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Association of American Railroads Selects dot16 Protocol Pioneered by Ondas Networks for Next-Generation HOT-EOT ("NGHE") Communications

Ondas Networks Has Led the Development of the IEEE 802.16t ("dot16") Wireless Standard in Close Collaboration with Industry

Ondas Networks Estimates 70,000 Systems Will Need to be Upgraded in the North American Rail Infrastructure

The IEEE 802.16t DDP Protocol Enables Enhanced Safety and Operational Efficiencies for Train Telemetry Supporting the Operation of Longer Trains

SUNNYVALE, CA / ACCESS Newswire / April 13, 2025 / Ondas Holdings Inc. (NASDAQ:ONDS) ("Ondas" or the "Company"), a leading provider of private industrial wireless networks and commercial drone and automated data solutions, announced today that the IEEE 802.16t Direct Peer-to-Peer ("DPP") protocol has been selected by the Association of American Railroads ("AAR") as the new standard for Next Generation head-of-train / end-of-train ("HOT-EOT") communications or "NGHE Gen4." This new protocol for train telemetry operations enables new safety and operational improvements to existing HOT-EOT applications.

Operating longer trains presents certain technical challenges, including maintaining consistent communication between the head and end of the train, ensuring real-time data transmission for safety monitoring, and managing increased signal interference over extended distances. The adoption of the IEEE 802.16t DDP protocol addresses these issues by providing a more robust and reliable communication framework. This protocol enhances over-the-air security, reduces latency, and supports seamless data exchange, thereby improving operational efficiency and safety in train telemetry systems.

"Ondas Networks is proud to have played a central role in the development of the 802.16t standard," said Markus Nottelmann, CEO of Ondas Networks. "The AAR's adoption of this standard for NGHE applications is a major milestone for the freight rail industry. It enables a smooth migration from legacy HOT-EOT systems to next-generation NGHE capabilities - all while introducing substantial improvements in safety and operational efficiency."

Ondas Networks has been a leading force in the development of the IEEE 802.16t ("dot16t") industrial wireless standard since 2020. Purpose-built for private industrial networks, 802.16t is an open, interoperable technology specifically engineered for mission-critical industries such as railroads.

Ondas Networks believes there is a significant installed base of legacy NGHE systems

within the North American rail infrastructure which will be upgraded to the new NGHE Gen4 requirements. The Company estimated that the installed base includes 25,000+ locomotives in the freight rail sector fleet that will require HOT upgrades, and that the current installed base of associated EOT devices is approximately 45,000 units. Ondas expects to generate development revenue as soon as the second half of 2025 in order to support product introduction and NGHE upgrades beginning in 2026.

"As railroads increasingly rely on digital infrastructure, we believe the 802.16t technology will serve as the wireless backbone of future communication systems," added Nottelmann. "This is just the beginning. We look forward to supporting the broader adoption of 802.16t across other critical rail and industrial applications."

Ondas Networks previously conducted demonstrations of 802.16t DPP technology at MxV Rail, a subsidiary of the Association of American Railroads (AAR), which conducts advanced testing of railway equipment for member railroads. Ondas Networks supplies railroads with a portfolio of software-defined radios which conform to the 802.16t protocol.

About Ondas Holdings Inc.

Ondas Holdings Inc. ("Ondas") is a leading provider of private wireless data solutions via Ondas Networks Inc. ("Ondas Networks") and commercial drone solutions through Ondas Autonomous Systems Inc. via its wholly-owned subsidiaries American Robotics, Inc. ("American Robotics" or "AR") and Airobotics LTD ("Airobotics"), which we operate as a separate business unit called Ondas Autonomous Systems.

Ondas Networks is a developer of proprietary, software-based wireless broadband technology for large established and emerging commercial and government markets. Ondas Networks' standards-based (802.16t), multi-patented, software-defined radio FullMAX platform enables Mission-Critical IoT (MC-IoT) applications by overcoming the bandwidth limitations of today's legacy private licensed wireless networks. Ondas Networks' customer end markets include railroads, utilities, oil and gas, transportation, aviation (including drone operators) and government entities whose demands span a wide range of mission critical applications.

Ondas Autonomous Systems Inc. (OAS) specializes in designing, developing, and marketing autonomous drone solutions via its two advanced drone platforms: the Optimus System, the world's first FAA-certified small UAS (sUAS) for aerial security and data capture, and the Iron Drone Raider, a counter-drone system designed to combat hostile drones. Both platforms are highly automated, AI-powered, and capable of continuous, remote operation for critical defense, infrastructure, industrial, and government applications. American Robotics and Airobotics have achieved industry-leading regulatory milestones, including the first-ever FAA Type Certification for the Optimus System and the first drone system approved by the FAA for automated beyond-visual-line-of-sight (BVLOS) operations without an on-site human operator.

Ondas Networks, American Robotics and Airobotics together provide users in defense, homeland security, public safety and other critical industrial and government security and infrastructure markets with improved connectivity, situational awareness and data collection and information processing capabilities.

For additional information on Ondas Holdings, visit www.ondas.com or follow Ondas Holdings on X and LinkedIn. For additional information on Ondas Networks, visit www.ondasnetworks.com or follow Ondas Networks on X and LinkedIn. For additional information on American Robotics, visit www.american-robotics.com or follow American Robotics on X and LinkedIn. For additional information on Airobotics, visit www.airoboticsdrones.com or follow Airobotics on X and LinkedIn. For additional information on Ondas Autonomous Systems, follow us on LinkedIn.

Information on our websites and social media platforms is not incorporated by reference in this release or in any of our filings with the U.S. Securities and Exchange Commission.

Forward-Looking Statements

Statements made in this release that are not statements of historical or current facts are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. We caution readers that forward-looking statements are predictions based on our current expectations about future events. These forward-looking statements are not guarantees of future performance and are subject to risks, uncertainties and assumptions that are difficult to predict. Our actual results, performance, or achievements could differ materially from those expressed or implied by the forward-looking statements as a result of a number of factors, including the risks discussed under the heading "Risk Factors" discussed under the caption "Item 1A. Risk Factors" in Part I of our most recent Annual Report on Form 10-K or any updates discussed under the caption "Item 1A. Risk Factors" in Part II of our Quarterly Reports on Form 10-Q and in our other filings with the SEC. We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise that occur after that date, except as required by law.

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