



AUGUST 2005

NCC SIGNS JOINT AGREEMENT WITH SINCLAIR AND RECEIVES \$2 MILLION IN CAPITAL APPROPRIATIONS FUNDS

The National Composite Center (NCC) has signed a Joint Use Agreement (JUA) with Sinclair Community College. As a result of the agreement, NCC will receive \$2 million in capital appropriation funds for facility upgrades and new tooling to enhance current and future project work.

NCC will work in close cooperation with Sinclair to become an integrated part of the college's learning environment. In addition to providing a guest lecturer each month for appropriate classes and making the Center available for presentations and tours, NCC will also give full course instruction for current or newly created material for up to two quarters per contract year.

Consulting, on topics ranging from problem solving techniques, value engineering, value analysis and lean manufacturing to program management tools and other topics will be provided by NCC's technical staff. NCC and Sinclair will work to establish a library at the college containing composite material information and pre-approved presentations.

Students and faculty will have access to NCC laboratory and processing equipment. NCC will also work with Sinclair's

Engineering Technologies Division to develop composite design and material processing course materials. NCC and Sinclair will also develop cooperative work experiences for one student per quarter initially. Access to the Center's Conference facilities for events and development of an NCC and college advisory committee are also planned.

"We're really excited about the collaboration with Sinclair because the plans that have been outlined set the groundwork for an educational environment that will provide us with future employees effectively trained in composite technology," said Lou Luedtke, NCC President.

ESTEE MOLD AND DIE BECOMES ONE OF NCC'S NEWEST MEMBERS

Estee Mold and Die, based in Dayton, celebrated its 60th anniversary this month and became one of the National Composite Center's newest member companies. Since the company opened in 1945, Estee has built an international reputation as a supplier of tools for the automotive and aerospace industries and a variety of molds for the automotive, electronic and appliance markets.

With its ability to work in rubber, plastic and die cast applications, Estee is also no stranger to composites. The company originally built tools to support Delphi Automotive Systems (NYSE:

DPH)'s composite leaf spring program. In 2001, as a result of NCC's ability to identify the right partners and lead negotiations, Delphi sold its Liteflex composite spring business to the newly formed Liteflex LLC in conjunction with NCC. Estee continues to support Liteflex's tooling requirements for the composite spring.



Estee Mold and Die celebrates 60th anniversary.

Estee further caught the Center's attention with its flexibility and quick turn around times. In its first project for the Center, Estee provided the tooling that made the parts for the main wing and end caps for Vector Composite, Inc.'s construction of a proof-of-concept composite wing for Lockheed Martin [NYSE: LMT].

Delivered in March 2005, the composite wing is part of a joint study being conducted by Lockheed Martin and the Aviation and Missile Research Development and Engineering Command (AMRDEC) to explore new manufacturing processes for producing small, lightweight composite wings.

"Estee preformed with the precision required for high tolerance aerospace requirements," said Dave Sabol, Vice-President for

Vector. "They made three different distinct tools for three different manufacturing processes which carried common interfacing surfaces. The tooling accuracy was critical to the overall assembly and the success of the project."

In 2004, the University of Alabama at Birmingham (UAB) and NCC worked with the Army Research Laboratory (ARL) on a Long Fiber Reinforced Thermoplastics (LFT) application for an artillery training round tail cone made out of aluminum. Following initial design work submitted by UAB, NCC worked with Estee to design and build the necessary tooling.

Estee also provided tooling services to support the Center's prototype work with EXOKO Composites Company to quickly and successfully develop a precise, progressive cavity pump with composite materials. Composite Advantage, which took over production of the unique pump concept for EXOKO continues to receive tooling support from Estee. In addition, Estee provided tooling for a medical part produced by Composite Advantage and regularly provides the machining for the carbon fiber part.

One secret to the company's continued growth is its ongoing investment in new technologies. "There's been a lot of publicity locally about NCC, the wide variety of uses for composites and the Center's advances in commercializing those uses," said

Steve Ponscheck, Program Manager for Composite Applications for Estee. "We understand the need to continue evolving as a company by expanding our own capabilities. We see the composites industry as a market with true growth potential. Becoming a member company exposes us to the advantages we can gain by learning new methods of tooling. Our close proximity to the Center and our ability to provide a quick response time make it win-win situation for both companies."

