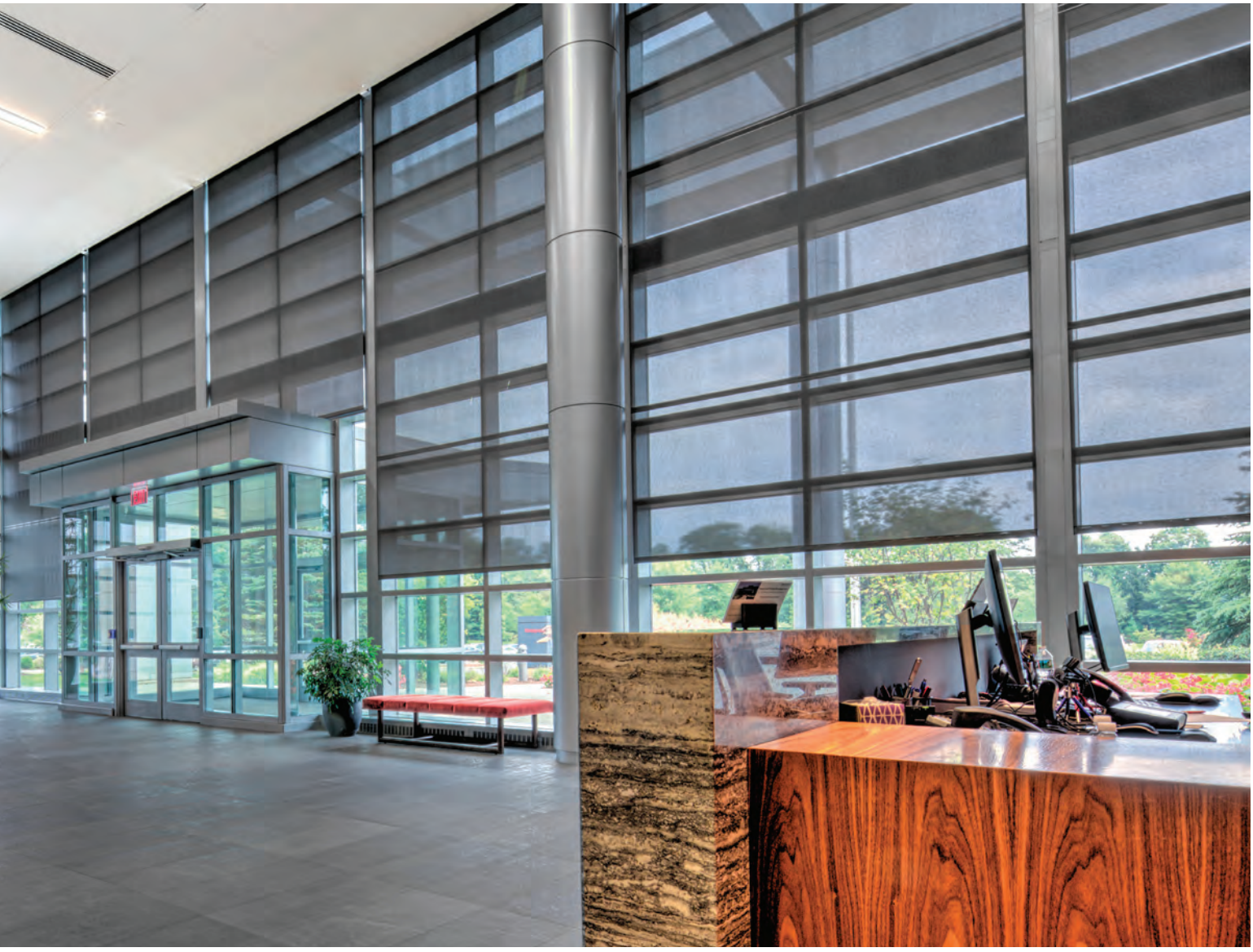
WHY AUTOMATION



Mecho®

INNOVATIVE DESIGN. TRUSTED PERFORMANCE.

An Innovative Idea That Created an Industry

Mecho has been leading the commercial shading industry since we created it more than 50 years ago. Born out of innovation and a passion for quality, Mecho designed and engineered controls and shadecloth to make best in class commercial window shading systems.

