



▶ VIRENT WINS SAFE INNOVATION AWARD
PAGE 2



▶ VIRENT WELCOMES FRANK LIOTTA
PAGE 2



▶ VIRENT WINS 2013 ICIS INNOVATION AWARD
PAGE 3

FALL | 2013



BIOFORMING
news



VIRENT IS REPLACING CRUDE OIL, CREATING FUELS AND CHEMICALS FROM NATURALLY OCCURRING, 100% RENEWABLE RESOURCES.

2013: PROGRESS, BUT MUCH WORK REMAINS

As 2013 draws to a close, we look back on the year with a bit of disappointment based on time required to progress financing commercialization, but also pride in our many successes despite a tough year for the sector. Some of our competitors continue to fall short of expectations and fail to meet commercial milestones, resulting in a significant loss of confidence in our industry. Due to the uncertainty surrounding the Renewable Fuels Standard, the capital markets are hesitant to invest in bio-based products, making it more difficult for companies in our sector to obtain capital financing. The weak economic recovery, uncertainty surrounding policy, and the continued boom in domestic fossil energy production have created additional headwinds we must work to overcome. However, Virent has distinctive technology, a broad product slate, and strong partners which continue to be recognized as competitive advantages for long term success.

The Virent team has stepped up to the challenges and I am pleased with this year's accomplishments. In May, Virent announced the completion and commissioning of our second demonstration plant to

produce drop-in jet and diesel fuels, followed by delivery of 100 gallons of bio-based jet fuel to the U.S. Air Force Research Laboratory for testing purposes. We also won a new DOE grant for \$4 mm to improve the conversion efficiency of biomass to distillate products.



LEE EDWARDS, CEO

We have reached the successful completion of the technology development portion of our relationship with Shell, with future development work shifting to Shell's technology center in Houston. Shell will continue to progress toward the commercial deployment of Virent's technology in combination with their biomass deconstruction process for production of drop-in fuels. Virent will continue to support and collaborate with Shell on non-technical issues, such as fuels testing, certification and policy. In chemicals, we have met our technical milestones with The Coca-Cola Company and received independent

2013: PROGRESS, BUT MUCH WORK REMAINS CONTINUED

validation on our future path to economic parity with petroleum derived pX. These efforts build a strong case for commercial deployment. Lastly, Virent was recently recognized with two prestigious innovation awards: the 2013 ICIS Innovation Award and the 2013 Securing America's Future Energy's Emerging Innovation Award.

All things considered, we have done well in a difficult environment to progress promising opportunities toward the goal of achieving commercial success. We are not alone in recognizing the time and effort required to de-risk and commercialize a new, pioneering technology. In 2014, Virent will focus on reducing risks for commercial deployment, including the evaluation of opportunities to integrate our technology with existing petro-chemical facilities. We are leveraging external third party expertise and our own mini-plants to demonstrate the performance of our technology at a larger scale. I thank each Virent employee for their hard work this year and each of our investors for their support during these challenging times. With our continued best efforts I look forward to a bright future in 2014 and beyond.

VIRENT RECEIVES SAFE INNOVATION AWARD

Virent took third place honors from a field of over 20 applicants in the Emerging Innovation Award presented by Securing America's Future Energy (SAFE). SAFE is a nonpartisan organization dedicated to reducing America's dependence on oil by educating policymakers and advocating for comprehensive energy reform. The organization sponsored this award as part of their efforts to mark the 40th anniversary of the 1973 OPEC oil embargo. The award identifies companies whose breakthrough technologies are driving fundamental improvements in energy security with the potential to reach the market within the next five years. Virent was unique amongst the award winners, being the only biofuel technology recognized.

Kieran Furlong, Virent's Director of Chemicals, and the two other finalists presented to a live audience in Washington, DC at the OPEC Oil Embargo+40: A National Summit on Energy Security event. Keynote speakers included former Secretaries of State Dr. Henry Kissinger and Madeleine Albright, retired General James Conway, the CEO of GE—Jeffery Immelt, the CEO of GM—Dan Akerson, and FedEx CEO—Frederick Smith. Final placing was announced at the end of the event, and Virent received \$15,000 in prize money.

While attending the event, Lee Edwards was interviewed by CNBC's Sharon Epperson. The interview can be seen [here](#) (the segment on the SAFE event starts around 22:00). Lastly, last week SAFE hosted a Google+ Hangout which Virent and the other two finalists participated in. Discussions were centered around oil dependence, the award and benefits the finalists received from the award and event. [Click here](#) to view the discussion.



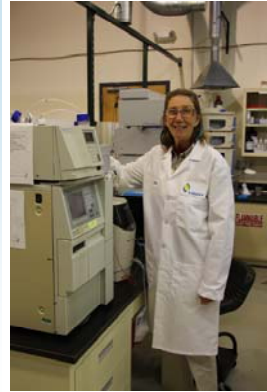
WELCOME FRANK LIOTTA!

Virent is pleased to welcome Frank Liotta to our team as a Business Development Manager. With over 20 years of successful commercialization and business development experience in the chemicals industry, Frank brings a wealth of expertise to our team. Leveraging his extensive background in the chemicals industry, Frank will primarily be responsible for market development activities directed to Virent's chemicals. Frank holds a B.S in Chemistry from Pennsylvania State University, an M.S. and Ph.D. in Organic Chemistry from Cornell University and an MBA in Finance from St. Joseph's University.



MEET EMPLOYEE PATTI O'CONNOR

Patti O'Connor, Virent's Quality Coordinator, has been with Virent for 9 years and is the 6th longest tenured employee. During her 9 years at Virent, Patti has held numerous roles including Catalyst Technician, Dangerous Goods Specialist and Chemical Analyst before becoming a Quality Coordinator. When asked what Patti enjoys the most about working at Virent she responded, "Virent is an exciting place to be. I really believe in what we're working towards, and it's nice to be a part of something that I'm proud of." Something that most people don't know about Patti is that she used to produce music for street musicians and other unknown talents trying to get their name out there, working on recordings and making album covers. In her spare time Patti enjoys gardening, working in the yard and cooking unusual "healthy, but tasty" meals. Patti holds a B.S in Medical Microbiology from the University of Wisconsin - Madison.



VIRENT RECEIVES 2013 ICIS INNOVATION AWARD



October proved to be an exciting month for Virent. In addition to winning the SAFE award, Virent was awarded the 2013 ICIS Innovation Award, winning the Best Innovation for Sustainability category for the development of our process for converting plant sugars into paraxylene (pX) for renewable, recyclable packaging and fibers. This is the second time Virent has won an ICIS Innovation Award. Virent previously won the Best Innovation for a Small and Medium-Sized Enterprise in 2008. ICIS is a leading global provider of news and information for the chemical and energy sectors.

The ICIS Awards are international awards honoring the very best innovations in the chemical industry. Award applicants were evaluated by a panel of expert judges against the criteria of sustainability; use of renewable resources, public benefit and process economics. The judges were impressed by Virent's ability to meet each criterion, citing that "sustainable solutions (like Virent's) are exactly what customers are looking for these days."

Employees celebrated the awards with cake and ice cream. A formal presentation of the award will be given at the ICIS Innovation Awards Luncheon on December 6th in London.



VIRENT ON THE ROAD

Virent presents around the world at a wide variety of events, and our annual calendar is kept up-to-date on the [events area of our website](#).

December 8-11, 2013	BioPacific Rim Summit on Industrial Biotechnology and Bioenergy	San Diego, CA
February 6-7, 2014	5th Annual Next Generation Bio-Based and Sustainable Chemicals Summit	San Diego, CA