Estee will share a booth with NCC at the upcoming Composites 2005 trade show to be held in Columbus, Ohio Sept. 28.

NCC AND COMPOSITES ONE EXHIBIT AT COMPOSITES 2005

The National Composite Center (NCC) will participate in ACMA's Composite 2005 Sept. 28 – 30 for the first time with Composites One, named earlier this year in a joint announcement as the sole distributor of NCC's **Rapid Fiber Preforming** technology for North America. Visitors can learn more about the Center's Large Scale Preforming capabilities at Composites One's Booth #401 and a unique preview event.

Composites One and NCC will host a special preview to demonstrate the Center's preforming advances and talk about application development and technical support services. The Preview is scheduled

for Sept. 29 from 8 a.m. to 10 a.m. in Union E at the Hyatt Regency Columbus. A continental breakfast will be provided.



NCC's Large Scale Preformer

NCC will showcase the broad range of critical technologies it uses to help customers bring products to market quicker at the NCC Booth #1412. Visitors will also be able to talk with representatives of the Center's spin-off companies Composite Advantage LLC and Vector Composites Inc., and meet one of its newest member companies Estee Mold and Die.

As the leader in the development and commercialization of cost competitive composite materials and manufacturing processes, NCC's staff of technical experts will present a series of papers.

Dr. Bob Brannon, Manager of Thermoplastic Technology for NCC and partners Uday K. Vaidya, and Juan C. Serrano, Department of Materials Science and Engineering University of Alabama at Birmingham (UAB) and George Husman, Office of the Dean, School

of Engineering, UAB will present Long Fiber Thermoplastic Composites For Automotive And Transportation Applications. A second paper, Robotic Preforms, will be presented by NCC Project Managers Ela Kos and Ed Spangler and Sean Salmi, Molded Fiber Glass Research Company.

Kos will also present Innovative Pedestrian Bridge Design. Dr. Brian Knouff, Program Manager for NCC will present a paper on Design and Optimization of Composite Products.

SPACESHIPONE FLY-IN PARTIALLY SPONSORED BY NCC AND BOEING

SpaceShipOne, the first privately built experimental aircraft to fly into space three times from the Mojave Civilian Airport and net a \$10 million x-prize, landed at Wright-Patterson Air Force Base (WPAFB) July 31 on its way to the Smithsonian for display.



SpaceShipOne

Mike Melvill, the first person into space in a civilian space program and the first FAA sanctioned civilian astronaut, piloted SpaceShipOne in two successful flights last year using a two-stage-to-space combination with the White Knight.

Both are designs of Burt Rutan and were built and flown by Rutan's company Scaled Composites LLC. In addition to his designation as a civilian astronaut, Melvill is the Vice-President and General Manager of Scaled Composites.

The fly-in and low pass over the Wright Memorial were requested by the Pulsed Detonation Aircraft team at Wright-Patt and sponsored by General Electric Aircraft Engines. NCC and Boeing sponsored a presentation by Melvill at the Engineers Club of Dayton for the general public. Nearly 300 people attended the event.

"When Larry Blake, superintendent for the Dayton Aviation Heritage National Historical Park, first learned of the fly-in he contacted us to help marshal support for the event," said Lou Luedtke, NCC President. "Boeing, an NCC member company, agreed to help us co-sponsor this once-in-a-lifetime event for the public. This is a great example of advanced composites being put to work in the civilian industry and of the regional cooperation that took place to give people in the Dayton region a glimpse of history in the making."

At the conclusion of his talk, Melville was presented with an authentic copy of the first private pilot's license which was awarded to Orville Wright. The license was signed by Stephen Wright and Amanda Wright Lane, great grand nephew and niece of the Wright Brothers and Marion Wright, wife of

the late Wick Wright, grand nephew of the Wright Brothers.

NCC SENDS BEST WISHES TO OUT-GOING VICE PRESIDENT; CONTINUES WITH STRATEGIC INITIATIVE

NCC Vice-President Dave Richard has left the Center. NCC thanks Dave for the work he accomplished and offers the best wishes of the staff in his future endeavors. NCC continues to move forward with the strategic planning update the Center initiated in January with its Board of Directors and Wright State University.

Until the completion of the strategic planning update, Scott Reeve, President of Composite Advantage LLC and former Vice-President of NCC, will serve the Center with a portion of his time during the interim. The results are expected in Fourth Quarter and will shape NCC's next steps.