In the pursuit of helping architects and designers achieve better performance for building occupants while improving design aesthetics, the engineers and designers at Mecho created and patented a revolutionary new system: **SolarTrac 4.0.**

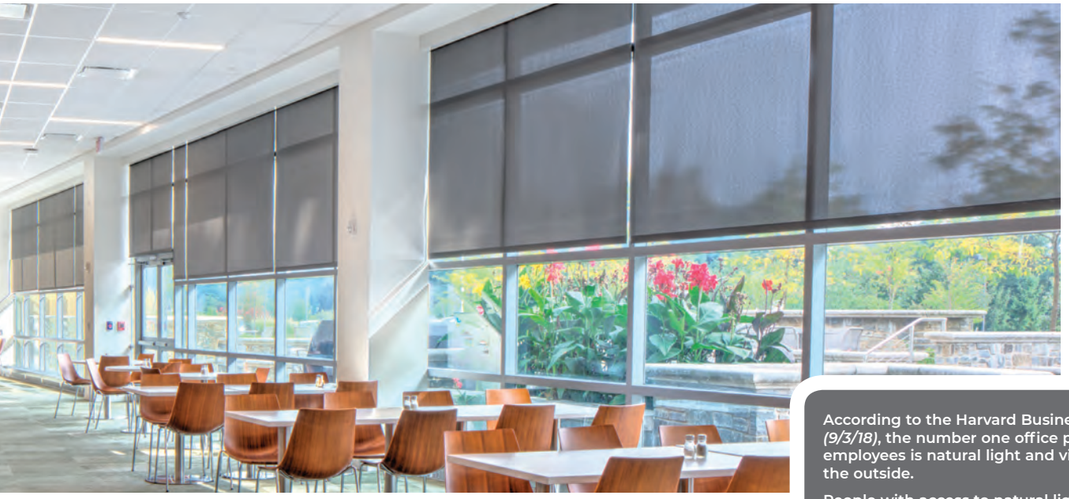
Unsurpassed Innovation

SolarTrac 4.0 is the most comprehensive, completely automated solar shading system for the commercial market that automatically raises and lowers shades in response to the sun's position and real-time weather conditions. SolarTrac's innovation lets you enjoy views to the outside while reducing solar heat gain and glare.

Our approach to daylight control is unsurpassed as the most scientific and responsive to industry needs of managing environments. Our team of engineers, designers, and application specialists configure systems specifically for your building that can easily be managed and modified either on site or remotely as your building needs change over time.

Architects and designers consistently turn to Mecho to achieve performance, quality, and comfort while helping building designs meet the U.S. Green Building Council's LEED and WELL Rating Systems to enhance building sustainability.

If you want the best, work with the best. We lead the window shade industry innovative designs in shadecloth, drive systems, and shade automation.



According to the Harvard Business Review *(9/3/18)*, the number one office perk for employees is natural light and views to the outside.

People with access to natural light and views:

- Are more productive
- Are more engaged
- Use less sick leave
- Have lower rates of absenteeism
- Have a greater sense of well-being
- Enjoy greater overall health

A Dynamic Response to the Environment

Shading automation by Mecho is the ideal solution for every industry. Managed and controlled daylight—coupled with outside views—has a positive impact on a building's occupants. Shading automation provides specific benefits for different segments including:

Corporate

Increase employee performance, reduce sick leave, turnover and absenteeism, improve overall wellness, and give employees a greater sense of commitment when natural light is plentiful and glare on computer screens and work surfaces is controlled.

Education

Staff morale increases, students are more engaged in the classroom, test scores dramatically improve, and levels of absenteeism decrease.

Healthcare

Access to daylight helps calibrate circadian rhythms, speeds patient recovery, leads to better outcomes, and improves staff performance. Mecho's automated shade systems adjust shading to maximize views, allowing more daylight into a patient's room while eliminating uncomfortable solar glare.

Hospitality

Mecho shade control solutions satisfy the functional and aesthetic needs of hotels, conference centers, health clubs, dining facilities, and other venues. Automated shades provide a clean, contemporary look for controlling daylight while controlling solar heat gain and glare.

