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NEW COMPANY ESTABLISHES NORTH AMERICAN FACILITY AT NCC

Composite Technical Services Inc. (CTS) is NCC's newest member company and is taking advantage of the Center's manufacturing space to house its operations. The company provides high-performance bio-based resins, flame retardants, composite gas cylinders and filament winding machines.

CTS chose Dayton, Ohio and NCC to base their North American facility because of the advantages the region and Center offer. Dayton provides easy access to major transportation routes and is home to Wright-Patterson AFB, defense facilities, universities and other important organizations committed to the development of advanced materials.

NCC has built a network that has attracted a mixture of scientists, production, manufacturing and business experts able to exchange information and ideas in a nurturing environment. This creates a unique atmosphere for problem solving. Typically, incubators tend to be either science or business oriented with little practical manufacturing experience. NCC is able to provide a total solution for companies like CTS.

The new company plans to establish R&D facilities for the development of products ranging from the composite sector to the plastics industry, and will also market existing products developed together with Italian business partners of CimtecLab, Sepma and VEM. CimtecLab and CTS - *Materials Division* have developed innovative products for polyurethane, epoxy resin and flame retardant applications in the bio-plastics, thermoplastics and thermosets industries. Under the brand *Exaphen*, CTS will market bio-based resins derived from cashew nut shell liquid (CNSL), a by product of the food industry. The versatile chemistry of Cardanol, the

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START-UP NANOSPERSE LLC JOINS NCC – BRINGS ADVANCES TO AEROSPACE INDUSTRY

On July 20 Nanosperse LLC opened its doors as a new company housed at NCC. Nanosperse is providing nanotechnology for materials used to supply longer-lasting parts to the aerospace industry.

Art Fritz, President and Chief Executive Officer of Nanosperse licensed the technology in January 2004 from the University of Dayton and has worked since then to get the company underway. Much smaller than human hairs, nanoparticles can be introduced into existing materials to give them new or higher performing properties.

Nanosperse currently makes a compound for Springboro manufacturer Renegade Materials Corp which uses it to produce a film that is applied to General Electric Co. jet engine parts to protect against erosion.

"The ability to take advantage of NCC's incubation services allowed me to concentrate on establishing the new company's business without having to worry about acquiring a building," said Fritz.

Incubation at NCC can last two to five years with at least a year to 18 months required per incubation stage. Nanosperse has seven employees and began production early in July.

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phenolic oil derived from CNSL allows *Exaphen* to come in a vast range of bio-derived polymers, ranging from polyols for polyurethanes to curing agents for epoxy formulations.

If used in combination with other bio-derivatives (soy, corn), the line of polyols (*Polycard XFN)* can help increasing the renewable content in high performance polyurethanes, as well as enhancing mechanical, chemical and flame resistance of formulations.

CTS markets SEPMA lightweight composite-reinforced type IV cylinders for high pressure gas storage including natural gas for the automotive industry and propellant for UAV and rockets. SEPMA cylinders offer a weight savings of up to 65 percent when compared to type I cylinders.

The company also provides solutions and technology for filament winding applications. Tailored to customer needs, options include filament winding equipment produced by the Italian partner CTS markets SEPMA lightweight composite-reinforced type IV cylinders for high pressure gas storage including natural gas for the automotive industry and propellant for UAV and rockets. SEPMA cylinders offer a weight savings of up to 65 percent when compared to type I cylinders.

The company also provides solutions and technology for filament winding applications. Tailored to customer needs, options include filament winding equipment produced by the Italian partner VEM, employee training, site preparation and pre and post-sales technical assistance. The company plans to hold an Open House September 15, 2009 for the NCC Member community and Dayton Region leaders. CEO Enrico Ferri, Director of Materials Elena Benedetti and Marco Volpi, Technical Director for the Filament Winding Division will be present for the event. For more details about the event, contact Business Development Manager Debra Talentino at debi@ctsusa.us.

