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Ideal Power Signs \$1.2 Million Contract to Partner with Diversified Technologies on Demonstration of B-TRAN™ Enabled High Efficiency Direct Current Circuit Breaker

AUSTIN, Texas, Aug. 10, 2020 (GLOBE NEWSWIRE) -- [Ideal Power Inc.](#) (NASDAQ: IPWR) (the “Company”), pioneering the development and commercialization of highly efficient and broadly patented B-TRAN™ bi-directional power switches, was awarded a \$1.2 million contract by [Diversified Technologies, Inc.](#) (DTI) to supply B-TRAN™ devices as part of a two-year, \$3.0 million contract awarded to DTI by the [United States Naval Sea Systems Command](#) (NAVSEA). The objective of the project is to develop and demonstrate B-TRAN™ enabled high efficiency 12kV medium voltage direct current (MVDC) circuit breakers for the U.S. Navy as part of their ship electrification program. The project is funded under the Department of Defense’s Rapid Innovation Fund, which is designed to accelerate the commercialization of high-value, high-impact technologies.

Ideal Power’s B-TRAN™ technology is an enabling technology for high-efficiency MVDC circuit breakers. The Company believes that the low conduction loss of B-TRAN™ is an improvement of more than 50% compared to conventional semiconductor power switches, such as insulated gate bipolar transistors (IGBTs). In an MVDC circuit breaker, where the device is continuously conducting electricity and producing heat, the importance of the B-TRAN™’s low conduction loss is magnified and results in higher energy efficiency and simpler, lower cost and more compact thermal management. In addition, the fast switching speed of the B-TRAN™ can protect power distribution systems from faults 100 to 200 times faster than conventional mechanical circuit breakers. DTI intends to introduce a family of MVDC circuit breaker products incorporating B-TRAN™ as a result of the demonstration.

Ideal Power and DTI’s collaboration will help establish the viability of shipboard MVDC power distribution by delivering extremely fast fault interruption, low fault currents, flexible programmable coordination, and mechanical isolation, which are key factors to the reliable and safe operation of DC power systems. The U.S. Navy has stated a goal to electrify its fleet to increase shipboard power densities necessary to field more efficient ships with greater operational flexibility. The use of MVDCs in ship electrification and distributed DC networks would result in less vulnerable power distribution systems and naval vessels.

“This project is a major step forward in demonstrating B-TRAN™’s capabilities,” said Dan Brdar, President and Chief Executive Officer of Ideal Power. “Given the performance characteristics of B-TRAN™ versus conventional power switches - higher efficiency, lower cooling complexity, and fewer components - we believe that B-TRAN™ can enable a wide

variety of emerging applications. For this project, we are excited to be partnering with DTI, who brings expertise designing and building solid state MVDC circuit breakers, in demonstrating B-TRAN™ as an enabling technology for the U.S. Navy as part of their ship electrification program. We potentially see the U.S. military as one of the early adopters of B-TRAN™ devices.

“Legacy circuit breakers have always been limited by their mechanical complexity, slow switching speed, and high conduction losses – all issues that are solved by the integration of our B-TRAN™ power semiconductor technology,” continued Mr. Brdar. “To date, the widespread adoption of DC distribution and transmission has been stalled by the lack of an efficient, low-loss, solid-state circuit breaker. B-TRAN™-enabled high-efficiency MVDC circuit breakers could potentially be utilized in various industrial applications, including medium-to-high voltage DC transmission systems and new electrical generation, such as solar and wind, that are DC-based. We believe B-TRAN to be a potential game-changer for distributed DC networks and will seek to leverage our collaboration with DTI for the U.S. Navy to establish inroads into the broader market for industrial and utility DC networks. According to a recent market research report from MarketsandMarkets™, the market for industrial and utility DC networks is anticipated to exceed \$12 billion by 2024.”

About Ideal Power Inc.

Ideal Power (Nasdaq: IPWR) is pioneering the development of its broadly patented bi-directional power switches, creating highly efficient and ecofriendly energy control solutions for industrial, alternative energy, military and automotive applications. The Company is focused on its patented Bi-directional, Bi-polar Junction Transistor (B-TRAN™) semiconductor technology. B-TRAN™ is a unique double-sided bi-directional AC switch able to deliver substantial performance improvements over today's conventional power semiconductors. Ideal Power believes B-TRAN™ modules will reduce conduction and switching losses, complexity of thermal management and operating cost in medium voltage AC power switching and control circuitry. For more information, visit www.IdealPower.com.

About Naval Sea Systems Command

The Naval Sea Systems Command (NAVSEA), part of the Department of Defense, engineers, builds, buys and maintains ships, submarines and combat systems that meet the Fleet's current and future operational requirements. It is the largest of the Navy's five system commands and accounts for nearly one quarter of the Navy's entire budget. NAVSEA has the further responsibility of establishing and enforcing technical authority in combat system design and operation. These technical standards use the organization's technical expertise to ensure systems are engineered effectively, and that they operate safely and reliably. For more information on NAVSEA, please click [here](#).

About Diversified Technologies, Inc. (DTI)

Diversified Technologies, Inc. designs, manufactures, and markets the patented PowerMod™ line of high-voltage, solid-state, pulsed power modulators and switching power supplies. DTI's PowerMod technology is the recipient of prestigious local and national awards and is recognized as a true breakthrough in high-voltage electronic design. The company has shipped hundreds of systems to customers in the U.S. Departments of Energy and Defense, leading universities, and private sector companies for a range of applications including semiconductor fabrication, food processing, high energy physics research, medical electronics, and radar. For more information on DTI, please click [here](#).

Safe Harbor Statement

All statements in this release that are not based on historical fact are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 and the provisions of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. While Ideal Power's management has based any forward-looking statements included in this release on its current expectations, the information on which such expectations were based may change. These forward-looking statements rely on a number of assumptions concerning future events and are subject to a number of risks, uncertainties and other factors, many of which are outside of our control that could cause actual results to materially differ from such statements. Such risks, uncertainties, and other factors include, but are not limited to, the success of our B-TRAN™ technology, whether the patents for our technology provide adequate protection and whether we can be successful in maintaining, enforcing and defending our patents and our inability to predict with precision or certainty the pace of development and commercialization of our B-TRAN™ technology, our ability to secure additional financing and uncertainties set forth in our quarterly, annual and other reports filed with the Securities and Exchange Commission. Furthermore, we operate in a highly competitive and rapidly changing environment where new and unanticipated risks may arise. Accordingly, investors should not place any reliance on forward-looking statements as a prediction of actual results. We disclaim any intention to, and undertake no obligation to, update or revise forward-looking statements.

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