market size for various segments and subsegments gathered through secondary research. The breakdown of primary participants for the report is shown below.

The study contains insights from various industry experts, from component suppliers to Tier 1 companies and OEMs. The break-up of the primaries is as follows:

-□By Company Type: Tier 1-40%, Tier 2-30%, and Tier 3-30%

-□By Designation: C-level Executives-20%, Directors-20%, and Others-60%

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

The FPGA market is dominated by a few globally established players, such as Advanced Micro Devices, Inc. (US), Altera Corporation (US), Lattice Semiconductor (US), Microchip Technology Inc. (US), Achronix Semiconductor Corporation (US), QuickLogic Corporation (US), Efinix, Inc. (US), GOWIN Semiconductor Corp. (China), Renesas Electronics Corporation (Japan), and Shenzhen Pango Microsystems Co., Ltd. (China).

The study includes an in-depth competitive analysis of these key players in the FPGA market, with their company profiles, recent developments, and key market strategies.

Research Coverage:

The report segments the FPGA market based on configuration (low-end FPGA, mid-range FPGA, high-end FPGA), node size (?16

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

NM, 20-90 NM, > 90 NM), technology (SRAM, flash, antifuse), FPGA and eFPGA Market Size (FPGA, eFPGA), and vertical (telecommunications; consumer electronics; test, measurement and emulation; data centers and computing; military & aerospace; industrial; automotive; healthcare; multimedia; broadcasting). It also discusses the market's drivers, restraints, opportunities, and challenges. It gives a detailed view of the market across four main regions (North America, Europe, the Asia Pacific, and the RoW). The report includes an ecosystem analysis of key players.

Key Benefits of Buying the Report:

- Analysis of key drivers (wide adoption of AI and IoT technologies in the aerospace & defense industry, integration of FPGAs into advanced driver-assistance systems, increased deployment of data centers and high-performance computing facilities, elevated demand for FPGA hardware testing and verification services to enhance avionics system performance, accelerated demand for FPGAs to handle complex sensor data and execute AI algorithms in real time), restraints (limited availability of skilled FPGA developers, risk of data security breaches arising from hidden bugs in FPGA chips), opportunities (integration of FPGA technology into high-bandwidth devices, rollout of 5G technology, utilization of eFPGAs in military and aerospace applications), challenges (lack of standardized FPGA verification and validation techniques, extended design cycles due to complexities associated with FPGA programming)
- Service Development/Innovation: Detailed insights into upcoming technologies, research and development activities, and launches in the FPGA market
- Market Development: Comprehensive information about lucrative markets through the analysis of the FPGA market across varied regions
- Market Diversification: Exhaustive information about new products and services, untapped geographies, recent developments, and investments in the FPGA market
- Competitive Assessment: In-depth assessment of market shares, growth strategies, and product offerings of leading players, such as Advanced Micro Devices, Inc. (US), Altera Corporation (US), Lattice Semiconductor (US), Microchip Technology Inc. (US), Achronix Semiconductor Corporation (US), QuickLogic Corporation (US), Efinix, Inc. (US), GOWIN Semiconductor Corp. (China), Renesas Electronics Corporation (Japan), and Shenzhen Pango Microsystems Co., Ltd. (China)

Table of Contents:

1	INTRODUCTION	35
1.1	STUDY OBJECTIVES	35
1.2	MARKET DEFINITION	35
1.3	STUDY SCOPE	36
1.3.1	MARKETS COVERED	36
1.3.2	INCLUSIONS AND EXCLUSIONS	36
1.3.3	YEARS CONSIDERED	37
1.4	CURRENCY CONSIDERED	37
1.5	STAKEHOLDERS	38
1.6	SUMMARY OF CHANGES	38
2	RESEARCH METHODOLOGY	40
2.1	RESEARCH DATA	40
2.1.1	SECONDARY DATA	41
2.1.1.1	Major secondary sources	41
2.1.1.2	Key data from secondary sources	42
2.1.2	PRIMARY DATA	42
2.1.2.1	List of primary interview participants	43
2.1.2.2	Breakdown of primary interviews	43
2.1.2.3	Key data from primary sources	43
2.1.2.4	Key industry insights	45

