# PHYTunes Wins National Science Foundation Grant to Fund Research and Commercialization of 5G Connectivity Inside Buildings, Bridging the Digital Divide and Lowering Costs

NEWS PROVIDED BY

**PHYTunes**

Mar 17, 2022, 14:33 ET

PALO ALTO, Calif., March 17, 2022 /PRNewswire/ -- PHYTunes, a leader in connectivity at the edge enabling wireless-wireline convergence, today announced it has been awarded a National Science Foundation (NSF) Small Business Innovation Research (SBIR) Grant to accelerate research and development of technology to improve connectivity for everyone by enabling widespread 5G coverage at significantly lower cost and substantial energy savings in a compressed timeframe.

The technology will be used to solve the indoor 5G problem and accelerate 5G deployment and ubiquitous 5G availability in both urban and rural areas. This will have major positive ramifications in terms of bridging the digital divide across different geographical areas and across different socioeconomic groups, by bringing new opportunities for telework, tele-education, telehealth, and telemedicine to traditionally underserved and unrepresented communities.

Phase I research will address critical technical issues related to the overall feasibility and performance of cellular subscriber line (CSL) technology with the development of a detailed simulation platform and network-side and customer-side prototype units using existing radio-frequency integrated circuit (RFIC) and field-programmable gate array (FPGA) components. The project will allow mid-band and high-band cellular signals to be carried over existing twisted-pair copper wires, as well as coaxial, fiber and Ethernet wires, to enable the delivery of 5G-based services across barriers that signals delivered over the air from a tower cannot penetrate.

"The SBIR Phase I project has the potential to accelerate development towards a low-cost, low-energy solution that solves the problem of extending 5G coverage to the interior of homes and

buildings," said Dr. Akula Aneesh Reddy, Chief Scientist of PHYTunes. "We are proud to be working with the National Science Foundation to further develop our work around wireless wireline convergence and look forward to working with our service provider partners to further validate our work in a real-world network environment."

**About PHYTunes**

PHYTunes is a leader in 5G at the Edge, enabling Wireless Wireline Convergence (WWC) and the transport of high-frequency wireless signals over existing wired infrastructure to seamlessly deliver full 5G inside the home, small business or enterprise. PHYTunes empowers service providers and businesses to deliver extraordinary customer experiences fostering brand loyalty and trust. Ultimately, PHYTunes delivers mission-critical connectivity enabling services innovation in gaming, healthcare, hospitality, industrial IoT and retail. For more information, visit www.phytunes.com or follow us on Twitter @PHYTunes.

**About the National Science Foundation's Small Business Programs**

America's Seed Fund, powered by NSF, awards $200 million annually to startups and small businesses, transforming scientific discovery into products and services with commercial and societal impact. Startups working across almost all areas of science and technology can receive up to $2 million to support research and development (R&D), helping de-risk technology for commercial success. America's Seed Fund is congressionally mandated through the Small Business Innovation Research (SBIR) program. The NSF is an independent federal agency with a budget of about $8.5 billion that supports fundamental research and education across all fields of science and engineering.

SOURCE PHYTunes