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Newsire: Sierra Pacific begins testing at new mill in Shelton; Vigor Industrial buys big Korean drydock for use in Seattle; Kyocera expands ceramics production space in Vancouver; Kennewick company settles water-pollution suit; plus other news items.

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At Contract Manufacturing Show, Reports Of Staying "Pretty Darn Busy"

BY BILL VIRGIN
Editor/Publisher

Contract manufacturers at the annual Amcon show in Bellevue were nearly unanimous in their optimism about the sector's economy in 2017 as well as in their perspective that favorable conditions look to be sustainable.

"Business is just really good right now," said Chris Edenburn, operations manager for Technical Services Inc., an Oak Harbor-based circuit-board manufacturer. "There's no sector that's increasing more than the others. All of them are just exploding."

"Business is great; it seems like everyone out in Spokane is pretty darn busy," added Jean Crawford, the Kirkland-based director of aerospace sales for AccraFab, a Liberty Lake machine shop.

Even more encouraging, Crawford said, "It seems like it's maintaining and building at a slow, sustainable rate."

"It started with construction, but it seems like everybody's feeling pretty good right now," said Marc Groskreutz, owner of Fabtech Precision Sheet Metal in Spokane.

Contract manufacturers reported some softness in 2016, due in part to uncertainty over election results. "We were a little slow last year," said Scott Tate, president of Spokane electronics manufacturer Tate Technology. Things are markedly different now, he added, with his own company busy and some competitors actually turning away work because their shops are full.

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Impact Bioenergy Looking To Convert Food Waste Into Growth

For the last four years Impact Bioenergy has been developing the technology to convert food waste into energy, the physical systems that use that technology and the customer markets that might be interested in it.

Now the Shoreline company is positioning itself for what it hopes will be a surge of interest from around the world in its technology and products.

Already Impact Bioenergy has expanded its lineup of portable digesters. It has signed agreements with representatives, distributors and an equipment leasing company. To fill the increase in orders it expects to get, the company is working with an Auburn manufacturer on a flexible arrangement to provide production capacity when it's needed.

And it's looking to raise additional capital.

That's a big agenda for a company that counts just seven employees and a relatively short history. But Chief Executive Jan Allen says the number of queries the company is receiving from all over the world suggests "we are doing something that resonates with different economic situations and global cultures. It's not just an American thing."

At the heart of the company is a technology that uses anaerobic digestion to convert 1,000 to 35,000 pounds of food waste a week — whether it's trimmings and leftover from growing and processing food or what remains after meals — into a gas that can power an electric generator, as well as producing biofertilizer.

Impact Bioenergy's first model, the Horse, is the size of a shipping container, and potential output of 4 kilowatts of power. It's sized to serve a single restaurant, and portable enough to be deployed at festivals. It's also designed to operate unattended.

The company has developed a smaller kit-style model, known as the Buffalo, and is developing two others, one (known as Nautilus) that is a larger version of the Horse, the other (the Ox) that can handle food, wet waste, paper, cardboard and landscape waste.

So far Impact Bioenergy has sold three of its units, is renting a fourth and has two in demonstration. It's now at work on two more, one to go on the Microsoft campus, the other to a farm in Carnation. Both those units are purchas-

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Contract Manufacturers: Growth Trend Looks To Be Sustainable

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If the slowdown was election-related, the recent pickup suggests customers “released their pocketbooks,” Tate said. “They’re ready to spend money on development.”

The new administration’s emphasis on buying and producing in the U.S. may factor into the decisions of companies debating whether to send work to China, Mexico or elsewhere, said Jennifer Eby, founder of MarrcTech2 Inc., a Mill Creek manufacturers’ representative (some of which are based overseas). “The U.S. (manufacturing scene) is getting stronger,” she said.

Edenburn, whose company has 176 employees, said pre-election nervousness appears to have dissipated. “We’ve got orders for years ahead of time. At least the next two or three years, you’re not going to look at any sort of decline.”

“Barring some global catastrophe, it’s going to be pretty strong for the next 18 months or so, maybe even two to three years,” Tate added.

With that in mind, contract manufacturers are looking to expand. Eby, who has seen growth in demand from such sectors as photovoltaic power (solar) and wearable devices, has added personnel.

Proto Technologies, a Liberty Lake prototyping company, is expanding into aerospace machining and low-

volume production of parts such as a nose cone for a sonar device, said account manager Stephen Ball. It has also added materials to those available for producing medical-device prototyping.

Tek Machining Inc., a South Seattle aerospace shop, was at Amcon to diversify its product mix, in areas such as aftermarket parts for waterjet cutters.

Northwest companies are finding some success selling out of the region as well. Fabtech has customers as far away as New York and Texas. “A lot of the work evolved, customers moved to different areas of the country,” Groskreutz said.

