

# Kwik Mix turns to expertise of Niagara College research team to design plant relocation

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Kwik Mix is a manufacturer of high-quality premixed concrete products and related items, serving independent lumber dealers and specialty masonry yards.

Originally locating its production facility on the site of a quarry, next to a cliff, Kwik Mix has been able to use natural energy created by gravity to move the aggregate. However, the company recently decided to relocate production to its warehouse site, to upgrade and expand its capabilities in a very competitive market.

From the inception of the project—long before thinking about breaking ground—the Port Colborne-based company turned to the experts at the Industry Innovation Centre at Niagara (IIC@N), the advanced manufacturing centre operated by Niagara College's Niagara Research.

Through IIC@N, Niagara Research works with small- and medium-sized businesses to meet their innovation goals, and to keep them competitive. With funding from various provincial and federal agencies, current students and recent graduates are hired to work alongside expert faculty to help industry partners leap forward in the marketplace.

Kwik Mix turned to the IIC@N team, including expert faculty and current students, as the only Niagara location housing the necessary software and expertise to deliver 3D imaging and



From left, Marcia Porter, owner-operator, Kwik Mix, and Jim Roy, plant manager, Kwik Mix, discuss placement of components for their new plant with Ben Laurence, mechanical engineering student and research associate, and Costa Aza, researcher and industry liaison. /PHOTO NIAGARA RESEARCH

computer-aided design (CAD) drawings to allow Kwik Mix to plan a new production facility in an existing building.

The research team started by using the FARO Focus to scan the inside and outside of the existing building, including

the placement of equipment. The Focus essentially takes picture with lasers, creating 3D images, but by using CAD software, the research team has now been able to transform those 3D pictures into graphics. The factory components—silos,

robotics, conveyers and palletizers, for example—are then moved around within the graphic to match the needs of the company, according to building and safety codes, accessibility needs, etc., before a single dime is spent on construction.

“Niagara College is leading the industry with what we have been able to accomplish with this software,” notes Ben Laurence, third-year mechanical engineering student and research associate on this project. “We can do much of the planning this way and avoid plenty of potential errors.”

“Working with Niagara College, it’s nice to be able to talk to people who speak using the same vocabulary, in terms of the engineering aspects,” notes Jim Roy, plant manager, adding, “especially since there isn’t anyone else on our staff who is able to do that.”

This project was made possible with funding from the Federal Economic Development Agency of Southern Ontario’s Prosperity Initiative.

Niagara College, through its Research and Innovation Division, will continue to support collaborative research projects in various disciplines that may involve product and process applied research, engineering design, technology development, product testing, proof of concept, and piloting and problem solving. Nearby small- and medium-sized businesses can benefit from gaining access to the College’s adept faculty, students, and recent graduates to explore opportunities for innovation.

To learn more about partnership opportunities with Niagara Research, contact [research@niagaracollege.ca](mailto:research@niagaracollege.ca) or visit [www.NiagaraCollege.ca/Research](http://www.NiagaraCollege.ca/Research).

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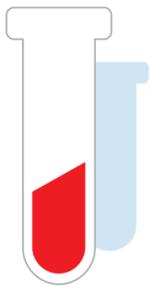
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Increase the output of **NORGEN BIOTEK'S RNA and DNA** test kits by a factor of **24**

Use **lean manufacturing principles** to recommend a 3.5 times reduction for first-phase production at **GGS STRUCTURES INC.**



Use **3D software** to reduce risk and curb costs of a planned factory addition for **KWIK MIX**

Create a prototype dispensing machine to allow mass production and distribution of **PAPERNUITS**



Design a new **e-commerce model** to decrease **CALHOUN SPORTSWEAR'S** production time by nearly **50%**

Reduce by **68%** the ambient noise being emitted by a hospital-grade air scrubber for **ABATEMENT TECHNOLOGIES**

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