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

2.1.3	SECONDARY AND PRIMARY RESEARCH	45
2.2	MARKET SIZE ESTIMATION	46
2.2.1	BOTTOM-UP APPROACH	47
2.2.1.1	Approach to estimate market size using bottom-up analysis (demand side)	48
2.2.2	TOP-DOWN APPROACH	48
2.2.2.1	Approach to estimate market size using top-down analysis (supply side)	49
2.3	DATA TRIANGULATION	50
2.4	RESEARCH ASSUMPTIONS	51
2.5	RISK ASSESSMENT	52
2.6	RESEARCH LIMITATIONS	52
3	EXECUTIVE SUMMARY	53
3.1	KEY INSIGHTS AND MARKET HIGHLIGHTS	53
3.2	KEY MARKET PARTICIPANTS: SHARE INSIGHTS AND STRATEGIC DEVELOPMENTS	54
3.3	DISRUPTIVE TRENDS SHAPING MARKET	55
3.4	HIGH-GROWTH SEGMENTS AND EMERGING FRONTIERS	56
3.5	SNAPSHOT: GLOBAL MARKET SIZE, GROWTH RATE, AND FORECAST	57
4	PREMIUM INSIGHTS	58
4.1	ATTRACTIVE OPPORTUNITIES FOR PLAYERS IN FPGA MARKET	58
4.2	FPGA MARKET, BY CONFIGURATION AND NODE SIZE	59
4.3	FPGA MARKET, BY TECHNOLOGY	59
4.4	FPGA MARKET, BY VERTICAL	60
4.5	FPGA MARKET, BY COUNTRY	60
5	MARKET OVERVIEW	61
5.1	INTRODUCTION	61
5.2	MARKET DYNAMICS	61
5.2.1	DRIVERS	62
5.2.1.1	Wide adoption of AI and IoT technologies in aerospace & defense industry	62
5.2.1.2	Integration of FPGAs into advanced driver assistance systems	62
5.2.1.3	Increasing deployment of data centers and high-performance computing facilities	64
5.2.1.4	Growing demand for FPGA hardware testing and verification services to enhance avionics system performance	64
5.2.1.5	Growth in demand for FPGAs to handle complex sensor data and execute AI algorithms in real time	65
5.2.2	RESTRAINTS	66
5.2.2.1	Limited availability of skilled FPGA developers	66
5.2.2.2	Risk of data security breaches arising from hidden bugs in FPGA chips	67
5.2.3	OPPORTUNITIES	68
5.2.3.1	Integration of FPGA technology into high-bandwidth devices	68
5.2.3.2	Rollout of 5G technology	69
5.2.3.3	Utilization of eFPGAs in military and aerospace applications	70
5.2.4	CHALLENGES	71
5.2.4.1	Lack of standardized FPGA verification and validation techniques	71
5.2.4.2	Extended design cycles due to complexities associated with FPGA programming	72
5.3	UNMET NEEDS AND WHITE SPACES	73
5.3.1	UNMET NEEDS IN FPGA MARKET	73
5.3.2	WHITE SPACE OPPORTUNITIES	73