Unbeatable Performance

Mecho's automated shade systems incorporate our predictive, precise, and prompt algorithms to know exactly where the sun will be at any given time on any given day.

Predictive

Mecho automation's proprietary algorithms puts shades in place for solar control before the sun's energy gets there.

Our system uses the building's GPS location, facade orientation and surrounding environment to manage the impact of direct and reflected daylight and shadowing to predictively position shading in the optimal location for building and occupant performance.

Precise

Mecho automation can be configured to respond to the lighting needs of a single floor, facade, building or entire campus yet can be fine-tuned to meet individual occupant needs.

Mecho automation systems are created specifically for your building to raise and lower shades to meet your occupants' needs. .

Prompt

Mecho automation incorporates rooftop Radiometers for immediate, real-time evaluation of the solar spectrum that's hitting your building including UV, IR and visible light.

For maximum efficiency, shade adjustments are made within seconds after careful evaluation of changes in daylight due to weather, reflected light, or shadows.

Bring Your Vision to Life

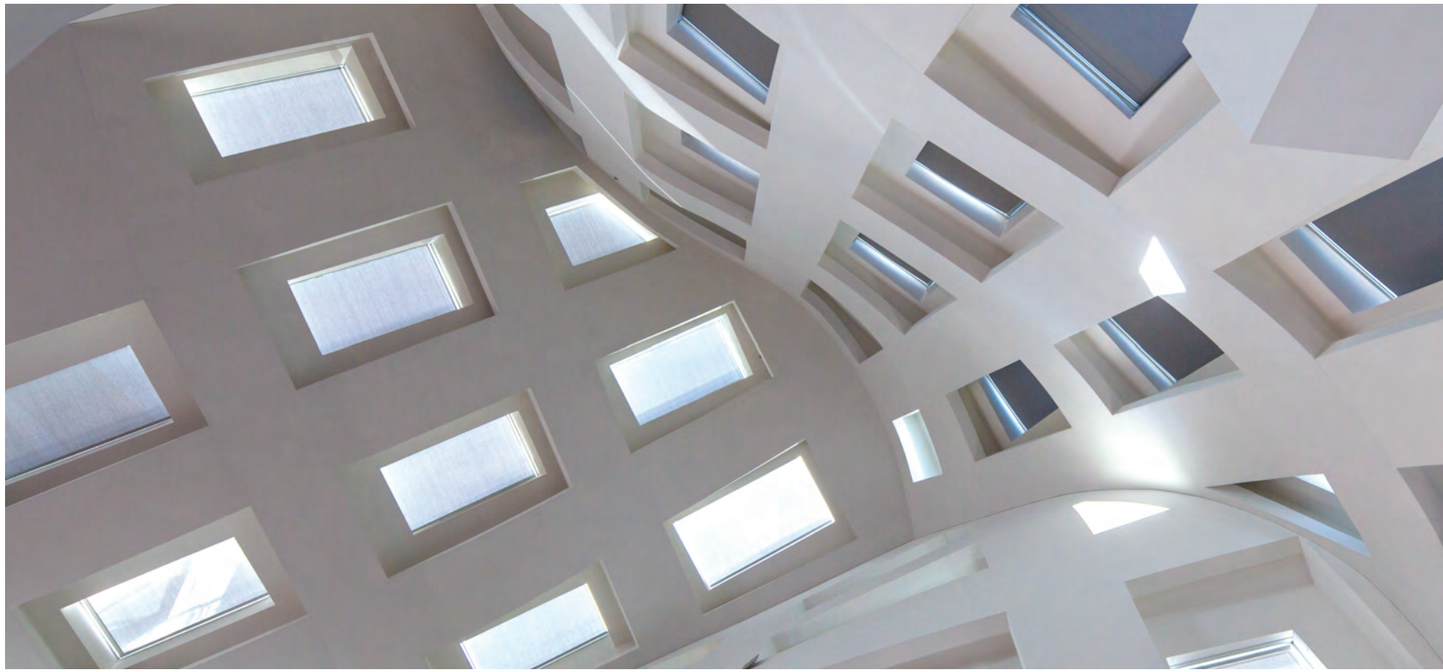
Automated shading from Mecho optimizes design intent and comfort for buildings. Mecho's systems control the sun's harmful effects—including glare and heat—to ensure occupant comfort, preserve views and enhance design.

