



## SK Telecom Deploys Xilinx FPGAs for AI Acceleration, Achieves 5X Performance/16X Performance-per-watt over GPUs

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SAN JOSE, Calif. and SEOUL, South Korea, Aug. 15, 2018 /PRNewswire/ -- Xilinx, Inc. (NASDAQ: XLNX) and SK Telecom (SKT) today jointly announced that SKT has deployed Xilinx® FPGAs as their artificial intelligence (AI) accelerators in its data center. The Xilinx® Kintex® UltraScale™ FPGAs are now running SKT's automatic speech-recognition (ASR) application to accelerate NUGU, its voice-activated assistant. SKT achieved up to five times higher performance in ASR applications when compared to GPUs, and more importantly, 16 times better performance-per-watt. This is the first commercial adoption of FPGA accelerators in the AI domain for large-scale data centers in South Korea.



The FPGA-based accelerator lowers the total cost of ownership (TCO) of ASR application servers by populating existing CPU-only servers with efficient Xilinx FPGA add-in cards. The ASR servers easily and simply accelerate multiple voice service channels with Xilinx FPGA cards in their empty slots. One FPGA card provides more than five times the performance of a single server, resulting in substantial cost savings. This performance and TCO advantage benefits SK Telecom and its customers.

"Over many years we have seen the shape of the industry evolve, and we are proud to be at the forefront of developing AI accelerators. By designing our solution based on the Xilinx KCU1500 board and our own bitstream image, we have developed a cost-effective, high-performance application," said Kang-Won Lee, senior vice president, software research and development center at SKT.

The adaptive nature of Xilinx FPGAs enables fast deployment of custom hardware accelerators for the rapidly evolving field of AI and deep learning. Moreover, FPGAs provide higher performance and lower latency at lower power when compared to CPUs and GPUs. SK Telecom joins a fast-growing list of high-profile commercial data centers that have deployed FPGAs for compute acceleration.

"We are delighted to have the opportunity to deploy Xilinx FPGAs to SKT's AI data center, a first in South Korea," said Manish Muthal, vice president, marketing for data center at Xilinx. "Xilinx Kintex UltraScale KCU1500 FPGAs show that Xilinx has a major competitive edge in applications. Xilinx will continue to focus its technological capabilities and innovations on data center acceleration."

SKT plans to demonstrate its FPGA-based AI solution at the [Xilinx Developer Forum \(XDF\)](#) being held in Silicon Valley on October 1-2, and in Beijing on October 16.

### About SK Telecom

Established in 1984, SK Telecom is the largest mobile operator in Korea by both revenue and number of subscribers. As of December 2017, the company holds around 50 percent of the market, with 30.2 million mobile subscribers including 22.87 million LTE subscribers. It has reached KRW 17.520 trillion in revenue in 2017. SK Telecom has led the advancement of mobile technologies ranging from 2G to 4G, and is currently setting important milestones in its journey to 5G. The company is not only leading innovation in the field of mobile network, but also providing IoT, media, home and platform services. SK Telecom is determined to play a significant role in the Fourth Industrial Revolution by achieving innovations and promoting shared growth with other players in the industry. For more information visit [www.globalskt.com](http://www.globalskt.com).

### About Xilinx

Xilinx develops highly flexible and adaptive processing platforms that enable rapid innovation across a variety of technologies – from the endpoint to the edge to the cloud. Xilinx is the inventor of the FPGA, hardware programmable SoCs and the ACAP, designed to deliver the most dynamic processor technology in the industry and enable the adaptable, intelligent and connected world of the future. For more information, visit [www.xilinx.com](http://www.xilinx.com).

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