

Washington Manufacturing Alert

The Newsletter
Of The State's
Most Important Industry

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Newsire: Tool Gauge to double production space in Tacoma; Astronics buys Custom Control Concepts in Kent; Kirkland startup proposes hybrid-power passenger plane; training grant to provide welders for Port Angeles boatbuilder with big Navy contract; plus other news items.

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Green Cleaning Propels Growth At Lacey Ecos Plant

When the company now known as Earth Friendly Products was launched 50 years ago to make commercial cleaning products that were safer than what was available for janitorial service, no one was using the term "green" to describe an entire market category.

Even as the concept of environmentally friendly products for consumers and their households grew, it still barely qualified as a niche category, one to be found in small niche stores. Earth Friendly launched its consumer-

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With A Spring In Its Step, SmartCells Bounds Into New Applications

BY BILL VIRGIN
Editor/Publisher

Falls on playgrounds or in senior-care facilities hurt. Standing in one place the entire work day hurts. Sports injuries hurt.

And they can be hugely expensive, in the form of health care and insurance claims and lost time and productivity.

A small Chehalis company has built a \$10 million-a-year, 50-employee business on reducing the hurt that results from falls, injuries and physical stress.

SATech Inc. (short for Seamless Attenuating Technologies) has one technology with multiple applications. Indeed, the company's biggest challenge is figuring out which of those to go after, and a small company can establish a presence in those markets.

The underlying technology dubbed SmartCells, is an alternative to foam or gel as a cushioning for anti-fatigue mats and injury-prevention flooring. Foam is the traditional cushioning material, but it's prone to bottoming out when loads are placed on it for an extended time, and it eventually hardens. Gel mats work better, but they don't have any pushback or spring.

SmartCells' describes its underlying design (pictured above in a photo from the company) as an engineered structure, consisting of a matrix of cylindrical cells that spread and soften as they're compressed, but spring back to shape when the person standing on it moves or shifts weight. "It gives energy back as you move," says Bryce Betteridge, SATech's president. That means less foot and leg fatigue for workers standing behind counters or on a warehouse sorting line all day. Mats made with SafeCells provide stable, smooth footing while also being cleanable.

SmartCells' technology was first developed in the 1980s as part of a research project on making safer surfaces for playgrounds. The company later shifted to developing a cushioning material as an underlayment for basketball courts and artificial-turf fields.

Where SmartCells really found its footing, though, was when it focused on workplace mats for employees on their feet all day. It wasn't just the anti-fatigue technology itself but the ability to customize it to specific work spaces. Consider the case of airline agents working at the ticket counter. They may be given a mat two or three feet wide, but they're constantly stepping off it to hoist bags onto the conveyor belt.

SmartCells' answer was to come up with modular designs adaptable to the configuration of where and how the employee is working. Its anti-fatigue flooring can be found in more than 100 airports, and in the offices, warehouses and other facilities of such customers as Boeing, Costco, Amazon, Kaiser Permanente, Alaska and American Airlines and the U.S. Postal Service. "We go in and design around the equipment," Betteridge says.

SmartCells' designs are patented, providing some protection from competition

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SmartCells: From Shoes To Flooring, Applications Fuel Growth

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and knockoffs, but Betteridge says “we haven’t seen a lot of competitors trying to do what we’re doing.”

Anti-fatigue mats were just the start of market opportunities. In the early 2000s SmartCells began working on injury-prevention flooring and bedside mats for hospitals and senior housing and treatment facilities. The company has been working on a long-term study in Vancouver, B.C., with Simon Fraser University on how the flooring can prevent hip fractures and other injuries, and hopes to have results published next year.

To demonstrate the material’s cushioning abilities, SATech frequently uses the test of an egg dropped from several feet high; when landing on a surface backed with SmartCells, it bounces; without that, the egg breaks.

Next on the list — insoles, featuring a miniaturized version of the cell technology. Betteridge gives his personal endorsement to the insoles, saying they helped clear up knee pain he experienced as a runner. “They’ve been very well received,” he says, adding that some Olympic athletes have trained and performed with the insoles.

More opportunities were to be found in the sports venue, including training mats for volleyball. “There are a lot of stress injuries in volleyball,” which can be reduced by using cushioning technology, Betteridge says. The Stanford women’s and Ohio State men’s volleyball teams — both recent NCAA champions — trained on SmartCell mats.

Remember the playground safety mats that were the genesis of SmartCells? That’s coming back into play, as a material for rooms for treatment of epilepsy patients, and for indoor playgrounds.

And yet another potential market: recoil pads to protect the shoulders of hunters and target shooters from the kick of a rifle when it’s fired.

Betteridge sees yet another opportunity ahead, and a big one, in outfitting homes with fall-cushioning and injury prevention material. As the huge baby boomer cohort of

the population ages its members become more susceptible to falls and injuries, but most of them want to age in place instead of moving into a facility. He’s hoping that flooring with the cushioning his company makes becomes a standard feature in residences.

