Using Intel® FPGAs for Real-Time Image Processing in High-Performance Industrial Cameras

Hamamatsu Photonics is a leader in light-based technologies. As Hamamatsu developed the ORCA-Quest scientific camera along with a new X-ray food inspection camera, they worked to meet high-performance, low-cost requirements. Hamamatsu's cameras demanded extensive digital signal processing (DSP) that could be implemented with conventional processors and required remarkably high bandwidth to handle the substantial data generated by sensors. Hamamatsu turned to Intel® FPGAs for a unique solution that offered several advantages. Intel FPGAs consisted of rich DSP resources capable of performance that was orders of magnitude higher than software-based processors. In addition, Intel FPGAs also had flexible and configurable banks of multi-gigabit transceiver I/O to meet extreme bandwidth demands and the flexibility of the FPGA logic fabric enabled integration of many system functions into a single device, which reduced cost, printed circuit board (PCB) space, and power consumption.

Products and Solutions
Intel® Arria® 10 GX FPGA
Intel® Cyclone® 10 FPGA

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Appliances, Electrical, and Electronics Manufacturing

Organization Size
10,001+

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