




Shaping the future of  
global supply chain  
education, research,  
and innovation.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY



The background of the slide features a photograph of the iconic dome of the Massachusetts Institute of Technology (MIT) building. The building is partially obscured by a semi-transparent, golden-brown overlay that also contains the text. In the foreground, there are trees with autumn-colored leaves, and the ground is covered with fallen leaves in shades of yellow, orange, and red. The sky is a clear, light blue.

“We don’t do technology for the sake of technology. We don’t innovate for the sake of innovation. At MIT CTL, we solve real-world problems—and we bring together some of the best minds across the Institute and the world to do it. We move research out of MIT classrooms and laboratories and into the global marketplace to make a measurable difference in the world.”

**Yossi Sheffi**, CTL Director, Elisha Gray II Professor of Engineering Systems

# Here at the frontier

## What is MIT CTL?

For nearly four decades, the MIT Center for Transportation & Logistics (CTL) has been advancing the state of both the art and practice of supply chain management, transportation, and logistics. The team of faculty, students, and full-time researchers at CTL partners with industry thought-leaders to generate new ideas, develop them into industry—as well as academic—innovations, and then drive them into practice.

**CTL is positioned at the forefront of supply chain education, research, and innovation. Several factors set CTL apart from its peers. Specifically, CTL:**

- Combines the knowledge and insights of a world-class faculty with deep industry experience
- Operates a network of education and research centers stretching across Latin America, Europe, and Asia
- Provides a strategic location at the hub of the world's most respected culture of innovation, with full access to MIT's extraordinary research centers
- Integrates engineering and management perspectives as well as the insights of faculty from other relevant disciplines, from urban planning to finance
- Offers top-ranked educational programs in supply chain management serving both graduate students and industry executives
- Manages a portfolio of global research, education, and industry initiatives that are revolutionizing the way goods and services move across the supply chain
- Connects research with industry through its multifaceted corporate partnership program

# The connections that drive innovation

The CTL faculty works across disciplines, geographies, and industries to uncover new insights, using multiple approaches and methodologies. CTL's research staff collaborates with faculty members and technical staff from all five schools at MIT, with disciplines ranging from economics to management, engineering to urban planning, and everything in between. They work with graduate students from across the campus and around the globe on challenging and complex problems that are not easily defined by a single domain or approach.

CTL also connects academic researchers with supply chain professionals to ensure that the benefits of the research are transferred into practice. And, while its roots are at MIT, CTL is a burgeoning international operation with educational and industry partnerships in Europe, Latin America, and Asia. These international alliances help CTL to develop solutions that transcend industry and geography.

“Spanning the divide between management and engineering is something MIT is uniquely positioned to do because we work across all boundaries. I am cross-appointed to MIT Sloan and to the MIT Engineering Systems Division, for example, and work with people campus-wide, regardless of their department or school. It’s exciting to experience this level of cross-pollination.”

**John D. Sterman**, Jay W. Forrester  
Professor of Management, Director  
of System Dynamics, MIT Sloan School  
of Management



# Research

“Many of the challenges facing transportation today can’t be pegged as purely institutional problems or systems problems or technology problems. All those factors figure into both the problem and the solution. For decades, CTL has reached across and linked disparate intellectual and industry communities to address questions that are inherently interdisciplinary.”

**Joseph M. Sussman**, JR East Professor, Department of Civil and Environmental Engineering

Research

## Changing the way the world moves

CTL focuses on conquering real challenges with rigorous interdisciplinary research. Through partnerships with industry, CTL researchers drive those innovations into practice, improving the way companies, industries, and governments design and operate their supply chains.

All of CTL's research initiatives are driven by actual companies that need to develop new strategies and ideas for improving the way their transportation is procured, their network is designed, their supply chain risk is minimized, and any other aspect of their global operations.

“What sets MIT CTL apart from any other organization is its ability to implement—not just devise, but implement—leading-edge practices within leading-edge companies.”