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

- 5.4 INTERCONNECTED MARKETS AND CROSS-SECTOR OPPORTUNITIES 74
 - 5.4.1 INTERCONNECTED MARKETS 74
 - 5.4.2 CROSS-SECTOR OPPORTUNITIES 75
 - 5.5 STRATEGIC MOVES BY TIER 1/2/3 PLAYERS 75
 - 5.5.1 STRATEGIC MOVES BY TIER 1/2/3 PLAYERS 75
- 6 INDUSTRY TRENDS 76
 - 6.1 INTRODUCTION 76
 - 6.2 PORTER'S FIVE FORCES ANALYSIS 76
 - 6.2.1 THREAT OF NEW ENTRANTS 77
 - 6.2.2 THREAT OF SUBSTITUTES 78
 - 6.2.3 BARGAINING POWER OF SUPPLIERS 78
 - 6.2.4 BARGAINING POWER OF BUYERS 78
 - 6.2.5 INTENSITY OF COMPETITIVE RIVALRY 79
 - 6.3 MACROECONOMIC INDICATORS 79
 - 6.3.1 INTRODUCTION 79
 - 6.3.2 GDP TRENDS AND FORECAST 79
 - 6.3.3 TRENDS IN LOGIC SEMICONDUCTORS INDUSTRY 81
 - 6.3.4 TRENDS IN DATA CENTER INDUSTRY 81
 - 6.4 VALUE CHAIN ANALYSIS 82
 - 6.5 ECOSYSTEM ANALYSIS 84
 - 6.6 PRICING ANALYSIS 86
 - 6.6.1 AVERAGE SELLING PRICE OF FPGAS OFFERED BY TOP 3 KEY PLAYERS, BY VERTICAL, 2024 87
 - 6.6.1.1 Average selling price of low-end FPGAs offered by top 3 key players, by vertical, 2024 87
 - 6.6.1.2 Average selling price of mid-range FPGAs offered by top 3 key players, by vertical, 2024 88
 - 6.6.1.3 Average selling price of high-end FPGAs offered by top 2 players, by vertical, 2024 89
 - 6.6.2 AVERAGE SELLING PRICE, BY REGION, 2021-2024 90
 - 6.7 TRADE ANALYSIS 93
 - 6.7.1 IMPORT DATA (HS CODE 854239) 93
 - 6.7.2 EXPORT SCENARIO (HS CODE 854239) 94
 - 6.8 KEY CONFERENCES AND EVENTS, 2025-2026 95
 - 6.9 TRENDS/DISRUPTIONS IMPACTING CUSTOMERS' BUSINESSES 97
 - 6.10 INVESTMENT AND FUNDING SCENARIO, 2021-2025 98
 - 6.11 CASE STUDY ANALYSIS 98
 - 6.11.1 CANOGA PERKINS ACCELERATED AI-READY PRIVATE 5G NETWORKS WITH AMD VIRTEX ULTRASCALE+ FPGAS FOR DETERMINISTIC, ULTRA-LOW-LATENCY CONNECTIVITY 98
 - 6.11.2 MAGEWELL ENHANCED 4K MEDIA CAPTURE PERFORMANCE USING AMD ARTIX ULTRASCALE+ FPGAS 99
 - 6.11.3 DIGIBIRD'S AUDIOVISUAL SOLUTION EQUIPPED WITH XILINX'S KINTEX SERIES FPGA 99
 - 6.11.4 NEWTOUCH'S FOURTH-GENERATION LARGE-SCALE PROTOTYPING SYSTEM EQUIPPED WITH XILINX'S FPGA 100
 - 6.11.5 PERSEVERANCE ROVER EMPLOYED AMD'S FPGA-BASED HARDWARE ACCELERATION FOR IMAGE PROCESSING AND NAVIGATION TASKS 100
 - 6.11.6 TECHNICAL UNIVERSITY OF BERLIN DEVELOPED SOFTWARE-DEFINED RADIO SYSTEM USING GIDEL'S FPGA PLATFORM 101
 - 6.11.7 FLEX AND INTEL PARTNERED TO REVOLUTIONIZE SMT PRODUCTION WITH FPGA-BASED SOLUTIONS 101
 - 6.12 IMPACT OF 2025 US TARIFFS 102
 - 6.12.1 KEY TARIFF RATES 103

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

6.12.2	PRICE IMPACT ANALYSIS	104
6.12.3	IMPACT ON VARIOUS COUNTRIES/REGIONS	105
6.12.3.1	US	105
6.12.3.2	Europe	105
6.12.3.3	Asia Pacific	106
6.12.4	IMPACT ON VERTICALS	106
7	CUSTOMER LANDSCAPE AND BUYER BEHAVIOR	109
7.1	DECISION-MAKING PROCESS	109
7.2	KEY STAKEHOLDERS AND BUYING CRITERIA	110
7.2.1	KEY STAKEHOLDERS IN BUYING PROCESS	110
7.2.2	BUYING CRITERIA	111
7.3	ADOPTION BARRIERS AND INTERNAL CHALLENGES	111
7.4	UNMET NEEDS FROM VARIOUS VERTICALS	112
8	REGULATORY LANDSCAPE	114
8.1	INTRODUCTION	114
8.1.1	REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS	114
8.1.2	STANDARDS	119
8.1.2.1	DO-254	119
8.1.2.2	ANSI/VITA Standards	119
8.1.2.3	Moisture Sensitivity Level	119
8.1.2.4	ISO 9001:2015	119
8.1.2.5	ISO 14001:2015	119
8.1.2.6	International Automotive Task Force 16949	120
8.1.2.7	IEEE 1149.1	120
8.1.2.8	UL 60950-1	120
8.1.2.9	IEC 62368-1	120
8.1.2.10	IEC 62443	120
8.1.2.11	IEC 61508	120
8.1.2.12	JEDEC JESD47	120
8.1.2.13	RoHS (Restriction of Hazardous Substances) Directive (EU 2011/65/EU)	121
8.1.3	GOVERNMENT REGULATIONS	121
8.1.3.1	US	121
8.1.3.2	Europe	121
8.1.3.3	China	122
8.1.3.4	Japan	122
8.1.3.5	India	122
9	STRATEGIC DISRUPTION THROUGH TECHNOLOGY, PATENTS, DIGITAL, AND AI ADOPTION	123
9.1	KEY EMERGING TECHNOLOGIES	123
9.1.1	EMBEDDED PROCESSORS	123
9.1.2	ON-CHIP MEMORY	123
9.1.3	HETEROGENEOUS INTEGRATION	124
9.2	COMPLEMENTARY TECHNOLOGIES	124
9.2.1	HIGH-SPEED INTERFACES AND PROTOCOLS	124
9.2.2	COOLING AND POWER MANAGEMENT SOLUTIONS	125
9.3	ADJACENT TECHNOLOGIES	125
9.3.1	APPLICATION-SPECIFIC INTEGRATED CIRCUIT (ASIC)	125

