



AUTOMATED FENESTRATION INC

Natural Ventilation + SHEV

Natural Ventilation

ADVANTAGES OF NATURAL VENTILATION FOR IMPROVED SUSTAINABILITY

- Reduction of CO₂ emissions
- Improvement of energy efficiency
- Reduction of natural resources use
- Operational cost savings
- Reduction of waste generation
- Improved user health and satisfaction
- Improvement of user productivity
- Provides competitive advantage

MIXED-MODE (HYBRID) VENTILATION

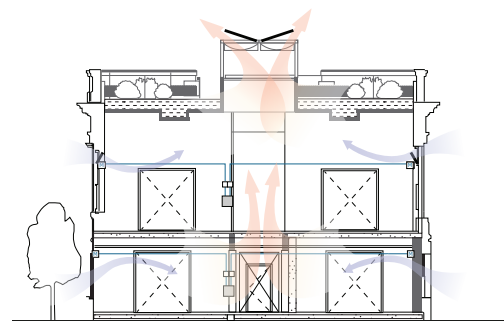
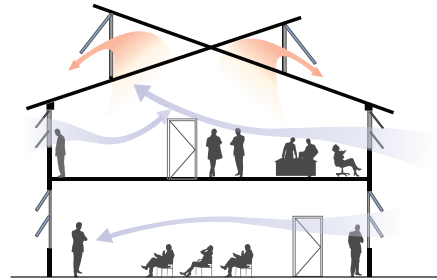
Mixed-mode (hybrid) combines both natural and mechanical (HVAC) systems, maximizing energy efficiency and occupant comfort.

NIGHT VENTILATION

Opening windows at night flushes accumulated daytime heat, and replaces it with cooler night air, preparing the building for the next day.

BUOYANCY-DRIVEN (STACK-DRIVEN) VENTILATION

A stack-driven ventilation design directs warm air to upper and roof areas, and exhausts it out via skylights and windows, while drawing in cooler air through lower level openings.



AUTOMATED FENESTRATION INC. PRODUCTS & SERVICES CONTRIBUTE TO GREEN BUILDING CERTIFICATION.



Natural Ventilation

HEALTH, WELLNESS & PRODUCTIVITY

Classroom, Offices, Restaurants, Health care

Circulating fresh air benefits all building occupants. Natural ventilation systems provide sustainable improvements to air quality.



