



STEM Education Works®

IN-MaC

WHO THEY ARE

In partnership with Vincennes University and Ivy Tech, Indiana Manufacturing Competitiveness Center (IN-MaC) is Purdue University's way of addressing the need to prepare students and the future workforce with Industry 4.0 skill sets. These skill sets are ones that take place in manufacturing facilities and include 3D printing, robotics, computer science, and more.

THEIR GOALS

Noting the lack of accessible STEM and Industry 4.0 technologies for K-6 students, Sascha Harrell, education and workforce director of IN-MaC, and her team looked for a way to provide students with earlier access to these technologies and concepts. IN-MaC also wanted to assist educators in developing their skills regarding STEM technologies and help them plan how best to use these skills and technologies in the classroom.

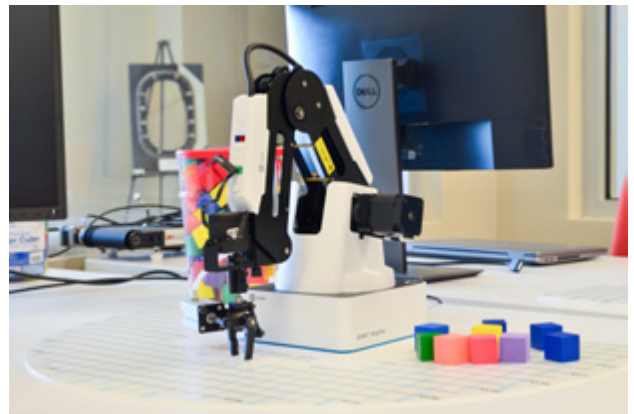
THEIR SOLUTION

To achieve their goals, IN-MaC partnered with STEM Education Works, Purdue Engineering, and Purdue Polytechnic. The Design and Innovation Studios were created to supply students and teachers with early access to Industry 4.0 technology and provide career awareness and readiness opportunities.

THE IN-MaC STUDIO

The IN-MaC Design and Innovation Studio, located in West Lafayette, Indiana is equipped with STEM technologies like the Dobot, 3D printers, Spheros, Glowforge, and littleBits. Each of these technologies offer students the opportunity to learn concepts like coding, programming, 3D printing, design, and prototyping. With access to these STEM technologies and concepts, students and educators are better able to explore design thinking, problem solving, and other skills necessary for Industry 4.0.

Through the IN-MaC Design and Innovation Studio, students are also able to build industry education partnerships. "Students are able to do 3D printing, Tinkercad, design,





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as well as robotics. Then they're able to take that experience and go into the Design and Innovation Studio at the industry," Harrell explained. "They're able to correlate like skill sets and they're able to correlate that they're doing like work in the classroom that emulates like work at the industry setting."

PARTNERING WITH STEM EDUCATION WORKS

The IN-MaC Design and Innovation Studio required technology, curriculum, and professional development to create an accessible space for students and educators. Harrell acknowledged that STEM Education Works helped IN-MaC identify the technology needed for Design and Innovation Studios.

"The team at STEM Education Works helps with layout and design. They're also a support system for us in regard to professional development and keeping the curriculum alive. They also help with scope and sequence, especially with educators," she described. "The educators are the champions of Design and Innovation Studios. They're the ones who are in the Design and Innovation Studios day in and day out, and really building a positive impact for the students. So, that's something in regard to our relationship with STEM Education Works that we're really happy to have."

