VIRENT

The Virent story begins with Randy Cortright, who, as a young man growing up in Michigan, decided to pursue a career in engineering. He attended Michigan Technological University where he earned BS and MS degrees in Chemical Engineering. While at MTU, Randy studied catalysis, specifically as it applied to petroleum processing. After graduation, he accepted a position at UOP, a provider of petroleum and petrochemical process technologies. Cortright did research and development, process design, start-up, and operations of large scale industrial catalytic processes on almost every continent during his tenure at UOP.

Madison, WI - Virent's Hometown

After leaving UOP, Randy earned his PhD in Chemical Engineering from the University of Wisconsin-Madison. While working on his doctorate, he focused his innovative research on catalytic processes, and, upon graduation, joined the University of Wisconsin faculty. He crossed paths with Dr. Jim Dumesic, and the two began developing catalytic systems for the clean manufacturing of fuels and petrochemicals.

In 2001, Drs. Cortright and Dumesic were doing research in collaboration with Cargill, focusing on the catalytic upgrading of fermentation acids. They learned they could react oxygenated compounds and water over catalysts to generate hydrogen, which was to become Virent's first chemical product. The two gentlemen, with the assistance and encouragement of the Wisconsin Alumni Research Foundation, applied for initial patents on a novel catalytic pathway now known as Aqueous Phase Reforming (APR).

In 2002, Randy left the university, with patents in place, to begin the process of commercializing the catalytic process which is now tradenamed Virent's BioForming® platform. By 2004, the 15-member team had outgrown the incubator environment, settling into a building just to the northeast of Virent's current facility on Anderson Street. The company incorporated as Virent Energy Systems, Inc.

The company was poised to take advantage of a robust market for hydrogen fuel cells for cars, but that market never materialized. Fortunately, a designed hydrogen experiment inadvertently produced a liquid product. Upon further investigation, the team determined that the liquid product shared many attributes with gasoline. To confirm the analytical results, the team poured the liquid in a 1970 Jacobson lawn mower with a Briggs & Stratton engine. It worked! With oil moving up to $60/barrel, Randy and his team decided to redirect their R&D efforts to see if they could produce cost effective liquid fuels and chemicals via the APR process.

"Eagle" Virent's Demonstration Plant

By early 2006 Virent was consistently producing both automotive and jet fuel from renewable plant sugars. Toward the summer, Virent closed its Series A round of venture funding led by Cargill Ventures, with participation from Honda Strategic Ventures and Venture Investors (Madison, WI).

Fuel development continued, and many companies began hearing about Virent's research and expertise in catalysis. In April 2007, Virent and Royal Dutch Shell entered into a collaboration agreement dedicated to commercialization of gasoline. By fall 2007, Virent, on the strength of progressing its liquid fuels research, closed a Series B venture round led by Stark Investments and Venture Investors. Cargill Ventures, the Series A lead investor, and other existing investors fully participated in the round as well.

Virent - Main Entrance
Madison, WI

With significant financial support, Virent was able to build a world-class catalysis lab environment. By 2008, the company had grown to 70 people, and had begun competing for and winning several federal awards and grants for research. The company also received numerous industry awards including World Economic Forum Technology Pioneer, ICIS Best Innovation by a Small or Medium Sized Enterprise, and Red Herring 100 North America. The company completed a large addition to Virent's headquarters in Madison, Wisconsin, bringing total laboratory, production and office space to 64,000 square feet. Late in 2008 Virent welcomed its present CEO, Lee Edwards, to the helm. Lee joined Virent from BP, bringing with him 25 years of oil company experience.

2010 brought additional growth and notoriety as Virent and Shell started production at the world's first biogasoline demonstration plant located in Madison, capable of producing up to 10,000 gallons per year. In May of that year, Virent closed a Series C round of funding round led by Royal Dutch Shell with strong participation from Cargill and other existing shareholders. The investment expanded existing research and development collaboration with Shell to include diesel fuel.

2011 was a year of firsts. Virent produced the first biogasoline from corn stover and pine harvest forest residuals as a recipient of the DOE's grant to the National Advanced Biofuels Consortium. Virent produced Paraxylene from plant sugars, becoming the first company to produce the missing 70% needed to create the first 100% renewable PET packaging. Virent also received its largest federal award to date, up to $13.4M from the DOE to convert the corn stover to jet fuel. Finally, Virent also welcomed its first chemical customer, The Coca-Cola Company, to its list of world-class partner companies.

Virent is replacing crude oil.

We are applying clever chemistry to create the chemicals and fuels the world demands from a wide range of naturally occurring, renewable resources.

Using our patented catalytic chemistry, Virent is converting soluble biomass-derived sugars into products molecularly-identical to those made with petroleum, including gasoline, diesel, jet fuel, and chemicals use for plastics and fibers.

By replacing crude oil, Virent is creating ***economic security, energy independence and a healthier world.***