Karl Miller Center - Portland State University



Piedmont High School - STEAM Building



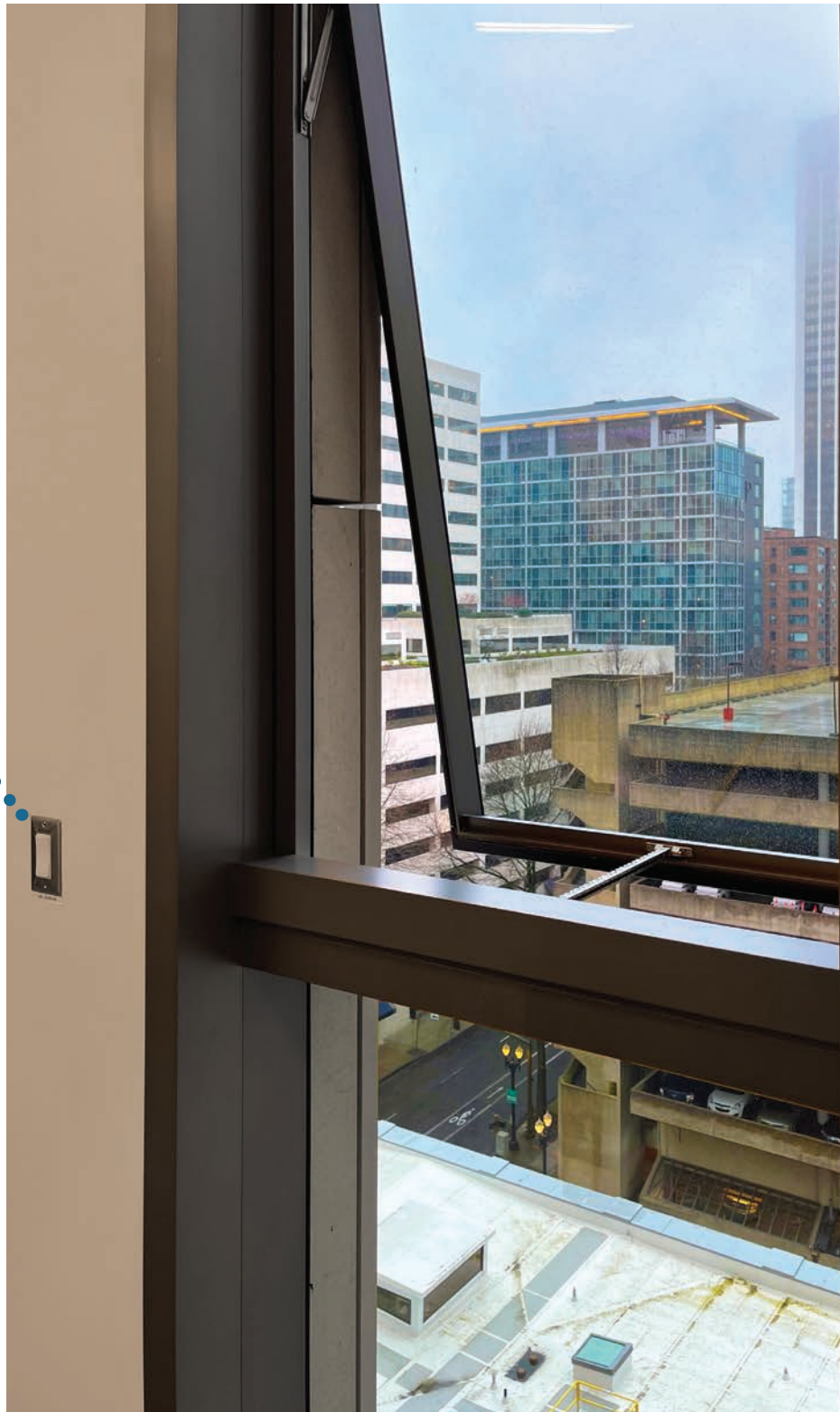
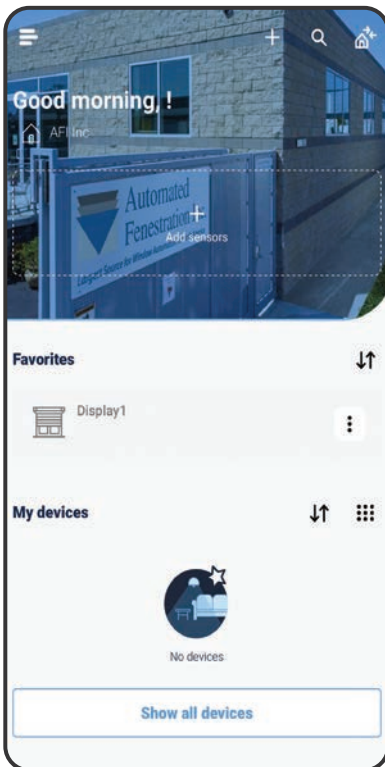
College of Architect, Planning & Landscape Architecture - University of Arizona

Natural Ventilation

ADA COMPLIANCY

Window Location, Hard to Reach Areas

Occupant comfort is crucial and necessary for a functional environment. AFI maintains an occupant-centric approach to controls for an optimal user interaction.