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

9.3.2	GRAPHICS PROCESSING UNIT (GPU)	126
9.3.3	SYSTEM-ON-CHIP (SOC)	126
9.4	TECHNOLOGY/PRODUCT ROADMAP	126
9.4.1	SHORT-TERM (2025-2027): ARCHITECTURE OPTIMIZATION AND AI INTEGRATION	127
9.4.2	MID-TERM (2027-2030): HETEROGENEOUS INTEGRATION & DESIGN ECOSYSTEM EXPANSION	127
9.4.3	LONG-TERM (2030-2035+): UNIVERSAL RECONFIGURABLE COMPUTING AND SYSTEM-LEVEL CONVERGENCE	128
9.5	PATENT ANALYSIS	129
9.6	IMPACT OF AI	132
9.6.1	TOP USE CASES AND MARKET POTENTIAL	132
9.6.2	BEST PRACTICES IN FPGA MARKET	133
9.6.3	CASE STUDIES OF AI IMPLEMENTATION IN FPGA MARKET	133
9.6.4	INTERCONNECTED ADJACENT ECOSYSTEM AND IMPACT ON MARKET PLAYERS	134
9.6.5	CLIENTS' READINESS TO ADOPT AI IN FPGA MARKET	134
10	MARKET SIZE FOR FPGA AND EFPGA	135
10.1	INTRODUCTION	136
10.2	FPGA	137
10.2.1	EMERGENCE OF AI/ML WORKLOADS, NETWORK VIRTUALIZATION, AND HIGH-PERFORMANCE EDGE APPLICATIONS TO DRIVE MARKET	137
10.3	EFPGA	138
10.3.1	INCREASING DEMAND FOR CUSTOMIZABLE HARDWARE ACCELERATORS, AI INFERENCE ENGINES, AND SECURE CRYPTOGRAPHIC APPLICATIONS TO DRIVE MARKET	138
11	FPGA MARKET, BY CONFIGURATION	139
11.1	INTRODUCTION	140
	?	
11.2	LOW-END FPGA	142
11.2.1	SURGE IN POWER-CONSCIOUS SOLUTIONS IN EMBEDDED AND INDUSTRIAL APPLICATIONS TO DRIVE DEMAND	142
11.3	MID-RANGE FPGA	143
11.3.1	ENTERPRISES SEEKING SCALABLE, HIGH-THROUGHPUT SOLUTIONS FOR DATA-CENTRIC AND NETWORKING WORKLOADS TO DRIVE DEMAND	143
11.4	HIGH-END FPGA	144
11.4.1	EXPONENTIAL GROWTH IN AI TRAINING, CLOUD COMPUTING, AND DATA CENTER WORKLOADS TO DRIVE DEMAND	144
12	FPGA MARKET, BY NODE SIZE	145
12.1	INTRODUCTION	146
12.2	? 16 NM	147
12.2.1	DESIGNED FOR DATA-INTENSIVE, LATENCY-SENSITIVE WORKLOADS	147
12.3	20-90 NM	148
12.3.1	OFFERS MODERATE-TO-HIGH LOGIC DENSITY, MULTI-GBPS TRANSCEIVERS, AND EMBEDDED DSP AND MEMORY BLOCKS	148
12.4	>90 NM	149
12.4.1	MODERNIZATION OF DEFENSE AND SPACE INFRASTRUCTURE TO REINFORCE DEMAND FOR >90 NM RADIATION-HARDENED FPGAS	149
13	FPGA MARKET, BY TECHNOLOGY	150
13.1	INTRODUCTION	151
13.2	STATIC RANDOM-ACCESS MEMORY (SRAM)	152
13.2.1	RECONFIGURABLE, HIGH-PERFORMANCE LOGIC, AND AI/ML ACCELERATION TO DRIVE DEMAND	152
13.3	FLASH	153
13.3.1	LOW-POWER AND SECURE PROGRAMMABLE LOGIC TO DRIVE DEMAND	153
13.4	ANTIFUSE	154

