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Aquanis, Inc. Wins NSF and RI Innovation Voucher Grants

Funding Will Enable Company to Accelerate the Development of Its Wind Energy Technology

Providence, R.I., December 15, 2016 – [Aquanis](#) today announced that it has received a National Science Foundation (NSF) Phase I Small Business Innovation Research (SBIR) grant of \$224,969 for the development and testing of a device that promises to improve the efficiency and extend the service life of utility-scale wind turbines. The company also was awarded an Innovation Voucher grant from the Rhode Island Commerce Corporation, which will provide \$50,000 in funding to support the company's research partners in Brown University's School of Engineering.

The cost of wind energy can be reduced by deploying larger, more efficient, and durable wind turbines. In order to build such wind turbines, designers must find a way to mitigate fatigue loads in the turbine blades, caused by unsteady aerodynamic forces. All of the remedies tried to date have moving parts, and are costly and complex to implement. Aquanis is developing a new technology that can address the problem with no moving parts and minimal blade modifications.

The Aquanis system features a blade-mounted plasma flow actuator, which is a software-controlled solid-state electrical device that is simple and inexpensive. The system is based on patented technology developed at the University of Notre Dame. Aquanis has acquired an exclusive license to the patent portfolio for the wind energy field of use.

The market for Aquanis' device includes all new wind turbine construction – currently 25,000 utility-scale turbines per year with total capacity of 63 Gigawatts. This market is expected to continue growing by 12% per year through 2025. The customers that the company is initially targeting are the top ten wind turbine manufacturers, including Vestas, Siemens, GE, Goldwind, Enercon and Suzlon, which, combined, own about 70% of the global market.

The six-month NSF grant will fund the development of a new actuator design that is expected to at least double the efficiency of the device.

“We are excited about this Phase I SBIR grant, which will give us the opportunity to make the technology viable at ever larger scales,” stated Aquanis CEO Neal Fine. “The simplicity of our plasma actuator technology provides the basis for an inexpensive, no-moving-parts control system that will allow wind turbines to react instantly to changes in the wind.”

To explore a wide range of system designs, the company needs access to state-of-the-art computational tools. The RI Innovation Voucher provides just that – access to Brown

University researchers who have developed advanced computational fluid dynamics tools that will assist in the Aquanis' product design.

"We are thrilled to be working with our colleagues at Brown University on this Innovation Voucher grant," said Fine. "Brown's computational resources will help to cut years off of our product development cycle."

About Aquanis, Inc.

Aquanis, Inc. was founded in 2015 by Neal E. Fine, Ph.D., who brings more than 20 years of experience in R&D in fluid dynamics and aeronautical systems in support of the defense, marine, aviation and energy industries. In addition to Dr. Fine, who serves as CEO, the Aquanis management team includes President Shmuel Halevi and Chief Technology Officer John A. Cooney, Ph.D.

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