



## NCC LAUNCHES NEW AEROSPACE AND DEFENSE COMPANY

On Dec. 18, 2003 the National Composite Center (NCC) kicked off the first day of the next century of aviation history by unveiling a new aerospace and defense company Vector Composites, Inc., during a special press conference.

Some 50 representatives of the Greater Dayton business and political community attended the event. NCC and minority partner Mutual Tool and Die Inc. created Vector Composites Inc., to bring the advantages of the Center's unique preforming technology to customers in the military, defense and commercial aerospace industries.



The press conference was emceed by NCC CEO Lou Luedtke and featured speakers Dennis Rediker, Volunteer Chairman of NCC's Board of Trustees and CEO for Standard Register; John Weidner, newly elected President of Vector Composites, Inc.; JP Nauseef, COO for the Dayton Development



*1) NCC CEO Lou Luedtke kicks off press conference. (Seated l to r) U.S. Rep. Mike Turner, Dennis Rediker, JP Nauseef and newly elected Vector President John Weidner*



*U.S. Rep. Mike Turner told crowd NCC venture with Vector represents some significant core competencies in the community.*

Coalition and U.S. Representative Michael Turner. Mr. Rediker opened his remarks by telling attendees that the start-up of an enterprise like Vector Composites is the reason why NCC was created. He added that with the help of organizations like the University of Dayton Research Institute (UDRI), the Dayton Development Coalition, EMTEC and the Air Force Research Laboratory (AFRL) state and federal funds were invested to turn NCC from an idea into a reality. Since the Center was established, NCC has gained national

recognition for its unique preforming and molding capabilities, manufacturing systems and incubation services. Its' most recent successes include a press conference earlier in the year announcing ArvinMeritor as sole distributor of truck and trailer mechanical composite leaf springs produced by NCC licensee Liteflex LLC and receipt of two Wright Capital Project Fund awards totaling \$3 million. NCC is already responsible for the creation and preservation of 140 jobs in the Dayton region that generate an economic impact of nearly \$50 million per year.

Under new President and CEO John Weidner, Vector Composites will share space in NCC's state-of-the-art manufacturing facility during its first year or two of operation. As part of its incubation services, the Center will support Vector in the development and manufacture of composite parts using equipment supplied by Third Frontier funds. Mutual will provide manufacturing and business accounting, quality, sales and marketing support.

Unlike other aerospace companies, Vector will be able to offer its customers the advantages of NCC's signature Rapid Fiber Preform (RFP) process. NCC has demonstrated RFP's ability to produce complex shapes at reduced costs. Recent efforts have included application development geared toward qualifying parts Vector will manufacture. Last month NCC completed production

of a C-17 engine fairing. The new fairing replaces a traditional composite fairing at the same weight yet will be manufactured at a cost savings of 40 percent.

Vector is expected to bring its high tech, low cost composite solutions to the military's aircraft technology, unmanned air vehicles and smart weapons systems. Vector will also meet defense application needs and provide large and small commercial aircraft with parts that delivered reduced weight and greater functionality.

Equipping the region with a stronger, competitive manufacturing base, Vector is expected to quickly grow to more than 50 jobs for the area.

### **C-17 PYLON STUB FAIRING SHOWS PROMISE AS POTENTIAL FIRST PRODUCT FOR VECTOR COMPOSITES INC.**

Newly launched Vector Composites Inc., is working to produce a C-17 pylon stub fairing using NCC's Rapid Fiber Preform (RFP) technology and Vacuum Resin Transfer Molding (VARTM) expertise. The development work done to create the prototype parts also produced two technology milestones for NCC and Vector.

For the first time, experts for Vector and Composite Solutions designed and built composite tooling capable of delivering better definition and improved tolerances. Composite

Solutions is a direct supplier to Boeing.

The second first was the creation of a caul plate bag-side surface tool able to produce a perfect finish on both sides of the part. This new tool eliminated the rough surface typically associated with a VARTM bag-side finish as well as the need for any secondary finishing operations.



*C-17 pylon stub fairing*

The ability to manufacture a good surface finish is a critical ingredient to meeting stringent aerospace specifications. These tooling innovations have taken NCC and Vector to a new level of advanced composite manufacturing. The fairing delivers the same high quality characteristics as an autoclaved part. Once the part is

qualified, Vector will produce the preforms to be vacuum infused by Composite Solutions. Composite Solutions is based in Auburn, Washington.

### **NCC HOSTS ACMA TOOLING SYMPOSIUM**

NCC hosted the ACMA Tooling Symposium in its state-of-the-art Conference & Education Center December 9 – 10. Nearly 150 visitors attended.

The symposium assembled the nation's top composite tooling experts to cover a broad range of applications and methods from basic mold tips to advanced tool design. Educational sessions showcased open molding composite tooling; tooling for RTM and VIP processes; aerospace tooling and specialty tooling applications.

Dave Sabol, newly elected Vice-President of Vector Composites Inc., gave a presentation on Building High Tolerance Tooling. Dave's session examined modeling, tool families, fabrication and controls able to achieve and maintain high tolerance tooling.

Demonstrations and exhibits from industry suppliers were also important highlights of the show. According to ACMA, tooling is the critical common denominator spanning the composite industry and impacting production, quality and manufacturing costs.



The organization expects to hold future symposiums at NCC's Conference Center due to the convenience of its centralized location and NCC's growing reputation as a Center for Excellence.

### **NCC SHIPS FIRST LARGE COMMERCIAL PREFORM**

This month NCC shipped its first large commercial preform to Retterbush Fiberglass located in Piqua, Ohio. Manufactured on NCC's P4A Performer using an RTM molding process, the part - a large Fiber Reinforced Polymer (FRP) underground gasoline sump container, will eventually be produced on NCC's new Large Scale Preformer (LSP).



*NCC ships first large commercial preform - an FRP underground gasoline sump container*

The LSP is supported by Wright Capital Project funds and will allow NCC to produce a variety of complex, very large composite parts.

### **NCC EXHIBITS AT DEFENSE MANUFACTURING CONFERENCE**

NCC showcased its advanced preform, molding and Litecast®

technologies at the annual Defense Manufacturing Conference held in Washington DC Dec. 1-4. The conference focused on manufacturing technologies for Department of Defense (DoD) weapon systems. In addition to its trade booth exhibits, NCC conducted technical coordination meetings with a number of customers who have on-going development projects at the Center. Two NCC member companies also used the Center's booth to present their products and services. The Center's unique capabilities continue to establish it on the forefront as leader in advanced composite manufacturing.

### **HOLIDAY GREETINGS FROM NCC**

The staff at the National Composite Center wishes each of you a merry Christmas and a prosperous New Year!