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

13.4.1	EXTREME ENVIRONMENT TOLERANCE AND LONG-TERM SUPPORT TO STRENGTHEN ANTIFUSE FPGA MARKET	154
14	FPGA MARKET, BY VERTICAL	155
14.1	INTRODUCTION	156
14.2	TELECOMMUNICATIONS	158
14.2.1	WIRED COMMUNICATION	160
14.2.1.1	Optical transport network (OTN)	161
14.2.1.1.1	Backbone of next-generation networks	161
14.2.1.2	Backhaul & access network	161
14.2.1.2.1	Open RAN adoption and programmable baseband processing to drive FPGA deployment for access network	161
14.2.1.3	Network processing	162
14.2.1.3.1	Growing demand for reconfigurable and secure networking systems to fuel FPGA integration across telecom networks	162
?		
14.2.1.4	Wired connectivity	163
14.2.1.4.1	Growing need for ultra-low latency and high-throughput communication to enhance FPGA utilization in wired connectivity	163
14.2.1.5	Packet-based processing & switching	163
14.2.1.5.1	Growing need for real-time packet inspection and low-latency switching to drive FPGA integration in network fabrics	163
14.2.2	WIRELESS COMMUNICATION	164
14.2.2.1	Wireless baseband solutions	165
14.2.2.1.1	Rising focus on high-capacity, low-power wireless infrastructure to enhance FPGA adoption in baseband solutions	165
14.2.2.2	Wireless backhaul solutions	166
14.2.2.2.1	Growing deployment of dense urban and rural wireless backhaul links to drive demand for FPGA-based high-performance platforms	166
14.2.2.3	Radio solutions	166
14.2.2.3.1	Expansion of software-defined radio and multi-band wireless networks to accelerate FPGA adoption in radio solutions	166
14.2.3	5G	167
14.2.3.1	Growing 5G network capacity demand to spur FPGA advancements for high-density logic and fast memory interfaces	167
14.3	CONSUMER ELECTRONICS	168
14.3.1	RISING DEMAND FOR SMART AND CONNECTED CONSUMER DEVICES TO DRIVE DEMAND	168
14.4	TESTING, MEASUREMENT, AND EMULATION	169
14.4.1	EXPANSION OF AUTOMATED TEST EQUIPMENT AND EMULATION PLATFORMS TO STRENGTHEN FPGA UTILIZATION	169
14.5	DATA CENTER & COMPUTING	170
14.5.1	STORAGE INTERFACE CONTROL	173
14.5.1.1	Increasing need for energy-efficient, flexible, and upgradeable storage systems to drive growth	173
14.5.2	NETWORK INTERFACE CONTROL	174
14.5.2.1	Increasing complexity of networking protocols and multi-tenant architectures to drive growth	174
14.5.3	HARDWARE ACCELERATOR	175
14.5.3.1	Growth in real-time data analytics and high-performance computing to drive growth	175
14.5.4	HIGH-PERFORMANCE COMPUTING	175
14.5.4.1	Rising demand for exascale computing, AI integration, and real-time simulations to drive growth	175
14.6	MILITARY & AEROSPACE	176
14.6.1	AVIONICS	178
14.6.1.1	Growing use of programmable FPGAs to enhance next-generation radar, communication, and flight control capabilities	178
14.6.2	MISSILES AND MUNITIONS	179
14.6.2.1	Growth in autonomous and software-defined weapon systems to drive growth	179
14.6.3	RADARS AND SENSORS	180

