



NDIA ATC Meeting Commercial Liaison Report

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December 9th, 2021

AGENDA

- Technology Trends – 5G Convergence
 - News
 - Impact to DoD

NEWS – 5G



Sivers Semiconductors and Rohde & Schwarz collaborate on testing 5G RF transceivers up to 71 GHz

As 5G networks are being rolled out globally, the evolution of the 5G NR standard continues. With Release 17, 3GPP will extend the frequency support of 5G NR mmWave bands into the unlicensed spectrum up to 71 GHz, a frequency band traditionally used by non-cellular standards like IEEE 802.11ad and 11ay. To address new testing challenges related to this bandwidth extension and to evaluate the performance of the latest generation RF transceiver chipsets, Rohde & Schwarz and Sivers Semiconductors teamed up to test RF transceivers for 5G NR up to 71 GHz.

Higher Frequency, Greater BW, Spectrum Congestion (co-existence)

VIAVI Introduces Industry's First Field Test Instrument for O-RAN Deployment

today announced that the [OneAdvisor-800™](#) all-in-one cell site tool can be upgraded with the O-DU Emulation application to verify field deployment of [O-RAN radios](#). As mobile service providers build their 5G networks to scale, OneAdvisor-800 now provides comprehensive capabilities for cell site deployment, including fiber inspection and characterization, cable and antenna analysis, and O-RAN radio verification.



Smaller Footprint, Software Defined, Open Standards (O-RAN)



Keysight Selected by NIO to Verify 5G and Cellular Vehicle to Everything (C-V2X) Connectivity in Electric Vehicles

Keysight Technologies, Inc. (NYSE: KEYS), a leading technology company that delivers advanced design and validation solutions to help accelerate innovation to connect and secure the world, announced that [NIO](#), a Chinese manufacturer of battery electric vehicles (EVs), has selected Keysight solutions to verify 5G and cellular vehicle to everything (C-V2X) connectivity.

Broad adoption, Low latency, Reliable

NEWS – 5G



NI Joins NYU Wireless Industrial Affiliates Program to Advance 6G Research and Innovation

NI and NYU WIRELESS successfully collaborated on 5G technology in 2012. Now, they're working together again, alongside Industrial Affiliate members, to conduct wireless research. NI's primary involvement will be focused on research into terahertz (THz) frequencies — exploring under-utilized spectrum, solving problems associated with it, and helping 6G communication come to fruition.



Wuppertal University Chooses Tektronix to Develop Advanced 6G Technology

Wuppertal University in Germany has chosen Tektronix instrumentation to help it develop innovative and capable new technologies that will underpin 6G networks.

The project will develop components that allow higher data throughputs for 6G, while also cutting the latency of networks to allow applications, such as autonomous driving and remote surgery, with haptic feedback.



Addressing future needs, greater data bandwidth, lower latency, spectrum congestion

NEWS – 5G



Raytheon BBN to enhance 5G and airborne radar coexistence

Raytheon Intelligence & Space, a Raytheon Technologies business (NYSE: RTX), has been awarded an \$8 million contract under the [National Spectrum Consortium](#)'s Dynamic Spectrum Sharing program, which is part of the Department of Defense 5G to NextG initiative. The NSC wants to understand how the 5G network will impact airborne radar systems and how the radars might impact the 5G network.

Commercial and Defense Coexistence in shared spectrum



Lockheed Martin and Verizon to advance 5G innovation for U.S. Dept. of Defense

Verizon (NYSE: VZ) and Lockheed Martin (NYSE: LMT) have signed an agreement to collaborate on 5G.MIL™ technologies that will provide ultra-secure, reliable connections for U.S. Department of Defense systems, bringing together high-tech platforms into a cohesive network spanning air, land, sea, space and cyber domains. The strategic relationship agreement also establishes a joint research and development lab framework to prototype, demonstrate and test 5G.MIL technologies.



DoD and Commercial Collaboration adding agility, security and reliability layers

INDUSTRY/TECHNOLOGY TRENDS – 5G Convergence

5G.MIL™ Connectivity for All-Domain Operations



Fifth Generation (5G) communication systems bring more reliable, higher throughput and ultra low-latency connectivity required for edge devices and platforms, like autonomous systems, to fully harness the power of artificial intelligence. By integrating 5G with existing military communications and datalinks, warfighters can achieve more effective operations in communications-contested and denied environments and have access to data to perform their missions anywhere in the world.

Our 5G.MIL™ Program Pillars

Building Network Cohesion: In the 21st century battlespace, dominance will be determined by the ability to bring together high-tech platforms into one cohesive network that spans every domain – air, land, sea, space and cyber. When this network communicates and analyzes data seamlessly, it represents a force multiplier that is flexible, formidable and decisive.

Resilient Communications: The 5G.MIL system is a robust 5G-enabled heterogeneous “network of networks” integrating all warfighting domains across military tactical, strategic and enterprise networks, leveraging commercial telecommunication infrastructure technology. Intelligent orchestration, data management, and redundancy provide the operational agility required to maintain communications in contested environments. [Learn about Lockheed Martin HiveStar™ technology.](#)

Integrating Existing Networks: Using multiple, distributed edge-connected gateways between legacy tactical networks, information can move through different pathways among platforms. Resilience is created by eliminating high-value single points of failure in the system. [Learn about Lockheed Martin Project Hydra.](#)

Combating Threats: Lockheed Martin's 21st Century Warfare strategy is designed to help our customers leverage emerging technologies – Artificial Intelligence (AI), edge computing and 5G.MIL connectivity – to connect all assets seamlessly and securely in the joint battlespace for unparalleled situational awareness to enable decisive action.

Embracing 21st Century Warfare Technologies: We are accelerating R&D and engagement with industry and academia to bring new applications of advanced technology to support our customers' JADO vision. This approach will securely connect our customers' enduring assets with 21st Century Warfare technologies and new, advanced platforms.