



AUGUST 2007

NATIONAL COMPOSITE CENTER, DAYTAOHIO FORM ALLIANCE TO CREATE KNOWLEDGE CENTER FOR COMPOSITE SCIENTISTS, ENGINEERS

Philip Mowry, vice president, National Composite Center (NCC), and Chief Operating Officer for NCC's Dayton Campus for Advanced Materials Technologies and Ken Berta, senior vice president of business development for daytaOhio announced that NCC and daytaOhio (Wright Center for Data) have partnered to attract high-tech businesses to Ohio and provide unique support services.

"daytaOhio is making an investment that will allow NCC's first financial Knowledge Center to have a state-of-the-art multi-source video and videoconferencing facility, very similar to our Brandeberry conference room," said Berta, referring to one of several conferencing rooms available for

community events at daytaOhio. daytaOhio is housed in the Krishan and Vicky Joshi Research Center on the campus of Wright State University.



Berta added that, when completely outfitted with the latest high-technology video/videoconferencing equipment, NCC's first financial Knowledge Center will serve as a "cornerstone facility for the community." Designed for classes, symposia, meetings, and conferences to promote professional growth and excellence, the Knowledge Center will offer specialized capabilities such as

allowing materials scientists and engineers from around the world to hold a simulcast conference.

The partners will also work to build a library of composite materials. A Teradata platform, already housed at daytaOhio and capable of processing massive amounts of data, will be used in this project. "Our partnership will facilitate "a nexus of advanced data management and advanced technology as composite materials scientists from around the globe access and exchange more data and knowledge than ever before," said Mowry. A third objective of the relationship will involve knowledge capture to advance the development of capabilities.

QUICKSTEP SHOWS VARIETY OF MATERIALS AND FAST PROCESSING SPEEDS AT DEMO DAY

The North American Quickstep Center of Excellence (NAQCE) held a Demo Day following successful commission of the QS20 machine. Representatives from three different companies attended expressing interest in the various materials Quickstep is able to process. In addition, participants observed the speed at which Quickstep was able to process two panels during the demonstration. Two 24X24 G83C panels processed in about 40 minutes.



Ben Luedtke, Quickstep Manager at the Dayton Campus for Advanced Materials Technologies, briefs visitors on Quickstep process.

G83C is a prepreg material that is commonly used in the automotive industry.

Quickstep, a unique patented molding process can use thermoset and certain thermoplastic prepreps as well as wet resin/dry fiber to produce superior composite parts that feature improved strength, stiffness, surface finish and appearance while achieving aerospace grade void contents.





NCC AND PARTNERS PARTICIPATE IN WRIGHT DIALOGUE WITH INDUSTRY EVENT

More than 450 people attended the second "Wright Dialogue with Industry" conference held July 24-26, 2007 at the Hope Hotel and Conference Center, Wright-Patterson AFB, OH. The Dayton Area Defense Contractors Association (DADCA) and the Wright Memorial Chapter of the Air Force Association (AFA) sponsored the event. Lou Luedtke, President and CEO of

NCC chaired the Materials Panel. The University of Dayton Research Institute (UDRI), NanoSpere LLC and Vector Composites Inc., a division of DRT Technologies Inc., served as speakers for the panel.

The "Wright Dialogue With Industry" Conference has been established to help promote economic development

activity among local defense contractors and Wright-Patterson Air Force Base. In conjunction with the event, the Air Force Research Laboratory (AFRL) looked back on a decade of advances. Representatives from all ten of AFRL's directorates participated in the conference promoting dialogue between government and industry.

NCC, QUICKSTEP PARTICIPATE IN CANCOM 2007 *Continued on Page 3*

NCC and NAQCE participated in CANCOM 2007 Aug. 14 – 17 in Winnipeg, Manitoba Canada. Luedtke, President and CEO of NCC, served as Plenary speaker for CANCOM'S Technical Program. He is also a member of the International Advisory Committee. NCC has a collaboration agreement with the Composite Innovation Centre (CIC), one of the conference sponsors, for the development of composite technologies. Quickstep presented

a paper titled Rapid Out-Of-Autoclave Processing Of An Agate Qualified Carbon Epoxy Prepreg.

CANCOM is a technical forum for the exchange of information and ideas about composite materials and technical conference structures. Canadian and international participants from industry, government, and academia are expected. The conference begins with a one-day symposium on industrial applications of composite technologies followed by a

three-day technical conference (Aug 15-17). During NCC's session, Luedtke discussed Ohio's growing role as a center of excellence for processing nano ingredients into polymer composites for multi-functionality. The session outlined the investments already made, the programs underway, the early results obtained and the ability for other companies in the composites industry to benefit from the work taking place in Ohio through these programs.

PUT TECHNOLOGY INCUBATION PANEL OF EXPERTS TO WORK FOR YOU

Ohio companies interested in polymers and structural composites will have the opportunity to tap the technical expertise of a wide range of experts during a special session to be held October 9 at NCC from 10am to 5pm.

A panel discussion will give participants the benefit of open discussion and the exchange of individual questions. Attendees will also be able to schedule private one-on-one meetings with experts following the panel discussion. For more

information contact Crystal Yexley at cyexley@compositecenter.org or call 937-297-9443.





NCC, QUICKSTEP PARTICIPATE IN CANCOM 2007 *Continued from Page 2*

The Quickstep paper gave an overview of The FAA AGATE (Advanced General Aviation Transportation Experiments) program which was designed to reduce the certification cost for flying parts on small aircraft via the use of pre-qualified materials. An aim of the program was to provide lower cost standard material forms and processing techniques (compared to autoclave). Quickstep, a novel out-of-autoclave polymer composite material processing technology, uses a liquid to

transfer heat to the uncured laminate, enabling precise control of the laminate temperature and a considerable reduction of cure-cycle times. Plant and tool structural requirements are significantly reduced compared to those of autoclave or oven processing. The paper described the Quickstep technique for the processing of a qualified AGATE aerospace composite material, Toray 2510/T700S PW carbon epoxy prepreg. Laminate test specimens were manufactured using various Quickstep

process cycles for the determination of glass transition temperature and degree of cure, to establish the proper cure cycle. Physical and mechanical properties of the specimens have been measured and are reported. Comparable property data was obtained for the Quickstep and the AGATE-qualified oven vacuum bag processed composites, with the Quickstep process achieving a significant reduction in the overall process cycle time.

