Real-time simulation is enabling visionaries around the world to turn their innovative ideas into reality.

OPAL-RT believes in empowering engineers and researchers with accessible, cutting-edge, real-time simulation technology in order to accelerate the availability of greater and more reliable products.

Since 1997, Industries such as automotive, aerospace, power electronics, and power generation are turning to OPAL-RT, making the company a world leader in real-time simulators and Hardware-in-the-Loop testing equipment for power electronics and power systems.

By partnering with National Instruments, OPAL-RT has extended its offering with compelling, fully integrated and powerful solutions for power system and power electronic HIL. The following solutions are the results of over two years of collaborative work between the two companies.
1. eHS: A unique Power Electronics FPGA Solver, now available on the NI Platform

Minimizing the overall latency of the closed-loop system, an accurate solver for coupled switches, and fault injection capabilities on all stages of complex schematics are among the complexities of this evolving industry. OPAL-RT is addressing these challenges with its flagship product, eHS: The industry’s most powerful and intuitive FPGA solver designed for the most demanding power electronic HIL simulation. eHS is the result of two decades of research and development and is now available on National Instruments’ FlexRIO and CompactRIO platforms.

2. Flexible Grid Automation System

OPAL-RT and NI now offer a customizable version of the Grid Automation System. This product offers infinite configurations of the programmable substation automation controller and intelligent electronic device. It was designed to simplify research involving electric substation monitoring and upgrades while improving measurement visibility. Built on NI's Grid Automation System, this system leverages OPAL-RT's dynamic engineering to offer research labs added flexibility in terms of I/O and software configurations.

3. Power Electronics HIL Teaching Laboratory

The Power Electronics HIL Teaching Laboratory by OPAL-RT is an educational courseware intended to teach power electronics to university undergraduate students. Students can experiment and learn applications of power electronic devices, such as converters, rectifiers, and inverters, including the control logic with HIL and RCP Tools commonly used in innovative power electronics industry research and development.

FOR MORE INFORMATION, CONTACT YOUR GLOBAL OPAL-RT AND NI AGENTS:

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ABOUT OPAL-RT TECHNOLOGIES

OPAL-RT is the world leader in the development of PC/FPGA Based Real-Time Digital Simulator, Hardware-In-the-Loop (HIL) testing equipment and Rapid Control Prototyping (RCP) systems to design, test and optimize control and protection systems. used in power grids, power electronics, motor drives, automotive industry, trains, aircraft and various industries, as well as R&D centers and universities.