Washington Manufacturing Alert

The Newsletter Of The State's Most Important Industry

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Newswire: Quest Integrated gets financing; purchasing managers stay optimistic about economy; CubCrafters adds production space at Yakima airport; Jones Soda gets capital infusion; plus other news items. **Page 4**

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Tethers, Conference Highlight Potential For Space Cluster

The three-day NewSpace conference convenes in Renton this week just ahead of the 50th anniversary of the Apollo 11 landing on the moon, but most of the discussion will be focused on what's to come, not what used to be.

That's of particular importance to Washington state, which is trying to establish a space-industry cluster of companies making products and offering services. The region has had some notable successes, such as Jeff Bezos' Kent-based Blue Origin, and a few stumbles, such as asteroid-miner Planetary Resources (WMA Nov. 5, 2018).

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Skagit Company Finds Growth Niche In Producing Composite Rods And Tubes

BY BILL VIRGIN
Editor/Publisher

The brother-and-sister team of Amelia Cook and Leland Holeman had little more than a layperson's knowledge of composite materials when they purchased a small retail hobby supply business that handled fiberglass rods and tubes in 2008.

But through a lot of self-education, perseverance and the foresight to identify a niche with huge potential for a small company, they've built Mount Vernon-based Goodwinds LLC into a producer of large-batch and custom carbon and fiberglass composite rods and tubes for industrial customers, one with 12 employees and more than $2 million in annual sales.

Amelia Cook and Leland Holeman of Mount Vernon-based Goodwinds LLC. Photo courtesy of Economic Development Alliance of Skagit County.

Such has been the company's success in establishing itself in that niche that it has attracted the notice of such major customers as NASA.

Goodwinds recently completed a project of producing wrapped carbon tubes for a small autonomous rotorcraft to be sent to Mars on a NASA mission scheduled to launch a year from now.

Wrapped carbon tubes start with carbon-fiber fabric pre-impregnated with resin and cut to desired dimensions. The fabric is wrapped around a shaping mold called a mandrel, wrapped with cellophane tape and baked and cured in an oven. Once that's done the mandrel and tape are removed and the part can be cut to length, machined, drilled, notched, ground, sanded or otherwise treated according to customer specifications.

Composite rods and tubes can be found in a wealth of down-to-Earth applications as well, from pool cues to hiking sticks and tent poles. The material is attractive to product designers because of its light weight, strength, and flexibility for providing specific dimensions and characteristics they're looking for. Composites are also not affected by temperature and humidity, another attraction to product engineers.

Those attributes are well known, which is why composite materials are mainstream these days, with lots of firms, big and small, in Washington making composite materials, industrial molds and tooling, or parts and products from it. Good-

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Custom-Composites Rod And Tube Maker Looks For More Growth

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winds' market niche, Cook says, "is weirdly specific in that we focus specifically on custom composite rods and tubes. They're structural support pieces in things like guitars, or in great big industrial machinery or furniture or unmanned aerial vehicles. They're not usually the end product. They're a piece of something someone else is making."

To get noticed by the likes of NASA has taken a lot of years of work, Cook says. "We've tried to maintain from the beginning a commitment to excellence, so we're not sending out anything that would make anyone unhappy. It's as perfect as we can make it to meet the customer's specifications."

Two other factors have gone into Goodwinds' success. One is a willingness to do a lot of customization of the basic product. "Not a lot of other companies are willing to do the amount of machining we are," Cook says. "Composites really gum up machines; they're dusty and dirty. A machine shop can't switch back and forth between metal parts for Boeing and grinding a composite rod very easily. We focus on composites and we've figured out which machines and tools really work well for that. We've figured out how to cut and drill to very tight tolerances."

The other is to make sure Goodwinds can be found and noticed online. "That's where we get most of our inquiries," Cook says. "We have come to understand that engineers and product designers use Google. If they're looking for a carbon rod or a carbon tube, we are noticed. It takes years to build that. We've designed our website to have a lot of technical information so that engineers can see we do know what we're talking about and can likely fill their needs."

