

## FACTORY AUTOMATION

# Customer reference

## Fire GO GmbH x Mitsubishi Electric Germany / Safety & Training

### ENHANCING FIREFIGHTER SAFETY: FROM SIMULATION TO LIFE-SAVING DECISIONS

#### Key points

- 28 realistic fire simulation points in mobile full-scale aircraft simulator transform firefighter preparation
- Integrated data solutions provide instructors with detailed insights into firefighter performance and technique effectiveness
- Advanced automation enables instant deployment of training systems worldwide



▲ See how it works here (DE).

Few professions demand such readiness for the unexpected as firefighting. Let's imagine an airport firefighting crew racing across the tarmac toward a burning aircraft. They know that nothing can catch them off guard. They have tested dozens of different fire scenarios through realistic training. They know precisely how to tackle various types of fires in specific locations on planes. They move with the confidence that comes with extensive experience.

This level of preparation improves firefighter safety. What was once unpredictable becomes manageable. What was once dangerous is now controlled. This transformation has become a reality thanks to the cooperation between Fire GO GmbH's and Mitsubishi Electric.

When the safety of firefighters relies heavily on the quality of preparation, there is no room for ineffective solutions. Fire GO GmbH develops advanced fire simulation systems for airport emergency services worldwide. Using Mitsubishi Electric's automation technology, Fire GO GmbH creates training environments where repeated practice builds the instinctive responses that enhance safety.

#### Key Results:

The Fire GO system, powered by Mitsubishi Electric solutions, delivers comprehensive mobile training capabilities that can be rapidly deployed at airports worldwide. The full-scale A320/B737 aircraft replica incorporates 28 distinct fire simulation scenarios, from cockpit emergencies to engine fires and fuel spill situations. Real-time performance monitoring and advanced skill assessment provide instructors with detailed insights into firefighter responses, whilst the controlled environment ensures safe training for high-risk scenarios. Precise parameter control throughout all simulation processes enables customized training experiences tailored to specific airport requirements and aircraft configurations.

#### The Challenge: Preparing for scenarios you hope never happen

Every year, airport firefighters face the ultimate test: aircraft emergencies where passengers' lives hang in the balance. These professionals must be prepared for a range of scenarios, including cabin fires to fuel spills, engine blazes and evacuation emergencies. The margin for error is zero, yet opportunities for realistic training are limited.

Fire GO GmbH specializes in creating fireproof structures that simulate real aircraft fires using controlled systems that respond authentically to extinguishing agents. The company needed to develop a mobile aircraft fire simulation system that could bring this critical training directly to airports worldwide. The system includes eight 20-foot containers that form a full-scale replica of an A320/B737 aircraft with 28 fire simulation points, enabling comprehensive emergency scenario training.

## The Solution: Precision automation for life-critical training

Working with Siebers Mechanical Engineering, Fire GO selected Mitsubishi Electric's automation technologies to control every aspect of the mobile simulator. The System-Q Control Platform with STLite manages all simulator functions across 28 fire simulation points, coordinating gas flow regulation, safety interlocks, and emergency shutdown sequences with split-second precision.

GOT (Graphic Operation Terminal) Series touchscreen terminals throughout the system provide instructors with complete scenario control. These terminals display real-time system status and enable parameter adjustments during training sessions, allowing instructors to increase challenge levels as firefighters develop their skills.

Mitsubishi Electric's data visualization and analytics solutions capture detailed training metrics through advanced sensor networks including gas detection systems, temperature monitoring, and timing systems integrated across all 28 fire simulation points. The platform provides real-time diagnostics and safety monitoring capabilities, whilst touchscreen control interfaces enable immediate parameter adjustments during training sessions. The PLC-based system ensures reliable data transmission for safe operation, with integrated monitoring enabling instructors to track sessions and collect information for training assessment. The solution supports objective evaluation of training effectiveness through detailed collection and visualization capabilities

The development of this solution demonstrates how Mitsubishi Electric approaches each project as a unique collaboration. Rather than offering standardized systems, the company's engineering team worked alongside Fire GO as true partners, combining their automation expertise with Fire GO's industry knowledge to co-create a solution tailored to the specific demands of airport firefighting. This collaborative approach ensured that every aspect of the system was optimized to deliver maximum training value while meeting the stringent safety requirements essential for this critical application.

*"In safety-critical environments, understanding the unique challenges of each industry it's essential. Our commitment goes beyond technology to truly grasping what matters most to the professionals who rely on our solutions every day"* explains Christian Nomine, European Strategic Product Manager Visualisation & Analytics at Mitsubishi Electric Europe B.V.



## The Result: A measurable impact on firefighter safety and performance

The transformation achieved through Mitsubishi Electric's integrated automation platform is both measurable and meaningful. Research conducted by Allen Fire Department in Texas, USA, demonstrates that simulation training improves firefighter decision-making competency by 22 percent. The mobile capability means training comes directly to firefighters rather than requiring travel to centralized facilities. Airport crews can now practice with the exact aircraft configurations they protect daily, building muscle memory and confidence for scenarios they hope never to face. Mitsubishi Electric's data solutions reveal training insights previously invisible, tracking which techniques work fastest, where firefighters hesitate, and how stress affects performance. This data-driven approach ensures every training hour builds toward complete emergency preparedness. The System-Q platform's reliability ensures uninterrupted training delivery, while the plug-and-play design enables rapid deployment globally. For Fire GO, this expansion of capabilities means bringing comprehensive firefighter safety training to airports that previously couldn't access such advanced preparation systems.

*"The integration between System-Q, GOT terminals, and our data solutions has transformed how we prepare firefighters, turning simulation into complete readiness for any emergency scenario,"* notes Jochen Schürgers, Managing Director of Fire GO.

This collaboration between Fire GO and Mitsubishi Electric exemplifies how advanced industrial automation technologies can enhance public safety beyond traditional manufacturing applications. The project demonstrates Mitsubishi Electric's commitment to supporting critical safety institutions across diverse sectors, showcasing the versatility and broad application potential of industrial automation solutions in addressing real-world challenges where reliability and precision are paramount.

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