Fail Safe Elevator Systems Launches Sill-Mounted Alignment Detection System at IAEC Forum 2026

New Sill-Mounted Sensor Architecture Addresses Persistent Drift in Conventional Elevator Leveling; Retrofit-Compatible with Existing Controllers

ORLANDO, FL, UNITED STATES, May 5, 2026 /EINPresswire.com/ -- Fail Safe Elevator Systems, Inc., a Delaware corporation focused on advanced safety systems for the elevator industry, today announced the commercial launch of the FailSafe Alignment System at the International Association of Elevator Consultants (IAEC) Forum 2026. The system, developed in partnership with engineering firm Croxel Inc., replaces conventional shaft-mounted leveling sensors that drift out of alignment over time as buildings settle and components vibrate. It uses a sensor array installed directly in the elevator door sill, paired with an AI-assisted pattern-recognition detection algorithm.

> The architectural shift from shaft-mounted to sill-mounted is the core innovation. By anchoring the alignment reference to concrete, we eliminate the drift mechanism plaguing conventional systems."
>
> *Albert Garvett, Co-Founder & CDO, Fail Safe Elevator Systems*

The Problem

Conventional elevator leveling relies on sensors mounted to the shaft. Building settlement, mechanical vibration, and routine service operations cause these sensors to drift out of alignment over time, creating conditions where the elevator car comes to rest above or below the floor landing. The resulting trip and fall hazards are a recurring source of injury claims and litigation in the elevator industry, and the underlying drift mechanism is well known to elevator service technicians and consultants.

The FailSafe Approach

The FailSafe Alignment System addresses this fundamental drift problem by anchoring its reference geometry to the door sill, which is fixed in concrete at each floor, rather than the shaft. The drift mechanism that causes existing systems to fail is eliminated by construction.

The system has the following technical characteristics:

- AI-assisted pattern-recognition detection algorithm designed to handle the interference, variation, and installation tolerance that traditional threshold-based detection cannot.
- Multi-sensor redundancy built into the sensor array, providing fault tolerance against individual sensor failures.
- Hysteresis-based deassertion compliant with elevator industry safety code: the alignment signal asserts at the precise leveled position and only deasserts after the car has traveled beyond the code-specified tolerance band.
- Designed for retrofit deployment using standard, non-proprietary controller interfaces, so the system can be installed alongside the elevator controllers already in service today without controller-specific modifications.

The FailSafe Alignment System — control box and sill-mounted sensor strip — launches at IAEC Forum 2026 in Orlando (May 5-7).

"Elevator alignment safety has been a recurring problem in our industry for decades, and existing solutions all share the same vulnerability. They're mounted in the shaft, where the reference geometry can't stay stable," said Scott Akin, Founder and CEO of Fail Safe Elevator Systems, Inc. "The FailSafe approach eliminates that vulnerability by construction, and the AI-assisted detection makes the system robust to the kinds of interference that have plagued legacy designs."

"The architectural shift from shaft-mounted to sill-mounted is the core innovation," said Albert Garvett, Co-Founder and Chief Development Officer of Fail Safe Elevator Systems, Inc. and Co-Founder and CEO of Croxel Inc. "By anchoring the alignment reference to concrete instead of the shaft, we eliminate the drift mechanism that has plagued conventional systems. AI-assisted pattern recognition with built-in redundancy adds the robustness the elevator industry needs against real-world interference and component variation."

Product Availability

The FailSafe Alignment System is on display at the IAEC Forum 2026 in Orlando, Florida, May 5-7, 2026. Live system demonstrations are available at the Fail Safe Elevator Systems exhibit. Inquiries from elevator consultants, service contractors, and OEM partners are welcome.

About Fail Safe Elevator Systems, Inc.

Fail Safe Elevator Systems, Inc. is a Corporation founded in 2025 to develop and commercialize advanced safety systems for the elevator industry. The company's flagship product, the FailSafe Alignment System, applies AI-assisted pattern recognition and multi-sensor redundancy to elevator alignment detection, addressing a long-standing safety concern in vertical transportation.

About Croxel Inc.

Croxel Inc. is a corporation headquartered in Melbourne, Florida, providing IoT and embedded-systems product development services to medical, industrial, and infrastructure clients. As the engineering partner for Fail Safe Elevator Systems, Croxel led the hardware design, firmware development, mobile application, and field validation that brought the FailSafe Alignment System from concept to product launch.

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