



VPIphotonics and CST partner for design automation of integrated photonic circuits

San Diego, CA, US, March 13, 2018 – VPIphotonics and Computer Simulation Technology GmbH (CST), part of SIMULIA, a Dassault Systèmes brand, announce their partnership to seamlessly couple full-wave photonic device simulation and overall circuit simulation and analysis of integrated photonic components and subsystems within a single framework at OFC 2018, booths 4513 and 6117.

Highly-integrated photonic circuits are on the rise, and this trend is expected to accelerate in the future. The design of complex circuits involves multiple steps, including analysis of the overall circuit simulation and performance, which requires accurate models and realistic characteristics for each embedded element. These circuit elements are typically based on information from Photonics Design Kits (PDKs) provided by foundries. Often, full-wave photonic simulation is needed to extract accurate characteristics driving the more abstract element models on circuit-level or to study the temperature dependence of individual components being embedded in the integrated photonic circuit.

VPIphotonics Design Suite (VPI-DS) delivers advanced simulation of the photonic circuits including purely passive, active, or even hybrid subsystems and systems. CST STUDIO SUITE® performs highly accurate full-wave 3D photonic and multiphysics simulation. Linking both tools together enable engineers to combine these simulation capabilities within one single framework.

If a scattering matrix does not exist for a particular element configuration, for instance, VPI-DS will automatically create ready-to-run projects that can be simulated using CST® advanced solver technology, with methods including FIT/FDTD, FEM, amongst others. Results from CST STUDIO SUITE are automatically communicated back to the waiting circuit simulation running in VPI-DS. VPI-DS ensures that unnecessary full-wave recalculations are avoided by checking whether the characteristics of the particular element have already been calculated.

Alternative case studies and various design optimizations can be efficiently executed using the VPI-DS built-in parameter sweeps and optimizations as well as a sophisticated Python-based scripting environment.

“I am excited to see this link become available to our customers,” said Dr. Frank Scharf, Principal Applications Engineer at CST. *“VPIphotonics Design Suite is an extremely powerful and versatile tool. The automated access to rigorous 3D simulation from within its leading circuit design environment allows the engineer to verify the compact model behavior for critical components, or to determine component behavior past the limits of existing compact models.”*

“VPIphotonics is proud to integrate its best-in-class photonic circuit simulation solutions with CST Studio Suite,” said Dr. André Richter, General Manager of VPIphotonics. *“This collaboration continues our strategy to provide practical and cost effective design methodologies that meet the needs of our joint customers and the photonics community as a whole.”*



VPIphotonics and CST will be presenting the link between VPIphotonics Design Suite and CST STUDIO SUITE® at OFC at their booths #4513 and #6117

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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 optoelectronics, integrated photonics and fiber optics applications, optical transmission system and network applications, as well as cost-optimized equipment configuration. Our team of experts provides professional consulting services addressing customer-specific design, analysis and optimization requirements, and delivers 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 for 20+ years. 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.

About CST- Computer Simulation Technology

Founded in 1992, CST is a market leader in delivering 3D electromagnetic (EM) field simulation tools through a global network of sales and support staff and representatives. CST develops CST STUDIO SUITE, a package of high-performance software for the simulation of EM fields in all frequency bands. Its growing success is based on a combination of leading edge technology, a user-friendly interface and knowledgeable support staff. CST solutions are used by market leaders in a diverse range of industries, including aerospace, automotive, defense, electronics, healthcare and telecommunications. CST is part of SIMULIA, a [Dassault Systèmes](http://www.dassault-systemes.com) brand. Further information about CST is available on the web at www.cst.com.

About SIMULIA

The SIMULIA brand of Dassault Systèmes enables users to leverage physics-based simulation and high-performance computing to power sustainable innovation for products, nature, and life. Powered by Dassault Systèmes' 3DEXPERIENCE platform, SIMULIA realistic simulation and optimization applications accelerate the process of making mission-critical design and engineering decisions before committing to costly and time-consuming physical prototypes. www.3ds.com/simulia.

About Dassault Systèmes

Dassault Systèmes, the 3DEXPERIENCE Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 220,000 customers of all sizes, in all



industries, in more than 140 countries. For more information, visit www.3ds.com.

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Media Contact

Ruth Jackson, Communications Manager, CST

Tel: +49 6151 7303-0, Email: simulia.cst.news@3ds.com, Web: <https://www.cst.com>