

Emerging Clean Tech Leader in Mississauga!

Temporal Power receives an investment of \$500,000 dollars for clean energy technology.

Words by Pam Banks



Temporal Power is a company based in Mississauga, Ontario, that develops electrical energy storage systems for the smart grid. What distinguishes the company from its competitors is its revolutionary flywheel technology. A flywheel is a heavy cylindrical mass with an electric motor that functions as a mechanical battery. It stores kinetic energy and uses a generator to convert this into electricity.

It was recently announced that Temporal Power received \$500,000 in support from the Investment Accelerator Fund (IAF), a government-funded program administered by the Ministry of Economic Development and Innovation. The IAF provides qualifying companies in Ontario with capital to help bring innovative products and services to market. Ontario's investment helps Temporal Power demonstrate a commercial-scale energy storage system to investors and customers, including utilities, power generators and industrial users.

Traditionally, flywheel systems have been used as short-term energy backups. Temporal's flywheel energy storage system (FES), however, is able to hold 50 times as much energy as most commercial systems currently available on the market. The system has flexible power capacity and can be configured to deliver anywhere between 25 kilowatts to 500 kilowatts of power.

With extremely low standby losses, the FES system can store power for 10 hours with less than a 5 percent energy loss. By comparison, most commercial flywheels will self-deplete in 20 minutes to 7 hours. Temporal Power's FES system has a 20-year operating life in the most demanding conditions.

Temporal Power will be building a flywheel electricity storage system on the grid in southwestern Ontario. The system addresses the challenge of fluctuating power output on large wind farms. It absorbs surges of power caused by wind gusts and maintains a steady flow of power into the grid when the wind speed drops.

In addition to the recent funding from the IAF, the RIC (Research, Innovation and Commercialization) Centre has also been involved in Temporal Power's success. Through the Entrepreneurs-in-Residence (EIR) program, RIC has supported the company on numerous fronts, including gathering market intelligence and facilitating new business introductions. In fact, the two principals were introduced by RIC Centre's EIR James Sbrolla. According to James, "Jeff had come up with an amazing idea, and as an engineer he realized that he needed some assistance on the business planning front. I introduced him to Cam—who had a great track record having worked successfully with another RIC client—and they have formed an excellent partnership."

According to Cameron Carver, CEO of Temporal Power, "RIC Centre is a great resource for facilitating important introductions. In fact, RIC along with MaRS provided the initial connection to my business partner Jeffrey Veltri who at the time was developing an innovative flywheel prototype. Today our company, Temporal Power, is preparing to deploy Jeffrey's game-changing technology to enhance renewable power generation and support the development of the smart grid."

Temporal Power was voted as the 2010 Innovator Idol winner for the RIC Centre's Growing Your Business, Season 2. Carver says they were "awarded with a range of prizes that have proven to be valuable, and winning the event resulted in important introductions to potential investors."

A significant part of the world's electricity is generated from renewable sources. Innovative companies like Temporal Power are helping to make a difference in the way we store and use energy. RIC Centre continues to support clean-tech companies like Temporal Power, by connecting them to new investors and helping them expand their businesses.

About the RIC Centre

Pam Banks is the Executive Director of the Research, Innovation, Commercialization (RIC) Centre located in the Sheridan Science Park. Launched in 2008 as a not-for-profit organization supporting the development of innovation and entrepreneurship in Mississauga, Brampton and Caledon, the RIC Centre provides commercialization support to over 150 companies, and 46 percent of all successful RIC clients have either received funding or have been introduced to funding sources and investors.



(L-R) Cameron Carver, CEO and Jeffrey Veltri, CTO of Temporal Power