**María Jesús Sáenz**, Director, Zaragoza Logistics Center

## Innovation that reaches around the globe

The MIT Global Supply Chain and Logistics Excellence (SCALE) Network is one of CTL's most ambitious programs. An international alliance of leading-edge research and education centers, the SCALE Network is dedicated to the development and dissemination of global innovation in supply chain and logistics.

The SCALE Network spans North America, Latin America, Europe, and Asia, with continual plans for expansion. The network, which includes the Zaragoza Logistics Center (ZLC) in Zaragoza, Spain, the Center for Latin-American Logistics Innovation (CLI) in Bogotá, Colombia, and the Malaysia Institute for Supply Chain Innovation (MISI) in Shah Alam, Malaysia, allows faculty, researchers, students, and affiliated companies to pool their expertise to create supply chain and logistics innovations with global applications.



“Our global presence makes it possible for us to test solutions to be sure they work in different parts of the world—and to integrate innovations from different cultures. Operational innovations happening in a small retail shop in Latin America can have significant ramifications for a global manufacturer in the United States.”

**Chris Caplice**, CTL Executive Director



# 2003 ZARAGOZA SUPPLY CHAIN SUMMIT



and Offshoring:  
Road to Globaliza

ZARAGOZA  
LOGISTICS  
center

ZARAGOZA  
Logistics Program

Harvard Business Review  
supply chain strategy

EMPRESA  
programa de mejora colectiva

CAJA INMACULADA

SOCIAL EUROPE



# Meeting future challenges today

Supply chains are complex systems that touch upon virtually all aspects of an enterprise's operations. With that in mind, CTL continues to broaden the scope of its research beyond transportation and logistics.

**To this end, current CTL research projects are covering areas such as:**

**Sustainability**—developing strategies to help companies make their supply chains greener while reducing their carbon footprints and use of critical resources

**Scenario planning**—helping firms identify the driving forces and critical uncertainties facing their supply chains in order to develop a flexible long-term strategy

**Alternative energy**—designing supply chain systems that will connect consumers to alternative energy generated in remote areas

**Seaport resilience and security**—preparing ports to be resilient in the face of disruptions such as natural disasters or acts of terrorism

**Humanitarian aid**—finding ways to bring food and other aid into distressed areas more efficiently and effectively

**Market volatility**—giving industries methodologies to deal with currency fluctuations, supply chain disruptions, and spikes in commodities prices

**Healthcare**—creating new supply chain and logistics technologies and practices to improve patient care delivery worldwide—in both emerging and established markets

**Economic impacts** – Understanding the impact of logistics-intensive industrial clusters on regional economic development



# Education

“Our curriculum is always evolving, so I’ve had the opportunity to come up with some new courses that address industry needs in a better way. We talk with industry a lot about, ‘What do you want in graduates? What are you looking to have in your future leaders?’ We then take their input and continue to shape the program, so they’re getting the kinds of graduates that they need for their business to go forward.”

**Bruce Arntzen,**  
Executive Director, MIT Supply Chain Management Program

## Where future leaders are developed

CTL attracts a diverse group of talented and motivated students from every corner of the globe. Students work directly with researchers and industry experts on complex and challenging problems in all aspects of supply chain management. By working in the international arena, they develop a rich understanding of the cultural and regional impacts that can have significant ramifications on their business operations.

***U.S. News & World Report continually ranks MIT #1 in logistics and supply chain management education because of landmark programs like these:***

### **The MIT Supply Chain Management Program**

Since 1998, this intense ten-month master's program has been a rich mix of leadership development and analytical problem solving. In this pioneering program, students work with corporate partners as part of their research thesis projects and receive the Master of Engineering in Logistics degree from the Massachusetts Institute of Technology.

### **The MIT Zaragoza Master of Engineering in Logistics Program**

Located at the the Zaragoza Logistics Center (ZLC) in Zaragoza, Spain—one of Europe's largest logistics hubs—this ten-month master's program combines hands-on training with operations research. Students learn every facet of supply chain management—from both theoretical and practical perspectives.

### **The MIT Malaysia Master of Science in Supply Chain Management**

Launched in 2012 at the Malaysia Institute for Supply Chain Innovation in Shah Alam, Malaysia – just 15 miles outside

of Kuala Lumpur – this ten-month master's program provides cutting-edge knowledge and expertise in both problem solving and change leadership.