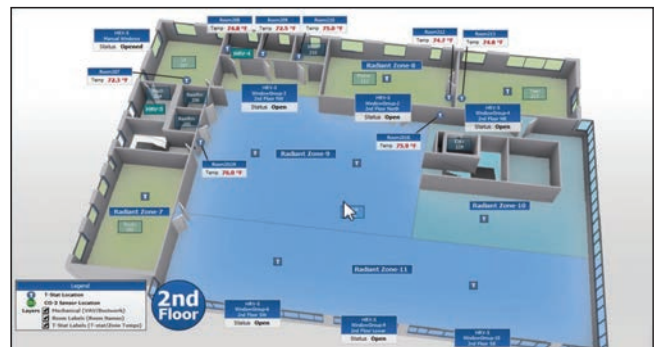
Multnomah County Courthouse

Natural Ventilation

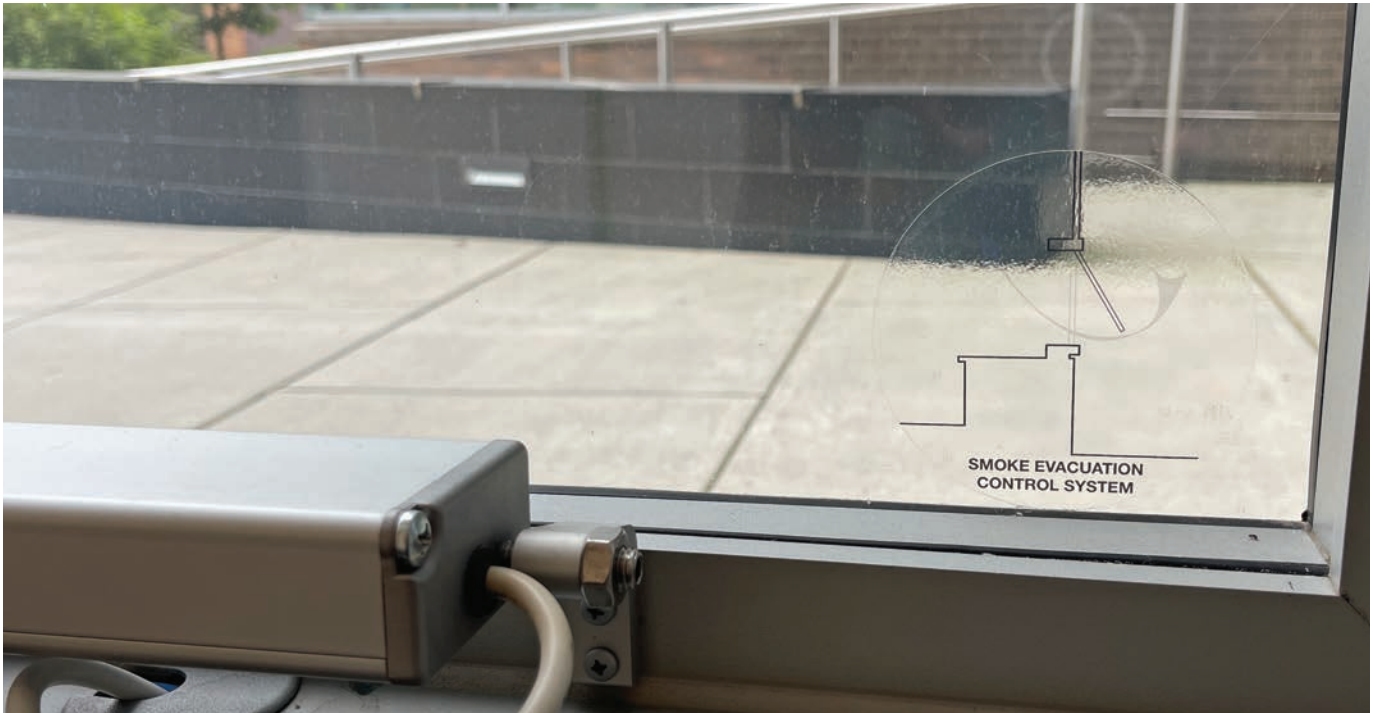
COST SAVINGS

Mixed mode with HVAC and BMS integration.

We can integrate with your Building Management System for reliable multi-zone system communication, providing a turn-key solution.



