



October November 2006

NCC STREAMLINES TO ENHANCE CUSTOMER SUPPORT

NCC is committed to continuously looking for ways to more effectively serve its industrial and commercial partners. The Center recently took steps to create a flatter, more agile organization that will significantly enhance customer support. These steps included eliminating a senior position, office management and contract purchasing.

This new, leaner profile provides several immediate benefits. Customers now have direct contact with the in-depth knowledge and experience of NCC's program managers and senior engineers. This one-on-one interaction is expected to be more responsive and dynamic. By further reducing its overhead costs, NCC will also be able to offer its equipment and services to industrial clients at lower rates. As a more customer centric organization, NCC is poised to move to the next level as an entrepreneurial and quick commercialization agent.

NCC A COLLABORATOR IN DAYTON DEVELOPMENT COALITION WIN FOR \$11.3 MILLION

NCC was a key collaborator in the Dayton Development Coalition's recent win of a Third Frontier Entrepreneurial Signature Program (ESP) Award for \$11.3 million. NCC was a central player in this

effort due to the mutual goals and objectives it shares with the Coalition regarding current and long term economic vitality and growth for the Dayton Region.

The Center is one of four lead collaborators in Technet – the team that will advise and assist in identification of ESP participant companies and provide oversight of service awards. A portion of the ESP award will be used to support expansion of incubator and product development services to be provided by NCC at its Dayton Campus for Advanced Materials Technologies (DC-AMT).

The Campus will serve as a technology incubation and manufacturing acceleration house. "We want new and existing entrepreneurs to have space where their technologies can move through the "valley of death" into prototype and manufacturing process development," said Lou Luedtke, President and CEO of NCC. "The full suite of NCC services and capabilities will be available to future tenants of AMT."

The Coalition's original proposal was \$15 million. The award represents the first round of approvals. The Coalition will pursue the remaining \$3.7 million in the Spring of 2007. Dayton was the only region to be awarded the full amount (\$6 million) for its Pre-Seed Fund request. The State will release more detail in the near future about the other program elements that were funded.

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AUSTRALIAN COMPANY RAMPING UP NEW TECHNOLOGY AT NCC'S DAYTON CAMPUS

During a special press conference in October, Governor Bob Taft announced that Quickstep Technologies Pty Ltd (a subsidiary of Quickstep Holdings Limited) had established its North American Quickstep Center of Excellence at NCC's Dayton Campus for Advanced Materials Technologies (DC-AMT).



Quickstep and NCC personnel gather in front of new Quickstep machine following press conference.

The international technology's Dayton debut marked a significant milestone for the Third Frontier Program. The Dayton Campus is serving as Quickstep's demonstration site for US aerospace and automotive manufacturers.

A QS20 composites production machine, the heart of Quickstep's



October November 2006

unique molding technology, was purchased with a portion of an NCC Third Frontier Project grant totaling \$1,800,000. NCC received the grant in May for nano-enhanced sheet molding compound (SMC) scale-up, equipment that also being operated and housed at DC-AMT.

The City of Dayton also contributed \$475,000 to the purchase and support of the Quickstep equipment. Montgomery County, City of Dayton, Citywide Development Corp., Dayton Development Coalition and Liteflex LLC teamed with NCC to contribute funds for building improvements totaling more than \$1,000,000.

In addition to Governor Taft, the press event featured Australian Trade Commissioner - Chicago & The Midwest, Ian Smith, with additional comments by Lou Luedtke, President and CEO of NCC, and Nick Noble, CEO of Quickstep. "The Australia-United States Free Trade Agreement has opened exciting opportunities for companies on both sides of the Pacific. Technical collaboration such as that being undertaken by Quickstep and the National Composite Center makes manufacturers in both countries more competitive and leads to increased jobs for states such as Ohio and Western Australia," said Smith.

"The opening of the North American showcase center – located in the heart of the US manufacturing industry – represents a landmark

step in the ongoing commercialization of the Company's patented process for composites manufacture," said Noble.

