

Market Snapshot

Global FPGA security market is expected to surpass a valuation of USD 3,700 million by 2025 up from USD 1,670.3 million in 2017, reflecting a double-digit CAGR. In the years to come, market opportunities are likely to arise from IT & Telecom, consumer electronics, and automotive. Demand for FPGA security has spiralled up on account of the rising deployment of FPGAs across the telecommunication sector for bandwidth expansion and to meet the evolving data speed requirements. FPGAs are viewed as superior alternative too ASICs; this is driving FPGA adoption in smartphones, mobile devices and wearables. However, issues pertaining to security in FPGAs remains a formidable hinderance for the market.

Global FPGA Market, By Region

Asia-Pacific will spearhead the global FPGA security market during the forecast period. In 2018, the market in Asia-Pacific was valued at USD 658.9 million is expected to grow at a CAGR of 11.10% during the forecast period. Presence of a robust semiconductor industry in the region is a major force driving the market growth in Asia-Pacific. Emergence of China as a major manufacturing hub for electronic products has been a favorable factor for Asia-Pacific FPGA security market. In addition, rapid development of data centers across Asia-Pacific is reflecting favorably on the market.

Companies Covered


The FPGA security market is highly competitive and is characterized by a large number of vendors operating on domestic, region and global level. To remain competitive, market players are focusing on providing cost-effective components and value-added services.

The report covers the development strategies adopted by the companies between 2015 to 2018.

Key Development

- Xilinx has recently partnered with Baidu to develop and edge acceleration computing solution—EdgeBoard focused towards smart video security surveillance, advanced driver assistance systems, and next-generation robots.
- Microsemi, a subsidiary of Microchip Technology, collaborated with SiFive to incorporate multi-core coherent RISC-V processors to its PolarFire FPGA family.
- In August 2018, Achronix partnered with Mentor, a Siemens business, for its FPGA technology products. This partnership is expected to enable the designers to quickly switch from C++ to FPGA using Mentor's Catapult HLS and Achronix's ACE design tools.
Market Segmentation

By Configuration - Low-End FPGA, Mid-Range FPGA, High-End FPGA

By Node Size - Less Than 28 nm, 28-90 nm and more than 90 nm

By Technology - SRAM, Flash and Antifuse

By Application - FPGA Synthesis Flow (HDL Level IP Theft and Tampering, Synthesis Level IP Theft and Tampering, Bitstream Level IP theft and Tempering), Applied Cryptography (Side Channel Attacks, Fault Injection Attacks and Physical Attacks), Algorithmic Cryptographic Security and others.

Configuration Analysis

The low-end segment was valued at USD 762.6 million in 2018 and is projected to grow at 9.39% CAGR during the forecast period. Low-end FPGAs are specially designed to offer low power consumption, low density, and low complexity per chip. Preference for low-end FPGAs is high owing to their high reconfiguration ability and compatibility with high-performance accelerator. The demand for low-end FPGAs is concentrated in sectors such as military and automotive.

Node Size Analysis

In 2018, the 28-90nm segment was valued at USD 914.4 million and is projected to post a CAGR of 10.61% during the forecast period. The 40 nm, 65-nm, and most recent 45-nm node offer several functional benefits which enable more proficient usage of smaller physical space in semiconductors. They also allow to achieve a higher degree of semiconductor performance.

Technology Analysis

The SRAM segment was valued at USD 693.1 million and is likely to grow at 9.77% CAGR during the projection period. SRAM is the go-to technology as it offers re-programmability. SRAM technology is increasingly preferred over SRAM technology owing to its superior features. In addition, design simplicity and low power consumption are other attractive features of SRAM.

Application Analysis

In 2017, the FPGA synthesis flow segment was valued at USD 607.8 million and is expected to maintain its dominant position throughout the forecast period. This is attributed to the widespread application of FPGA synthesis in optimization of semiconductors.

Key questions addressed by the report

• Which applications/segments provides the maximum growth opportunity?
• What are the emerging technologies and how it would disrupt the market?
• Who are the key players dominating the market, followed by other prominent vendors and strategies adopted by them?
• What was the market size and what would be the forecast in next few years?
• Regional and country attractiveness: mid to long term outlook?
• Market dynamics including trends, opportunities, drivers, challenges and how this would impact the market ecosystem?
GLOBAL FPGA SECURITY MARKET

The FPGA security market is estimated to reach USD 3,741.3 million in 2025. China accounted for the largest market share of 36.75% in 2017.

**Drivers**
- Need to increase the network bandwidth across the telecommunication sector
- Efficiency of FPGAs over ASICs

**Restraints**
- Security concerns with FPGAs

**Key Players**

![Xilinx](image1.png) ![Lattice](image2.png) ![Intel](image3.png) ![Microchip](image4.png) ![Texas Instruments](image5.png)

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