### **The MIT Graduate Certificate in Logistics and Supply Chain Management Program**

CTL and the Center for Latin-American Logistics Innovation (CLI) have designed this intensive program to provide Latin American students with hands-on training in supply chain management and logistics using the latest research and regional business case studies.

### **Ph.D. in Logistics and Supply Chain Management**

Doctoral candidates in this cutting-edge program, which is administered by MIT's Engineering School, conduct both theoretical and applied research to advance theory, policy, and practice within complex engineered systems.

Read more about CTL's degree and certificate programs at <http://ctl.mit.edu/education>.

## Gaining competitive advantage in the global arena

CTL's extensive connections to industry provide an in-depth understanding of the issues that are most relevant to companies today. The Center's executive education programs are impactful learning experiences designed to help leaders think more strategically about their supply chains. Guided by the CTL faculty, industry leaders develop the skills they need to overcome present obstacles, anticipate future challenges, and gain competitive advantage.

Through intensive and highly interactive courses in supply chain management, logistics, and transportation; senior executives learn what it takes to make their organizations resilient in an unstable world. Customized courses in supply chain continuity planning, scenario planning, and strategic supply chain alignment are valuable platforms for any enterprise expecting to succeed on the global stage.

Explore the full range of executive education offerings at <http://ctl.mit.edu/execed>.

"If you're going to come to our course, you've got to be ready to work because it's not one of these things where you can sit back and hear folks pontificate. You're going to be working while you're here—and you're going to get an awful lot out of it."

**James B. Rice, Jr.,**  
CTL Deputy Director






# Partnering with CTL

“What makes CTL such a fresh and dynamic group is that we are constantly putting our ideas to the test with our academic and industry partners. Together, we share, engage, and strategize—and through this interaction, we generate significant knowledge creation and value for all involved.”

**Edgar E. Blanco**, Research Director, Executive Director of MIT Global SCALE—Latin America





## Engineering pivotal change

CTL's corporate partner program brings organizations from both the public and private sectors as well as from across the globe into a collaborative environment that fosters breakthrough thinking. They facilitate the open and honest exchange of ideas between some of the most dynamic firms in the world. At CTL, executives are able to access state-of-the-art research, explore new concepts, and learn how to transform their organizations.

**Organizations get the greatest value from their partnership with CTL when they are:**

- Preparing to implement transformational change
- Evaluating supply chains in transition
- Elevating their supply chains to a higher level of efficiency
- Implementing supply chain innovations to achieve corporate goals

### How organizations work with CTL

CTL has developed a robust and flexible corporate outreach program that offers three levels of engagement so that all organizations have an opportunity to participate—and to match their participation to their needs.

#### Supply Chain Exchange

The CTL Supply Chain Exchange provides its members with access to all CTL reports and enables interaction with both MIT and other partner organizations. Exchange Partners use CTL as a common meeting ground where they share information, experiences, perspectives, and opinions in a collaborative and collegial setting.

#### Research Partners

Organizations that want to investigate specific supply chain challenges participate in the CTL Research Partner program. Research Partners can join one or more research groups, collaborating with CTL and industry partners on trailblazing research.

#### Strategic Partners

Strategic Partners enjoy the highest level of interaction and collaboration with CTL faculty, researchers, and students. They also benefit from optimal connection to other industry leaders. Participants in the CTL Strategic Partner program sit on CTL's advisory board, helping to guide the Center into the future.

Read more about CTL's partner programs at <http://ctl.mit.edu/partnering>.

“Our industry partners come to us with a problem, and we either give them a solution—if we know it has been solved—or we begin pulling together a team to get to the bottom of it. One reason we’re good at solving problems is that we have the broadest range of researchers working together under the auspices of one organization anywhere on earth.”

**James B. Rice, Jr.**, CTL Deputy Director



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The MIT Center for  
Transportation & Logistics  
is revolutionizing global  
supply chain research,  
education, and best practice.



Find out more about MIT CTL's impact at  
<http://ctl.mit.edu/>

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