"North America is a key target market for Quickstep, being home to many of the world's largest aerospace, automotive, marine and infrastructure manufacturers and their Tier One suppliers," he added. "NCC has a long and very successful history of introducing new and innovative advanced materials technologies to the American market, and the strong partnership we have forged with them represents a very important component of Quickstep's long-term growth and global expansion plans."

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NCC CAPTURES LEADS AT COMPOSITES & POLYCON 2006

NCC showcased its key technologies and provided the platform for Quickstep's introduction to university partners in October at ACMA's COMPOSITES & POLYCON 2006. The NCC booth experienced high traffic with visitors showing marked interest in the Center's Long Fiber Reinforced Thermoplastics (LFT) technology, Rapid Fiber preforming samples and Composite Advantage's bridge

deck panel featuring WebCore Technologies' patented core material.

The LFT battery box access door made for North American Bus Industries (NABI) through the collaborative efforts of the University of Alabama at Birmingham (UAB) and NCC was a major highlight of the Pinnacle Awards Competition. Technical papers were presented by two of NCC's composites engineers. Pritam Das delivered Structural Applications of Long Fiber Thermoplastics. The Power of Preforming was presented by Ed Spangler. Both presentations were successful, generating positive feedback. Das was invited to present his material on LFT at an upcoming industry conference. NCC's Stuart Wright won the raffle grand prize, a 58-inch Plasma TV Entertainment System sponsored by Cook Composites and Polymers.

COMPOSITES & POLYCON 2006 provided networking opportunities for NCC and potential partners for near and long term projects and generated leads for LFT, Rapid Fiber preforming and testing applications in the aerospace, transportation, infrastructure and commercial markets. The conference also set the stage for the introduction of Composites DOC, LLC, a new company created by NCC.

"Composites DOC announced its new triad partnership with Lohitsa Global (www.lohitsa.com) and

October November 2006

Vanderplaats R&D (VRAND, www.vrand.com),” said Dr. Brian Knouff, President of Composites DOC. “Lohitsa, with its staff of 120 plus design engineers and large servers, gives us the manpower required to tackle complicated and large system designs.” “VRAND, who specializes in design and optimization software for composite applications (Genesis), provides the opportunity to streamline and improve our composite design approach.”

“At ACMA we were very successful at exposing virtual simulation solutions to many customer problems and generating new business leads,” Dr. Knouff explained. “Juan Pablo Leiva, Genesis Project Manager at VRAND, raffled off a book on design optimization theory and demonstrated Design Studio software which uses Genesis. Guru Narayan, President of Lohitsa, introduced N-hance software used for prediction to improve the stability of structural assemblies of any size. As a result we generated quote requests for design, testing and prototype work at NCC.”

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FRP DECK INSTALLED IN SUMMIT COUNTY, OHIO

Composite Advantage LLC installed a 4,000 square foot Fiber Reinforced Polymer (FRP) vehicular bridge deck in Summit County, Ohio. Composite Advantage is a manufacturing spin-off company of NCC. Part of NCC's Composites For Infrastructure (C4I) program, the composite deck was constructed of multi-axial and uniaxial fabrics with vinyl ester resin.



Seventeen composite deck panels were placed in one day.



Inspected one month after installation, bridge deck performance has been flawless.

Composite Advantage also incorporated two layers of TYCOR® fiber reinforced foam core. TYCOR is produced by WebCore. The 7.7 inch thick molded sandwich deck was installed on five steel beams with a 55 degree skew at the ends of the

bridge. Seventeen composite panels, weighing 6000 pounds each, were installed in one day. On the second day the deck was connected to the beams. Panel joints were laminated on the third day and the joints covered with splice plates. The deck was given an asphalt overlay.

“The bridge was inspected after one month of heavy traffic and found to be performing perfectly,” said Scott Reeve, President of Composite Advantage.

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