Being in a supposedly remote part of the country hasn’t been an obstacle, added operations manager Bret SantaRosa.

“Shipping by the hundredweight on an Oak Harbor (Freight Lines) truck is pretty inexpensive when you look at how many pieces we can get on a pallet,” he said. “It adds cents to a part, not dollars.”

And as Groskreutz noted, those costs are more than offset by operating in Spokane, with lower labor, tax real estate and power costs.

All told, it’s an optimistic outlook for the sector. “We’ve been busy for a while now,” Groskreutz said. “It’s got some momentum. Manufacturing’s coming back.”

PNNL, Bothell Company Team Up On Hydrogen-Fuel Research

Pacific Northwest National Laboratory is working with Emerald Energy NW in Bothell to fabricate and test a component to make hydrogen fuel for vehicles more practical and affordable. Hydrogen can be produced at a large central location and transported as a liquid, but that process requires large amounts of energy. “A more efficient, potentially less expensive and smaller-scale process uses a special type of magnet to cool hydrogen gas until it becomes a liquid,” PNNL said. Emerald Energy is developing

a better seal for a system that continuously rotates magnetic materials in and out of a magnetic field. The seal is needed to control the flow of a heat transfer fluid that is first cooled as it passes through magnetic fields and then used to cool and ultimately liquefy hydrogen. The seal could be used in smaller, modular and more efficient liquefaction systems Emerald Energy hopes to commercialize. PNNL has received \$160,000 for the project and Emerald Energy will provide \$40,000 in in-kind support.

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Impact Bioenergy Plans To Use Partnerships To Spur Sales

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es, Allen says.

Of the six built so far, three have gone to customers outside the U.S., to Canada, Sri Lanka and the Philippines. Allen believes there's a huge international market that is hearing about the company's systems. "We get a couple of inquiries every day just through the miracle of social media and the internet and LinkedIn," he says. "About half of those are international beyond Canada. They're from just about every country you can imagine."

Impact Bioenergy has developed a specific strategy for customers in those markets, starting with the introduction of the Buffalo, which sells for much less than the \$80,000 list price for a unit sold in the North American market.

The company fabricates about 10 percent of the machine, then ships it to the customer for completion of the assembly work. "We knew \$80,000 isn't going to work, but we didn't want to say 'we can't help you.' It's not realistic to expect developing nations to pay our Seattle labor rates, our taxes and overhead, our insurance costs and all of that. Then you have to pay for freight and currency conversion, and tariffs to get into their country. It's too much."

For global customers it's setting up partnerships; one has already been established in Sri Lanka. Those partners are trained in the assembly, installation and operation of the digester, and certified. Then queries for the company's units are referred to those partners. "It's going to be a more affordable package for everybody," Allen says. "We're pretty confident if we pick our partners well and don't get too crazy with this system, it's going to work well."

For North America, (the U.S., Canada and the Caribbean), Impact Bioenergy builds and ships the units. The company says it has a dozen domestic distributorship agreements, and 22 strategic partners for specific market segments or applications, or for combining the digesters with other technologies.

"We have so many people that either have a complementary business or are representing us as part of their business," Allen says. Partnering allows the company to grow while staying lean in its management structure. "It's a little more collaborative than the old-school manufacturing idea where you go to your plant and you go out and compete and go toe-to-toe with everybody."

Sales aren't the only way for Impact Bioenergy to generate revenue. It has signed an agreement with Lease Corp. of America to handle its systems, and it may sign similar deals for leasing.

For production, Impact Bioenergy is collaborating with Auburn-based Laser Cutting Northwest. It's much more than the standard relationship with a contract manufactur-



Impact Bioenergy's Horse digester. Company photo.

er. Pete Agtuca, owner of Laser Cutting Northwest, is transforming the company into a sort of manufacturing accelerator, in which Impact Bioenergy has access to the company's designers, machine operators and welders. "We're basically embedded with his staff," Allen says. "We can go talk to the guy that programs the laser cutters and say, 'I need a piece of aluminum that looks like this.' We can go from a discussion to a finished product in two days."

The arrangement is also flexible enough to accommodate ebbs and flows of Impact Bioenergy's business when it needs to increase or reduce its draw on Laser Cutting's capacity. In turn, Laser Cutting has taken an equity partner in Impact.

Allen figures Impact Bioenergy will be making use of the capacity. "We're queued up for the rest of the year and we're booking for the beginning of 2018," he says.

Impact Bioenergy isn't the only company trying to find solutions or uses for food waste. Redmond-based WiseRg is developing machines that collect food waste for processing into liquid fertilizer.

The attractions of Impact Bioenergy's system, Allen says, are that it largely eliminates the need to haul waste anywhere, and that it can be sized to serve a single business, a group of them or even a small village. "There's very few that are microscaling it," he says. "To build an engineered system that's portable and has a generator, that's pretty rare."