Building Aesthetics

Automated shading maintains clean lines to building aesthetics by ensuring all shades are at a uniform height to preserve a building's facade.

Unique Windows

Our automation systems not only control standard windows, they are the ideal solution for difficult to reach shades as well as specialty and custom shades created in the Mecho Design Lab.



Seamless Integration

Mecho shade automation is a necessary component to maximize the benefits of motorized shade systems and building automation systems. Controlling shading through automation is as essential and seamless as integrating lighting, heating, and cooling. Integrating daylight management into your automation system will decrease the load on HVAC and lighting systems and will improve occupant comfort by maximizing daylight access while mitigating glare and solar heat gain while maintaining views to the outside.

- BACNet certified to integrate seamlessly with your building's lighting, HVAC, A/V and other control systems
- Works with electrochromatic glass and motorized horizontal blinds for the ultimate in daylight control
- Take advantage of natural daylight to reduce the need—and cost—for artificial light
- Mecho automated shade systems can improve building efficiency which can help contribute to LEED and WELL certification strategy

Mecho Automation Systems

Automated shading systems consist of several components working in harmony to control daylight entering your building, no matter the time of day, day of year, or real-time sky conditions. Automated systems from Mecho have the versatility to work in a single room, individual floors, a single building or an entire campus.

CAMPUS AND BUILDING

SolarTrac 4.0®

SolarTrac 4.0® is Mecho's patented software solution to automation. Its proprietary algorithms use ASHRAE models and three roof-mounted Radiometers to measure the sun and sky for the total electromagnetic spectrum—not just visible light—to adjust shades.

Precise Shading Control

- Easily integrates into most building automation systems using BACNet with the ability to synchronize with lighting, heating, and cooling systems
- Manage 1,000 or more shade zones, with continuous minute/day/year analysis to control a comprehensive automated shading system for the entire project no matter the size
- Allows for manual override in any individual shade or shade zone based on occupant or facility manager preferences

Technology-Driven Performance

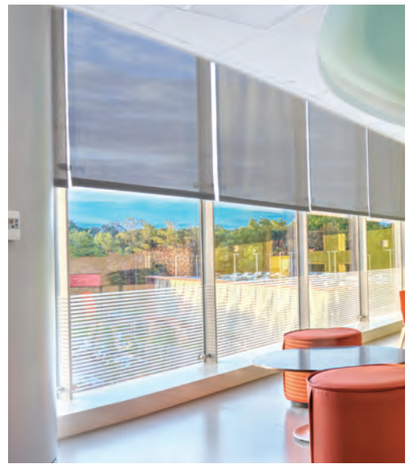
- Self-diagnostics alert you to potential maintenance needs
- SolarTrac 4.0 is PC and browser-based allowing it to be managed by multiple users on site, remotely—even mobile
- Data logging allowing the ability to fine tune the system over time
- Offers optional Brightness-Override, Shadow-Override, and Reflective Modules for greater optimization

FLOOR

SunDialer®

Mecho's award-winning, patented SunDialer® offers economical shade automation for small-scale and retrofit projects.

- Incorporates a twelve-zone controller integrated with roof-mounted Radiometers and intelligent motorized roller shades
- Determines shade positions for each zone by the profile angle of the sun, solar penetration, and sky conditions
- Features an astronomic timer and event scheduler that customizes shade-band positioning
- Data logging allowing the ability to fine tune the system over time
- Utilizes browser interface that facilitates convenient access to monitor performance and configuration settings

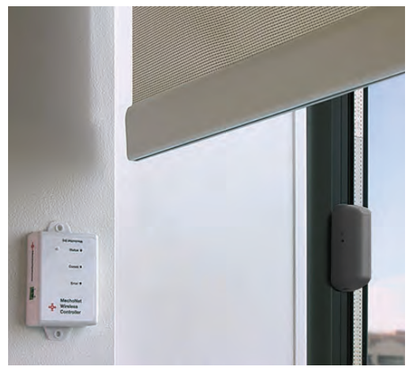


ROOM

Wireless Daylight Sensor

Mechos' Wireless Daylight Sensor and Controller with EnOcean® wireless technology is an entry-level solution that monitors exterior daylight and adjusts shades accordingly.

