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For these students, fighting robots pave the way to manufacturing

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Mentor High School students worked with Libra Industries to field their robot for the 2023 event.

The bots are back.

Battle bots, or fighting robots, that is, and specifically the robots that have been battling at Lakeland Community College for the past 14 years, except

for a break during the pandemic.

RoboBots, the annual **flagship event** for Lake County's Alliance for Working Together (AWT) workforce, hopes this is the year it gets back to full strength after the pandemic sidelined it for a year and dampened participation for a couple more.

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This year, organizers say they think they're back on track with the high school and middle school students who compete in the battles and, they hope, with the crowds that help make the event exciting.

"I think so – and I hope so," said Gretchen Santo, a former science teacher at Beaumont School who is now director of the school's Academic Scholars Program, which includes the robot battles, for top students. "After four years of dealing with remote learning, Covid shutdowns and people being very tentative ... kids were much less likely to sign up for things. It really took the wind out of their sails. But now they're back."

Santo is a veteran of the robot wars at Lakeland. The school has been in the competitions for more than 10 years now, and after missing last year's contests due to technical difficulties she hopes her team will regain its form this year with its new robot, The Blue Streak of Death.

"Our very first bot was in 2012. AWT started it in 2011 but we didn't know about it that first year," Santo said.

"Our driver hasn't had a lot of time to practice this year, though," she said with some concern.

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Any anxiety on Santo's part belies just how serious Beaumont takes the competition. The school has been a powerhouse in past battles at Lakeland, which serve as regional contests before the winners go on to compete

nationally. Beaumont's won among regional high schools at Lakeland twice, had five second-place finishes and has finished third twice, Santo said.

"We've also gone to nationals and one time we finished third place in nationals ... that was in Indianapolis in 2013 and it was just awesome," Santo said.

AWT Robots 2018 - Highlights



The program at Lakeland pairs local schools with local manufacturing companies, which sponsor teams financially and provide technical help, which often includes assigning one or more company engineers to a team. Beaumont is particularly excited this year because it's teamed up with Lincoln Electric, which can offer all the technical help the team might need, Santo said.

The companies participate as a way to encourage young people to consider careers in manufacturing and to potentially identify future employees.

"This year we have 17 high school teams and 18 middle school teams. It serves about 200 students in total," said Stevie Dohm, AWT's assistant director of programming and technology and owner of SD Tech, a local computer and technology consulting firm.

"We're not back to pre-pandemic levels, but we're certainly seeing interest from the teams. It used to be there were too many teams and not enough sponsors, but now it's the other way around," he said.

Dohm, at 18, is the same age as many of the young people in the competition. He started at AWT in 2021 as a counselor of the organization's summer day camp, which introduces fifth and sixth graders to manufacturing technologies via daily tours of area manufacturing facilities and other outreach efforts.

He said he wasn't aware of the battle bot competitions when he was in school – he wasn't even really aware of manufacturing, even though his stepdad was a machinist, Dohm said. But working with AWT has changed that.

"Before I started at AWT I didn't really know what manufacturing was. My stepdad would say 'I'm a machinist,' and I'd say ok ... then once I started

working here it was like, 'Oh my god, that's what manufacturing is. It's how everything comes about.'

Dohm said he's seen the battle bots get more advanced in just the last few years, so those at this year's event might see some new designs and tactics.

"More and more (sponsoring) companies are turning to five-axis machining, so some of the robots are getting really, really complicated," he said.

There are rules, of course.

"No flamethrowers, catapults or nets," Santo said. "There are a few things that are disallowed."

AWT Robots 2017 - Highlights



The rules are pretty relaxed with regard to companies that can participate, though. Dohm said they can be from anywhere, not necessarily Lake County.

"As long as you have some financial support and motivation, you're good to go," Dohm said. "But you need to be able to provide manufacturing support."

The students do their own work, but they count on sponsors to help them with design and their corporate sponsors often have far more fabrication capability than any school could muster.

Dohm said he's looking for more sponsors to expand the program next year.

It's no small commitment though. Santo said the sponsoring companies' engineers often end up spending many hours helping the teams they work with.

Add up that time and other in-kind contributions and "it's definitely into six figures what these companies are underwriting," Santo said.

But, while sponsors might sometimes be in short supply, AWT has yet to turn away a school for lack of a partner, Dohm said.

If all else fails, AWT knows it can usually fall back on its board members and especially its founder, Roger Sustar, owner and CEO emeritus of Fredon Corp., a Mentor machine shop and advanced manufacturer.

Sustar founded AWT in 2002 and the organization has since become a full-fledged nonprofit, with its own staff and a new building in Mentor near Fredon.

Sustar plays it modest — “The kids do all the work,” he said, before referring a reporter to Dohm — but Santo and others give him the credit for making the battle bot program and the rest of AWT a reality.

“Because of him this program was developed and so many kids have profited from that,” Santo said. “Kids who would have never considered engineering or CAD or any of those things. This really turns them on to those things.”

This year’s competition is all set, Dohm said, with high school teams ready to field 15-pound battle bots and middle schoolers entering three-pound robots at Lakeland this weekend.

About 3,000 people attended last year’s event, Dohm said. But he’s hoping this year’s crowd will be closer to the 5,000 who attended in 2019, the event’s biggest year before the pandemic shut it down for a year and slowed it down for a few more.

The free event unfolds between 8:30 a.m. and around 4:30 p.m. at Lakeland Community College's gym this Saturday, April 27.

The event will also be [live-streamed](#).

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