

Energy Consumption for Lighting Decreased by 25% with IoT-Based Solution in Office Buildings

Revolutionizing Office Lighting for Enhanced Efficiency and Savings in Dubai

Dubai, UAE LoRaWAN

Milesight Partner
Sensgreen

Location
Dubai, UAE

Devices Deployed
WS558, WS202
UG56

Applications
Smart Light Control,
Smart Building, Energy Efficiency

Success Story

Background

Companies around the world are taking steps to reduce their energy consumption due to scarce resources, rising energy prices, and increased awareness of corporate environmental responsibility. As buildings become smarter and more connected, it's easier than ever for companies to expand their traditional lighting systems into "smart" lighting systems. Lighting control systems play a vital role in lighting systems by allowing users to turn lights on or off automatically using switches, and/or adjusting light output up or down using dimmers.

Efficiently managed and energy-optimized buildings are more attractive to potential buyers and investors. Research indicates that every \$1 reduction in energy costs results in an approximate \$20 increase in building value. Also, automated adjustments to temperature and ventilation maintain consistent indoor conditions, leading to improved occupant comfort. This has shown to increase tenant satisfaction by up to 25%, contributing to better overall building experience. The office building in Dubai aimed to improve its energy efficiency while lowering operational costs. Our partner Sensgreen has helped their client successfully deploy and retrofit the building with a cost-effective smart light control solution.



Challenges



Manual Operations

The building relied on security staff to manually turn off the lights every night, leading to labor-intensive processes and potential human error.



High Energy Costs

Without automation, the building faced high energy consumption and elevated electricity bills, impacting operational budgets.



Operational Inefficiencies

Manual lighting control led to operational inefficiencies, with lights sometimes left on unnecessarily, wasting energy.



Sustainability Concerns

The outdated lighting system did not align with modern sustainability standards, increasing the building's carbon footprint.



Lack of Reliable Data

Traditional lighting controllers are unable to collect real-time data, resulting in users being unable to understand why energy is being wasted.

