



Virent Fact Sheet

Company

Virent, Incorporated

Founded

2002

Headquarters

Madison, Wisconsin

CEO Lee Edwards

CFO Jeff White

Co-Founder & CTO

Dr. Randy Cortright

Employees

80

Key Collaborators

Royal Dutch Shell, Cargill,
The Coca-Cola Company,
and Honda

Facility

25 lab scale systems
2 pilot plants

Financing History

\$77M+ in private
investments
\$75M+ in industrial
partnerships and
government support

Funding Agencies

DOE, FAA, USDA, DOD,
Commerce Department

Awards and Honors

2009—Presidential Green
Chemistry Award
2009—World Economic
Forum Technology
Pioneer
among others

Learn More

www.virent.com

Virent is replacing crude oil by creating the chemicals and fuels the world demands using a wide range of naturally-occurring, renewable resources. Its patented technology features catalytic chemistry that converts plant-based sugars into a full range of products identical to those made from petroleum, including gasoline, diesel, jet fuel, and chemicals for plastics and fibers—Virent's technology can replace over 90% of a barrel of crude oil. The development of Virent's BioForming® technology platform is supported through strategic investors and collaborators, including Shell, Cargill, Coca-Cola, and Honda.

Direct Replacement Products

Virent's fuels and chemicals have the same molecular composition and performance as their petroleum-derived counterparts. For this reason, Virent's products are direct drop-in replacements that enable full utilization of existing logistics infrastructure without blending limitations.



Fuels

- Virent's products are fully compatible with existing petroleum refining infrastructure, such as pipelines, tanks, pumps and engines of all kinds, offering renewable, sustainable plant-based alternatives without additional investment.
- Gasoline made via the BioForming process is a high octane fuel that features a 20% - 30% BTU/gallon advantage over ethanol and can be used at high blend rates.
- Analysis of Virent's jet fuel reveals performance characteristics meeting or exceeding those of today's conventional jet fuels.

Chemicals

- Virent's BioFormPX® paraxylene enables production of 100% renewable PET packaging and polyester fiber from sustainable plant sugars.
- Virent's BioFormPX product can be used in the existing PET/polyester supply chain with no change in downstream equipment or processes.
- The BioForming technology can also produce other drop-in chemical building blocks for the production of detergents, polyurethanes, nylons, solvents and other commonly used materials.



Feedstock Flexibility

Virent's BioForming process is able to use a wide variety of feedstocks, including cellulosic feedstocks like bagasse, corn stover, grasses, sorghum and wood as well as conventional feedstocks like beet sugar, sugar cane and corn starch. Virent's feedstock flexibility enables the use of the lowest cost biomass sources available in a particular geography.





Virent's BioForming Technology is Endorsed by Leaders in Industry & Government

Virent has an excellent track record of attracting and leveraging its collaborations with world-class companies and government agencies to progress commercialization of its technologies.

- Virent's corporate investors and partners represent leading companies across the energy, agricultural, beverage, and automotive industries – Shell, Cargill, Coca-Cola and Honda.
- Virent has ongoing collaborations with world class research partners in the fields of agricultural development, biomass deconstruction and conversion technologies including National Renewable Energy Laboratory, Idaho National Laboratory, Pacific Northwest National Laboratory, Louisiana State University, Washington State University, and Iowa State University.
- Virent has demonstrated production of fuels and chemicals from multiple commercial sugar and biomass feedstocks.
- Virent has produced commercial purity biobased paraxylene and benzene.
- Virent's paraxylene has successfully been used to produce 100% bio-based PET bottles.
- Virent's renewable gasoline has been blended by Shell into fuel used by the Scuderia Ferrari Formula 1 team.
- Virent has completed gasoline blend fleet trials in the UK.
- Initial testing of Virent's jet fuel by the Air Force Research Laboratory showed no harms results.
- 400 liters of Virent's biobased jet fuel were recently delivered to the Air Force Research Laboratory for further testing.



Driving Economic Development, Reducing Environmental Impact and Improving Energy Security

Together with its partners, Virent is leading the creation of sustainable and affordable bio-based products. Through the development of drop-in replacements for conventional petroleum products, Virent's technology has the potential to spur economic growth, benefit the environment and improve energy security – all while replacing crude oil with renewable, domestically-produced feedstocks.

- Virent's game-changing technology taps into enormous market potential in the biofuels industry – \$40-60 billion in the U.S. and nearly \$250 billion globally by 2022.
- Virent is aggressively working to bring our products to market leveraging existing collaborations and potential new partnerships.
- Virent's technology has the potential to grow the bioproducts industry, presenting an opportunity to revitalize the U.S. chemicals and plastics industry.
- Domestic, renewable feedstock production and processing will create jobs in rural communities across the United States.

Learn more at www.virent.com

