




optiima crew

OPTIMIZING TOMORROW, TODAY!

IOT SOLUTIONS - AUTOMATION OF STREET LIGHTS



The Hidden Cost of Outdated Lighting: Wasted Energy, Escalating Bills, and Lost Opportunities.

Traditional streetlight systems may seem functional on the surface, but they come with a significant, often overlooked financial and environmental burden. These outdated systems are plagued by inefficiencies that result in:

- Excessive Energy Consumption: Manual or timer-based operations often lead to lights staying on longer than necessary, wasting electricity daily.
- Skyrocketing Electricity Bills: Inefficient scheduling can cost cities and organizations lakhs annually, straining already tight budgets.
- Frequent Maintenance Costs: Aging infrastructure requires constant repairs, driving up operational expenses.
- Environmental Impact: Overuse of energy contributes to unnecessary carbon emissions, harming the environment.

Imagine continuing this cycle year after year — how much money, energy, and resources are being needlessly drained? The financial strain leaves limited room for investment in other critical areas like healthcare, education, or community development. By not modernizing, we are not only losing money but also missing out on the opportunity to build a sustainable, cost-efficient future.

Now is the time to rethink street lighting with a smarter, automated, and cost-effective solution.

Why?

IoT-enabled street lighting is the game-changing solution for cities, municipalities, and organizations looking to curb escalating costs and drive sustainable progress. This technology goes beyond simply switching lights on and off—it's about smart energy management tailored to your needs.

