The MITRE Corporation

MITRE Research Program

MITRE’s research and development program exemplifies our identity as an innovation-driven organization, creating value for the nation. Through independent R&D, MITRE develops emerging technologies and innovative uses for existing technologies to solve our sponsors’ problems in the near term and in the future. Our program serves as a resource for sponsors and our R&D strategy directly reflects their needs and evolves with their challenges.

The objectives of our research program are to: focus creative minds on tough technical challenges; encourage groundbreaking thinking about future potentially transformational technologies; and prove that solutions work through rigorous modeling, simulation, prototyping, and testing.

Results and Outcomes to Serve the Public Interest

MITRE and its sponsors believe that serving the public interest means looking to the future as well as solving current problems. Our research activities address the nation’s most pressing challenges through open technological and scientific investigation. Created to support and complement our direct work program, MITRE’s R&D program encourages exploration and investment in innovative research and development; we connect new and emerging technologies to our sponsors’ highest priority mission problems. We strive to identify areas in which advanced and emerging technology or creative uses of current technology can dramatically improve mission performance or enable fundamentally new concepts of operations.

An Environment of Innovation

MITRE encourages multidisciplinary collaboration across the corporation: among researchers and staff who work closely with sponsors and directly between researchers and sponsors. This interaction assists in shaping researchers’ ideas into effective solutions and ensures that knowledge gained through the R&D program becomes widely available. We also reach out to academia, industry, and government to forge research and technology relationships, enhancing the state of the practice. MITRE researchers publicize their findings through conference presentations, journal papers, participation in consortia and standards bodies, and technology exchange events.

MITRE’s Technology Transfer Office (TTO) manages the company’s intellectual property and technology transfer activities. It secures protection for MITRE-developed inventions, ensuring that they can be freely used in support of sponsor missions. The TTO also manages the licensing process that makes MITRE’s advanced technology affordable, supportable, and available to sponsors and the public.
Many of MITRE’s research projects seek to anticipate technology trends and next-generation mission capabilities and help sponsors adapt their program plans to the technologies that will prevail in the future. Thus, the areas we focus on evolve over time to anticipate our sponsors’ needs.

Diverse Projects, Driven by Sponsor Needs

MITRE adapts its mix of research projects from year to year to reflect sponsors’ changing missions and technical challenges:

- MITRE researchers demonstrated the benefits of using netted sensors for monitoring national borders and choke points. They are expanding their efforts to meet the more complex challenges posed by urban environments.

- MITRE is advising its sponsors on capabilities needed for homeland security and defense. For example, we are working on ways that new biomedical discoveries can help detect, identify, and counteract bioterrorism.

- Researchers have examined ways to improve methods for networking mobile users, design better terminals for satellite communications, and ensure reliability and quality of service even in congested or disrupted networks.

- MITRE researchers are pioneering methods for machine translation of spoken and written language to help military and intelligence professionals manage and analyze unprecedented amounts of information.

- Our experts are developing decision support systems for military officers and air traffic controllers and evaluating these systems in realistic settings.

- Researchers in cybersecurity explore ways to counter increasingly sophisticated attacks against networks and computer systems.

Finding the best solutions for our sponsors’ most critical problems

Because MITRE research is not tied to the bottom line or any particular product or organization, we are free to recommend the best solutions to our sponsors, whatever the source. In addition, we can take more risks in our R&D program than for-profits can, exploring radically different approaches that have a high payoff but also a high risk of failure. By combining the best of internal and external ideas, we try to find the most promising solutions to our sponsors’ problems.