



NDIA ATC Meeting Commercial Liaison Report

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AGENDA

- News (Mergers/Acquisitions/Announcements)
- Technology Trends
- PXI, VXI, AXIe, LXI Updates

NEWS – New Products

Tektronix®



Tektronix Introduces the 8 Series Sampling Oscilloscope Platform: The 8 Series Sampling Oscilloscope provides a comprehensive optical test solution for telecom and datacom applications, providing > 30 GHz optical bandwidth on 4 channels enabling both single mode and multi-mode conformance testing at 850 nm, 1310 nm, and 1550 nm bands.

VIAMI Releases World's First 16-lane Protocol Analysis System for PCIe 5.0: The VIAMI [Xgig 5P16 Protocol Analyzer](#) is the first 16-lane protocol analysis system for PCI Express® 5.0, operating at 32Gbps per lane, enabling test and validation to meet the most demanding performance needs of emerging compute-intensive applications such as 400 Gigabit Ethernet, artificial intelligence (AI), IoT and hyperscale computing



KEYSIGHT TECHNOLOGIES



Keysight Delivers First 256 GSa/s Arbitrary Waveform Generator with 65 GHz Analog Bandwidth: Keysight's M8199A 256 GSa/s AWG delivers twice the sampling rate of any AWG on the market today, coupled with at least 50 percent more analog bandwidth. As a result, research engineers can quickly develop advanced components for terabit transmission systems.

NEWS – New Products

Marvin Test Solutions Expands User-Programmable PXI FPGA Product Line: The GX3748 is a user configurable, FPGA-based, 3U PXI card which features 48 voltage comparator channels. Each input channel can accept input voltage signals from 0 to 50 volts, with programmable threshold levels. Three of the 48 channels are supported by the board's timestamp event feature.

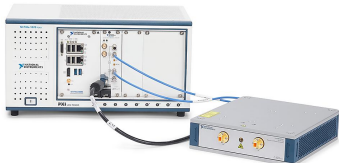


Rohde & Schwarz launches high-performance ELINT receiver

Rohde & Schwarz launches the R&S WPU2000 wideband processing unit, a high-performance ELINT receiver, designed for radar detection and analysis at 2 GHz real-time bandwidth, enhancing situational awareness and supporting platform protection in theaters of operations.



NI Launches 4 GHz Vehicle Radar Test System: The Vehicle Radar Test System (VRTS) provides automated radar measurement and obstacle simulation capabilities for 76 GHz to 81 GHz automotive radar systems with 1GHz and 4GHz of bandwidth. Engineers can use VRTS to confidently develop validation and production test that's repeatable and reliable.



NEWS - Acquisitions

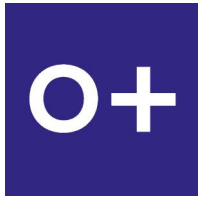


Astronics Announces Acquisition of Freedom Communication Technologies [Astronics Corporation](#), a leading provider of advanced technologies for the global aerospace, defense, and other mission critical industries, announced today that it has acquired the primary operating subsidiaries from mass transit and defense market test solution provider, [Diagnosys Test Systems Limited](#) (Diagnosys). Diagnosys is a developer and manufacturer of comprehensive automated test equipment (ATE) providing test, support, and repair of high value electronics, electro-mechanical, pneumatic and printed circuit boards focused on the global mass transit and defense markets.

VIVAVI Solutions acquires Expandium: [VIAVI Solutions Inc.](#) today announced that it has acquired [Expandium](#), a provider of core network monitoring and assurance solutions powered by big data, based in Saint-Herblain, France. This acquisition augments VIAVI's leading network assurance portfolio with a cloud-native virtualized solution offering, in alignment with virtualization initiatives at Tier-1 service providers worldwide.



NEWS – Acquisitions



NI Completes Acquisition of Optimal Plus: “We’re confident NI’s enterprise software strategy unlocks the value of test data by embracing digital transformation and bringing it to the analog world,” said Eric Starkloff, NI President and CEO. “OptimalPlus’ data analytics capabilities allow us to build the advanced software required by today’s modern enterprise and engineer, enabling the connection of multiple data sources across the digital thread of a product’s lifecycle to help dramatically improve quality, yield and avoid failure. We welcome the employees of OptimalPlus and look forward to collectively accelerating our long-term growth ambitions.”

Keysight Technologies Acquires Eggplant: "As a recognized leader and trusted advisor in layer 1-7 design and test, Keysight is excited to add Eggplant's test capabilities for the software application layer, aligning with our strategy to grow our first-to-market software-centric solutions," said Ron Nersesian, Keysight chairman and CEO. "We're thrilled to welcome the Eggplant team to the Keysight family and look forward to working together in the fast-growing intelligent software test market with differentiated software-as-a-service technologies."