Most of SmartCells’ sales are direct to customer. It has been working with some flooring companies and others representing its products. Breaking into those big opportunities will require setting up a much larger distribution network, “but it’s not difficult to do that,” Betteridge says.

Growth also means SmartCells needs more production space, so the company is adding a 10,000-square-foot building in Chehalis. The full-time headcount of 50 workers sometimes reaches 75 with the addition of temporary employees.

In early 2016 SATech bought a Michigan developer of foot and ankle supports, Fastech Labs. The companies plan to blend product lines into what it calls the “industrial athlete program,” featuring custom and pre-molded orthotics and insoles for workers.

Most of SATech’s sales are in the U.S. and Canada. The company is thinking about Europe, but since products like mats tend to be bulky and heavy to ship, it’s considering options like licensing its technology to European producers.

Betteridge, who has a background in chemical engineering, was working with a venture capital group when he met with SmartCells, and wound up joining the company.

“Getting well known has been the challenge,” Betteridge says. The company has set up a marketing department to get the word out, and a website specifically dedicated to foot products (smartcellinsoles.com).

Betteridge says SmartCells has been growing at more than 20 percent a year for the last six years, and he believes there’s plenty more where that came from, if the company can manage it. “We have to be careful, we have so many opportunities,” he says.

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Earth Friendly Products: Lacey Plant Has Room For Expansion

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market line, branded as Ecos, in 1989.

It's a much different market today. The term green is widely used and recognized, and green products are a sizable category, available at mainstream retailers. Even the biggest of brands offer natural varieties or tout some green aspect to their products. "Green has really proliferated in the marketplace," says Jenna Arkin, product development director of the Cypress, Calif.-based company.

So if Earth Friendly Products (its formal name is Venus Laboratories) wants its Ecos brand to stay relevant in the market, it will have to find a way to stand out against competitors with much bigger marketing budgets.

Arkin says Earth Friendly has multiple strategies for making that happen. First and foremost is the message about the products and company. Earth Friendly is family owned, does its own manufacturing at four production plants, including one at Lacey, that are billed as being carbon and water neutral and zero waste. It sources ingredients and packaging locally (bottles come from Tacoma, corrugated from Renton), using such plant-derived raw materials as coconuts, potatoes, orange oil, parsley and vinegar.

Another is pricing. Arkin says Earth Friendly, by doing its own production, shipping products to retailers close to

where plants are and doing its own research and development, is able to keep prices close to, and in some cases below, conventional brands. "Green should not be a luxury," she says.

The Lacey plant, opened in 2010, has 30 full-time employees making 200 products for distribution in the Northwest and western Canada. Earth Friendly launched its Lacey operation in 50,000 square feet, then expanded to 67,000. The building is 82,000 square feet, and the company now owns the building, so the remainder of the space, presently rented out, is available when the company decides to expand again.

And it believes it will. Its products are now in such retailers as Costco, Whole Foods, Safeway and Walmart. Expanding sales to Asia is also on the to-do list.

The product line is being refreshed and expanded. It recently introduced new versions of its hand soaps and air fresheners, new scents for its laundry detergent and updated its line of pet-care products.

The company made another out-of-the ordinary move when it announced in 2014 it would set a companywide minimum wage of \$17 an hour. Arkin says the company believes having such high wages saves money in the long run, by improving retention of employees with experience and expertise and reducing turnover.

Letter From The Editor: Report To Our Readers

Dear readers,

First, thank you. Achieving a landmark of 200 issues over eight years — which we did with our most recent edition — doesn't happen, no matter how much enthusiasm one has for the subject, without your ideas, news tips, comments, suggestions, encouragement and financial support. We will continue to work hard to be worthy of your investment of time and money in this publication.

Now on to some practical matters. We have reinvigorated the website, manufacturingalert.com. It's now a convenient place to find information about subscribing to and advertising in WMA, and to read sample issues as an enticement to prospective subscribers. The website comes with a more professional looking email address; we've already migrated the biweekly mailing of the newsletter to that address, and we'll be using it more frequently for communication with news subjects.

One thing we've prided ourselves on is keeping the same base price since the launch of WMA in 2009. We're announcing a change to that. No, not a price increase; if anything it's a price cut. When we launched, we announced our subscription plan as 24 biweekly issues per year. The idea was to give ourselves two breaks a year (assuming a calendar of roughly 26 biweekly periods) to

allow for vacations and the like. We do skip an issue in late December, since the pace of news slows and we can devote more effort to the preview issue for the coming year.

But we've never taken that other break; there's been too much news to get to. We've never failed to publish 25 issues in a full year.

So to recognize officially what we've been doing anyway, all subscriptions are now 25 issues, for the same base rate of \$140 a year (discounts for multiple subscriptions ordered by one company or organization). All current subscribers will get an additional issue added to their subscriptions, and all new and renewal orders will be for 25 issues.