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

14.6.3.1	Advanced signal processing for multi-function radars to drive growth	180
14.6.4	OTHERS	180
14.7	INDUSTRIAL	181
14.7.1	VIDEO SURVEILLANCE SYSTEMS	183
14.7.1.1	Growing need for low-latency image processing and hardware-level security to drive FPGA utilization in surveillance applications	183
14.7.2	MACHINE VISION SOLUTIONS	184
14.7.2.1	Proliferation of robotics and automated inspection systems to enhance demand for FPGA-based machine vision architecture	184
14.7.3	INDUSTRIAL NETWORKING SOLUTIONS	184
14.7.3.1	Expanding use of time-sensitive networking and multi-protocol communication to boost FPGA-based industrial connectivity solutions	184
14.7.4	INDUSTRIAL MOTOR CONTROL SOLUTIONS	185
14.7.4.1	Industrial motor control applications to propel FPGA adoption for faster processing and adaptive control	185
14.7.5	ROBOTICS	186
14.7.5.1	Surge in intelligent robotics and multi-sensor systems to drive growth	186
14.7.6	INDUSTRIAL SENSORS	187
14.7.6.1	Integration of FPGAs into industrial systems to enable faster signal processing	187
14.7.7	OTHERS	187
14.8	AUTOMOTIVE	188
14.8.1	ADAS/SENSOR FUSION	190
14.8.1.1	FPGA growth supported by integration of AI and machine learning in advanced driver assistance systems	190
14.8.2	AUTOMOTIVE INFOTAINMENT AND DRIVER INFORMATION SYSTEMS	191
14.8.2.1	Growing complexity in automotive digital cockpits to drive increased FPGA integration for infotainment and driver information applications	191
14.8.3	ELECTRIC VEHICLES	191
14.8.3.1	EV powertrain	192
14.8.3.1.1	Increasing complexity of EV powertrains to propel FPGA utilization for multi-motor and regenerative braking systems	192
14.8.3.2	EV charging	193
14.8.3.2.1	Expansion of fast EV chargers to drive FPGA utilization for optimized energy management	193
14.8.3.3	Vehicle-to-Grid (V2G) communication	193
14.8.3.3.1	Rising EV adoption and grid modernization to accelerate FPGA integration in vehicle-to-grid communication	193
14.9	HEALTHCARE	194
14.9.1	IMAGE DIAGNOSTIC SYSTEMS	196
14.9.1.1	Ultrasound machines	197
14.9.1.1.1	Increasing need for low-latency image processing to drive demand	197
14.9.1.2	X-ray machines	198
14.9.1.2.1	Rising demand for high-speed digital radiography to drive growth	198
14.9.1.3	CT scanners	198
14.9.1.3.1	Increasing healthcare imaging volumes and precision requirements to drive demand	198
14.9.1.4	MRI machines	199
14.9.1.4.1	Increasing MRI complexity to accelerate adoption of FPGA for real-time processing and enhanced image quality	199
14.9.2	WEARABLE DEVICES	199
14.9.2.1	Growing integration of multi-sensor platforms to support growth	199
14.9.3	OTHERS	200
14.10	MULTIMEDIA	200

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

14.10.1	AUDIO DEVICES	202
14.10.1.1	Increasing consumer demand for high-fidelity audio to drive FPGA deployment across professional and consumer electronics	202
14.10.2	VIDEO PROCESSING	202
14.10.2.1	Growing demand for multi-format video processing to drive market	202
14.11	BROADCASTING	203
14.11.1	BROADCASTING PLATFORM SYSTEMS	205
14.11.1.1	High adoption of FPGAs due to their hardware acceleration ability	205
14.11.2	HIGH-END BROADCASTING SYSTEMS	205
14.11.2.1	Growing need for adaptive video processing and multi-format compatibility to drive demand	205
15	FPGA MARKET, BY REGION	206
15.1	INTRODUCTION	207
15.2	NORTH AMERICA	208
15.2.1	US	223
15.2.1.1	Rising defense modernization and strategic military spending to drive market	223
15.2.2	CANADA	224
15.2.2.1	Strategic partnerships and telecom expansion to drive market	224
15.2.3	MEXICO	225
15.2.3.1	Expansion of high-tech manufacturing and localized supply chains to drive market	225
15.3	EUROPE	226
15.3.1	GERMANY	240
15.3.1.1	Electric vehicle expansion and automotive innovation to drive market	240
15.3.2	UK	241
15.3.2.1	Government-led semiconductor investments and data center expansion to drive market	241
15.3.3	FRANCE	242
15.3.3.1	Strategic eFPGA deployments to fuel aerospace and defense technology to drive market	242
15.3.4	ITALY	243
15.3.4.1	Strategic semiconductor investments to drive market	243
15.3.5	REST OF EUROPE	244
15.4	ASIA PACIFIC	244
15.4.1	CHINA	258
15.4.1.1	Large-scale investments in semiconductor manufacturing to drive market	258
15.4.2	JAPAN	259
15.4.2.1	Shift toward smart factories to drive market	259
15.4.3	INDIA	260
15.4.3.1	Digital transformation and 5G rollout to drive market	260
15.4.4	SOUTH KOREA	261
15.4.4.1	Expanding digital economy and high-performance computing needs to drive market	261
15.4.5	REST OF ASIA PACIFIC	262
15.5	REST OF THE WORLD (ROW)	263
15.5.1	SOUTH AMERICA	277
15.5.1.1	Surging demand for cloud computing and edge AI applications to drive market	277
15.5.2	GULF COOPERATION COUNCIL (GCC)	278
15.5.2.1	Strategic partnerships in semiconductor design to drive market	278
15.5.3	REST OF MIDDLE EAST & AFRICA	279
16	COMPETITIVE LANDSCAPE	280
16.1	OVERVIEW	280

