MIT Industrial Liaison Program Faculty Knowledgebase Report

2025 MIT Europe Conference in Vienna

March 26, 2025 - March 27, 2025

Day 1: 26 March, 2025 (all times CET)

8:15 AM	Registration and Check-in
9:00 AM	Welcome & Introduction
9:30 AM	Risk, Innovation and the New Manufacturing Pioneers Ben Armstrong Executive Director MIT Industrial Performance Center Despite fears that new technologies will displace workers, the most common outcome is for new technologies to transform the jobs we do and how we do them. The question is: how can we use technologies to make jobs more enjoyable and more productive? With historical examples and recent data, MIT's Ben Armstrong will identify strategies and opportunities for "positive-sum automation" that benefits firms and workers alike.
10:05 AM	Keynote - Austrian Speaker TBC
10:40 AM	Networking Break
11:00 AM	Investing in the Future of Manufacturing: Practical Applications of AI and Analytics for Competitive Advantage Bruce Lawler Managing Director MIT Machine Intelligence for Manufacturing and Operations (MIMO) Explore practical and successful applications of analytics and AI in manufacturing across small, medium, and large enterprises in the U.S. Learn where to invest to start and sustain a digital transformation journey, drawing on research and best practices from MIT and McKinsey. Discover impactful uses of Generative AI currently shaping the industry that will drive future investment.
11:35 AM	Transforming Biomanufacturing to Empower the Bioeconomy J. Christopher Love Raymond A. (1921) And Helen E. St. Laurent Professor MIT Department of Chemical Engineering Biomanufacturing will change the food we eat, energy we use, and how we cure diseases. It has the potential to drastically reduce our reliance on greenhouse gases. But there are enormous challenges to getting promising advances from labs to the market. Standing up a large-scale manufacturing facility can run to $2 billion, the field is full of regulatory hurdles, and workers need advanced training. We'll look ahead at promising biomanufacturing solutions, and what it will take to scale them.

12:10 PM

Keynote - TBC

Kaitlyn Becker

12:45 PM

Networking Lunch

1:15 PM

Capitalizing on Change: Financing Manufacturing in the 21st Century

Hiram Samel
Senior Lecturer
MIT Sloan School of Management

Automation, AI, and the global drive for carbon reduction are transforming manufacturing, yet capital market allocation remains misaligned with the sector's evolving needs. The U.S. and Europe take distinct approaches: both deploy industrial policies to achieve strategic autonomy, with the U.S. leveraging larger pools of private capital alongside public incentives, and Europe prioritizing sustainability-focused funding as a key pillar of its industrial strategy. However, the tension between institutional investors' preference for efficient, asset-light models and the significant capital expenditures required for transformative manufacturing presents a substantial challenge. Engaging capital market investors early, supported by innovative business models, refined narratives, and industrial policy, is essential to mobilizing larger funding pools of capital that advance strategic priorities.

1:55 PM

Educating Manufacturing Technologists to be Future Shop Floor Leaders

John Liu
Director & Principal Investigator
MIT Learning Engineering and Practice Group (LEAP)

Successful technology adoption will change the nature of manufacturing work and drive demand for new competencies. How do we understand the roles that can best support advanced manufacturing? A new program from MIT aims to give shop-floor workers a ladder to become shop-floor leaders — "technologists" who bridge the gap between technicians and engineers.

2:30 PM

Networking Break

3:00 PM

Austrian Speaker TBA

3:35 PM

Globalization Retreats, Manufacturing Resurges

Suzanne Berger
Institute Professor
MIT Department of Political Science

In a world advancing towards globalization, strong competitive pressures force companies to operate as if there were a single world market with the same prices for goods, capital, and labor. After decades in which the costs of distance declined and countries lowered the border-level barriers to trade, globalization has now reversed and global markets are fragmenting. There are three main causes for this shift: political unrest blamed on globalization; supply chain failures during COVID, which reinforced the value of resilience and domestic production; and above all, national security concerns with war in Europe and US-China tensions. New border-level barriers include tariffs, export controls, import controls, and immigration restrictions. In such a world each state tries to ensure the production of vital goods and services at home or in allies through "friend-sourcing." Supporting domestic manufacturing ---which was dismissed as unimportant only a decade ago –has now become a key objective in all major countries.

5:00 PM

Networking Reception and Dinner

Day 2: 27 March, 2025 (all times CET) | Deep-Dive Workshops

Deep-Dives

An instructional program with hands-on learning activities and specific takeaways from the MIT faculty. A limited number of participants.

