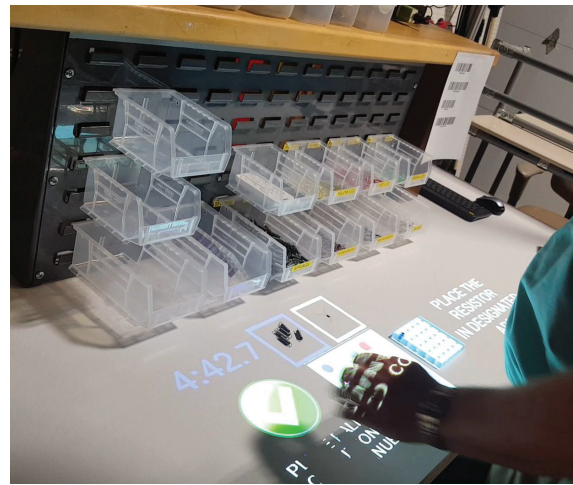


REAL FACTORY 4.0:

COMMITTED TO INNOVATION, INDUSTRY 4.0 & THE USE OF ADVANCED TECHNOLOGIES IN OPERATIONS.



AUGMENTED REALITY

Light Guide Systems Technology

BUZZ 4.0 has launched in The Center's Real Factory. It utilizes Light Guide Technology and closely represents a higher mix/lower volume work environment to demonstrate Standard Work, Quality and Lean process improvements.

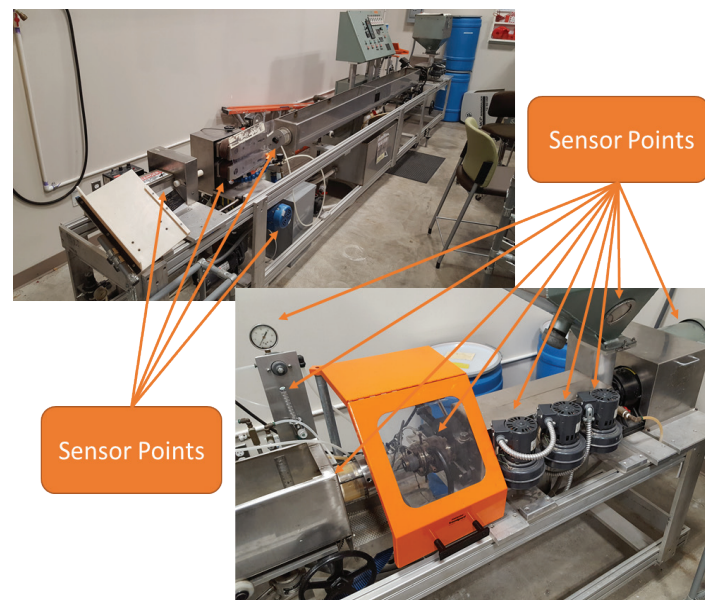
Interactive programming identifies out-of-process actions and notifies the operator. The same technology has been used to implement standard work for the startup of the extrusion machine.

Retrofitting of Existing Equipment

The Center's Real Factory 4.0 was retrofitted with sensor technology to allow for:

- Data Collection
- Analysis
- Improvement Activities

By retrofitting existing technology, we are able to mirror the activities which can drive improvements at client facilities. Once the sensor data is analyzed, the information will be used to assist in the teaching of improvement skills such as Root Cause Analysis, Hypothesis Testing and Design of Experiment.