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

16.2	KEY PLAYER STRATEGIES/RIGHT TO WIN, 2021-2025	280
16.3	REVENUE ANALYSIS, 2021-2024	283
16.4	MARKET SHARE ANALYSIS, 2024	284
16.5	COMPANY VALUATION AND FINANCIAL METRICS	287
16.6	BRAND/PRODUCT COMPARISON	288
16.7	COMPANY EVALUATION MATRIX FOR FPGA: KEY PLAYERS, 2024	289
16.7.1	STARS	289
16.7.2	EMERGING LEADERS	289
16.7.3	PERVASIVE PLAYERS	289
16.7.4	PARTICIPANTS	289
16.7.5	COMPANY FOOTPRINT: KEY PLAYERS, 2024	291
16.7.5.1	Company footprint	291
16.7.5.2	Regional footprint	292
16.7.5.3	Configuration footprint	293
16.7.5.4	Node size footprint	294
16.7.5.5	Technology footprint	295
16.7.5.6	Vertical footprint	296
16.8	COMPANY EVALUATION MATRIX FOR FPGA: STARTUPS/SMES, 2024	297
16.8.1	PROGRESSIVE COMPANIES	297
16.8.2	RESPONSIVE COMPANIES	297
16.8.3	DYNAMIC COMPANIES	297
16.8.4	STARTING BLOCKS	297
16.8.5	COMPETITIVE BENCHMARKING: STARTUPS/SMES, 2024	299
16.8.5.1	List of key startups/SMEs	299
16.8.5.2	Competitive benchmarking of key startups/SMEs (1/2)	299
16.8.5.3	Competitive benchmarking of key startups/SMEs (2/2)	300
16.9	COMPETITIVE SCENARIO	300
16.9.1	PRODUCT LAUNCHES	300
16.9.2	DEALS	302
17	COMPANY PROFILES	304
17.1	KEY PLAYERS	304
17.1.1	ADVANCED MICRO DEVICES, INC.	304
17.1.1.1	Business overview	304
17.1.1.2	Products offered	305
17.1.1.3	Recent developments	308
17.1.1.3.1	Product launches	308
17.1.1.3.2	Deals	309
17.1.1.4	MnM view	310
17.1.1.4.1	Key strengths	310
17.1.1.4.2	Strategic choices	310
17.1.1.4.3	Weaknesses and competitive threats	310
17.1.2	ALTERA CORPORATION	311
17.1.2.1	Business overview	311
17.1.2.2	Products offered	312
17.1.2.3	Recent developments	315
17.1.2.3.1	Product launches	315
17.1.2.3.2	Deals	316