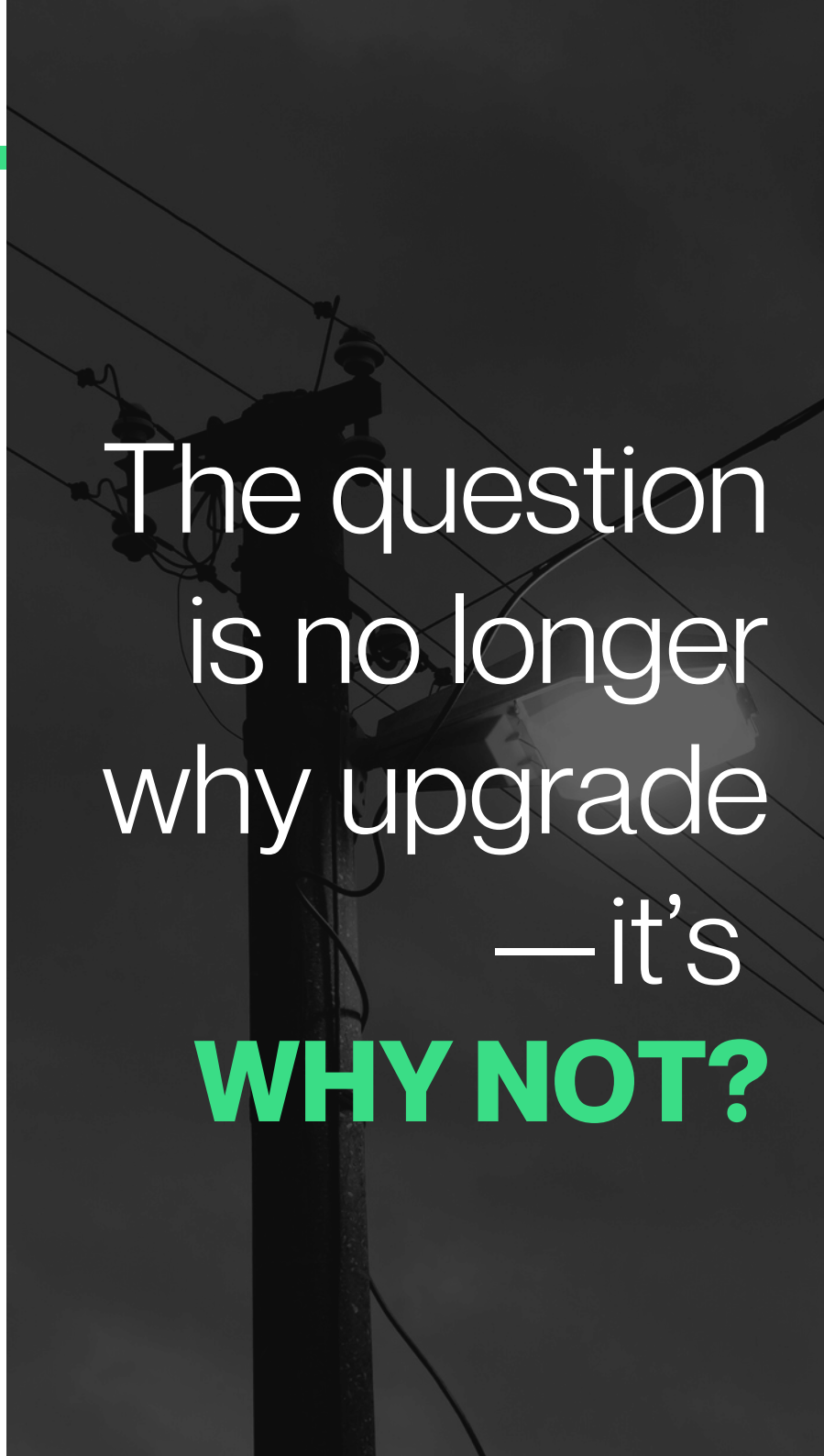
THE SMART ADVANTAGE

- **Precision Lighting:** Lights automatically adjust based on schedules, weather, or sunlight, ensuring no energy is wasted.
Real-Time Monitoring: Get live updates on energy usage, light performance, and potential faults for immediate action.
- **Cost-Effective:** Slash electricity bills by up to 30% annually and significantly reduce maintenance expenses.

Why It Matters

- **Financial Relief:** Stop paying for inefficiencies. Channel the money saved into critical sectors like healthcare, education, and infrastructure.
- **Sustainability Goals:** Lower energy consumption reduces your carbon footprint, aligning with green initiatives and environmental policies.
- **Future-Ready Technology:** IoT streetlights are scalable, secure, and adaptable, making them ideal for modern smart cities or large-scale campuses.

CHOOSING IOT STREETLIGHTS ISN'T JUST AN UPGRADE—IT'S A TRANSFORMATION TOWARD SMARTER, GREENER, AND MORE COST-EFFECTIVE OPERATIONS.



The question
is no longer
why upgrade
—it's
WHY NOT?

Every feature is tailored to minimize costs while maximizing efficiency, giving you a solution that pays for itself over time.



Easy Configuration, Controlling, Monitoring & Scheduling via CCMS Software



4G / Lora / Lorawan based communications for higher speed and smoothness



Astronomical Timer Settings for maximum time management and minimal human intervention



Electrical Protections such as over/under voltage fluctuations, Short circuit etc.



Local hands free management of controllers on site



All schedules stored locally in the IoT controllers for operation even when there is a disrupted network due to any reason



CCMS Panel Door Opening Alerts to monitor access of the panels and prevent unauthorised access



Variants available with accelerometers to prevent theft and damage

FEATURES THAT DELIVER SAVINGS AND EFFICIENCY

IoT Smart Street Lights are designed to optimize every aspect of street lighting, ensuring maximum efficiency and minimal costs.

Core Features:

- **Automated Scheduling:** Astronomical timers adjust to seasonal changes, switching lights on and off with minute precision, eliminating unnecessary energy use.
- **Dimming Technology:** Adjust lighting intensity during off-peak hours to save power without compromising safety.
- **Real-Time Alerts:** Receive instant notifications about faults, unauthorized access, or maintenance needs, reducing downtime and repair costs.
- **Centralized Control:** Manage, monitor, and configure all streetlights remotely from a single platform for seamless operations.
- **Data-Driven Insights:** Analyze historical energy usage and trends through customizable reports, enabling better budgeting and planning.

