Central Ohio
TOP RANKED IN TECHNOLOGY
TECHCOLUMBUS
OFFICIAL NEWSLETTER | www.techcolumbus.org | August 27, 2010

Central Ohio: A Growing Center for Advanced Energy Businesses and Technology

Consumer demand for alternative, cleaner forms of energy is driving innovation in the broadening energy industry.

The viability of solar, wind and nuclear power, along with electric cars, geothermal and other solutions are regularly discussed and, as new technologies emerge, the economics of a wide range of new energy businesses is playing out in the market.

Central Ohio has become an important center of activity in the field of Advanced Energy technologies and manufacturing, with several established and emerging companies offering divergent and innovative solutions and processes.

"We're seeing a real convergence of innovative knowledge here in the region," said TechColumbus Vice President of Finance & Administration and CFO Michelle Murcia.

"We're excited to be able to partner with these companies as they move forward into this really vital frontier in clean technology. It's an exciting movement to be part of."


An Algaeventure Systems employee works with algae, which is grown in a controlled environment in Central Ohio.

Central Ohio = Energy Innovation Focal Point

A collaboration that includes innovation giants Battelle Memorial Institute, The Ohio State University (OSU), Edison Welding Institute (EWI), and TechColumbus has identified such Advanced Energy potential in the Central Ohio region that it has submitted a proposal to the State of Ohio Hubs of Innovation and Opportunity Program to formally designate Central Ohio a Hub for Advanced Energy Manufacturing – Energy Storage.

The Hub designation would build upon the region's existing institutional, commercial and industrial relationships and resources, further developing existing expertise and competencies while building companies and creating high-wage job opportunities.

Leading the Way

A growing interest in reducing harmful emissions and finding alternatives to petroleum-based and coal-based approaches is the focus of many innovative companies right here in Central Ohio.

SCI Engineered Materials Inc manufactures materials vital to the production of thin-film products used in solar cells, and has been located in Central Ohio since its founding in the late 1980s. As the company grew and diversified, its leadership maintained a strong desire to remain in the Columbus area, due in large part to the richness of the region's expertise in materials science.

Vice President of Technology Dr. Scott Campbell said that Central Ohio is the right place for SCI to do business for many reasons. "This area is strong in technology, and the State of Ohio is a very strong supporter of solar cell technology," he said, adding that Columbus' physical proximity to a large portion of the U.S. population makes it a great choice for doing business.

In fact, 80% of U.S. corporate headquarters are within a day's drive or a one-hour flight of Columbus.

Another innovator in the field of solar cell technology is **Iosil Energy Corporation**. Their breakthrough work includes processes that recycle polysilicon waste material, or kerf.

Iosil collects kerf generated by polysilicon wafer sawing operations, cleans it to exacting standards, and produces high-purity solar grade polysilicon.

Because it results in much more efficient solar cells, high purity polysilicon is greatly valued by the solar industry. With as much as 45% of the polysilicon produced lost to wafer sawing operations, Iosil's recovery and repurposing of kerf represents a huge cost savings opportunity to the industry.

"We are establishing our facilities in the Columbus region," said CEO Earl Fuller, "for two very important reasons. First, the State of Ohio is a strong supporter of energy-oriented tech companies such as Iosil, and secondly, we've found strong advocacy for companies like ours through our relationship with TechColumbus."

After extensive research into plants like corn, soy and palm for their core business of environmentally-friendly packaging, **Univenture** discovered that algae offered the potential to sustainably produce bioplastics and perform as well as – or better than – petroleum-based plastics.

However, in order for algae to be a viable resource for energy production, processing technology needed to be improved substantially. Univenture formed **Algaeventure Systems** (AVS) as a separate entity dedicated to that goal.

In researching ways to remove the cost barriers from growing and processing algae, AVS also discovered a technology that they say will revolutionize dewatering and other solid-liquid separations.

AVS's innovation reduces the energy costs of dewatering microalgae by more than 90%. Said AVS Founder and CEO Ross Youngs, "Our technology can be transformational to meeting our nation's energy needs."

Plug Smart Solutions, which is building its business in the Central Ohio region, looks forward to partnering with AEP Ohio's gridSMART℠ initiative and other utility initiatives in developing solutions for extending the Smart Grid into the home as well as into electric vehicles.

Their business offers innovative technology that supports both electric-based vehicle usage and conservation of electricity through smart metering.

Plug Smart's leadership appreciates the proximity of other tech companies in the region, including OSU's Center for Automotive Research (CAR), where their lab is located.

"We've connected with some people who do a lot with and know a lot about electric vehicles," said Plug Smart's CEO Rich Housh. "Being here allows us to connect with smart people in our field. The intellectual capital here is remarkable."


Ross Youngs, CEO Algaeventure Systems

General Electric is currently imbedding Plug Smart's technology in their smart stationary charging devices. This technology enables the devices to charge electric vehicles during off-peak hours, making smarter use of energy.

Plug Smart also partners with Belkin International in developing a Smart Grid-connected energy management system that monitors energy consumption in the home, and controls appliances like water heaters, fuel pumps and air conditioning.

"Our goal is for this management system to become the national standard," Housh said. "As our operation grows, we hope to expand right here," he said.


Earl Fuller, CEO Iosil Energy


Rich Housh, CEO Plug Smart

GET *Connected*

Ted Ford
President & CEO
tford@techcolumbus.org
614-340-3353

Tim Haynes
Vice President, Member Services and Marketing
thaynes@techcolumbus.org
614-340-1698

Will Indest
Vice President, Venture Development
windest@techcolumbus.org
614-487-3700

Michelle Murcia
Vice President, Finance & Administration and CFO
mmurcia@techcolumbus.org
614-675-3714

Leslyn Wheeless
Director, Membership Sales
lwheeless@techcolumbus.org
614-340-1688

1275 Kinnear Rd. Columbus, Ohio 43212
614.487.3700 • **www.techcolumbus.org**