

Higher Wire Inc. Wins SBIR Phase II: Multiport Power Conversion System to Advance Renewable Energy and Grid Integration

Higher Wire Inc. Secures SBIR Phase II Funding to Develop Cutting-Edge Power Conversion System Leveraging Wide Bandgap Electronics

PHOENIX, ARIZONA, UNITED STATES, September 15, 2023 / EINPresswire.com/ -- Higher Wire Inc. is pleased to announce that it has been awarded a Small Business Innovation Research (SBIR) Phase II grant for its groundbreaking project titled "Multiport Multi-directional Modular and Scalable Power Conversion Platform with DC/AC Source/Storage Integration using Wide Bandgap Power Electronics." The project aims to accelerate the integration of renewable energy into residential applications and reduce barriers to clean energy adoption, particularly in disadvantaged communities.

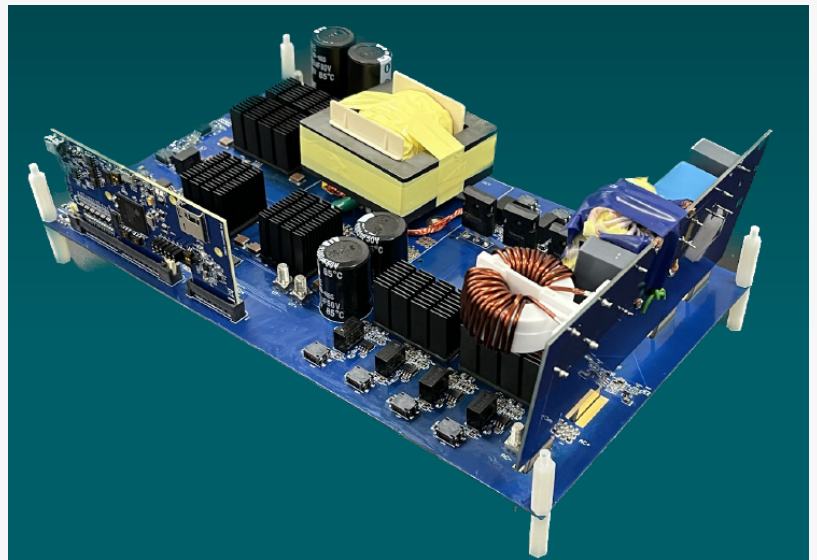
Project Overview

The funded proposal focuses on the design, development, hardware prototyping, and experimental validation of a highly innovative multi-port, multi-directional power conversion system (PCS). It incorporates an actively controlled pulse-width modulated triple active bridge (TAB) converter, essentially a three-port network capable of directing power flow optimally between interconnected ports. The TAB system will enable seamless coupling of various renewable energy sources like solar panels with DC energy storage systems (ESS) and standalone local AC grids.

"This SBIR Phase II grant is a significant milestone for Higher Wire Inc. and renewable energy sector. It paves the way for more efficient, scalable, and cost-effective energy systems," said Mr.

higherwire

Energy Solutions, Elevated



Inverter POC

Trevor Warren, project Principal Investigator and CEO of Higher Wire Inc.

Technical Advantages

By utilizing state-of-the-art wide bandgap power electronics, the project targets a 40% reduction in cost, 30% increase in power density and up to 20°C (36°F) lower operating temperatures compared to conventional systems. Reliability is greatly improved via the use of active components to replace traditional capacitors. The system will support three critical power flow paths—PV-to-grid (P2G), PV-to-battery (P2B), and battery-to-grid (B2G). It will enable flexible scaling in both renewable source integration and output power through a modular architecture.



Societal Impact

One of the most significant impacts of this project is its potential to eliminate barriers to renewable energy access in disadvantaged communities. By achieving cost reductions, enhanced efficiency and increased reliability, the PCS will facilitate easier adoption of clean energy solutions across a broad socio-economic spectrum.

About Higher Wire Inc.

Higher Wire Inc. is a technology company specializing in advanced power electronics and renewable energy systems. With a focus on innovative solutions, Higher Wire Inc. is dedicated to ushering in the next generation of energy-efficient technologies that have a positive societal impact.

Shanon Chilson
Higher Wire
+1 480-818-7777
[email us here](#)

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