How These Features Save Costs:

- Avoid energy wastage with precise on/off scheduling.
- Reduce maintenance costs with automated fault detection.
- Extend lamp life through optimized usage, saving on replacement costs.
- Lower electricity bills by up to 30% annually.

Designed for Modern Needs:

- **Secure and Reliable:** Robust data encryption and 4G/LoRaWAN protocols ensure uninterrupted, secure operations.
- **Eco-Friendly:** Helps cities meet sustainability goals by reducing CO₂ emissions.

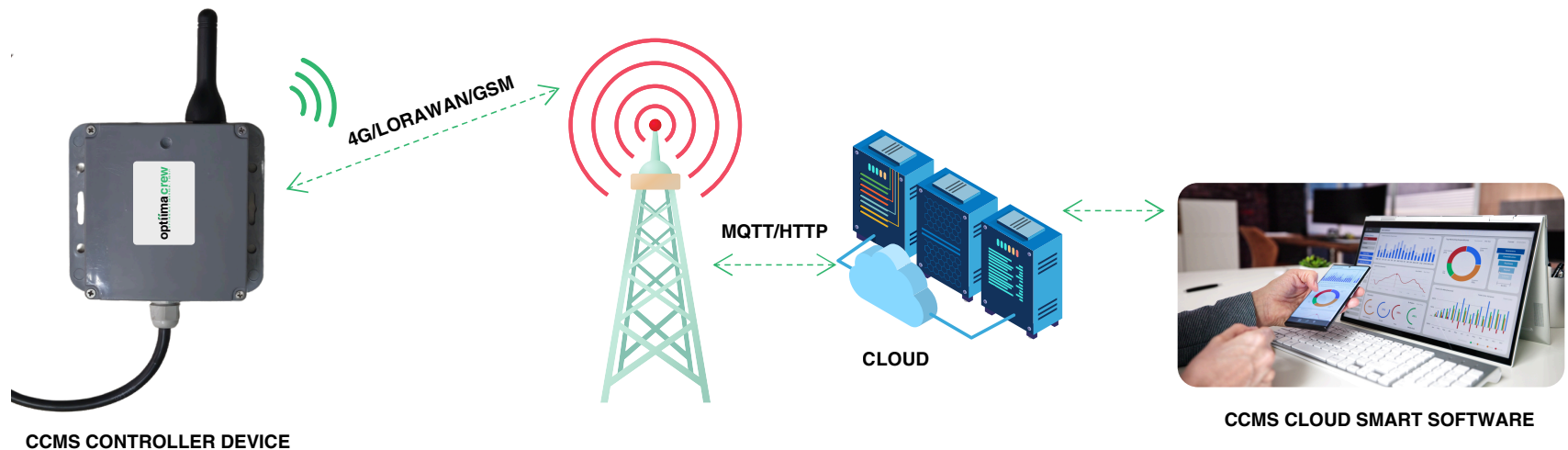
ENHANCED DEVICE MONITORING AND INSIGHTS

Enhanced Device Monitoring and Insights

- **Comprehensive Device Overview:** Instantly access a detailed snapshot of all installed devices, complete with geolocation and real-time status updates, enabling quick identification of faults and healthy systems.
- **Real-Time Data Monitoring:** Consolidate key device parameters on a sleek, user-friendly interface, allowing seamless performance comparisons across multiple locations from a single dashboard.
- **Interactive Graphical Insights:** Visualize trends and metrics with fully customizable time-series graphs, available in daily, monthly, or yearly formats, empowering data-driven decisions.
- **Advanced Reporting:** Generate tailored reports in multiple formats, with automated scheduling for delivery via email or secure URLs, ensuring timely and efficient data sharing.
- **Smart Alarm System:** Configure multi-condition alerts using "if-then-else" logic to automate device control, trigger immediate notifications, and maintain a robust, traceable audit trail for enhanced security and oversight.

These features empower efficient operations, improve system reliability, and provide actionable insights to drive smarter decision-making.

