

Programmable logic ICs -- Markets Reach \$9.6 Billion By 2016

LEXINGTON, Massachusetts (September 22, 2010) – WinterGreen Research announces that it has a new study on Programmable Logic ICs Market Shares and Forecasts, Worldwide, 2010-2016. The 2010 study has 287 pages, 148 tables and figures.

Programmable logic vendors are able to address an increasing number of ASIC and ASSP opportunities. As ASICs and ASSPs are displaced by FPGAs a significant market opportunity opens.

Competitive factors in the logic IC industry include product pricing, time-to-market, product performance, reliability, quality, power consumption and density, and field upgradability. Portable electronics are experiencing rapid growth. Segments include consumer, medical, industrial, and military.

Programmable logic IC markets are driven by the benefits of added convenience and increased productivity. Portable electronic design is becoming more challenging as product revisions require more advanced feature function packages. Improved performance is needed to achieve competitive advantage.

Programmable logic ICs decrease power consumption. Demand for longer battery life is increasing. Demands for improvements in the portable electronics markets include need for low active and static power consumption, small footprint packages, design security, higher integration, and live at power-up. The principal competitive factors in the PLD market include demand for broadband applications and broadband enabled devices. :

Altera Stratix IV family has been the fastest ramping FPGA product in the history of the PLD industry. Customer familiarity with existing vendors and entrenched products are compelling market forces. Vendors position to compete favorably with respect to these factors. Proprietary device architecture and installed base of software development systems provides competitive advantage. Due to unique architectural innovation and advanced technologies, product families provide varying degrees of competitive advantage.



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Market leaders provide greater functionality and lower power consumption at a lower price for any given density compared to the predecessor products. Newer product features such as multi-gigabit transceivers and programmable power technology have enhanced our design win rate relative to other PLD vendors.

New product families are positioned to compete favorably against ASICs and ASSPs. Programmable logic ICs are positioned to compete against other types of chips such as microcontrollers, microprocessors, and digital signal processors.

Designers can add functionality of chips. Features can be added to PLDs using pre-built and pre-verified IP cores. An IP core is typically offered in either a hard or soft form. A hard IP core is embedded into the actual circuitry of chips. A soft IP core is a licensed design file that customers incorporate into their design and program onto the PLD.

By incorporating more functionality and logic capacity on a programmable chip while providing the necessary design tools and IP cores to design a reliable system, programmable logic vendors can enhance the advantages of PLDs over competing solutions.

As is true of the semiconductor industry as a whole, the digital logic segment and the PLD sub-segment are intensely competitive, and each successive product generation is characterized by rapid technological change and price decline.

Programmable logic devices (PLDs) are semiconductor logic blocks that can be programmed after they are manufactured. The most common PLDs are Field-Programmable Gate Array (FPGAs).

Programmable logic integrated circuit markets are poised to achieve significant growth because the programmable units have an opportunity to achieve ASIC and ASSC market segment penetration. With increasingly shortened product cycles and higher costs to develop a component, the programmable logic components become an attractive alternative to the more rigid semiconductor devices.

The “process technology gap” between PLDs and ASIC and ASSP alternatives will increase over time and, when combined with the traditional PLD advantages of greater flexibility, lower development cost, and faster time-to-market, should drive the accelerated adoption of PLDs.



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A decline in programmable logic semiconductor product selling prices has increased the opportunity for growth in the market with programmable units becoming more competitive with the ASIC devices as the total costs of development is considered. As the selling prices of products have decreased over time, vendors have been able to offset the selling price decreases by reducing manufacturing costs, improving yields, and increasing unit sales.

Ongoing efforts to keep pace with the decline in prices is a significant market factor. Revenues and gross margins are a matter of constant concern in the industry. International sales account for a majority of total sales

Markets for programmable logic integrated circuit ICs at \$3.5 billion in 2009 are anticipated to reach \$9.6 billion by 2016, due in part to the demand for flexible devices to meet Internet and broadband opportunities.

Broadband market driving forces are articulated in part through the Internet on Ethernet networks. There are 2.5 billion Internet users. Wireless handsets are connecting to the broadband networks. There are 157 million broadband wireless handset users, out of a total 4.7 billion total wireless handset users. Cell phones have changed the world forever, they are inexpensive, affordable to almost every person on earth. Broadband is bringing the Internet to cell phones. Programmable logic ICs support broadband roll out.

According to Susan Eustis, President of WinterGreen Research, “Worldwide broadband markets are poised to achieve significant growth as broadband finds new uses and leverages existing ones. Costs of broadband devices are expected to decrease rapidly in response to the continuing economies of scale. Markets for Programmable logic ICs are compelling due to their innovation and flexibility”



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