Cook says she and her brother were both at loose ends – she'd recently completed an MBA – when they went looking for a business to buy and grow. "Our parents had sold a small business and had a little bit of money they wanted to invest in our futures, which is a wonderful thing for a parent to do," she says.

The two bought a small Seattle hobby supply company that had fiberglass rods and tubes as part of its inventory (the company still does some sales for items like kites and model airplanes), and added to that business with the acquisition of a North Carolina company in 2010.

What really caught their eye, though, was the expanding market for composites in aerospace. "We thought this could really go some place," she recalls. "It's becoming more and more common that people are looking for this. Maybe if we can turn this into an industrial supply company we can support ourselves." (Interestingly, Goodwinds does some business in aerospace, not for the planes themselves but for tooling and equipment on the ground.)

At first Goodwinds was a reseller, buying from larger producers of tubes and rods and cutting to order. "We started getting orders from companies that couldn't get repeatedly accurate cuts from big producers," she says. That motivated them to begin manufacturing composite rods and tubes, so they began the wrapping operation. More recently they built a micro-pultrusion machine for producing tiny rods (as small as .019 inches) used in fabrics and even pipe organs.

"We just had an opportunity and we jumped on it," Cook says. "We've educated ourselves and we've worked hard to get the right people in the organization," from composite engineers to machining specialists. Cook's focus is on marketing, human resources and strategic planning.

Because the market for composite parts and components is growing, Goodwinds plans to grow too. The company has added a second production shift, and in the next three years could be adding a new building on its property.

Most of all, Cook says, she and her brother want to "figure out whatever the next big interesting thing with composites is. It's a changing field and a developing field, and we're trying to stay on top of innovation. We want to keep growing."

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Announcements From Tethers Illustrate Potential Of Regional Space Cluster

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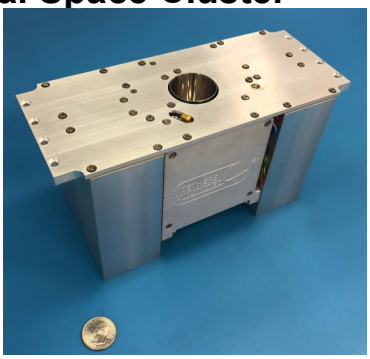
One of the smaller local companies helping to build the new cluster is Bothell-based Tethers Unlimited Inc., which has had several announcements of late demonstrating the opportunities for growth in the cluster.

Tethers recently delivered to NASA the Hydros-C water -electrolysis thruster, to be included on the Pathfinder Technology Demonstrator CubeSat, scheduled to launch in the fourth quarter of this year.

The company describes the Hydros-C as a "shoebox-sized thruster" [pictured at right, photo courtesy of the company] that uses water as propellant. "Unlike other water-based thrusters that simply expel heated steam, TUI's Hydros-C thruster uses electrolysis to split water into its constituent elements, hydrogen and oxygen, and then burns them in a rocket nozzle."

Using water electrolysis produces a thruster that is more efficient than existing electric propulsion, the company says, and has higher fuel economy than chemical thrusters. Using water as a propellant also is safer for people during satellite integration and for payloads during launch. "The extraterrestrial presence of water makes Hydros-C appealing as a refuelable propulsion option for future exploration architectures," the company adds.



Also in June, Tethers announced that Space-X's Falcon Heavy launched a number of satellites into low Earth orbit with many of them carrying equipment developed by Tethers.

Tethers today offers an array of products available now or under development ranging from antennas and deorbit modules to robotic arms. The 60-employee company does all of its manufacturing at its Bothell facility, according to Robert Hoyt, co-founder and chief executive.

Hoyt said the space industry is "transitioning from doing mostly 'bespoke,' one-off large spacecraft to mass production of small satellites, so the space industry is right now learning how to do mass production at low cost while achieving the quality controls necessary to have equipment work in space."

That, he added, bodes well for the regional space cluster. "The Seattle area's long history in mass production of aircraft and aircraft parts makes it well positioned to contribute to that exciting maturation of the space industry."