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

17.1.2.3.3	Expansions	318
17.1.2.3.4	Other developments	318
17.1.2.4	MnM view	319
17.1.2.4.1	Key strengths	319
17.1.2.4.2	Strategic choices	320
17.1.2.4.3	Weaknesses and competitive threats	320
17.1.3	MICROCHIP TECHNOLOGY INC.	321
17.1.3.1	Business overview	321
17.1.3.2	Products offered	322
17.1.3.3	Recent developments	325
17.1.3.3.1	Product launches	325
17.1.3.3.2	Deals	326
17.1.3.3.3	Expansions	327
17.1.3.3.4	Other developments	328
17.1.3.4	MnM view	329
17.1.3.4.1	Key strengths	329
17.1.3.4.2	Strategic choices	329
17.1.3.4.3	Weaknesses and competitive threats	329
17.1.4	LATTICE SEMICONDUCTOR CORPORATION	330
17.1.4.1	Business overview	330
17.1.4.2	Products offered	331
17.1.4.3	Recent developments	334
17.1.4.3.1	Product launches	334
17.1.4.3.2	Deals	336
17.1.4.3.3	Other developments	337
17.1.4.4	MnM view	338
17.1.4.4.1	Key strengths	338
17.1.4.4.2	Strategic choices	339
17.1.4.4.3	Weaknesses and competitive threats	339
17.1.5	ACHRONIX SEMICONDUCTOR CORPORATION	340
17.1.5.1	Business overview	340
17.1.5.2	Products offered	340
17.1.5.3	Recent developments	341
17.1.5.3.1	Product launches	341
17.1.5.3.2	Deals	341
17.1.5.3.3	Other developments	343
17.1.5.4	MnM view	344
17.1.5.4.1	Key strengths	344
17.1.5.4.2	Strategic choices	344
17.1.5.4.3	Weaknesses and competitive threats	344
17.1.6	QUICKLOGIC CORPORATION	345
17.1.6.1	Business overview	345
17.1.6.2	Products offered	346
17.1.6.3	Recent developments	348
17.1.6.3.1	Product launches	348
17.1.6.3.2	Deals	349
17.1.6.3.3	Other developments	352

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

17.1.7	EFINIX, INC.	353
17.1.7.1	Business overview	353
17.1.7.2	Products offered	354
17.1.7.3	Recent developments	355
17.1.7.3.1	Product launches	355
17.1.7.3.2	Deals	357
17.1.8	SHENZHEN PANGO MICROSYSTEMS CO., LTD.	358
17.1.8.1	Business overview	358
17.1.8.2	Products offered	359
17.1.9	GOWIN SEMICONDUCTOR CORP.	360
17.1.9.1	Business overview	360
17.1.9.2	Products offered	360
17.1.9.3	Recent developments	361
17.1.9.3.1	Product launches	361
17.1.9.3.2	Deals	362
17.1.10	RENESAS ELECTRONICS CORPORATION	363
17.1.10.1	Business overview	363
17.1.10.2	Products offered	364
17.1.10.3	Recent developments	365
17.1.10.3.1	Product launches	365
17.1.10.3.2	Deals	365
17.2	OTHER PLAYERS	366
17.2.1	AGM MICRO	366
17.2.2	SHANGHAI ANALOGIC INFOTECH CO., LTD.	367
17.2.3	HERCULES MICROELECTRONICS INC.	368
17.2.4	XI'AN ZHIDUOJING MICROELECTRONICS CO., LTD.	369
17.2.5	NANOXPLORE	370
17.2.6	COLOGNE CHIP AG	371
17.2.7	LEAFLABS, LLC	372
17.2.8	LOGIC FRUIT TECHNOLOGIES PRIVATE LIMITED	373
17.2.9	RAPID SILICON	374
17.2.10	ZERO ASIC	375
17.2.11	ADICSYS	376
17.2.12	RAPID FLEX	377
17.2.13	MENTA	378
17.2.14	SARACA SOLUTIONS PRIVATE LIMITED	379
17.2.15	BYTESNAP DESIGN	380
18	APPENDIX	381
18.1	DISCUSSION GUIDE	381
18.2	KNOWLEDGESTORE: MARKETSandMARKETS' SUBSCRIPTION PORTAL	385
18.3	CUSTOMIZATION OPTIONS	387
18.4	RELATED REPORTS	387
18.5	AUTHOR DETAILS	388

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com

Field-Programmable Gate Array (FPGA) Market by Configuration (Low-end FPGA, Mid-range FPGA, High-end FPGA), Technology (SRAM, Flash, Antifuse), Node Size (<16 nm, 20-90 nm, >90 nm), Vertical (Telecom, Data Center) and Region - Global Forecast to 2030

Market Report | 2025-10-27 | 389 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

2026-03-08

Signature

Scotts International. EU Vat number: PL 6772247784

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

www.scotts-international.com