NCC OFFERS MANUFACTURERS AND MEMBERS TECHNOLOGIES AND SERVICES

In today's economic climate, companies are finding it challenging to develop new products that incorporate composites and identify new markets. The National Composite Center is helping manufacturers in Ohio, the US and abroad bridge this gap by providing quick commercialization, manufacturing acceleration, incubation and a range of core competencies that include:

- Rapid Fiber Preforming
- Thermoplastics

NCC's SMC Line

- Sheet Molding Compounds (SMC) using bio materials
- Quickstep
- Nanotechnology

The Center's wide range of technologies is complimented by its ability to identify the most efficient manufacturing processes and lead manufacturers from concept and design to testing and trouble shooting, scale-up, prototyping, product testing and training.

In addition to new product applications, NCC also has the unique capability to reinvigorate existing markets by taking current applications and processes and to a higher technology level. The Center's work in Sheet Molding

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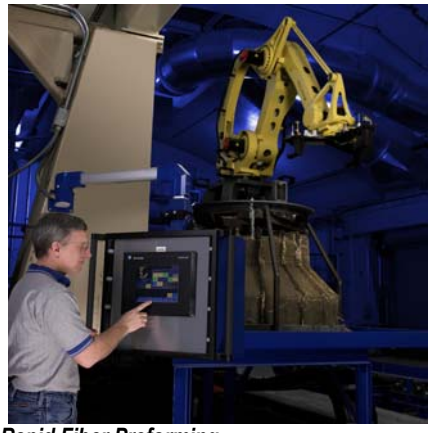
Compound (SMC) applications is one example. At its Bio-Lite Center, NCC specialists are working to develop new fillers to reduce weight and help manufacturers gain more market share.

NCC understands that if market pull exists for a technology or technologies, companies have a much better chance to pick up momentum. In addition to the incubation services NCC provides and the key connections to local organizations like the Dayton Development Coalition, NCC's network provides business segment opportunities where pull can be developed instead of pushing technology. The opportunity for technology transfer from one industry to another also exists.



Rapid Fiber Preforming

As an incubator, the Center provides a third key component - a nurturing environment for entrepreneurs, researchers and manufacturers that includes floor space for scale-up, business spin-off, supplier and distribution sources, and the connections to help put together a complete value chain.NCC's Materials Testing Laboratory is another important resource for companies looking to develop new products or enhance existing product lines.

Equipped to meet mechanical, optical analysis and thermal (DMA, TMA and TGA) composite testing needs, the Center's extensive experience in custom fixture design and development and its implementation of innovative test methods allows NCC to support requests for tests that do not conform to standardized methods. NCC also has an environmental testing chamber for elevated and subambient temperature testing.

NCC HOLDS ROUND TABLE EVENT FOR DAYTON REGION-ISRAEL AEROSPACE MISSION – MEMBER COMPANIES INVITED TO PRESENT THEIR PRODUCTS AND TECHNOLOGIES

NCC will hold a luncheon, a special round table event and tours on Wednesday Sept 9, 2009 from 11:30 a.m. to 5 p.m. for the DAYTON REGION–ISRAEL AEROSPACE MISSION. A cooperative effort between Dayton and Montgomery Counties, the Israel Export and Cooperation Institute and the Municipality of Haifa, the DAYTON REGION–ISRAEL AEROSPACE MISSION will focus on Ohio's Aerospace HUB which includes the UAV, defense, sensors and advanced materials industries from Sept. 7-10, 2009.

NCC member companies are invited to present their advanced materials technologies and capabilities as part of the round table activity. Exhibitors will remain stationary while representatives of 10 Israeli companies rotate to different tables in 20 minute intervals. Round table activities will commence following lunch.

Further details and an agenda will be made available at NCC and through the Center's August newsletter. For more information or to schedule your company, contact Joan Farus at jfarus@compositecenter.org.

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