IN-MaC

Indiana Next Generation Manufacturing Competitiveness Center

Manufacturing is an economic engine that drives innovation and prosperity while improving our quality of life with a wide range of useful products. The United States enjoyed a lead in manufacturing for over 100 years – a lead that has since eroded as others have taken advantage of lower-wage labor markets plus other factors to draw industry away from the heartland. It is imperative that Indiana reassert its leadership in manufacturing by leveraging our talents to leap-frog to the top of global competitiveness by mainstreaming new technologies and modern practices while cultivating a more competitive and capable workforce. Hosted by Purdue University and delivered in partnership with Ivy Tech Community College and Vincennes University, the Indiana Manufacturing Competitiveness Center (IN-MaC) aims to catalyze growth and reinvigorate the American dream for future generations. We do so by addressing challenges such as: shortage of trained workers capable of filling open positions; integration of modern technologies and practices throughout the value chain; and smart investments in research with near-term applications to strengthen our manufacturing ecosystem.

A COMPREHENSIVE APPROACH

IN-MaC seeks to transform manufacturing across Indiana via a seamless "lab to market" approach to partnership with industry, academia and government. Areas of concentration include Education & Workforce Development (E&WD), Technology Adoption & Transfer (TA), and Research for Future Competitiveness (RFC).

EDUCATION & WORKFORCE DEVELOPMENT

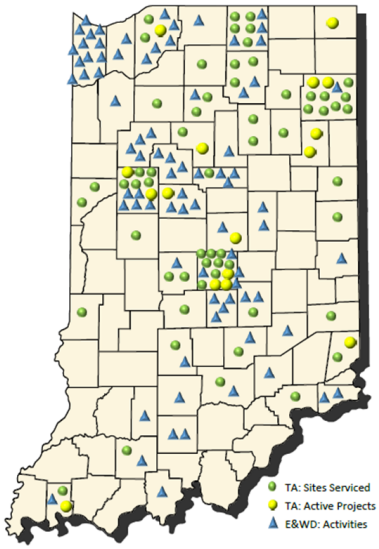
Indiana's workforce must evolve to remain competitive in a more advanced, competitive and global manufacturing environment. The accelerating pace of technical discoveries coincides with a universal demand for a workforce that is prepared to apply novel discoveries and techniques in ways that move industry forward. IN-MaC provides programs and services to enhance the talents and capabilities of Indiana's present and future workforce by facilitating connections between educators and industry to catalyze the formation of near-term and long-term skills in a highly accessible manner. For example, one program trained dozens of high school educators in advanced manufacturing topics that has since led to the adaptation of curricula that touched more than 3,000 students in industry-themed exercises. IN-MaC supports a variety of STEM-type, skilled trades, degree (associates and undergraduate) and certificate programs.

RESEARCH for FUTURE COMPETITIVENESS

IN-MaC connects Indiana's manufacturing base to researchers that provide skills and services to model and simulate product performance, supply networks, and sustainment resources, while considering product complexity (precision and volume) and production capacity. IN-MaC currently supports five consortia to address industry-defined topics and membership in several ManufacturingUSA and Department of Energy Institutes that have resulted in $11,210,000 in federal funding to date. IN-MaC supported consortia include: Simulation- based Engineering of Materials and Structures, Developing Smart Business Ecosystems, Surface Engineering and Enhancement (CSEE), Advanced Lyophilization Technology, and the Consortium for Materials Processing Research.

TECHNOLOGY ADOPTION & TRANSFER

IN-MaC provides access to more efficient and predictable methods to design, test, build and support production by investing up to $40,000 to assist companies in the application of Digital Engineering, Production and Warehouse Systems, or Enterprise Technologies and Systems. The typical project timeline is 6-8 months and concludes with participants acquiring new capabilities and knowledge to move their business forward. To date 57 projects have been completed for a cumulative benefit of $21,250,000 with 98 jobs added or retained.



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