If there's one thing we've learned in the eight years of WMA it's how broad and deep the manufacturing universe is in this state. We rely on your insights and leads to find those companies and explain why they matter to manufacturing — and why manufacturing is, as our slogan has proclaimed from the first issue, the state's most important industry.

—Bill Virgin, Editor/Publisher



Newsire: The Latest In Washington Manufacturing

TACOMA: Tool Gauge, which makes plastic and metal assemblies for aerospace manufacturers, plans to nearly double the size of its South Tacoma production facility. Tool Gauge said the project, an investment of \$5 million to \$7 million, involves removing an old warehouse and building a new facility on current and newly purchased property, to house additional injection molding equipment, expanded paint and media blasting and plastics machining capabilities. Construction is to start late this year and be completed in early 2019. The company, which employs 127, expects to add 50 to 100 jobs in the next five years.

KENT: Aerospace components supplier Astronics Corp. has acquired Custom Controls Concepts, which makes cabin management and in-flight entertainment systems for Boeing and Airbus jets and other aircraft used in the private and corporate markets. CCC was founded in 1998. Another Astronics subsidiary, Advanced Electrical Systems, is based in Kirkland. Astronics is headquartered in East Aurora, N.Y.

BELLEVUE: Northwest purchasing managers moved into optimistic territory in March, according to the latest survey from the Institute for Supply Management's Western Washington chapter. The current conditions index gained 9.7 from February to 58.0, while the 90-day outlook added 4.4 points to 54.8. Index numbers above 50 indicate an expanding economy. Purchasing managers said current and forecasted prices were lower, while inventories now and over the next 90 days are higher. Current delivery lead times were reported to be shorter. Items reported to be higher in price include circuit card assemblies, bare printed circuit boards, corrugated boxes, steel, stainless steel, softwood lumber, iron castings, aluminum extrusions, batteries and electronic-grade wire.

PORT ANGELES: The state Department of Commerce has awarded a \$123,000 grant to train certified aluminum welders for Armstrong Marine Inc., which recently won a \$38 million contract to build maintenance barges. Impact Washington and Peninsula College will work with Armstrong to develop curriculum. The company plans to hire 60 workers over the next 24 months, doubling its workforce.

KIRKLAND: A local startup backed financially by Boeing and JetBlue Technology Ventures is developing a commercial passenger airplane with a hybrid system combining conventional fuels with battery power. Zunum Aero says its 10-to-50-seat aircraft could be ready in the early 2020s. The plane would initially have a range of about 700

miles, extended to more than 1,000 miles by 2030. The plane is designed to serve small, non-hub regional airports, with reduced operating costs, emissions and noise. A spokesman for the company says no decisions have been made on where assembly of the frame, propulsion system and drive train will take place, although he did say they will be manufactured in the U.S. "with locations based on the disciplines. Eastern Washington, for instance, is a great option for airframe manufacture and final assembly." Ashish Kumar, whose resume includes helping to launch Aeroxchange, an electronic marketplace for the aviation industry, is founder and CEO of Zunum Aero.

YAKIMA: Three startup manufacturing companies, two of them in food manufacturing, were winners in the fifth annual business plan competition sponsored by the Yakima County Development Association and the Kittitas County Chamber of Commerce:

- Whipsaw Brewing of Ellensburg will receive \$10,000. The company makes beer for its tap room and statewide distribution.
- Sorbatto, a family owned Wapato company making a premium whole-fruit, blueberry-based frozen dessert, will receive \$5,000. The product is available in stores in Washington and Oregon, and the company expects to expand distribution in the coming year.
- Wycked Hitch, which will receive \$2,500, makes a hitch system for the Polaris Slingshot watercraft.

Manufacturing Calendar

- April 11-12, 2017** Amcon contract manufacturing show, Meydenbauer Center, Bellevue; amconshows.com.
- May 15-17** Smart Manufacturing Summit, Doubletree by Hilton Hotel, SeaTac; smartmanufacturingsummit.com.
- May 22-25** Society for the Advancement of Material and Process Engineering technical conference and exhibition, Washington State Convention Center, Seattle; sampe.org.
- May 23-24** Life Science Innovation Northwest, Washington State Convention Center, Seattle; lifesciencewa.org.
- May 30-June 1** I-90 Corridor Aerospace Conference and Expo, Coeur d'Alene Resort, Idaho; inwac.org.
- June 8** Center for Advanced Manufacturing Puget Sound annual conference, Emerald Downs; camps-us.com.
- June 14-15** FABREO Food & Beverage Expo, TRAC Center, Pasco; fabreo.org
- June 19-25** Paris Air Show.
- June 26** CleanTech Innovation Showcase, Bell Harbor Conference Center, Seattle; cleantechalliance.org.
- Nov. 1-2** Northwest Design-2-Part Show, Portland Expo Center; d2p.com.