Half Moon Bay Library



Howard Community College - SET Building



Fortinet US Headquarters



Fortinet US Headquarters

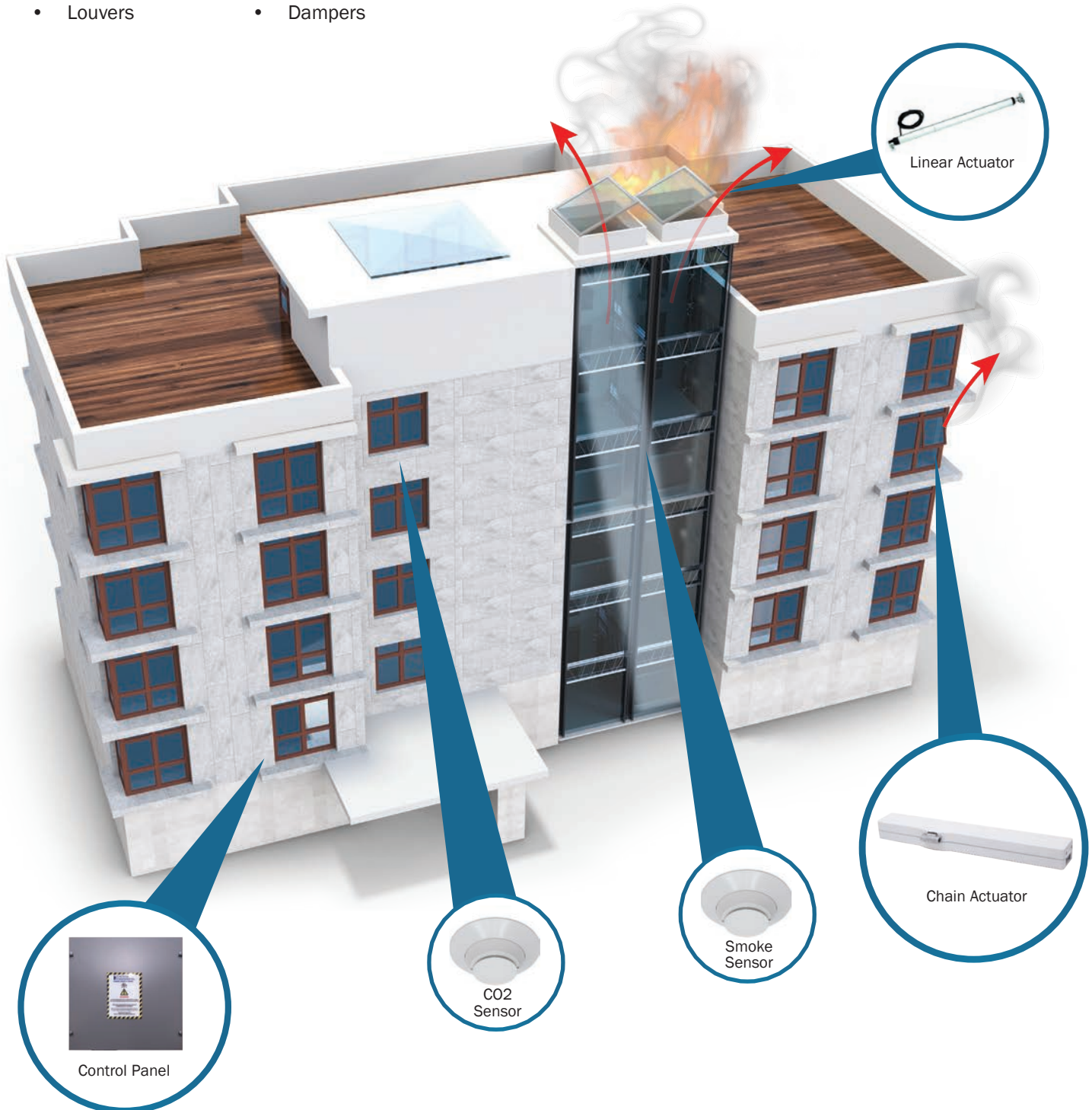
Smoke Heat Exhaust Ventilation

SHEV is installed to clear smoke in the event of a fire in order to keep escape and emergency routes clear, and/or provide smoke-free space for fire-fighting.

The SHEVs can be triggered automatically via smoke detection or fire alarm interfaces, or manually using call points/break glasses. The SHEVs then open fully within 60 seconds to remove the smoke. The SHEV's can be programmed to be reset and closed automatically or manually through the control system.

Examples of SHEV:

- Windows
- Skylights
- Louvers
- Dampers



Actuators

Actuators are available in either 120V AC line voltage or 24V DC low voltage for various applications. Speed control allows important in emergencies, e.g., for smoke ventilation. A wide range of mounting brackets are used to allow full movement of the actuator. Actuators are commonly available in custom powder coated finishes to match the curtainwall. UL Listed actuators and control panels provide hassle-free inspections.



Window Actuator



Tandem & Twin Window Actuators



Linear Actuator

Chain operation is the most common type of actuator for automated fenestration. The chain is extended by means of an electric motor which rotates the sprocket driving the chain. Chain lengths are available in a variety of standard lengths, and some actuators feature programmable chain lengths. For corrosion resistance, a stainless steel chain is preferred.

AWNING WINDOWS

Top Hinged Out-Swing



Awning windows are known for their versatility, as they can be installed alone or combined with other window types. Due to their design, awning windows provide excellent protection from rain when open, as the outward-opening design prevents water from entering the interior.



HOPPER WINDOWS

Bottom Hinged In-Swing



The inward opening mechanism allows for easy cleaning and maintenance since the exterior glass can be accessed from inside the building. These windows are popular in spaces where there is limited vertical wall space, as they can be installed higher up and still provide ventilation.



PARALLEL-PROJECTING WINDOWS

Outward projecting and in parallel to glass facade.



Excellent ventilation with minimal impact on the building facade. These windows provide maximum ventilation with minimal opening distance. When closed, parallel projecting windows provide excellent insulation due to their multi-point locking system, which ensures a tight seal.



