



# JUNE 2007

## NCC NAMES CFO AND BUSINESS DEVELOPMENT MANAGER

The National Composite Center (NCC) has named David Harrison as its Chief Financial Officer (CFO) and Garald (Robbie) Robinson as its new Business Development Manager. As NCC's part-time CFO, Harrison will also serve the Dayton Development Coalition (DDC) in the capacity of CFO.

NCC and DDC, which serves as a member of the Center's Board of Trustees and has been an active partner in numerous projects, are excited to retain Harrison's financial experience as a community asset and leverage his in-depth knowledge to advance the economic development community.

Previously a senior corporate financial analyst for the Times Mirror in Los Angeles, California, Harrison came to Dayton, Ohio in 1996 where he has served in several key positions at LexisNexis.



*(l to r) David Harrison, NCC President & CEO Lou Luedtke and Robbie Robinson.*

In addition to Senior Director of Business Management, Harrison worked as Vice President of Financial Planning and Analysis and most recently as Vice President of Finance. He holds a bachelor's degree from Wright State University and a master's degree from Pepperdine University in Los Angeles.

In a similar arrangement, NCC will share Robinson's skills as Business Development Manager with its spin off company and

Dayton Campus tenant Vector Composites Inc, a division of DR Technologies Inc.

Serving 27 years in the U.S. Air Force, Robinson – a fighter pilot and experimental pilot – also held key assignments such as Program Manager for the F-22 program, Wing Commander of the 412<sup>th</sup> Test Wing at Edwards Air Force Base, California and Commander of the 88<sup>th</sup> Air Base Wing at Wright-Patterson AFB, Ohio.

Following his retirement, Robinson became a consultant to large defense contractors. He served most recently as Senior Vice President, Air Force Programs for Robbins Gioia, LLC. He holds a bachelor's degree from the United States Air Force Academy, a master's degree in aeronautical sciences and a master's degree in management from Embry-Riddle Aeronautical University.

## NCC JOINS CENTRAL STATE UNIVERSITY'S INDUSTRIAL COMMITTEE

NCC has joined the Central State University's Board of Industrial Advisory Committee (IAC). NCC partners with universities and research institutions to advance research, innovation and knowledge in the field of advanced materials.

The invitation was extended to the Center, through Pritam Das, NCC's Program Manager for Advanced

Composite Materials. Das was asked to join the IAC Board by Dr. M. A. Abdallah, Department Chairman for the Manufacturing Engineering Department at CSU. NCC will team with CSU to help give the university's industry and research interns exposure and experience with advanced composites.

These internships are a critical ingredient to helping to prepare

students for challenges in real world advanced manufacturing. NCC will also work with CSU to aid minority programs and guide senior design projects.

NCC will use CSU interns this summer in its research and development activities for processing of carbon nano fiber based nanotechnology.





## QUICKSTEP AT NCC'S DAYTON CAMPUS RECEIVES COMMISSION

Commissioning of the QS20 composites production machine at The North American Quickstep Center of Excellence (NAQCE) has been completed. A key component of NCC's Dayton Campus for Advanced Materials Technologies (DC-AMT), NAQCE will also begin initial manufacturing trials with North American aerospace companies.

The QS20 machine at the NAQCE is the first deployment of Quickstep's patented technology in North America – the world's largest market for advanced composites materials – and is consistent with Quickstep Holdings Limited's (ASX: QHL – "Quickstep") strategy to establish demonstration facilities near target markets to better serve potential customers.

Representing the latest generation of Quickstep machines with a redesigned control interface and data collection and management system – as well as

enhancements to the already energy-efficient fluid management system. The machine will be used to demonstrate rapid curing of elevated temperature composites, primarily 177°C (350°F) curing epoxies used extensively in the commercial and military aircraft industries.

Other thermoset resins, including bismaleimides, cyanate esters, polyurethanes, polyesters and vinyl esters, as well as certain low temperature thermoplastics can also be processed by the equipment.

"The Center is ready to perform curing trials on a wide range of materials and variety of components, and we are now inviting those companies that have expressed interest in the process to come to Dayton to compare Quickstep with their current methods of part manufacture," said Ben Luedtke, Quickstep's Composites Technical Manager at the NAQCE.

Several North American manufacturers have already committed to evaluation projects with Quickstep through the NAQCE, including leading advanced technology companies GE Aviation – one of the world's leading producers of jet engines for commercial and military aircraft; and Sikorsky Aircraft Corporation – a world leader in the design, manufacture and service of military and commercial helicopters and fixed wing aircraft. Both companies are exploring the potential of the Quickstep Process as a viable and effective alternative to autoclave-based manufacturing.

"Production rates are significantly increasing, given the success of our new GENx engine," said Stephen Mitchell of GE Aviation's Technology Transition & Productivity Programs. "We are interested in exploring Quickstep as it relates to materials and specific components in addressing our production requirements."

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## QUICKSTEP SCHEDULES DEMO DAY AT NCC DAYTON CAMPUS

Following successful commission of the QS20 machine, NAQCE has announced it will hold a Demo Day July 12. Quickstep, a unique patented molding process can use thermoset and

certain thermoplastic prepregs 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 of less than two percent. Participants can sign up for Demo Day or find out more information by emailing [marketing@amtdayton.com](mailto:marketing@amtdayton.com)





## QUICKSTEP RECEIVES COMMISSION *Continued From Page 2*

NAQCE is Quickstep's third operational showcase site, with similar facilities already operating in Australia and the UK. A fourth facility is currently being commissioned in Germany.

