PURDUE UNIVERSITY

THE DAUCH CENTER

Digital Supply Chain
Manufacturing & Suppy Chain

THE DAUCH CENTER
ANNUAL REPORT 2024

PURDUE UNIVERSITY

A message for the Director

Dear Friends and Partners of The Dauch Center,

As we reflect on 2024, I am proud of the remarkable progress we've made together. This year brought groundbreaking research, strong industry collaborations, and growth in our thought leadership on resilient supply chains and advanced manufacturing.

Highlights include our record-breaking Digital Transformation in Manufacturing and Supply Chain Conference with over 400 attendees, expanded partnerships, and the launch of PRISMA (Purdue Resiliency Index for Supply Chain Management). Developed through our Dauch Fellow Faculty program – a collaboration between Purdue's Daniels School of Business and the College of Engineering – PRISMA provides a data-driven approach to assessing and strengthening supply chain resilience. With over 150 students working on company-based projects every semester, our center remains a hub for experiential learning, technical skill development, and industry collaboration. The students' contributions, alongside those of our faculty and partners, continue to drive innovation and real-world impact.

Looking ahead to 2025, we're excited about new research initiatives, deeper industry engagement, and a continued focus on resilience and sustainability through an expansion of our Dauch Fellow initiative to deepen business-engineering faculty collaboration. Thank you for being so supportive in shaping the future of engineering and business. The Dauch Center team at the Daniel School of Business wishes you a successful and inspiring year ahead!

Sincerely,

Stephan Biller

Stephan Biller

Stephan Biller
Director, Dauch Center for the Management of Manufacturing Enterprises
Harold T. Amrine Distinguished Professor
School of Industrial Engineering and Daniels School of Business

About

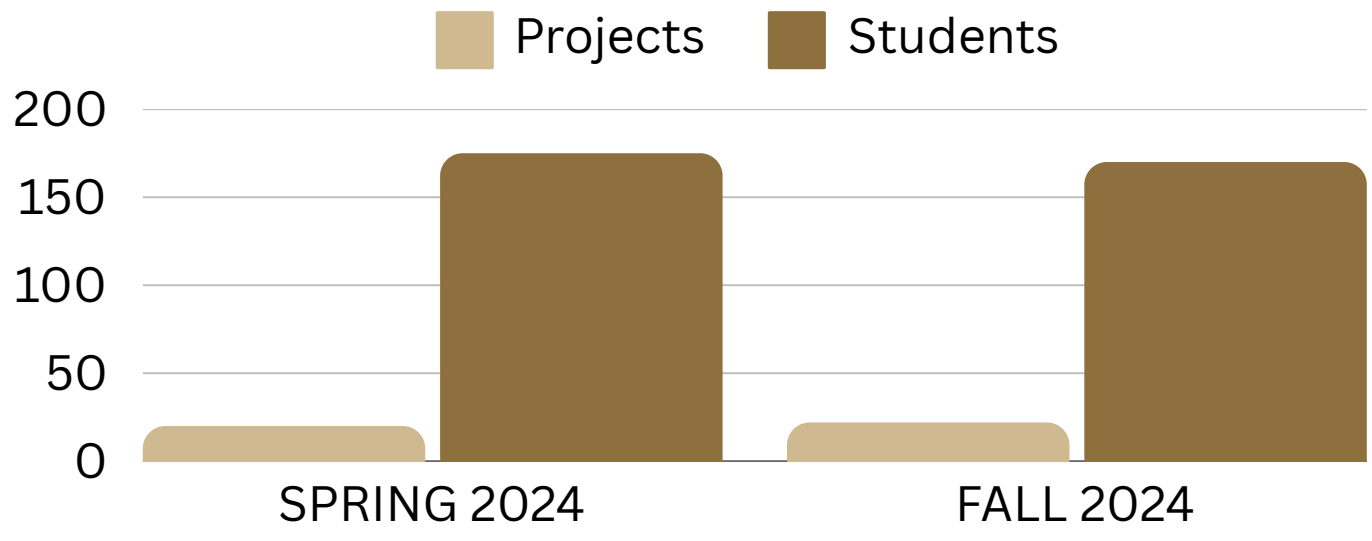
THE DAUCH CENTER

The Dauch Center for the Management of Manufacturing Enterprises (DCMME) at the Daniels School of Business fosters education, research, and industry engagement in operations and manufacturing management. Through conferences, student competitions, and company projects, the center connects firms, students, and faculty, providing hands-on learning and exposure to emerging ideas and technologies in the manufacturing industry.

Program

GROWTH

In 2024, The Dauch Center has experienced significant growth, further strengthening its commitment to connecting students with industry partners. Over the past year, the center has supported 40 student projects, including research initiatives, Griswold Internship projects, and Vertical Integrated Projects. This expansion reflects our dedication to providing students with hands-on experiences while fostering impactful collaborations with industry leaders. As we continue to grow, we remain focused on enhancing student opportunities and building meaningful industry connections.