CASEMENT WINDOWS

Side Hinged In or Out-Swing



Hinged at the side, casement windows provide excellent ventilation since the entire window sash opens to allow air circulation. They provide unobstructed views when completely open.



CRANK OPERATED WINDOWS

Retrofit Over Manual Crank Operator



For retrofit onto windows with Truth operators, for wood, PVC or metal sashes. Cover available in a choice of colors.



Connectivity / Integration

WHAT'S A CONTROL PANEL?

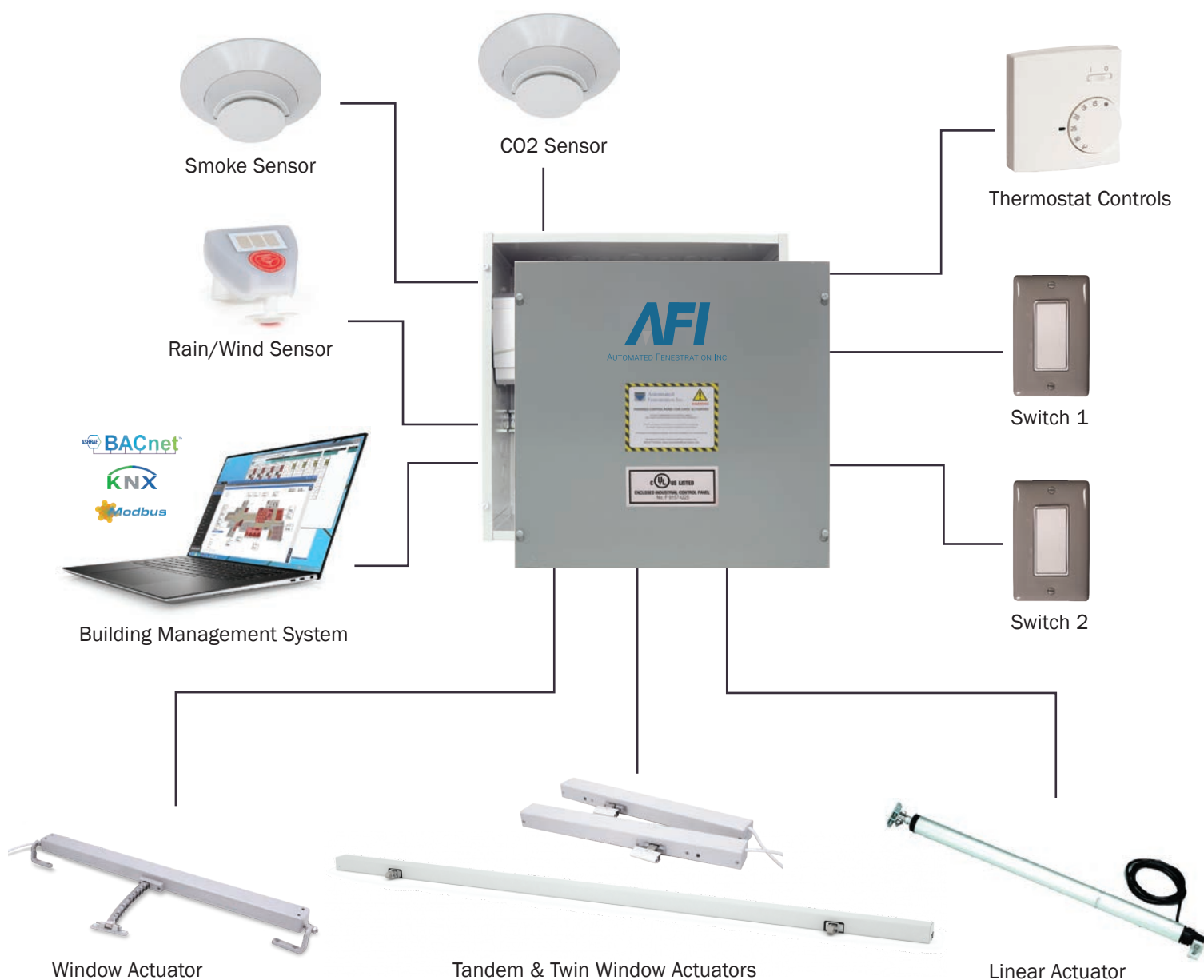
Two-way communication is used for the following:

- Smoke & fire
- Wind & rain
- Security (open window indication)
- Exact opening position
- CO2 levels
- Schedule of opening and closing
- Speed of opening