The Company also recently secured a manufacturing contract with a European aerospace original equipment manufacturer (OEM), and last week announcing a landmark Cooperation & Development Agreement with Eurocopter, the world's largest helicopter manufacturer.

Both contracts were secured through initial work at Quickstep's European Centre of Excellence in the UK. Dale Brosius, Quickstep's Chief Operating Officer - Americas & Europe, said the completion of commissioning at NAQCE represented the culmination of a long-term strategy to bring the Quickstep process to North America. Quickstep was also a featured presenter at the OPTIX 2007 Conference, held last month

at NCC. OPTIX 2007 was attended by key materials and technology suppliers, as well as significant producers of composite parts for the aerospace, automotive and industrial markets. Quickstep held a live demonstration of the Quickstep Process for a number of OPTIX 2007 attendees to coincide with the conference.



*Melding, a Quickstep benefit, melts the surface of one part into the surface of the other making one integrated whole.*

OPTIX 2007 was attended by members of Quickstep's Technology Advisory Board, including the Chairman, Professor Andrew Walker, who provided a keynote address. Professor Walker, a leading consultant to global aerospace companies, said:

"Quickstep's Technology Advisory Board estimates that by 2011, Boeing and Airbus will each need to manufacture an additional 840 tons of carbon fiber materials each month in order to satisfy demand for new twin-aisle and replacement single-aisle aircraft that are necessary to meet the world's rapidly increasing appetite for air travel. This additional production – amounting to almost 1,700 tons of carbon fiber per month – must be sourced from a manufacturing industry already operating close to capacity, making new and more efficient processing techniques an absolute necessity."

Lou Luedtke, President & CEO of NCC, commented: "The presentation made by Dr. Walker was the highlight of a very successful event with his provocative comments regarding the growth of the airplane market and the need for carbon fiber composites. This market need makes the Quickstep Center a huge opportunity for parts manufacturers for this growing aerospace industry."

## NCC SCHEDULES NEXT NANO-COMPOSITE BOOTCAMP EVENTS

NCC has scheduled Nano-Composite Bootcamps for July 19 and October 4. Participants will learn how and why nano technology works, unique property combinations that can be achieved, how to drastically reduce processing and systems costs,

replace engineering resins with nano-polyolefins and problem solve to grab new market shares with nano applications. Dr. Phillip Wilson, President of Inspired Innovations, LLC and former Chief Technologist for Magna International will lead the events.

Both bootcamps will run 9 a.m. to 4 p.m. at NCC. The cost for attending is \$300 per person. NCC member companies can attend for a discount of \$250. To register email Crystal Yexley [cyexley@compositecenter.org](mailto:cyexley@compositecenter.org) or call 937-297-9443.





## NCC – HELPING TO GROW BUSINESS AND SKILLED PERSONNEL

Through NCC's quick commercialization and incubation activities, the Center is not only committed to advancing composites and growing businesses, but to developing the community's most important resource - skilled professionals. Adept at transferring breakthrough composite technologies to the manufacturing sector, NCC also effectively transfers talented personnel to incubating companies to facilitate growth.

This month NCC is excited to announce the transfer of Senior Technician Dave Hartfelder to member company EXOKO Composites Company. Dave has been part of the NCC team since 1999.

In addition to overseeing the Center's electrical systems and robotic programming, Dave has served as the primary operator of NCC's 1000-ton SRIM press and worked the Center's Automotive Composite Consortium program. In addition, Dave generously gave of his time to assist technicians new to NCC.

EXOKO first tapped NCC's development and prototype services for a unique pump design. Able to accomplish the pumping of non-conventional difficult-to-pump fluids, the pump was traditionally assembled using a rubber lined steel tube housing and a coated steel rotor. While these conventional pumps offer good life and reliable service, abrasive fluids and heat build-up in the rubber significantly shortens the life of the pump. Through NCC, EXOKO was able to quickly and successfully develop a precise, progressive cavity pump with

composite materials. EXOKO began operations at NCC in 2006 after the NCC further assisted the company with technical challenges related to operational scale-up.

"It is always a bitter-sweet moment for NCC when we "graduate" one of our people, said Lou Luedtke, President and CEO of NCC. "Dave was an integral part of our NCC family, and we hate to see him go. However, the move to EXOKO is a win-win situation for all involved. EXOKO gets specialized, NCC certified composites expertise; the employee gets to take an exciting new step in their career; and NCC has placed another productive contributor into the regional, private sector economy."

## NCC PICKS NEW BATCH OF INTERNS FROM LOCAL UNIVERSITIES

Heather Brooks, a participant in the University of Dayton's (UD) co-op program returns to NCC full time for five semesters (summer and fall) as the Center's Materials Testing Laboratory co-op. Recently completing her sophomore year,

Brooks is majoring in chemical engineering and will play a major role in NCC's nanotechnology programs. To date Brooks has participated in several types of composite testing along with sample preparation and testing for NCC's Buckypaper project.

From Central State University, Kristyna Cummins joins NCC full-time this summer to assist in the Center's thermoplastics and nanotechnology programs. From the University of Cincinnati, Kyle Seger will work to conduct an aerospace industry study for composites.

