

Multiscale Integrated Technology Solutions, IUPUI-based Startup, Awarded Competitive Grant from the National Science Foundation

Small Business Innovation Research Program Provides Seed Funding for R&D

Indianapolis, Indiana, March 15, 2021 – Multiscale Integrated Technology Solutions LLC (MITS) has been awarded a National Science Foundation (NSF) Small Business Technology Transfer (STTR) grant for \$256,000 to conduct research and development (R&D) work on enhancing the strength of carbon fiber reinforced polymer composites. This builds on previous awards to MITS from the Elevate Ventures Nexus Regional and Statewide Pitch Competitions, which led to \$60,000 in convertible notes and, because of the NSF-STTR Award, a \$50,000 cash grant.

Carbon fiber reinforced composites are essential components in many industries including automotive, aeronautical, marine, sporting goods, turbines, and more. The team at MITS has developed a process that will increase the tensile strength of parts made from carbon fiber composites by up to 20% without significant weight increase. This patented technological advance can increase fuel efficiency and reduce waste, which will attract manufacturers of a wide range of high-performance vehicles from racing bikes and race cars to passenger airplanes.

“NSF is proud to support the technology of the future by thinking beyond incremental developments and funding the most creative, impactful ideas across all markets and areas of science and engineering,” said Andrea Belz, Division Director of the Division of Industrial Innovation and Partnerships at NSF. “With the support of our research funds, any deep technology startup or small business can guide basic science into meaningful solutions that address tremendous needs.”

“We are thrilled to receive this recognition and funding from the NSF. Because our method can be used with existing roll to roll manufacturing processes, this funding will enable us to accelerate development to move our ideas out of the lab and into high end products more quickly,” said MITS CEO and Associate Professor of Mechanical and Energy Engineering at IUPUI, Hamid Dalir.

Once a small business is awarded a Phase I SBIR/STTR grant (up to \$256,000), it becomes eligible to apply for a Phase II (up to \$1,000,000). Small businesses with Phase II funding are eligible to receive up to \$500,000 in additional matching funds with qualifying third-party investment or sales.

Startups or entrepreneurs who submit a [three-page Project Pitch](#) will know within one month if they meet the program’s objectives to support innovative technologies that show promise of commercial and/or societal impact and involve a level of technical risk. Small businesses with innovative science and technology solutions, and commercial potential are encouraged to apply. All proposals submitted to the NSF SBIR/STTR program, also known as America’s Seed Fund powered by NSF, undergo a rigorous merit-based review process. To learn more about America’s Seed Fund powered by NSF, visit: <https://seedfund.nsf.gov/>

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.

About Multiscale Integrated Technology Solutions: Multiscale Integrated Technology Solutions LLC (MITS) was incorporated in Indianapolis, Indiana in 2019, focusing on technology and product development harnessing nanotechnology to enhance properties of existing materials at multiple scales, from nanoscale to macroscale. Since its inauguration, MITS has been actively involved in communicating with industries and research centers focused on developing solutions for enhanced composites, nanocomposite proximity sensors, batteries and additive manufacturing from internal R&D and through SBIR/STTR applications. MITS creates customer-oriented polymer-based active and passive composite solutions to create lighter, yet tougher and more durable materials, parts and components. MITS is dedicated to providing cutting-edge advanced manufacturing technologies to increase national security and improve the quality of daily life. The core competencies of MITS include:

- High-performance composite materials
- Ultrasensitive flexible sensors
- Cost-effective advanced manufacturing technologies