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## NI Announces New Wave of Software-Designed Instruments

**Paradigm shift redefines capability of oscilloscopes, RF signal analyzers and high-speed serial instruments**

NI (Nasdaq: NATI), the provider of solutions that enable engineers and scientists to solve the world's greatest engineering challenges, today announced that it has delivered the power and flexibility of software-designed instrumentation to new instrument types and automated test applications, further freeing engineers and organizations from the costs and limitations of vendor-defined instruments.

Two years ago, NI introduced the first software-designed instrument, the [vector signal transceiver](#). By replacing traditional vendor-defined instruments with NI software-designed instrumentation, [Qualcomm Atheros](#) improved test speeds by more than 200X and [Hittite Microwave](#) reduced test times by more than 30X. The latest software-designed instruments address automated test and research applications across wireless and mobile devices, semiconductor, automotive and aerospace/defense industries:

- 14-bit, 250 MS/s, 250 MHz, [8-channel oscilloscope](#)
- 26.5 GHz high-performance [RF vector signal analyzer](#)
- 12-bit, 2 GS/s, 1.7 GHz [intermediate frequency digitizer](#)
- 12.5 Gb/s, 8 TX/8 RX lane [high-speed serial instrument](#)

“Providing a user-programmable FPGA can lead to astounding benefits for the customer, enabling them to drill down into the instrument and change the performance drastically,” said Prathima Bommakanti, industry analyst for measurement and instrumentation at Frost & Sullivan. “With this new class of instrumentation, users are able to turn the instrument into whatever they need, a paradigm shift in an industry in which products have essentially been defined by the vendor as opposed to the customer.”

NI software-designed instruments contain a user-programmable FPGA customized with the familiar graphical data flow of LabVIEW system design software, eliminating the need for specialized languages such as VHDL and Verilog, costly digital design experts or payments to instrument vendors each time a customization is needed.

“Requirements for RF test are constantly changing and quickly emerging,” said Christian Pfefferer, global test engineer for [Valeo](#). “User-programmable FPGAs provide the flexibility needed to keep up with the expanding requirements in RF test, helping us meet our current RF test specifications for spectrum measurements, but also making us well prepared to address future needs.”



To learn more about the new instruments and software-designed instrumentation, visit [ni.com/software-designed-instruments](https://ni.com/software-designed-instruments).

### **About National Instruments**

Since 1976, NI ([www.ni.com](https://www.ni.com)) has made it possible for engineers and scientists to solve the world's greatest engineering challenges with powerful, flexible technology solutions that accelerate productivity and drive rapid innovation. Customers from a wide variety of industries—from healthcare to automotive and from consumer electronics to particle physics—use NI's integrated hardware and software platform to improve the world we live in.