Newswire: The Latest In Washington Manufacturing

KENT: Quest Integrated LLC, which makes robotic sensors for non-destructive testing, has received an investment from a European energy private equity fund, according to Cascadia Capital of Seattle, which advised Quest. The name of the private-equity firm and the size of the investment weren't disclosed. The financing will be used for growth and to assist Quest's transition from an engineering development company to an oilfield services provider.

LAKEWOOD: Homewood Holdings LLC, owned by investment firm Building Industry Partners LLC, has acquired the assets of Custom Choice Door LLC from its owners, Ted Matthews and Alan Pascoe. Custom Choice, founded in 2007, has 45 employees at its Lakewood manufacturing and distribution facility. Homewood Holdings also owns Evergreen Lumber in Port Orchard and Eagle Creek Siding in Olympia.

SEATTLE: Darigold Inc. has opened an office in Dubai to increase sales of products including skim milk powder, butter and cheese in the Middle East and Africa.

YAKIMA: Northstar Commercial Partners of Denver said it sold its industrial property on River Road to a local investor for $24.5 million. The property, 98 percent leased, has three major tenants, including Sonoco Products, which makes plastic packaging for fruit shipped to national retailers. The building is 510,127 square feet on 20.2 acres.

BELLEVUE: Regional purchasing managers raised their readings on current and future business conditions in June, according to the monthly survey of the Western Washington chapter of the Institute for Supply Management. The June current-conditions index was 55.0, up 2.1 from May, while the 90-day outlook was 64.7, up 6.1 from the previous month. Scores above 50 indicate an expanding economy. Current and forecasted lead times were shorter than last month; current prices were lower but forecasted prices were higher. Current inventories were down considerably, and the forecast was also lower. Items reported to be higher in price include circuit card assemblies, bare printed circuit boards, electronic components, steel, alloying material, electrodes, aluminum, stainless valves and fittings, parts sourced from China and plastics.

KENNEWICK: Columbia Industries, a non-profit organization providing training and employment to people with disabilities, plans to acquire Paradise Bottled Water Co. from the father-and-son team of Rick and Jordan Hays. Paradise sells bulk and bottled water, as well as custom labeled bottles.

PORT ANGELES: Armstrong Marine has delivered a 46-foot high-tunnel catamaran to Chenega Future Corp., an Alaskan tribal organization. The vessel includes fishing gear made by Kinematics Marine Equipment of Marysville.

TACOMA: Globe Machine said it is nearing completion of projects at three building-products manufacturing plants in Europe. The projects include an upgraded oriented strandboard plant, an I-beam manufacturing plant, and a saw addition to a siding plant.

PERSONNEL FILE

Wood Stone Corp., the Bellingham maker of stone hearth and specialty commercial cooking equipment, has named Tamra Nelson vice president of customer experience and Eric Schueler vice president of operations and innovation.

YAKIMA: CubCrafters, which makes light sport, experimental and backcountry aircraft, has opened an 11,000-square-foot customer completion center at McAllister Field. The center, which can accommodate eight to 10 aircraft at a time, will allow CubCrafters to expand final assembly and pre-delivery operations. The company plans to manufacture more than 100 new airframes in 2019.

BOTHELL: Zunum Aero, the development stage company looking to build small hybrid-electric-powered passenger aircraft, has suspended operations, according to Forbes magazine. A June 2019 report from the state Department of Commerce, one of the funders of Zunum through its Clean Energy Fund, reported that the company "has experienced delays in investor fundraising since October 2018 and is looking at up to one full year program delay at this point." Forbes said Zunum has laid off most of its employees and given up its Indianapolis facilities. The company also had backing from venture funds affiliated with JetBlue and Boeing. More than a year ago Zunum announced a deal with JetSuite Inc. as a launch customer for planes to be delivered in 2022.

SEATTLE: Jones Soda Co. said HeavenlyRx Ltd., a portfolio company of SOL Global Investments, has made a $9 million investment in the company, increasing its stake to about 40 percent. Jones said it would use the money to expand its lineup of beverages, including drinks that include hemp-derived cannabidiol (CBD). Jones, now traded in the over-the-counter market, outsources production of its beverages to third-party bottlers and independent contract manufacturers. .