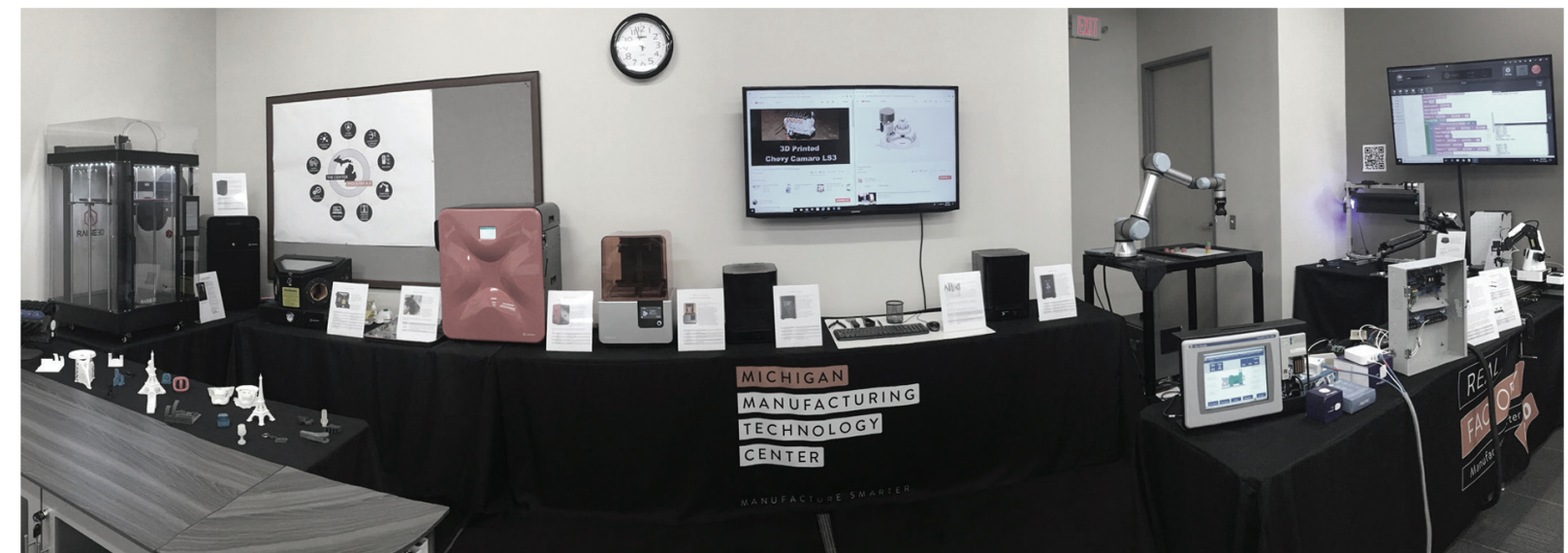


MICHIGAN
MANUFACTURING
TECHNOLOGY
CENTER

THE CENTER
45501 Helm St.
Plymouth, MI 48170
888.414.6682 | The-Center.org

MICHIGAN
MANUFACTURING
TECHNOLOGY
CENTER

MANUFACTURE SMARTER



INDUSTRY 4.0 IN ACTION

INSPIRING MANUFACTURERS WITH ADVANCED ON-SITE TECHNOLOGY

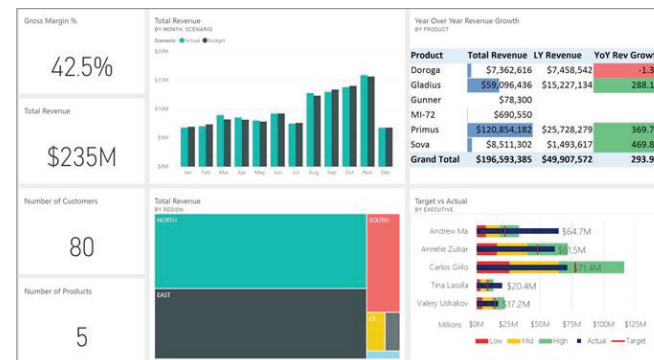
In an ongoing effort to support and advance Michigan manufacturers in the increasingly technology-focused landscape, the Michigan Manufacturing Technology Center (The Center) has developed a fully functional Industry 4.0 Technology Lab. Complete with a variety of modern innovations and equipment, this lab serves The Center's overall purpose of introducing clients to advanced manufacturing while giving them the tools needed to improve areas such as productivity, quality, efficiency and workforce training.

Manufacturers can learn more about Industry 4.0 innovations in a personalized environment from on-site experts before deciding which investments would make the most sense for their business. The Center's Industry 4.0 Technology Lab provides manufacturers with the knowledge and insight necessary to continue to thrive in the new era of advanced manufacturing. Manufacturers throughout Michigan will benefit from The Center's technology expertise, as additional Industry 4.0 labs are being developed at two of The Center's regional offices around the state.

INDUSTRY 4.0 TECHNOLOGY LAB

IMPLEMENTED TECHNOLOGIES:

BIG DATA / AUTONOMIC RESPONSE



Power BI

Power BI is a tool that allows users to visualize data through interactive, real-time dashboards and analytics that generate actionable insights.

INTERNET OF THINGS / SYSTEM INTEGRATION



Programmable Logic Controller (PLC)

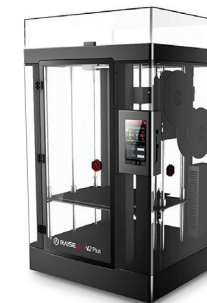
PLC is a ruggedized computer used for industrial automation. These controllers can automate a specific process, machine function or an entire production line.