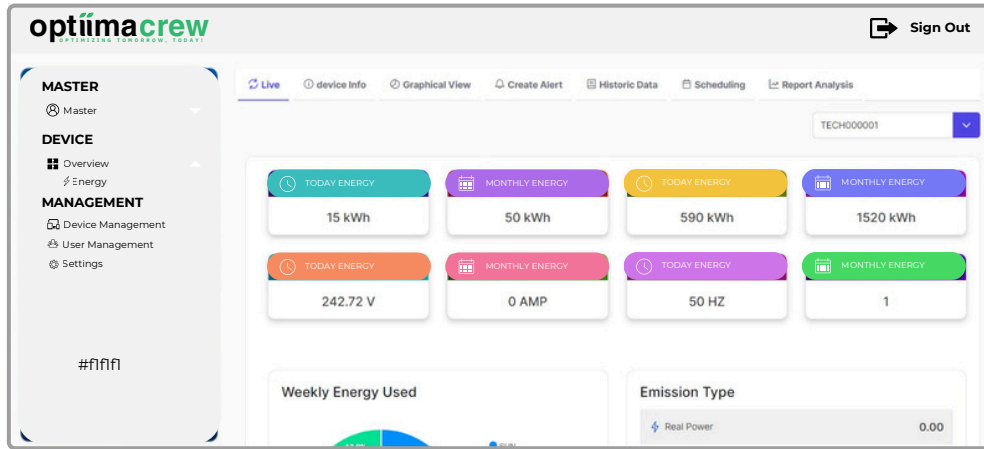
WORKFLOW



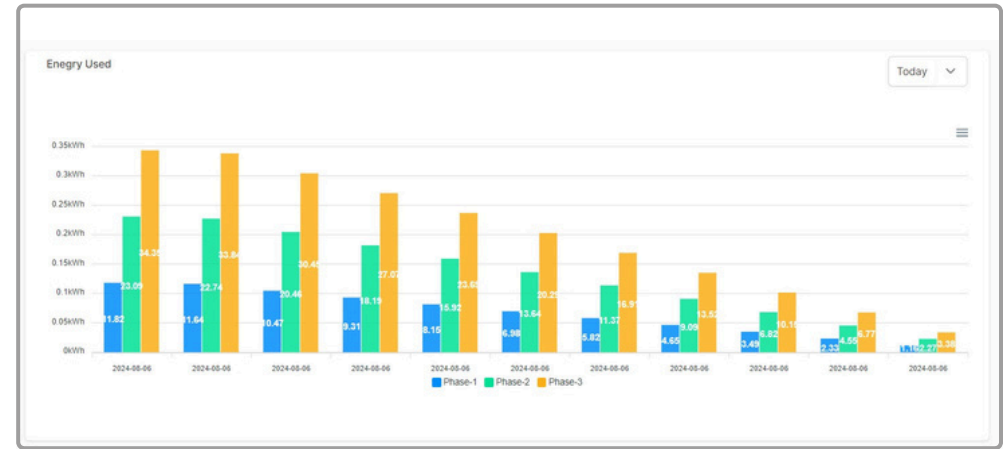


Parameter	Specification
Physical Dimensions	197mm x 90mm x 60mm
Mass	350 grams
Structural Composition	Acrylonitrile Butadiene Styrene (ABS)
Mounting Methodology	Retrofit on existing street light fixtures
Detection Mechanism	Smart light node
Wireless Communication Spectrum	LoRaWAN/4G Protocol
Signal Accuracy Rate	LoRaWAN/4G $\geq 95\%$
ISM Band Allocation	ISM Band 865-867 MHz
Radio Frequency Communication Range	Minimum 1 km radius
Integrated Communication Module	STM32WL55
Central Processing Unit	STM32, 32-bit ARM [®] core controller
Power Input Specifications	230 V \pm 5% AC
Dimming Interface	Pulse Width Modulation (PWM) 0-10V
Energy Consumption	<400 mA 12V (upload), <20 μ A 12V (sleep)
Operational Temperature Threshold	-20°C to +70°C
Storage Temperature Range	-40°C to +85°C
Ingress Protection Rating	IP65

