Boeing Defense, Space & Security Licenses Flex Logix's Embedded Field-Programmable Gate Array On GLOBALFOUNDRIES 14nm Process

EFLX4K eFPGA Now Available in a US Fab for Domestic Aerospace Customers

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Flex Logix Technologies, Inc. →
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MOUNTAIN VIEW, Calif., Sept. 24, 2018 /PRNewswire/ -- Addressing the US aerospace industry's growing need for embedded field-programmable gate arrays (eFPGAs), Flex Logix® Technologies, Inc., announced today that its EFLX®4K Logic and DSP eFPGA IP cores are now in design for the 14nm process on GLOBALFOUNDRIES' wafer fabrication facility in Malta, New York. Boeing is the first company to license the EFLX4K eFPGA cores on GF's advanced 14nm foundry process, which will also be available for commercial applications.

eFPGA for Aerospace Applications

Aerospace systems today are major users of FPGAs for flexibility and reconfigurability to allow for customization and real-time updating of protocols and algorithms. EFLX eFPGA allows aerospace systems to be smaller, lighter and lower power by integrating the FPGA into the Application Specific Integrated Circuit/System-on-a-Chip (ASIC/SoC). eFPGA can also be ported to any fab so manufacturing can be in a location preferable to the aerospace company. The technology can even be radiation-hardened if it is designed using a rad-hard standard cell library.

"Having eFPGA available on our advanced 14LPP process technology will enable Boeing and other aerospace companies to gain key competitive advantages in their chip designs," said Mike Cadigan, senior vice president of global sales at GF. "We believe eFPGA is a major innovation in the industry and are pleased to partner with Flex Logix to bring this technology into volume production."

"We are proud to work with GF to support Boeing, who extensively evaluated Flex Logix's technology," said Geoff Tate, CEO of Flex Logix. "eFPGA can deliver significant improvements in performance, power and reconfigurability. Now that the EFLX4K is offered from a US fab on an advanced node, our customers can move forward with confidence and reap the rewards this technology offers for projects that require US fabrication."

This EFLX4K implements Flex Logix's second-generation Gen2 architecture which is also available in other foundries/process nodes and is 100 percent compatible with the existing EFLX compiler, including the new GUI modules.

The EFLX4K Logic IP core has 4K 4-input-equivalent-LUTs, 632 inputs and 632 outputs and is a complete eFPGA. The EFLX4K DSP IP core replaces about ¼ of the LUTs with 40 multiplier-accumulators for DSP and artificial intelligence (AI) applications. The two EFLX4K cores can be tiled together to make larger arrays to support applications needing more LUTs as required, up to 7x7 with any mix of Logic and DSP cores.

EFLX can be ported to any complementary metal–oxide–semiconductor (CMOS) process either at a commercial foundry or organizations with their own fabs. EFLX is a digital architecture for development of embedded FPGAs for integration into SoCs, ASICs and microcontroller units (MCUs) of a wide range of sizes. The EFLX arrays are programmed using VHDL or Verilog; and the EFLX compiler takes the output of a synthesis tool such as Synopsys Synplify and does packing, placement, routing, timing and bitstream generation. The bitstream, when loaded into the array, programs it to execute the desired RTL.

About Flex Logix

Flex Logix, founded in March 2014, provides solutions for reconfigurable RTL in chip and system designs using embedded FPGA IP cores and software. The company's technology platform delivers significant customer benefits by dramatically reducing design and manufacturing risks, accelerating technology roadmaps, and bringing greater flexibility to customers' hardware by

enabling customization and real-time updating of protocols and algorithms, etc. Flex Logix has raised more than $13 million of venture capital. Its EFLX eFPGA has now been ported to process nodes from 180nm to FinFet across multiple fabs and is in use by multiple customers in a wide range of applications. The company is headquartered in Mountain View, California and has sales rep offices in China, Europe, Israel, Japan, Taiwan and Texas. More information can be obtained at http://www.flex-logix.com or follow on Twitter at @efpga.

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