HOW IT WORKS

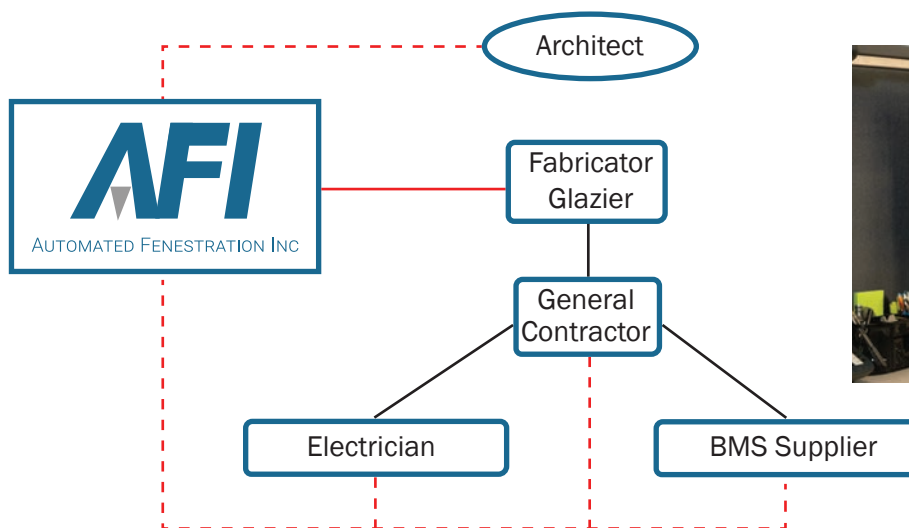
AFI Actuators and Control panels work together to facilitate optimal natural ventilation. Automated windows are controlled by the building management system in conjunction with scheduled or unscheduled events.

AFI UL-approved control panels provide the necessary interface between the actuators and BMS systems, HVAC systems and Fire/Emergency Systems. All panels are custom built and programmed to your specified project.



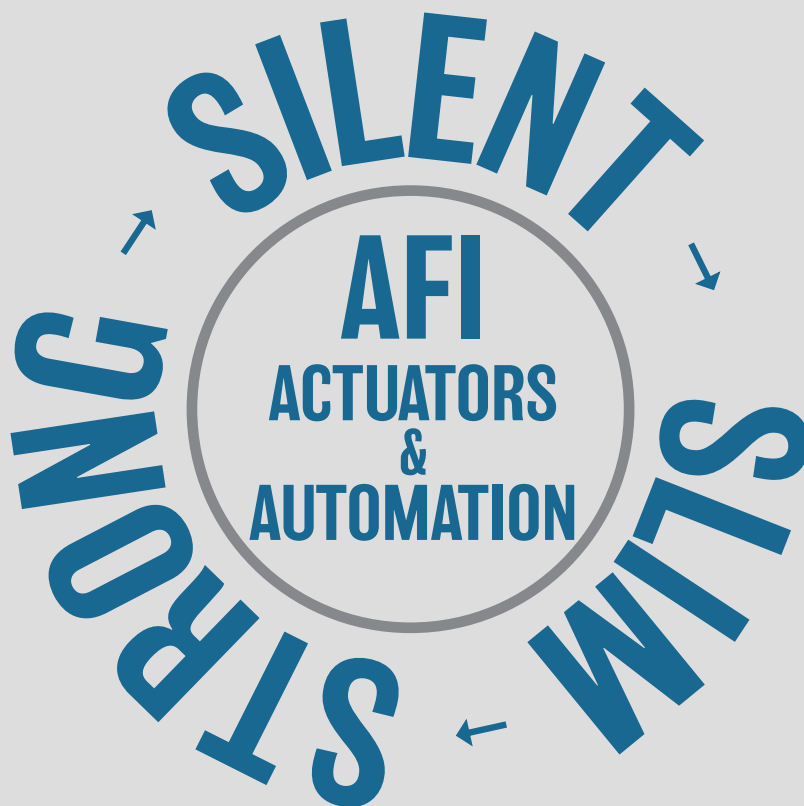
About Automated Fenestration Inc.

Automated Fenestration Inc (AFI) is a leader in actuator & control systems for natural ventilation and smoke evacuation of windows and skylights. Casting a long shadow in the fenestration industry, Automated Fenestration Inc was previously the automation division of Functional Fenestration Inc (FFI) and now is fully independent and UL Listed. Automated Fenestration offers the largest selection of actuators in North America.



AFI offers UL listed actuators and control panels for natural ventilation projects for windows and skylights.





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