

Press Information

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VPIlabExpert™

Bridging the Gap between Simulations and Experiments

VPIphotonics announces new product providing advanced signal processing and analysis functions to lab environments; live demonstrations at ECOC 2014

VPIphotonics is pleased to announce with *VPIlabExpert* a new product addressing the specific requirements of experimentalists for data pre- & post-processing and signal analysis functions for optical communications.

VPIlabExpert seamlessly integrates with VPIphotonics' market-leading photonic components and systems design suite *VPItransmissionMaker* & *VPIcomponentMaker*, and thus, allows bringing new technology and design concepts developed in a simulation environment into the lab for verification and further development. *VPIlabExpert* comes with a set of interface modules for automatic signal conversion and transfer between simulation software and lab equipment. It is flexible enough to allow user-specific requirements as well as new equipment to be added.

For instance, this makes it possible to generate complex electrical signals and pass them to an Arbitrary Waveform Generator (AWG) for transmission. After propagation over the fiber network and detection, the signal can be captured by a real-time or sampling scope and processed using VPIphotonics' powerful signal decoding and performance analysis functions.

More detailed, important applications comprise the

- Generation, detection and performance analysis of DP-mQAM, PAM and 4D modulated signals, OFDM, analog and other signal formats
- Utilization of sophisticated digital pre-distortion and equalization techniques

- Data encoding and decoding with forward-error correction codes
- Emulation of component limitations and transmission impairments

VPIphotonics' new solution provides great potential for reducing efforts in the lab by applying ready-to-use advanced functionalities. It offers possibilities to virtualize lab equipment through emulation of optical and electrical components, and unify methodologies and tools for simulation and lab environments for example by developing lab-ready signal processing solutions or stress-test scenarios using VPIphotonics simulation tools.

Together with our partners, VPIphotonics demonstrates live at ECOC 2014 the seamless integration of simulation and experiment addressing different application scenarios

- Emulation of Optical Transmission Impairments at *Keysight Technologies, booth 368*
- 200Gb/s OFDM for Optical Fiber Transmission at *Tektronix, booth 495*
- PAM Transmission for 100Gb/400Gb Ethernet at *SHF Communication Technologies, booth 248*
- DSP Solutions for 400Gb and 1Tb Systems at *Fraunhofer Heinrich Hertz Institute, booth 246*

For an overview of functionalities and customization requests please visit *VPIphotonics booth 245*.

About VPIphotonics

VPIphotonics™ sets the industry standard for end-to-end photonic design automation comprising design, analysis and optimization of components, systems and networks.

We provide professional simulation software supporting requirements of active/passive integrated photonics and fiber optics applications, optical transmission system and network applications, as well as cost-optimized equipment configuration. Our team of experts delivers professional consulting services addressing customer-specific design, analysis and optimization requirements, and provides training courses on adequate modeling techniques and advanced software capabilities.

VPIphotonics' award-winning off-the-shelf and customized solutions are used extensively in research and development, and by product design and marketing teams at hundreds of corporations worldwide. Over 160 academic institutions joined our University Program enabling students, educators and researchers an easy access to VPIphotonics' latest modeling and design innovations.

For further information, please visit us at www.VPIphotonics.com.



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