STAKEHOLDER ENGAGEMENT: MITRE AS CONNECTOR, CONVENER, AND TRUSTED PARTNER

Transportation enables global commerce and travel, military operations, and space exploration. This vital sphere is experiencing a dramatic transformation as technological innovations introduce new opportunities and challenges at a rapid pace.

MITRE is uniting stakeholders—users, regulators, industry, and research organizations—to ensure safety across all forms of transportation during this time of unprecedented change.

Acting as a connector and convener is an essential element of our role as the operator of federally funded research and development centers (FFRDC), where we serve at the intersection of government, industry, and academia. We understand that making those connections is key to developing solutions that work for everyone in today's complex transportation environment. By incorporating diverse perspectives and expertise in decision-making and problem-solving processes, we enhance the likelihood of successful outcomes.

That's why stakeholder engagement—in its many forms—permeates our work.

MITRE

Advancing Aviation Safety through Collaboration

In the aviation domain, we know firsthand about the power of collaboration through our involvement in the Aviation Safety Information Analysis and Sharing (ASIAS) program. In this public-private partnership (PPP) between the Federal Aviation Administration (FAA) and the aviation industry, shared data and analysis provides greater safety insights than any one organization could achieve on its own. The program has been credited with helping the United States dramatically improve commercial aviation safety in the last decade and a half. MITRE helped establish the program and, for the past 15 years, has served as its data steward and conducted the analyses that provided ASIAS partners with previously inaccessible safety insights.

The ASIAS model has since been applied in a variety of other arenas, including the automotive industry, healthcare, child welfare, and tax fraud. And efforts are now underway to apply it to rail environments, as well as to new types of vehicles entering our National Airspace System (NAS).

Working Together to Integrate New Entrants

Among those new entrants are uncrewed aircraft systems (UAS), or drones. As these vehicles proliferate in the NAS, our researchers are working with a variety of partners to ensure their safe operations. In our work at the state level, we're teaming up with governmental and research organizations to test safety in unique use cases, such as pipeline or railway inspection and agricultural monitoring. Learnings from these research efforts will ultimately inform national policy and rulemaking, increasing safety for all stakeholders.

We also worked with other FFRDC operators to create an alerting system designed to prevent airborne collisions between drones and other aircraft. And our new drone range is serving as a proving ground where government and industry partners can work together to develop and test both drones and counter-drone systems. In a related effort, we developed a holistic approach to assess drone benefits and safety—one that factors in societal acceptance of their risks and missions.

Now, urban air mobility operations are becoming more common across the world. We're working with government and industry to develop the standards and procedures that will govern the expanded operations of these new vehicles.

Promoting Aviation Safety Globally

Our commitment to partnership and stakeholder engagement in the aviation community also extends to the global stage.

In recent years, we've outlined for the worldwide aviation community a path toward a safer and more resilient global aviation system. We issued a call to action to that same community, asking stakeholders across the world to work together to enhance safety through their participation in two areas: open data standards and data-sharing analytic platforms. And in 2022, we crafted our Next Level of Safety vision, an approach that combines the ubiquitous data of the digital age with advanced analytics to accelerate safety improvements. Since then, we've globally promoted its tenets: taking a systems-level approach, broad data and information sharing, proactive monitoring and analysis, and policy focused on safety outcomes rather than compliance alone.

In parallel, we're working with the FAA, the International Civil Aviation Organization, the Civil Air Navigation Services Organization, and other global partners on standards and tools that can enhance the safety and efficiency of aviation everywhere.

Securing Our Place in Space

In the domain of space, burgeoning traffic means commercial, civil, and military stakeholders need a whole-of-nation approach to ensure U.S. leadership and security in space.

To address that need, in 2021 and 2022, MITRE and Aspen Institute hosted a series of meetings focused on maintaining a U.S. competitive advantage in space. More than 60 space stakeholders representing industry, government, academia, nonprofits, and FFRDCs participated, identifying three overarching challenges. In response, MITRE and Aspen Institute proposed corresponding recommendations that are now being promoted globally. They include establishing norms of responsible behavior and regulatory overhaul to facilitate a secure space domain.

Enhancing Safety on the Surface

On the ground, our stakeholder engagement is wide-ranging as well.

In the rail domain, we're partnering with passenger rail transit operators to strengthen their safety management systems, a process that includes engaging stakeholders from all levels of the organization, along with any external entities providing parts or services.

As the creator and convener of the Partnership for Analytics Research in Traffic Safety (PARTS) program—a PPP modeled on the ASIAS program—MITRE offered the U.S. Department of Transportation and automobile manufacturers a way to securely share their data to advance traffic safety. MITRE operates PARTS as an independent third party, pooling large quantities of disparate data from PARTS partners and conducting the analysis that informs future government and industry action.

In 2022, we released the results of the largest government-automaker study to date quantifying the real-world effectiveness of advanced driver assistance systems (ADAS) in passenger vehicles. Findings from the study are expected to inform the development and refinement of ADAS in future vehicle models. PARTS has continued to expand as industry partners discover the safety insights their collective data can yield. The PARTS partnership also lays the groundwork for future research as the automation of our vehicles continues to increase.

In a separate but related effort, we're recommending ways in which automobile manufacturers can work together to tap the power of the vast quantities of telemetry data newer-model vehicles are producing—as a way to gain even deeper insights into automotive safety in an age of increased automation.

transportation@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®