Socionext Licenses Flex Logix's Embedded FPGA (eFPGA) For 5G Wireless Base Station Platform

Flex Logix Technologies, Inc.
Jun 21, 2021, 08:30 ET

MOUNTAIN VIEW, Calif., June 21, 2021 /PRNewswire/ -- Flex Logix® Technologies, Inc. announced today that it has entered into a license agreement with Socionext, Inc. to use Flex Logix's EFLX® 4K eFPGA in a 7nm ASIC being developed for a major communication company's 5G platform. By leveraging eFPGA, Socionext can deliver a reprogrammable ASIC that can be reconfigured after tape-out to adapt to new requirements and changing standards and protocols as needed.

By integrating the FPGA, Socionext can improve performance and reduce power by eliminating one chip in the base station. This also delivers personalization benefits to carriers who no longer need to share their proprietary software with the ASIC provider in order to have it added to the FPGA.

"While wireless base stations have always used FPGAs to provide carrier personalization and upgradability, the demands of 5G require higher performance while reducing system power and cost," said Yutaka Hayashi, Vice President of Socionext's Data Center and Networking Business Unit. "This can be achieved by using an ASIC solution and by leveraging Flex Logix's eFPGA in that design. Now that the ASIC becomes reconfigurable, it enables our wireless customers to deliver a flexible 5G platform that can support carrier specific requirements today and in the future."

"With a continuing need for more performance through hardware acceleration and lowering system power and cost, we're seeing growing need for RTL reconfigurability within ASICs to support end-user specific customization and acceleration," said Geoff Tate, CEO of Flex Logix. "Wireless base stations in particular are perfectly suited to take advantage of this flexibility. We look forward to working with Socionext to help them deliver a highly adaptable and future-proof solution for their customer."

EFLX is a digital architecture for development of embedded FPGAs for integration into SoCs, ASICs and MCUs of a wide range of sizes. 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, well over 250,000 LUTs with any mix of Logic and DSP cores.

The EFLX arrays are programmed using Verilog or VHDL; 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 Socionext
Socionext is a global, innovative enterprise that designs, develops and delivers System-on-Chip solutions to customers worldwide. The company is focused on technologies that drive today's leading-edge applications in consumer, automotive and industrial markets. Socionext combines world-class expertise, experience, and an extensive IP portfolio to provide exceptional solutions and ensure a better quality of experience for customers. Founded in 2015, Socionext Inc. is headquartered in Yokohama, and has offices in Japan, Asia, United States and Europe to lead its product development and sales activities. For more information, visit https://www.socionext.com.

About Flex Logix
Flex Logix is a reconfigurable computing company providing AI inference and eFPGA solutions based on software, systems and silicon. Its InferX X1 is the industry's fastest and most-efficient AI edge inference accelerator that will bring AI to the masses in high-volume applications by providing much higher inference throughput per dollar and per watt. Flex Logix's eFPGA platform enables chips to flexibly handle changing protocols, standards, algorithms, and customer needs and to implement reconfigurable accelerators that speed key workloads 30-100x compared to processors. Flex Logix is headquartered in Mountain View, California with offices as well in Austin, Texas. For more information, visit https://flex-logix.com.

PRESS CONTACT:
Kelly Karr
Tanis Communications, Inc.
kelly.karr@taniscomm.com
+408-718-9350