VIRENT ENERGY SYSTEMS, INC.
COMPANY FACT SHEET

President & CEO: Lee Edwards

Founder & Chief Technical Officer: Dr. Randy Cortright

Headquarters: Madison, Wisconsin

Founded: 2002

Funding:

Virent is privately held with Cargill Ventures, Venture Investors LLC, Stark Investments, Honda Strategic Ventures, and Advantage Capital as leading investors.

Technology:

Virent's BioForming® process is a patented catalytic process that converts abundant renewable plant sugars into gasoline, jet fuel, and diesel hydrocarbon molecules previously refined from only petroleum.

The BioForming process is based on the innovative Aqueous Phase Reforming (APR) pathway to biofuels and bioproducts invented by Dr. Randy Cortright and Dr. James Dumesic at the University of Wisconsin-Madison.

- Virent holds the exclusive worldwide license to the patented APR process from Wisconsin Alumni Research Foundation.
- Virent currently has more than 100 issued and pending patent applications in the U.S. and internationally covering various aspects of the BioForming technology.

Current Development Focus:

Virent is developing production capabilities for biogasoline, sugar-based diesel, bio jet fuel, and hydrogen.

Recent Milestones:

- Virent received the prestigious Presidential Green Chemistry Challenge Award in the Small Business category from the U.S. Environmental Protection Agency in June 2009.
- During 2008. Virent received numerous awards including World Economic Forum Technology Pioneer, ICIS Best Innovation by a Small or Medium Sized Enterprise, and Red Herring 100 North America.

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- Virent received a $500,000 grant and a $500,000 loan from the Wisconsin Energy Independence Fund in September 2008.
- Also in September 2008, Virent disclosed its new chemical pathway to produce renewable and cost-competitive liquid fuels in a white paper and published patent applications.
- In March 2008, Virent and Royal Dutch Shell announced their collaboration to convert plant sugars directly into biogasoline, to be used at high blend rates in standard gasoline engines.

Historical Highlights

- November 2001 - Initial patent application submitted for hydrogen generation from oxygenated compounds utilizing Aqueous Phase Reforming by the Wisconsin Alumni Research Foundation.
- May 2002 – Initial patent application submitted for hydrocarbon generation from oxygenated compounds utilizing Aqueous Phase Reforming by the Wisconsin Alumni Research Foundation.
- June 2002 - Nature article published announcing the discovery of hydrogen generation utilizing Aqueous Phase Reforming.
- June 2002 - Virent Energy Systems LLC founded by Dr. Randy D. Cortright and Professor James Dumesic.
- July 2003 - Virent Energy Systems awarded $2 Million Advanced Technology Program Grant from the National Institute of Standards and Technology to develop catalyst and reactor systems necessary for hydrogen generation utilizing Aqueous Phase Reforming of oxygenated compounds.
- March 2004 -Virent Energy Systems is incorporated.
- September 2004 - Started up 300 sccm prototype hydrogen generator.
- September 2004 - Started DOE funded project with ADM to investigate the Aqueous Phase Reforming of sorbitol.
- October 2004 - DOE announcement of award to Virent, ADM, and University of Wisconsin for the generation of hydrogen from corn-derived glucose.
- December 2004 – Moved into facilities at 3571 Anderson Street, Madison, Wisconsin, USA.
- June 2005 - Seed round of funding completed.
- December 2005 - Started up a 10 kW MG&E power generation system which produced a hydrogen/alkane gas that fuels an internal combustion engine to generate 10 kW of electricity onto the local electrical grid.

- May 2006 – Closed Series A round of venture funding led by Cargill Ventures and included Honda Strategic Ventures and Venture Investors.
- Summer 2006 – Began development of renewable liquid fuels including biogasoline, sugar-based diesel, and bio jet fuel.
- December 2006 – Began development to optimize yields of propylene glycol from biodiesel-generated glycerol after being awarded a $2 million USDA-DOE competitive grant
- January 2007 – Began a $2 million DOD program to produce a 1kW portable power system for the Navy.
- February 2007 – Awarded a $2 million USDA-DOE grant to produce propylene glycol from biodiesel-generated glycerol.
- May 2007 – Announced strategic joint development agreement with Shell Hydrogen to develop and deploy hydrogen generation systems for filling station applications.
- Summer 2007 – Began pilot of a distributed hydrogen generation.
- September 2007 – Closed Series B round of venture funding let by Stark Investments and Venture Investors LLC. Cargill Ventures, the Series A Lead Investor, and Advantage Capital Partners fully participated in the round.
- September 2007 –Awarded $2 million Advanced Technology Program grant from the National Institute of Standards and Technology to develop cellulosic pretreatment technologies to generate sugars and chemical intermediates for further processing into biofuels or chemicals.
- March 2008 – Announced strategic joint development agreement with Royal Dutch Shell to develop production capabilities for biogasoline. The announcement came as the two companies completed one year of collaboration.
- September 2008 - Disclosed Virent's new chemical pathway to produce renewable and cost-competitive liquid fuels in a white paper and published patent applications.
- January 2009 – Completed construction of a large addition to Virent's headquarters in Madison, Wisconsin, bringing its total laboratory and office space to 64,000 square feet.

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