ADDITIVE MANUFACTURING



Stereolithography (SLA)

SLA is the preferred rapid-prototyping method of metals and exotic materials. Strengths include accuracy, design flexibility, material flexibility and low material cost.



Fused Deposition Modeling (FDM)

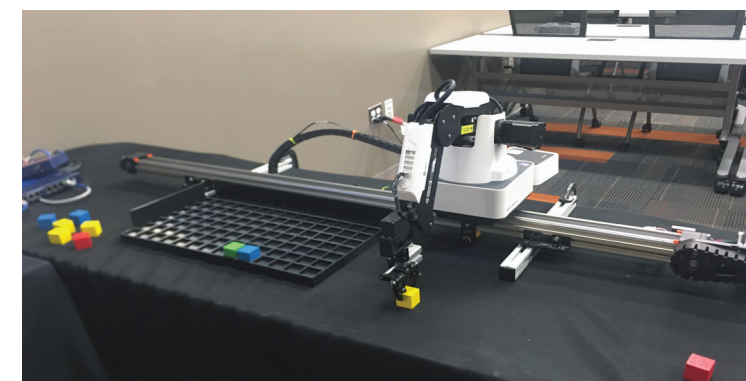
FDM is one of the quickest rapid-prototyping technologies available. It is inexpensive and has a relatively large build volume.



Selective Laser Sintering (SLS)

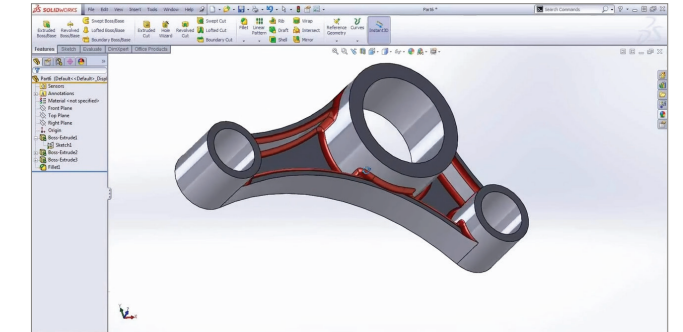
SLS does not require support structures to be removed and a large numbers of parts can be packed within the powder bed allowing very high productivity. SLS produces a functionally accurate part with superior finish and precision.

ROBOTICS / COBOTICS



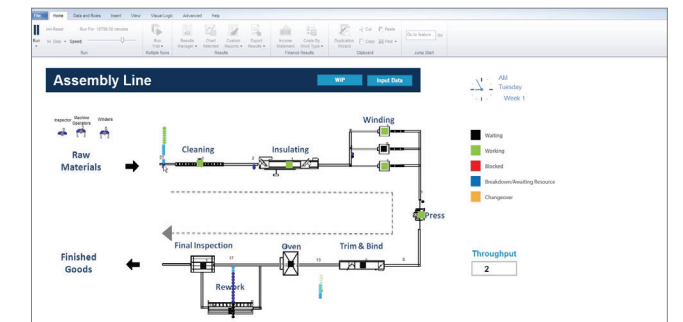
Capable of: 3D Printing, Laser Engraving, Writing, Drawing, Gripper, Suction Cup and Multiple Extension Ports.

SIMULATION



Solidworks

Solidworks is a 3D modeling and product simulation program used in product design and optimization.



Simul8

Simul8 is a process simulation program. It allows users to create a computer model, which accounts for real life constraints, capacities, failure rates, shift patterns, and other factors affecting the total performance and efficiency of production.

EVOLVING TO MEET THE NEEDS OF MICHIGAN MANUFACTURERS

At The Center, we are constantly evolving our services to cater to the changing needs of manufacturers. As part of this initiative, we have developed the Industry 4.0 Technology Lab within our Plymouth, Mich., facility. Featuring the nine technologies of Industry 4.0, including innovations such as 3D printing, cobots and augmented reality, this lab offers manufacturers a hands-on opportunity to learn how to modernize and optimize equipment, as well as effectively train and prepare their workforce for advanced manufacturing.

To learn more about The Center's Industry 4.0 Technology Lab, adoption implementation strategies or equipment featured, contact us at inquiry@the-center.org or call 888.414.6682.