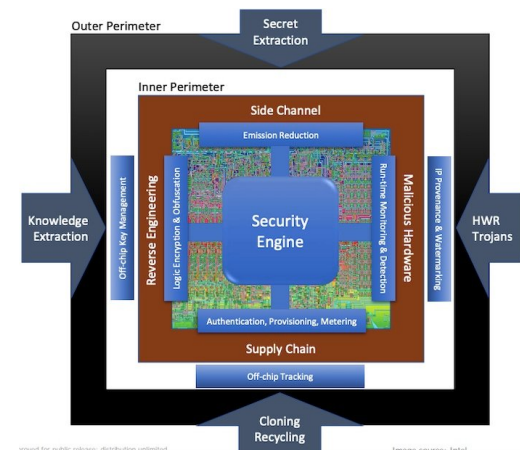
INDUSTRY/TECHNOLOGY TRENDS – Cyber Security

CHIPS for America Act Would Strengthen U.S. Semiconductor Manufacturing, Innovation

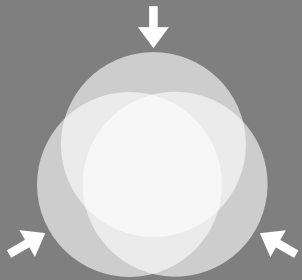
WASHINGTON—June 10, 2020—The Semiconductor Industry Association (SIA) today applauded the introduction in Congress of the Creating Helpful Incentives to Produce Semiconductors for America Act (CHIPS for America Act), bipartisan legislation that would invest tens of billions of dollars in semiconductor manufacturing incentives and research initiatives over the next 5-10 years to strengthen and sustain American leadership in chip technology, which is essential to our country's economy and national security. The bill was introduced today by Sens. John Cornyn (R-Texas), Mark Warner (D-Va.), Jim Risch (R-Idaho), Kyrsten Sinema (D-Ariz.), and Marco Rubio (R-Fla.) in the Senate, and a House version is slated to be introduced Thursday by Reps. Michael McCaul (R-Texas) and Doris Matsui (D-Calif.).

DARPA Doubles Down on Chip-Level Cybersecurity

The AISS program aims to build an entire [design tool and IP ecosystem to automate the process of incorporating cyberdefense into chip designs](#). This ecosystem will provide protection to application-specific ICs (ASIC) and SoCs from the four most threatening attacks: side-channel attacks, hardware trojans, reverse-engineering attacks, and supply chain attacks

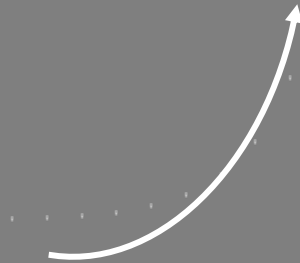


INDUSTRY/TECHNOLOGY TRENDS – DIGITAL TRANSFORMATION



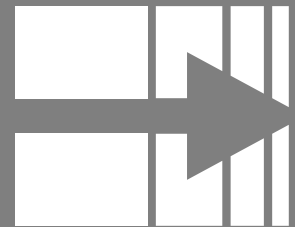
CONVERGENCE

Simulation



ACCELERATING
TECHNOLOGY

Fixed Assets “HW”
To
Soft Assets “SW”



RAPID CHANGE
AND ITERATION

Model Based Engineering



MORE DATA

AI and ML
Prognostics and Diagnostics

AXIe, LXI, VXI, PXI Update

AXIe and LXI Update



AXIe Consortium (www.axistandard.org):

- 13 Members
- Specifications
 - AXIe-CR: AXIe Compliance Requirements and Trademark Usage Rev 1.0
 - AXIe-0: Low Cost Instrumentation and Switch Architecture
 - AXIe 1: AXIe Base Arch Spec, Rev 3.1
 - AXIe 2: AXIe Software Spec, Rev 2.2
 - AXIe 3: AXIe Zone 3 Mechanical
 - AXIe 3.1: Semiconductor Test Extension, Rev 1.0



LXI Consortium (lxistandard.org):

- 53 Members
- Specifications:
 - [Version 1.5 LXI Specification](#)
 - (1) a core specification *Specification 2016*, to which all devices must conform
 - (2) a set of optional Extended Functions, to which vendors may choose to conform. Vendors are required to declare to which Extended Functions (if any) they conform.

VXI and PXI Update



- VXI Bus Consortium:
 - 13 Members
 - > 1500 Products
 - 394 Mfg. ID's issued
 - VXI 1 Revision 4.0
 - <http://www.vxibus.org>
 - Products at <http://vxibus.org/products.html>



- PXI Systems Alliance (www.pxisa.org):
 - 67 Members (11/28/2018)
- Specifications:
 - PXI-1 PXI Hardware Spec. Revision 2.3
 - PXI-2 PXI Software Spec. Revision 2.5
 - PXI-4 PXI Module Description File Spec. Rev. 1.2
 - PXI-5 PXI Express Hardware Spec. Rev.1.1
 - PXI-6 PXI Express Software Spec. Rev. 1.3
 - PXI-8 PXI MultiComputing SW Spec Rev. 1.1
 - PXI-9 PXI /PXIe Trigger Mgm't Spec. Rev. 1.1

9/28/19 - Updated Specifications to Include Support for Linux Operating System, Multi-Slot Modules and Higher Power PXI/PXIe Modules

Sign of the times?

- No Updates