Gidel Launches Customizable, Ready-to-Use FPGA Framework for Multi-Camera/Sensor and Multi-Processing Vision Systems

InfiniVision capable of grabbing and real-time image processing from multiple inputs simultaneously.

Santa Clara, California, and Or-Akiva, Israel, 6 November 2018 – Gidel, a technology leader in cutting-edge Vision and Imaging solutions based on FPGAs, today announced the formal launch of InfiniVision, an innovative, customizable, FPGA-based framework. InfiniVision provides an all-encompassing solution to the fundamental challenges posed by multi-camera/sensor and multi-processing Vision systems by taking advantage of the reconfigurable nature of FPGAs and their inherent capability to perform ultra-high-speed parallel processing.

The InfiniVision™ system was developed to provide a powerful and flexible framework that addresses the core challenges of a multi-camera, multi-sensor system — mainly the capacity for high speed acquisition, synchronization, real-time image processing, and efficient data storage, recording, and playback. InfiniVision is outstanding in its flexibility to customize the camera interface, acquisition flow, and data offloading.

"At the heart of the InfiniVision innovation is the ability to capture on-the-fly image data of varying sizes and to process and compress it in real time," said Ofer Pravda, VP Marketing & Sales, Gidel. This capability is a key feature for efficient data offloading and storing. InfiniVision can synchronize between as many as 100 cameras/sensors in order to construct multi-dimensional images via stitching or other methodologies.

Gidel's InfiniVision concept provides a multi-layered solution that enables the implementation of complex multi-camera/sensor systems within a remarkably short time span, and at the same time delivers the flexibility to dynamically evolve with changing requirements. The advantages of InfiniVision are evident in its innovative framework solution, which integrates a number of features that are pivotal for a multi-camera/sensor Vision system. The multi-layer solution includes:

1. **Ready-to-use multi-camera frame grabbing and image processing flow with an offload engine to the host computer.** This first level provides the foundation infrastructure to quickly set up the basic acquisition flow.
2. **Gidel field-tested ISPs and data control IP blocks.** This second level provides building blocks for implementing immediate functionality such as compression and encryption.

3. **Customization of interface, protocol, data flow, and image processing.** This third level provides the ability to tailor the system by adding user ISP or other blocks, customizing the acquisition and processing flow, customizing data transmission protocol, etc.

The entire development flow is supported by Gidel's ProcWizard development application, which is designed to facilitate and accelerate development on FPGAs. The ProcWizard application is simple and intuitive, automatically generating the FPGA envelope code and the interface to the host computer. ProcWizard also generates the software driver for the user's application.

InfiniVision is the byproduct of Gidel's vast experience in both FPGA technology and implementation of Vision and Imaging algorithms. The InfiniVision concept incorporates years of valuable accumulated knowledge that has been derived from intimate collaboration with Gidel's many Vision clients.

"Emerging markets within the Vision industry are founded on the use of multiple cameras and sensors, including AR, VR, autonomous cars, the movie industry, homeland security, and mapping," explains Reuven Weintraub, Founder and CTO, Gidel. "These markets are dynamic and creative, continuously exploring new ideas and pushing Vision technology to its limits. As such, these markets require technological infrastructure that is powerful, flexible, and easy-to-use, and that can evolve easily to next-generation requirements."

The InfiniVision framework offers abundant, powerful, and ready-to-use infrastructure, as well as virtually unlimited flexibility supported by efficient development tools. InfiniVision thus ensures a quick start on multi-camera/sensor development tasks and an accelerated development cycle. By virtue of utilizing InfiniVision, Gidel's partners have managed to complete their system development within just a few months, compared to more than a year's time initially allocated for such a project.

Visit Gidel at stand 1|11 at VISION in Stuttgart, Germany from 6–8 November for a demo of XXXXXXXXX.

About Gidel

For 25 years, Gidel has been a technology leader in high performance, innovative, FPGA-based accelerators. Gidel's reconfigurable platforms and development tools have been used for optimal application tailoring and for reducing the time and cost of project development. Gidel's dedicated support and its products' performance, ease-of-use, and long-life cycles have been well appreciated by satisfied customers in diverse markets who continuously use Gidel's products, generation after generation. For more information visit www.gidel.com.

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