INNOVATION IS OUR WORK

MITRE's Independent Research & Development (R&D) experts work with government agencies to identify their hardest problems that could be solved through R&D.

We develop new ways to use technology, creating tools, processes, and approaches that help agencies carry out their missions and ensure a safer world. We also forecast our sponsors' future challenges and explore the emerging technologies that could provide new solutions—from quantum computing to metamaterials.

By partnering with MITRE sponsors, our researchers see problems from the users' perspectives—whether they're sitting in a cockpit, a lab, an operating room, or a cyber operations center. MITRE pursues "use-inspired research." It can be bold, innovative, even transformative, but it must help organizations succeed in the real world.

Our researchers look at whole-of-government challenges in areas such as cyber, machine-human teaming, and data analysis. We often pursue solutions that could meet the needs of many agencies, adapting new and existing technology to their needs, often collaborating with industry and academia for accelerated results.

MITRE

> "We share our innovations with the nation by transferring technology directly to the government or licensing it to industry to produce affordable products that are available to the government."
>
> Dr. Jay Schnitzer, Chief Medical and Technology Officer

MITRE researchers work on a wide range of technologies, domains—and problems. Following are a few examples of recent projects:

Agile Acquisition
MITRE researchers work closely with government agencies to improve the efficacy and efficiency of government operations. Our tools, including AiDA (Acquisition in the Digital Age) help acquisition programs streamline and automate processes, saving the government time and money.

Improving Cyber Defenses
MITRE researchers developed the ATT&CK® framework, which thousands of organizations across government and industry are using to develop threat models and improve security operations. Its global success is due to the collaborative public-private community that works together to keep ATT&CK up to date.

Decision Making
MITRE researchers focus on shortening the time between collecting data and transforming it into information that can be acted on. We experiment with innovative technology to help leaders understand their choices and make the best decisions possible. At the same time, we understand how humans make decisions—with and without artificial intelligence and machine learning to support analyses.

Improved Cancer Care Driven by Interoperability
MITRE's years of work in data standards and health IT capabilities have led to a major research initiative called mCODE™ (minimal Common Oncology Data Elements). mCODE provides both a common data language and an open-standard, nonproprietary data model for interconnectivity across electronic health record (EHR) systems. Implementing this approach across the U.S. will allow oncologists to search the deidentified health records of millions of cancer patients to discover which treatments worked best for which demographics.

Cutting-Edge Communications
MITRE researchers applied state of the art 3D printing technology to create our patented MITRE FUSE™ (Frequency-scaled Ultra-wide Spectrum Element), a wideband phased array aperture that costs less and improves performance over comparable technologies. It can transmit and receive data for a range of applications from medical imaging to electronic warfare and has been licensed for both government and commercial purposes.

Quantum Computing
Exploring emerging technologies and what they could mean to the country is one of the research program's responsibilities. By working in partnership with MIT and Sandia National Laboratories, MITRE is making significant progress in our research initiative to create the world's first fully universal, scalable quantum computer and integrated quantum network.

RESEARCH AREAS

Agile Connected Government

Aviation & Transportation

Cyber

Decision Science

Health

National Security Next

Sensors, Processing & Exploitation

Technology Futures

For more information about MITRE's Independent R&D Program, contact research@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®