Solution



LoRaWAN



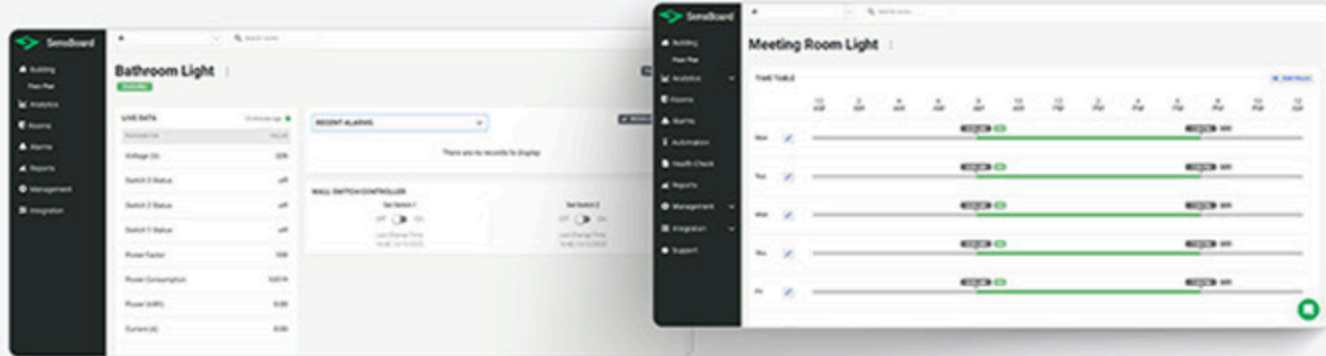
UG56 Industrial
LoRaWAN Gateway



Sensgreen Smart
Building Platform

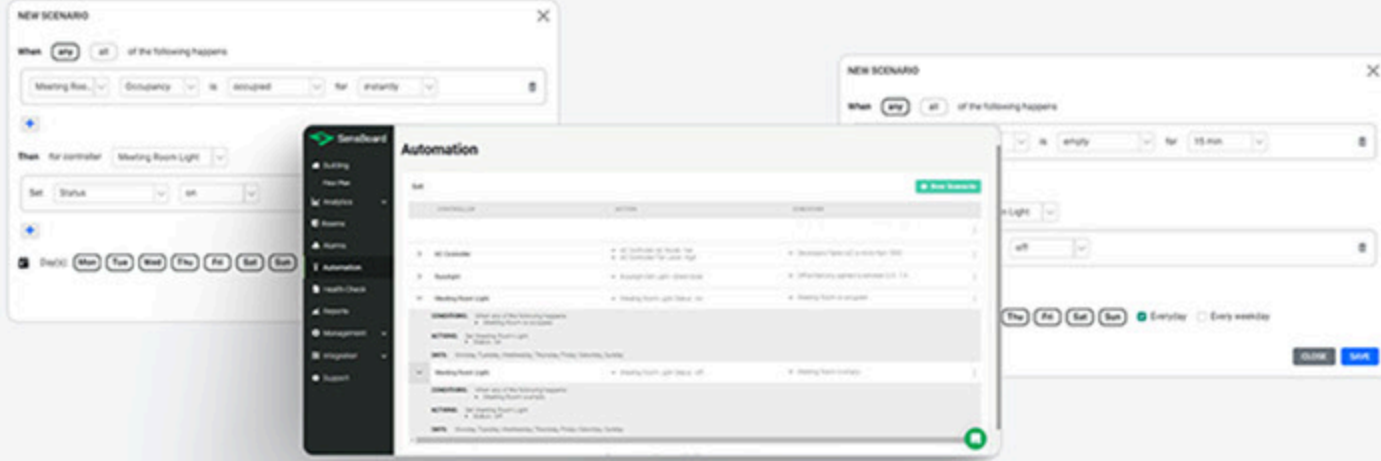
Seamless Integration for Centralized Control

The WS558 LoRaWAN Smart Light Controller was effortlessly incorporated into the existing lighting setup. This allowed centralized control over lights across eight circuits with 15 controllers efficiently managing 87 light units.



Crafting Tailored Lighting Experiences

Lighting patterns were set up on the system to align with WS202 PIR & Light Sensor, natural daylight, and business hours, ensuring energy conservation while maintaining high-quality lighting.



Prioritizing Business Continuity

The installation process was carried out with minimal disruption, ensuring that the daily operations of the building remained seamless and unaffected.

Results

25% Improvement in Lighting Efficiency

The Smart Light Control system achieved a notable 25% reduction in energy consumption for lighting within just one month of deployment.

11,000 Hours of Lighting Use Saved Each Month

Optimized lighting schedules resulted in a substantial reduction in operational hours for lighting.

\$3,000 Annual Savings on Electricity Bills

With the average energy cost per kWh in Dubai estimated at \$0.06, the client experienced immediate monthly cost savings of \$250. Annually, this amounts to a substantial \$3000 reduction in lighting-related electricity expenses.

Ability to Scale

With smart light control system, facility managers can further improve cost-effectiveness by combining it with devices such as occupancy sensors, indoor air quality sensors, and other devices that effortlessly make the office smarter.

Enhanced Operational Control

The building management gained improved control over the lighting system, leading to a more sustainable and cost-effective solution.

Reduced Carbon Footprint

The automated lighting system aligned with modern energy efficiency standards, reducing the building's carbon footprint.

Increased Sustainability

The solution supported the building's sustainability goals by optimizing energy use and reducing wastage.

ROI Calculation

Annual Light Energy Consumption Cost Before Implementation:

\$10,000

Annual Light Energy Cost After Implementation:

\$7,000

Annual Savings:

\$3,000

Implementation Cost:

\$8,000 (including hardware fee & platform subscription)

Return on Investment (ROI):

(\$8000 / \$3000) = 2.67 years = 32 months

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Smart Building Solution



Milesight CoWork Smart Space Series