Smart Manufacturing

DIGITAL TRANSFORMATION

Smart manufacturing and digital transformation are revolutionizing the modern industrial landscape, integrating advanced technologies such as artificial intelligence (AI), the Internet of Things (IoT), cloud computing, and data analytics to enhance efficiency, flexibility, and sustainability. As industries continue to adopt smart manufacturing practices, the workforce must evolve to meet new demands, requiring a deeper understanding of digital tools, data-driven decision-making, and cross-disciplinary collaboration.

To prepare our students for this evolving manufacturing environment, The Dauch Center along with eXcellence in Manufacturing and Operations (XMO), are bridging the gap between traditional manufacturing concepts and emerging technologies. Hands-on experiences through internships, industry partnerships, and simulation-based learning can provide students with practical exposure to smart manufacturing principles. Curriculum enhancements, such as integrating courses on AI-driven automation, digital twins, and supply chain analytics, will ensure students develop the critical thinking and technical skills necessary for success. Additionally, fostering a mindset of continuous learning and adaptability will empower students to navigate the rapid technological shifts shaping the future of manufacturing.

INNOVATION LAB

The Dauch Center's Smart Technology Center serves as a cutting-edge hub for interdisciplinary collaboration, bringing together students from diverse fields to explore, create, and innovate. Equipped with state-of-the-art technologies, the lab features 3D printers, laser cutters, scanners, drones, and other advanced tools that empower students to turn ideas into tangible prototypes. This hands-on environment fosters creativity and problem-solving, enabling business and engineering students to develop real-world solutions while gaining invaluable experience with emerging technologies.

In addition to its technology center, the Dauch Center is home to an electric vehicle go-kart lab, where business and engineering students collaborate to design, build, and compete as the first-ever go-kart race team for the Daniels School of Business. This initiative blends technical expertise with strategic business acumen, offering students a unique opportunity to engage in motorsports innovation. In 2024, the team expanded with the addition of a second go-kart, aptly named "The Sequel," further solidifying the Center's role as a leader in experiential learning and cross-disciplinary teamwork.

2024

THOUGHT LEADERSHIP

CONFERENCES

The 2024 Dauch Center Conference focused on digital transformation, bringing together industry leaders in manufacturing and supply chain from across the Midwest. The event featured insightful speakers, a dynamic panel discussion, and presentations from the top three teams in the student case competition, culminating in the selection of a winner. The conference provided a valuable platform for collaboration, innovation, and the exchange of ideas on the future of digital advancements in the industry.

EV RESEARCH

The Dauch Center served as the research arm for the Indiana Electric Vehicle Commission, conducting comprehensive analysis and data collection to support the state's EV initiatives. The center provided all research for the 2024 Commission Report, offering critical insights into Indiana's EV infrastructure, market trends, and policy recommendations. This work played a key role in shaping the state's strategic approach to electric vehicle adoption and development.

SPECIAL INTEREST GROUPS

Digital Transformation

The newly developed Special Interest Group for Digital Transformation brings together industry leaders, innovators, and professionals to explore emerging technologies and strategies that drive digital innovation. This group fosters collaboration, knowledge-sharing, and best practices to navigate the evolving digital landscape and enhance organizational transformation.

INTERNATIONAL ENAGEMENT

The Dauch Center is committed to fostering international engagement by collaborating with universities and students from around the world. Twice a year, the center hosts groups of students from Colombia, providing them with the opportunity to engage in meaningful research alongside our team. Additionally, the center maintains a strong partnership with several universities in Lima, Peru, working with students each semester on company-sponsored projects.

As part of this collaboration, these students visit our campus for a week, where they gain valuable industry insights by touring facilities such as SIA, NHK, Amazon, Wabash, and various campus labs. Through these international initiatives, the Dauch Center continues to expand its global impact, providing students with hands-on learning experiences and strengthening cross-cultural academic and industry connections.

The Dauch Center's

Corporate Partnerships

The Dauch Center is dedicated to enhancing educational programs that prepare students for leadership roles in manufacturing and supply chain management. As a key resource within Purdue's Daniels School of Business, the center provides hands-on learning experiences, research opportunities, and industry collaborations that bridge the gap between academia and real-world business challenges. Through specialized courses, workshops, and student-led projects, The Dauch Center ensures that students gain the technical knowledge and strategic insights necessary to excel in the evolving global manufacturing landscape.

In addition to its academic initiatives, The Dauch Center extends its impact through The Dauch Academy which provides educational opportunities for professionals seeking to advance their skills. This academy is instrumental in equipping the workforce with cutting-edge knowledge in areas such as automation, supply chain resilience, and operational efficiency. Beyond workforce education, The Dauch Center has a long-standing tradition of fostering partnerships with leading companies, offering students invaluable opportunities to work on real-world projects alongside industry professionals. These collaborations not only provide students with practical experience but also contribute to the innovation and competitiveness of partnering organizations, reinforcing The Dauch Center's role as a vital link between Purdue University and the manufacturing industry.

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