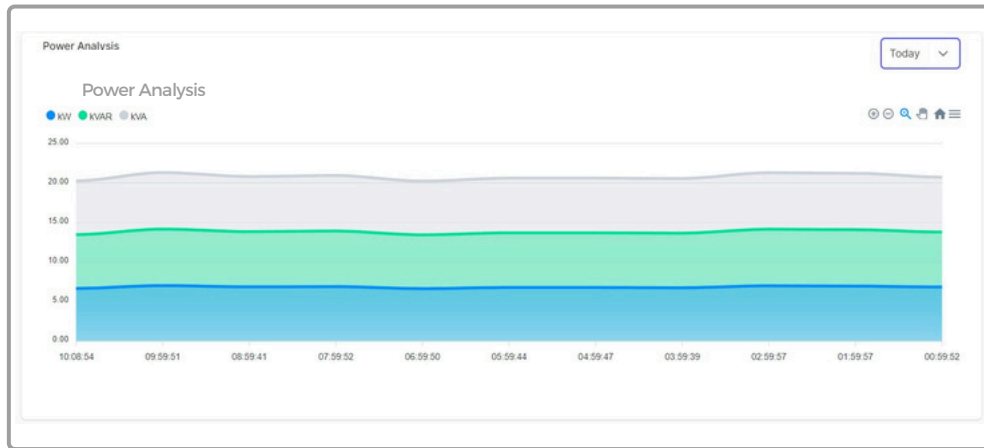
AN INTUITIVE, IMPACTFUL, AND DYNAMIC DASHBOARD COMBINED WITH A SMART CENTRALIZED CONTROL & MONITORING SOLUTION FOR STREETLIGHTS AND OUTDOOR LIGHTING



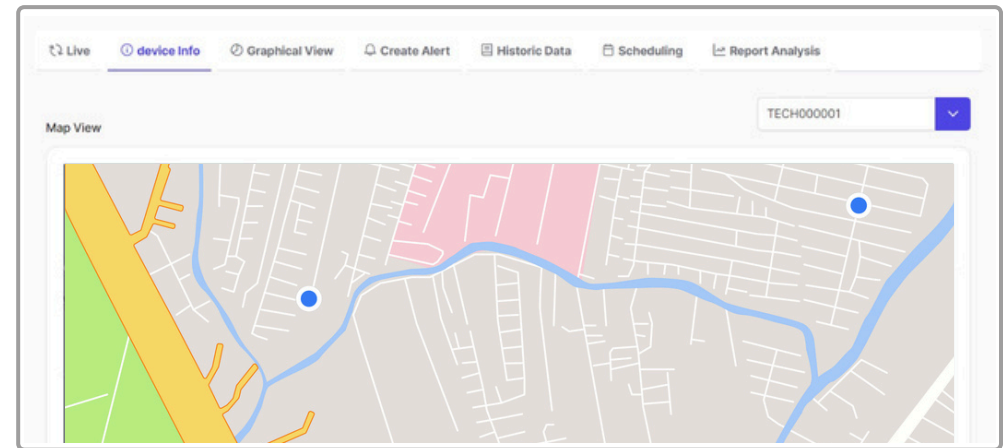
Real-Time Insights at Your Fingertips: A Dynamic Dashboard for Effortless Streetlight Management.



