

DISCOVERY, INNOVATION, AND SOLUTIONS

Accelerating communications platforms of the future. Slowing cyber adversaries. Securing microelectronics and pharmaceutical supply chains. Assuring the integrity of artificial intelligence.

MITRE Labs inspires breakthroughs in applied science and advanced technology to transform the future of U.S. scientific and economic leadership. We're focused on strengthening vital U.S. missions and industries of the future through our talent, platforms, partnerships, and community.

Our goal? Deliver disruptive innovation to support our mission of solving problems for a safer world.

How? By drawing on what we've learned through our operation of federally funded research and development centers. By strengthening competitiveness in a world where dual-use technologies like artificial intelligence (AI) and quantum computing can be game-changers for our nation's security and economy.

We apply the expertise of more than 4,000 technical staff across a wide range of disciplines, including MITRE fellows—prominent thought leaders and subject matter experts in their fields.

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The U.S. risks falling behind in key areas of innovation while other nations are racing to close the gap. For our safety and prosperity, we must turn this around.

Charles Clancy, Senior Vice President and General Manager MITRE Labs, Chief Technology Officer

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Revitalizing American Industrial Innovation

MITRE Labs is the modern national foundry to advance U.S. science and technology leadership. We stimulate new ways of thinking and action to tackle national and global challenges—in partnership with industry and academia—by extending MITRE’s whole-of-government platform to whole-of-nation impact.

To drive applied science and advanced technology solutions, MITRE Labs has developed ten strategic focus areas, called Horizon Strategies. These strategies in advanced manufacturing and materials, artificial intelligence, biotechnology, climate, energy, and environment, cybersecurity, digital health, future connectivity, intelligent domains, microelectronics, and quantum will scale MITRE’s expertise to best support the U.S. innovation economy and America’s competitive success.

Highlights of MITRE Labs’ recent work include:

- **5G and Beyond.** Securing 5G is a complex topic. But it’s not impossible. And it’s vital that the U.S. do so. At MITRE we seek solutions to slow China’s global advance in telecommunications, invest in and catalyze U.S. innovation in 5G applications and NextG enabling technologies, and foster the development of secure technologies.
- **AI Assurance.** AI systems are increasingly used for consequential tasks, bringing both enormous potential and risk. To ensure the integrity and reliability of AI-enabled systems, MITRE identifies emerging threats through MITRE ATLAS™ (Adversarial Threat Landscape for Artificial-Intelligence Systems). This knowledge base of adversary tactics, techniques, and case studies for machine learning systems draws on real-world observations, demonstrations from red teams and security groups, and the state of the possible from academic research.
- **Driving American Innovation in Microelectronics and Advanced Manufacturing.** Focusing on critical supply chain issues, MITRE invests in rapid prototyping, 3D titanium printing, and integrated circuit design to push the development and production of key technologies on U.S. shores.
- **Advancing Healthcare Research and Treatment.** Building a connected digital health system and putting patients at the center of their care are essential to improve health and well-being for all. MITRE seeks solutions through digital health records and data analytics that accelerate R&D, advance treatment and response, and lower costs. MITRE-designed Synthea™ gives medical communities artificial yet realistic patient data and tools to innovate for better outcomes.
- **Taking a Quantum Moonshot.** The speed and processing power of quantum computers could revolutionize research in cybersecurity, defense, finance, manufacturing, and health. We’re developing hardware and protocols for unconditionally secret quantum communications, quantum sensing, post-quantum cryptography, and universal photonic quantum computing, powered by AI.

MITRE LABS OPERATES 16 INNOVATION CENTERS THAT ARE AT THE HEART OF THE TECHNOLOGY WE DELIVER.

- Artificial Intelligence and Autonomy
- Cost, Acquisitions & Management Solutions
- Cross-Cutting Urgent Innovation Cell
- Cyber Infrastructure Protection
- Cyber Operations & Effects
- Cyber Solutions
- Data and Human-Centered Solutions
- Electronic Systems
- Emerging Tech
- Enterprise Strategy and Transformation
- Health Innovation
- Infrastructure and Networking Innovation
- Modeling, Simulation, Experimentation, and Analytics
- Software Engineering
- Systems Engineering
- Transportation

Find out more about MITRE Labs.
Contact labs@mitre.org.

MITRE’s mission-driven teams are dedicated to solving problems for a safer world. Through our public-private partnerships and federally funded R&D centers, we work across government and in partnership with industry to tackle challenges to the safety, stability, and well-being of our nation.

MITRE | SOLVING PROBLEMS
FOR A SAFER WORLD®