MIT CTL Supply Chain Cybersecurity Lab

MIT Center for Transportation & Logistics

Keeping global supply chains moving, even when technology fails

OUR MISSION

Cybercrime already causes trillions of dollars in damage worldwide each year, and AI-enabled cyberattacks are an emerging threat that could multiply the speed and impact of these disruptions. At the same time, supply chains depend more than ever on interconnected software, cloud platforms, robotics, artificial intelligence (AI), and complex networks of technology providers, even as many still rely on legacy systems with low levels of cyber protection. This means that a cyberattack affecting any one of these systems can halt production, stop warehouse operations, delay shipments, paralyze ports and airports, and spread disruptions across firms, sectors, and regions.

The Supply Chain Cybersecurity Lab at MIT CTL is a new, interdisciplinary research initiative with a clear purpose: **to help protect global physical supply chains from cyberattacks**.

By investigating the systemic consequences of cyberattacks that can impact the flow of goods, we help organizations **prevent**, **mitigate**, and **recover** from these attacks, strengthening the resilience of global supply chains.

OUR RESEARCH

Our work begins with a shift in perspective. Cybersecurity has long been treated as merely the protection of data. In supply chains, the physical flow of goods such as medicines, food, and fuel that communities depend on every day is also at stake. For that reason, the Lab is working on the following initiatives to support the mission:

TRACE
Global Supply Chain Cybersecurity Observatory

Analyzes cyberattacks worldwide that disrupt supply chain operations to understand systemic risks and help organizations respond.

RADAR
Emerging Supply Chain Cybersecurity Trends

Identifies emerging cybersecurity risks in supply chains related to modern technologies such as AI tools, humanoids, and autonomous trucks.

SCOUT
Supply Chain Vulnerability & Threat Assessment

Uses cybersecurity and supply-chain-specific risk factors to translate technical vulnerabilities into operational priorities for organizations.

OUR APPROACH

01 Connect Digital, Physical, and Intelligence Flows

Map the flows of goods and data and the decision processes needed to operate supply chains, revealing how cyberattacks could spread across operations.

02 Map Technology Dependencies and Systemic Risk

Identify the key software, hardware, robotics, cloud services, AI, and technology vendors supporting supply chains across firms, sectors, and regions.

03 Assess Operational Resilience

Examine the organizational, technical, and operational factors that influence the severity of a cyberattack and the recovery time.

04 Prioritize Risks and Actions

Develop disruption scenarios, heat maps, and recommendations based on the cyber exposure, interdependencies, and operational resilience of firms.

OUR IMPACT

Because supply chains are shared and interconnected, the cascading effect of cyberattacks is very high, and no cyberattack stops at just one firm. The reverse is also true: strengthen one link and the whole network becomes stronger. Our research aims to protect global supply chains, benefiting not only large and small firms with technology-dependent operations (3PL, pharma, CPG, retail, automotive, etc.), but also technology providers, insurance, banks, and critical infrastructure operators. The result will be fewer supply chain shutdowns, faster recoveries, and billions of dollars saved.

JOIN US

MIT is built on collaboration. We work across government, industry, academia, philanthropy, and other sectors to test ideas, refine solutions, and bring proven approaches to scale. The Supply Chain Cybersecurity Lab at MIT CTL is seeking **founding sponsors** to help execute this research agenda. The Lab also welcomes companies, government, and other organizations to sponsor other research that addresses their own specific supply chain cybersecurity challenges.

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