- Allows for custom shade positions based on light levels and reduces energy consumption for HVAC and lighting while reducing solar glare
- Excellent for new construction or retrofit projects
- Each sensor manages up to sixteen individual motorized shades
- Used in the optional Brightness Override module in SolarTrac 4.0—the ultimate glare management tool



Proof in Numbers

Mecho's SolarTrac automated shade system was installed in a landmark building in New York City to control daylight and optimize lighting efficiency. The results are compelling.

This project, studied by Lawrence Berkley National Lab, incorporated Mecho's SolarTrac automated shade system to complement the building's dimmable lighting controls. Following construction, a 70% total energy savings was realized, completely exceeding expectations based upon energy code requirements.

Real-World Performance

Genentech, Inc., is a biotech corporation headquartered in San Francisco. Their new headquarters is a 255,000 square foot building with almost exclusively glass facades. Pre-construction goals included shading and HVAC controls to ensure visual comfort and comfortable temperatures for occupants.

Precision

Throughout the day, shades are automatically raised or lowered to limit solar penetration between 36 and 48 inches as pre-determined by Genentech.

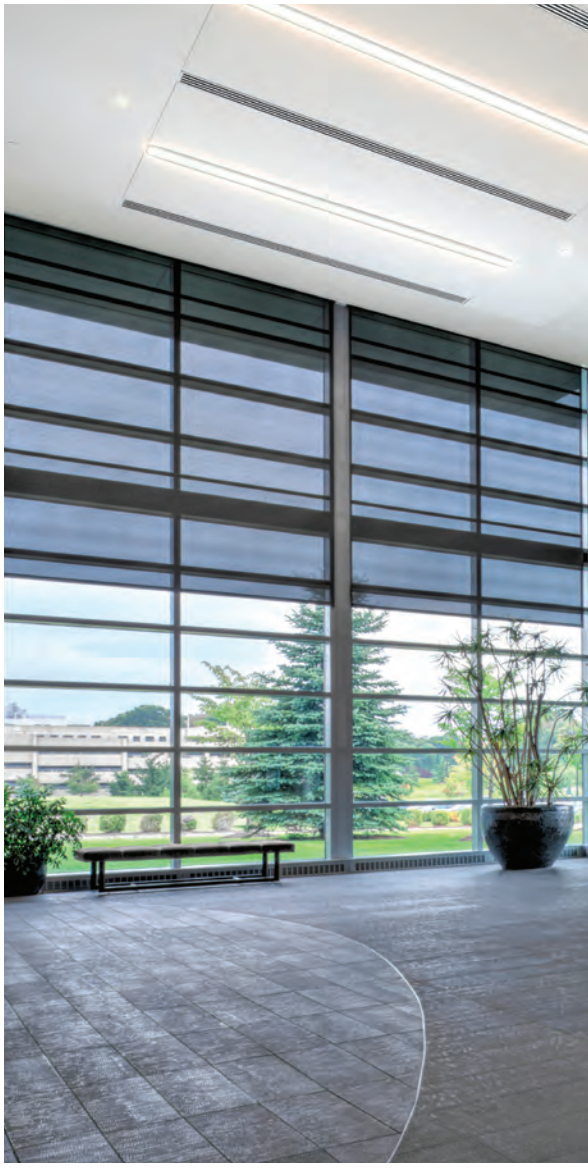
Efficiency

SolarTrac positions shades throughout Genentech's building to capture maximum daylight while minimizing glare and heat gain and the related stress on HVAC systems.

Performance

When sky conditions change, rooftop Radiometers alert the system to adjust shades up or down to maintain the maximum allowable solar penetration depending on time of day.

Imagine it. Design it. See your vision take life. Our team of engineers, designers, and application specialists in the Mecho Design Lab are waiting for your next accomplishment. We can't wait to create it!



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