

## NCC, NanoTechLabs create division to advance nanocomposites

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NanoTechLabs (Yadkinville, N.C., USA) announced on June 8 that it has teamed with the National Composite Center (NCC, Dayton, Ohio, USA) to create a new division called Buckeye Composites. Housed in NCC's headquarters facility, Buckeye Composites will focus its work on the commercialization, scale-up and production of nano-carbon composites that use buckypaper.

Buckypaper contains carbon nanotubes (CNTs) or other carbon nanomaterial in a membrane or paper-like format and is the core technology behind the new division. What began as development work between NCC and NanoTechLabs has resulted in manufacturing successes that include the production of a roll of buckypaper 12 inches wide by 50 ft long (305 mm by 15.2m) — the largest sample known to be produced to date.

Construction and installation of a 12-inch/305-mm-wide continuous line in the NCC nano facilities has recently been completed. Buckeye Composites will initially target thermal and electrical property enhancements for aerospace applications while reducing weight relative to existing material solutions. Contract work will be performed for the U.S. Air Force.

The ability to integrate CNTs into composite structures with buckypaper allows manufacturers to access the performance properties of CNTs using existing production processes. "One of the benefits of our buckypaper process is its versatility," said Jessica Ravine, Ohio Division president of Buckeye Composites. "We can use a variety of carbon nanomaterials including CNTs, carbon nanofibers [CNFs], and nanoscale graphene platelets. We can also incorporate binders during the paper-making process or during post production pre-pegging steps."

According to Ravine, the buckypaper process is very scaleable. The company has plans to scale to a 52-inch/1,321-mm-wide continuous process. Buckeye Composites has hired a chemical engineering co-op student participating in the University of Dayton's Cooperative Education Program and the Ohio Third Frontier Internship Program. Buckeye Composites is also tapping local resources through NCC's business incubation program. "In addition to the technology support, the opportunity to interact with NCC's network of composite industry experts facilitates end-user collaboration that is critical to our product development success," she said.

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