

# News

## Students Find Modern Manufacturing Offers Opportunities

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*Tom Moll, a St. Gobain manager, explains the differences in some of the grinding wheels to students, from left, Matthew F. LaTour, 16, Brian J. Pineo, 17, and Jacob A. Carter, 18, all of Douglas. (JOHN FERRARONE)*

A group of Blackstone Valley high school students' eyes were opened Friday as they saw what modern manufacturing is all about.

Gone are the sweatshops and relentless assembly lines of yesteryear. Instead, the students heard from manufacturing company hosts about high-tech precision machinery, quality control and hands-on design systems.

Being a maker is back.

Jacob A. Carter, 18, a senior at Douglas High School, said after touring Lenze AC Technologies in Uxbridge, Package Industries in Sutton and Saint-Gobain in Worcester: "It's changed my whole definition of manufacturing. Before I thought it was a bunch of tools. Now I see it's a process from step one to the end and all the steps in between."

The tours were coordinated for National Manufacturing Day by the Blackstone Valley Chamber of Commerce and the Blackstone Valley Education Foundation, in partnership with the National Park Service. Approximately 160 students from eight schools, including Blackstone-Millville Regional High School, Douglas High School, Grafton High School, Milford High School, Nipmuc Regional High School, Northbridge High School and Uxbridge High School, paired up in teams to visit three manufacturers, from among nine participating, located from Uxbridge to Worcester.

Kip M. Paterson, director of human resources for Saint-Gobain Abrasives North America, said the abrasives and ceramics manufacturing company, which employs 1,600 people between its Greendale campus and its

research and development facility in Northboro, is working with high schools and colleges to recruit more students with technology and science backgrounds.

"We're changing the model into one we call 'value streams.' It gives responsibility all the way down to the operator level," Mr. Paterson said. "As we're able to bring in more technically skilled people, it's easier to do that."

Earlier in the day, students visited smaller manufacturers in the Blackstone Valley, including those that serve as contract or component manufacturers for major industries such as transportation, biotechnology, packaging, agriculture and other manufacturing systems.

"Manufacturing is alive and well in this country. It's coming back strong," said Peter J. Bedigian, president and CEO of Omni Control Technology, located in the former Whitin Machine Works "Shop" in Northbridge.

He said many companies are "re-shoring" their manufacturing that had been outsourced overseas, to get critical quality control, flexibility, efficiencies and lower transportation costs.

Omni was recently certified to conform to the International Quality System Standard ISO 9001:2008 for its contract manufacturing assembly of control panels and systems.

For example, Omni manufactures control boxes for systems designed by RTR Technologies Inc., of Stockbridge, to automatically turn on and off de-icing systems on train tracks.

"What does that do? It saves a ton of energy," Mr. Bedigian said. "This is a huge market right now for manufacturers: Finding out how to make things more energy efficient."

Omni also worked with Fraunhofer USA, a subsidiary of a German research and development firm, which was associated locally with Boston University, to manufacture products that grew tobacco for use in H1N1 flu vaccines.

Other partnerships evident from demonstrations through Omni Control included Siemens Corp. and Rockwell Automation. Mr. Bedigian said those mega-corporations worked together with small manufacturing firms like his to expand business and serve their customers.

Hopedale High School senior Ryan Wollensak, 17, said as he toured Omni's plant: "I think the trip is really interesting so far because I can see how businesses interact — all the networking. I'm also learning about industrial engineering."

Around another section of the "Shop," Brett Niver, president of Irrigation Automation Systems, walked through the steps that tied Internet and wireless technology to industries such as agriculture.

IAS embeds sensors in pumps and engines that allow cranberry farmers, where his business started, to



remotely water their crops as needed based on temperature and humidity. Before the Internet, before smartphones, he explained, farmers had to monitor the weather closely and have people control pumps individually.

Automated pumps and sensors are also used to keep vineyards irrigated without wasting water, and to pump manure from large Midwestern farms back into the soil in a way that reduces runoff and protects the environment.

"That has really changed the nature of farming," Mr. Niver said.

Mr. Niver and Mr. Bedigian said students who like to work with computers, have solid science backgrounds and like to work with their hands have huge opportunities in manufacturing.

Colleen Kincaid, 16, and Lea Hyland 16, both Hopedale High School juniors, were intrigued by the manufacturing sector's future possibilities.

"Our physics teacher recommended it to us," Miss Kincaid said. "My dad's an engineer. I heard it's a good business to go into in the future and I thought I'd check it out."

Erika Baum, program and grant coordinator for the Blackstone Valley Education Foundation, said the Whitinsville-based nonprofit hoped to tie Manufacturing Day visits to other partnerships with employers in a \$55,600 pilot grant it recently received from the state Executive Offices of Housing and Economic Development. The initiative, known as the Mass Manufacturing Pipeline Program (M2P2), aims to establish internships and build skills for careers in advanced manufacturing.