

4T ACADEMY INDIANA CASE STUDY

BUILDING TOMORROW'S WORKFORCE

BRIDGING THE SKILLS GAP IN ADVANCED MANUFACTURING THROUGH STRATEGIC PARTNERSHIPS

Kristopher De Los Santos is a high school senior at Gibson Southern High School who has his eyes set on a successful future. He is set on a high-paying career in his home community through a skilled position at Toyota Motor Manufacturing of Indiana (TMMI). Through TMMI's innovative 4T Academy, De Los Santos is gaining real-world, paid experience while in high school.



"I didn't want to wait until college to figure out if manufacturing and engineering were the right path for me," said De Los Santos. "4T offered that head start, and the idea of combining real-world skills with classroom learning made it too good to pass up."

The future of manufacturing relies on a skilled workforce, but a growing skills gap presents a significant challenge for the industry. TMMI is tackling this head-on through the 4T Academy, a collaborative program designed to equip high school students with the knowledge and hands-on experience needed for successful careers in advanced manufacturing. This success is significantly bolstered by the integral partnership with Purdue Polytechnic's Indiana Manufacturing Competitiveness Center (IN-MaC) through IN-MaC's Pathways System.

"The goal of the Pathways System is to introduce these kids who might not fit into a traditional education mold to good career paths that are economically important and in-demand," said Lisa Deck, IN-MaC Education Workforce Program Manager. "An added bonus is that these opportunities are in the students' own communities with prominent industrial partners like Toyota."

THE GENESIS OF 4T

Launched in August 2020, the 4T Academy initially partnered with three Gibson County, Indiana, high schools: Princeton Community High School (Tigers), Wood Memorial Jr/Sr High School (Trojans), and Gibson Southern High School (Titans). The program's name, 4T, reflected this foundational partnership: Tigers, Trojans, Titans, and Toyota.

Since its inception, the academy has expanded, welcoming Benjamin Bosse High School, Southridge, Pike Central, and Forest Park High Schools. Toyota Indiana has invested consistently to support the academy's growth and operations, underscoring the company's dedication to workforce development and its belief in the potential of these students.

As the 4T Academy model expanded to West Virginia, Mississippi, and Kentucky, the meaning of "4T" grew to represent a broader vision: Team, Teach, Together, Toyota. Alongside this evolution, the academy adopted a new mission and tagline that capture its purpose across states. The mission is to provide students with an innovative education experience that couples hands-on learning with on-the-job training, while preparing them for a successful and rewarding career. Its tagline, "Changing Potential into Power," reflects the academy's commitment to transforming opportunity into lasting success for every student.

"4T is impacting students by providing real world experiences in a controlled learning environment so they have a positive experience," said. "It shows them that it is possible to enjoy their career and be productive at the same time."

Rick Gilmore | 4T Academy Indiana teacher



"I'm most excited about the doors it opens. The program gives me connections, experience, and knowledge that most people my age don't have. It's like getting a head start in life, and I know that wherever I go, the 4T name will carry weight."

Kristopher De Los Santos

A CURRICULUM DESIGNED FOR SUCCESS WITH IN-MAC'S EXPERTISE

The 4T Academy offers a unique blend of high school academics, dual credit opportunities through Ivy Tech Community College, and invaluable on-the-job training at Toyota's Princeton facility. The curriculum delves into key areas of modern manufacturing, including:

- Industrial Automation & Robotics
- Manufacturing and Engineering
- Industrial Maintenance and Environmental Sustainability

It also includes skills such as plant floor processes and lean manufacturing. This curriculum is significantly shaped by IN-MaC 's Pathways System, which coordinates people, assets, and resources to align industry needs with education systems. IN-MaC collaborates with industry leaders like Toyota, educators from participating high schools, and local community organizations to develop a customized pathway system that benefits all stakeholders. The IN-MaC Pathways System integrates into the 4T curriculum by:

- Identifying Industry Needs: IN-MaC actively works to understand the skills gaps and talent needs of the manufacturing industry, especially in next-generation manufacturing. This information then guides the development of the 4T curriculum, ensuring the skills taught are directly relevant to in-demand manufacturing jobs.
- Facilitating Curriculum Development: IN-MaC acts as a liaison between Toyota, the high schools, and other partners, helping to design a curriculum that blends academic rigor with practical manufacturing skills. The Pathways System emphasizes work-based and project-based learning, internships, and the development of professional skills, all of which are core components of the 4T experience.
- Enhancing Work-Based Learning: The 4T Academy includes supervised, on-site job training, starting with one day a week for juniors and expanding to up to three days a week for seniors, culminating in paid internships. This hands-on training, often in a "dojo" environment or simulated factory setting, is a direct result of the Pathways System connecting students with real-world manufacturing environments at Toyota.

- Focusing on In-Demand Skills: The curriculum emphasizes areas like industrial automation & robotics, precision machining, and lean manufacturing, all crucial for advanced manufacturing careers. This focus ensures that 4T graduates possess the skills highly valued by employers in the sector.
- Connecting Students to Careers: The overarching common goal of the Pathways System and the 4T Academy is to introduce students to high-paying, in-demand careers in manufacturing in their own communities and provide them with a direct path to employment or further education. IN-MaC provides support to help schools connect with resources and navigate potential challenges in setting up and sustaining these programs.

LEARNING BY DOING: HANDS-ON TRAINING

The 4T Academy emphasizes hands-on learning in a simulated factory setting, or "dojo," where students practice skills on real manufacturing equipment. IN-MaC provides expertise and resources to develop these experiences and ensure they align with the needs of the manufacturing industry. This partnership provides students like De Santos with the knowledge, skills and exposure needed to make educated decisions on their future.

"Before, I just knew I wanted a career that involved problem-solving and working with my hands," said De Los Santos. "Now I know I want to pursue maintenance and the AMT program. It feels less like a dream and more like a real plan with steps in front of me."



Class of 2024

EARNING WHILE LEARNING

Students also have the opportunity to earn income through the 4T Academy. Students can earn around \$17 per hour (depending on location) as part of the program. This "earn while you learn" model, a key highlight of the IN-MaC Pathways system, offers tangible benefits and highlights the value of their education.

PERSPECTIVES ON IMPACT

The 4T Academy has impressive data on students participating in the program. In 2024:

- 100 % of students participating in the program were OSHA certified
- 80% of students earned dual credits
- 95% Toyota retention rate for students accepting a conditional job offer upon graduation. The job offer typically pays \$24 per hour starting out

"Of course, Toyota wants the students to come and work for them," said Aaron Huff, Principal at Benjamin Bosse High School in a recent College Board study. "However, if they choose to go work somewhere else, that's OK. The skills are transferable beyond this experience to other pathways."

4T ACADEMY INDIANA CASE STUDY

SHAPING THE FUTURE OF MANUFACTURING

The Toyota Indiana 4T Academy in Indiana serves as a successful model for addressing the manufacturing skills gap and preparing students for future careers. In fact, the model is so successful that Toyota has expanded the program to additional manufacturing sites in 3 additional states (Kentucky, West Virginia and Mississippi).

"Not all the kids are going to end up in college," said Jeff Hill, production team leader at Toyota of Kentucky, and content instruction leader for the academy during a 2024 LEX18 interview. "Some of these kids will end up in college, but I wanted to be able to prepare them for the opportunity to be more successful faster at the company than even I was."

By fostering collaboration between industry and education, the program equips students with the necessary knowledge, skills, and experience for the evolving technological landscape. Initiatives like the 4T Academy, strengthened by IN-MaC's support, are crucial for developing a skilled workforce in a landscape increasingly shaped by automation and advanced manufacturing.

ADDITIONAL ARTICLES:

Students Can't Be What They Can't See
All Access | College Board

Students Learn Manufacturing through 4T Academy
News | news-graphic.com

Toyota Brings Education Opportunities to High School Students in Scott Co.

"For students considering this program, I'd tell them not to hesitate. It's not just a program – it's an opportunity to figure out your future early, earn money, and build skills that will stay with you. Even if you're unsure about your path, 4T will give you direction and open options you didn't even know existed."

Kristopher De Los Santos



Indiana Manufacturing
Competitiveness Center