There are 6 Deep-Dives in 8 different tracks available, two at 09:45 AM, two at 10:45 AM, two at 12:00 PM, and two at 1:00 PM.

8:30 AM — Registration for Deep-Dives

9:30 AM — Break

Track 1 - Manufacturing Policy

9:45 AM - 10:30 AM — Session 1: Scaling New Technologies That Improve Work

Ben Armstrong
Executive Director, MIT Industrial Performance Center

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Executive Director
MIT Industrial Performance Center

Ben?Armstrong?is the executive director of MIT's Industrial Performance Center, where he co-leads the Work of the Future initiative. His research examines how workers, firms, and regions adapt to technological change. His current projects include a working group on generative AI, as well as a book on American manufacturing competitiveness. His work has been published or featured in academic and popular outlets including the?New?York?Times, Harvard Business?Review,?Forbes,?Sloan Management Review, Times?Higher Education, the?Boston Review, Daedalus, and Economic Development Quarterly. He received his PhD from MIT and formerly worked at Google Inc.

Despite fears that new technologies will displace workers, the most common outcome is for new technologies to transform the jobs we do and how we do them. The question is: how can we use technologies to make jobs more enjoyable and more productive? With historical examples and recent data, MIT's Ben Armstrong will identify strategies and opportunities for "positive-sum automation" that benefits firms and workers alike.

10:30 AM — Break

10:45 AM – 11:30 AM — Session 2: How Can We Transform Manufacturing?

Suzanne Berger

Manufacturing today in the United States (and in those European countries about which I know something), has low productivity gains, relatively low-paid and insecure jobs, and contributes to climate change. The majority of firms are very slow to adopt new technology. Only 10% of all U.S. manufacturing firms have even one robot. As new national industrial policies invest massively in domestic production, there is the risk that we will end up with more manufacturing –but more of same. How can we inflect the future? A group of MIT engineers and social scientists have been meeting to analyze the causes of stagnation and strategies for overcoming them. Together with participants in the Deep Dive session, we will compare national experiences in manufacturing, new ideas about optimal firm structures, verticalization, and technology adoption.

Track 2 - Manufacturing Technology

9:45 AM - 10:30 AM	Session 1: The Promise of Biomanufacturing J. Christopher Love Biomanufacturing will change the food we eat, the energy we use, and how we cure diseases. It has the potential to drastically reduce our reliance on greenhouse gases. However, there are enormous challenges to getting promising advances from labs to the market. Standing up a large-scale manufacturing facility can run to $2 billion, the field is full of regulatory hurdles, and workers need advanced training. We'll look ahead at promising biomanufacturing solutions, and what it will take to scale them.
10:30 AM	Break
10:45 AM - 11:30 AM	Session 2: Co-Development of Mechanism Design Kaitlyn Becker
11:30 AM	Networking Break
	Track 3 - Strategy and Investment
12:00 PM – 12:45 PM	Session 1: Preparing the Corporation for Machine Learning Bruce Lawler Learn how to perform an analysis of your company's digital maturity and generate an action plan to improve the corporation's digitization and AI implementation success. Learn how to identify the right potential AI use cases for your corporation. Discuss how to select and implement an AI pilot project.
12:45 PM	Break
1:00 PM – 1:45 PM	Session 2: Best Practices & Innovations in Manufacturing Workforce Development Hiram Samel **Pedagogy:** Hub-spoke curriculum, capstone projects **Instructional Design:** Industry mapping, multi-stakeholder participatory instructional design **Learning Technologies:** XR, genAI, robotics
	Track 4 - Innovation and Workforce Development
12:00 PM – 12:45 PM	Session 1: The World Needs Better Corporate Innovation Phil Budden
12:45 PM	Break
1:00 PM – 1:45 PM	Session 2: Development and Training of Manufacturing Workers John Liu The MIT Learning Engineering and Practice Group (LEAP Group), led by Dr. John Liu, applies design and systems principles to solving challenges in learning and develops learning experiences to better meet the increasing demand for STEM skills in tomorrow's workforce. Our research-to-practice approach includes the focus areas of mixed reality, simulations, and haptics, educational technology, MOOC and blended learning, and curriculum development to enhance and scale engineering education and training. We are a group in MIT's Mechanical Engineering Department.

1:45 PM Light Lunch