

EXALOS and YellowSys team up with Agilent Technologies' High-Speed Data Acquisition team to offer high-performance real-time swept source OCT engines

SPIE Photonics West conference, The Moscone Center San Francisco, Calif., Feb 4, 2014 – EXALOS AG (Switzerland) today announced that it has teamed up with the high-speed data acquisition team of Agilent Technologies and with the software/firmware team of YellowSys to offer real-time engines for swept source optical coherence tomography (SS-OCT) applications. This SS-OCT engine is an integral system containing a compact swept source module, an FPGA-based data acquisition (DAQ) card in a host PC, and proprietary software that enables real-time OCT signal acquisition, processing, and k-space remapping at an A-scan rate as high as 100 kHz currently.

For research and development, EXALOS is offering a compact PC console containing a miniature OEM swept source, an optical interferometer with an adjustable reference arm, a high-performance low-noise balanced receiver, and a low-speed DAQ card for controlling an external scanner. This real-time SS-OCT engine is on display in a live demo at the EXALOS booth of the SPIE Photonics West conference.

The FPGA code, the firmware and software of the SS-OCT engine is delivered by YellowSys who is offering the code as a stand-alone IP core, in combination with an application programming interface (API). YellowSys specializes in customized data acquisition solutions, including adaptations of firmware and software to custom electronics.

“The collaboration with YellowSys and Agilent Technologies allows us to offer real-time SS-OCT solutions to a wider range of customers”, says Dr. Marcus Duelk, CTO of EXALOS. “We are focusing on our core competencies to deliver high-performance broadband light sources and optical sub-systems. Customers can purchase state-of-the-art DAQ cards from Agilent for their OCT systems and have the option to upgrade the card to a real-time SS-OCT engine later on. They can also integrate the existing core of the engine into their own real-time processing environment and into their own software platform, if desired”, says Duelk.

“It’s key to Agilent High-Speed Data Acquisition team to be able to collaborate with companies like EXALOS that are at the top of complementary technologies”, says Didier Lavanchy, operation manager for Agilent's high-speed digitizers group. “With our PCIe card allowing custom signal processing, EXALOS will be able to offer a real-time FPGA-based swept source engine dedicated to high-performance SS-OCT systems. We are looking forward to serving the OCT community and markets.”

About EXALOS

EXALOS is the leading supplier of semiconductor-based broadband light sources in the visible and near-infrared wavelength regime. In particular, it has provided for more than ten years superluminescent diodes (SLEDs) to SD-OCT system manufacturers. EXALOS is also offering high-performance and cost-efficient swept sources for emerging SS-OCT applications at wavelengths from 840 nm to 1600 nm in a compact, 3.5-inch HDD form factor that can be mounted inside a PC. In addition, EXALOS is offering lowest-noise balanced receivers and real-time SS-OCT engines to enable long-range imaging. More information is available at www.exalos.com.

About YellowSys

YellowSys is based near Geneva, Switzerland, and is focused on customer-specific firmware and software solutions for real-time and high-speed data acquisition electronics. YellowSys provides IP cores and APIs for FPGA-based processing engines. More information is available at www.yellowsys.com.

About Agilent High-Speed Data Acquisition team

Agilent High-Speed Data Acquisition team is based in Geneva, Switzerland. It concentrates on developing the most effective and reliable analog-to-digital conversion technology at high resolution and fast sampling rates. Beside hardware, on-board processing and interoperable software are key assets released by the team. More information about this division of Agilent is available at high-speed-digitizer.tm.agilent.com.

About Agilent Technologies

Agilent Technologies Inc. (NYSE: A) is the world's premier measurement company and a technology leader in chemical analysis, life sciences, diagnostics, electronics and communications. The company's 20,500 employees serve customers in more than 100 countries. Agilent had net revenues of \$6.9 billion in fiscal 2012. Information about Agilent is available at www.agilent.com.

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