"Really, we're competing against the landfill and against garbage trucks. Our main competition is the current disposal system. If anybody's going to be displaced, it's going to be them."

To finance its planned growth, the company will need capital, and the company plans to spend the next six months reviewing options. Allen says he doesn't plan to go the venture capital or crowdsourcing route. Instead he's looking for investment bankers or private investors. "It could be that we only get one or two of those," he says. "We don't need a whole roster of them." Impact Bioenergy is looking to raise \$1 million to \$2.4 million.

Newsire: The Latest In Washington Manufacturing

SHELTON: Sierra Pacific Industries has begun operating one lumber-production line of its new mill in testing phase, and expects to start another soon. The company, which purchased the former Simpson Lumber mill site, has hired 150 employees and expects to add about 75 more in the next four to five months, in the mill, metal fabrication shop and trucking division.

SEATTLE: Vigor Industrial has agreed to purchase a 640-foot-long drydock from a company in South Korea, and plans to install it at its Harbor Island shipyard. The 116-foot-wide drydock will be the third and largest at its Seattle facility. Vigor said the drydock will be used for such customers as Washington State Ferries, the U.S. Coast Guard and U.S. Navy, and for commercial ship repair. The drydock is to be towed across the Pacific and in operation by late fall. Vigor is purchasing the drydock for \$20 million.

VANCOUVER: Kyocera International, Inc. has officially opened a \$10 million expansion of its manufacturing operations that produced custom-order advanced-ceramics components. Construction of a new building increased Kyocera's manufacturing space from 40,000 square feet to 63,000. Kyocera currently has 140 employees on three shifts at the site, and could add as many as 50 jobs in the next few years.

OLYMPIA: Washington manufacturing employment, at 283,600 in March 2017, was down 5,800 jobs from the same month a year ago, the Employment Security Department reported in preliminary, not-seasonally-adjusted data. The aerospace product and parts category was down by 7,500 jobs from a year ago.

KENNEWICK: Sandvik Special Metals Inc. and the environmental group Columbia Riverkeeper have settled a suit filed in federal court concerning alleged violations of the Clean Water Act. Sandvik, which makes seamless metal tubes for the aerospace and nuclear industries, reported in 2015 that it had discharged more ammonia and fluoride into the Columbia River than the company's water pollution permit allowed. Under the agreement, Sandvik will upgrade its pollution control technology and pay \$650,000 to three non-profit organizations, in Washington: Futurewise, Friends of Toppenish Creek, and the Center for Environmental Law and Policy.

PORT TOWNSEND: Port Townsend Paper Corp. has been fined \$30,000 by the Department of Ecology for two incidents in 2016 that led to emissions from the plant by-passing its control systems. The first release happened in

August after corrosion created a 1-inch hole in a duct at the plant, allowing small-particle pollution to escape, the department said. Because of the difficulty in reaching and repairing the leak, it was not fixed until the plant shut down for scheduled maintenance in September. The second release occurred in November, when a damper in one of the plant's main exhaust stacks became stuck, allowing some of the emissions to escape. Routine testing revealed the issue, and the plant corrected the problem.

DALLAS: Two manufacturers and one construction company represented Washington among the 13 companies named Boeing suppliers of the year for 2016. Orion Industries of Auburn won the community engagement award and GMN Aerospace of Seattle won the alliance award. Hoffman Construction of Seattle, which is the general contractor for the 777X wing plant in Everett, won the USA safety award.

KALAMA: The Ecology Department has told Cowlitz County that a permit application for a proposed liquid-methanol plant at the Port of Kalama is incomplete and is on hold until more detailed information is submitted. Regulators said they want more specifics about the locations of buildings on the property. It also wants Northwest Innovation Works to clear up discrepancies about the amount of greenhouse gases the plant would emit.

KIRKLAND: Cardiac Insight, which makes body-worn sensing devices, said the Food and Drug Administration has cleared the company's wearable electrocardiogram sensor, marketed as Cardea Solo. The device's sensor detects and records ECG signals and occurrences of patient symptoms, which can be downloaded and analyzed in a physician's office. The company said the device is manufactured in the U.S. but did not provide additional information.

PERSONNEL FILE

- Esterline Corp., a Bellevue-based aerospace and defense manufacturer, has named Jason Childs president of the Everett-based Control & Communication Systems group of companies.
- Red Dot Corp., a Tukwila manufacturer of heating and air conditioning equipment for vehicles, named Rick McNamee permanent chief executive officer. McNamee joined Red Dot in May 2016 as interim CEO. Steve Lach was named chief operating officer and Artak Arakelian was appointed vice president of operations.
- AIM Aerospace Corp. of Renton has named Patrick J. Russell senior vice president and chief operating officer.