Track Energy Consumption: Optimize Usage and Reduce Waste

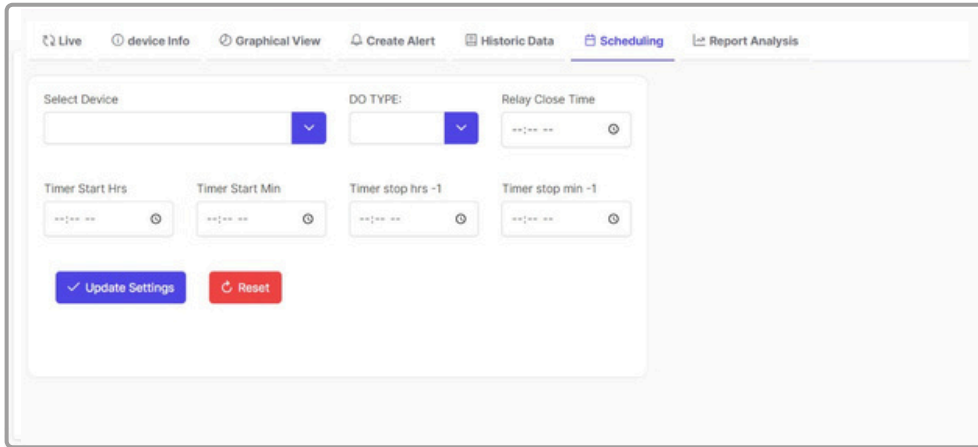


Comprehensive Power Analysis: Understand and Optimize Your Energy Flow.

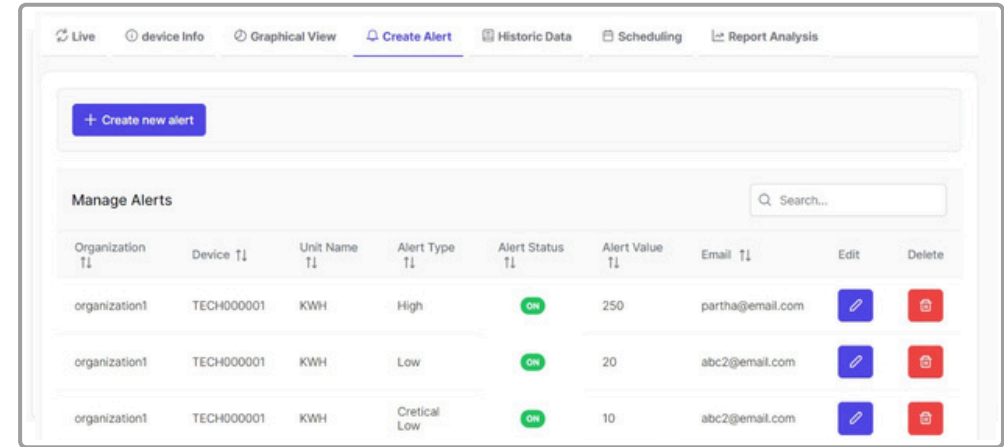


Device Overview & Map View: Visualize and Manage Your Network Seamlessly.

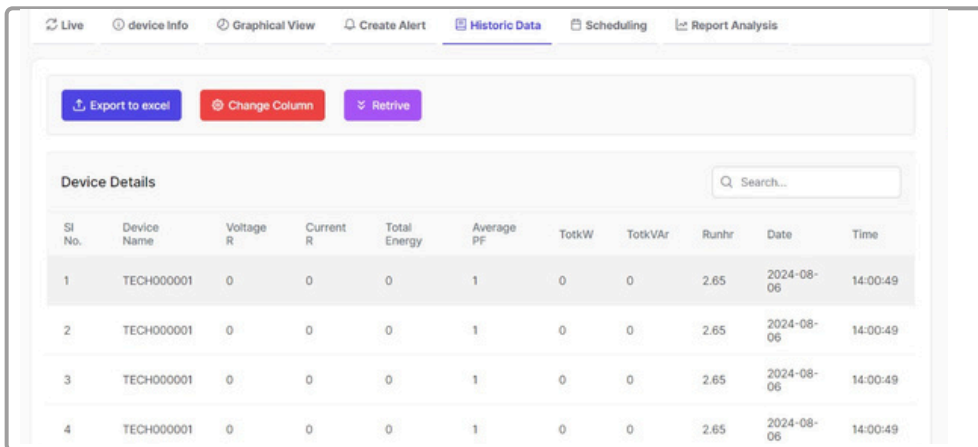
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Efficient Scheduling: Automate Timings for Optimal Performance.




Custom Alerts: Stay Informed with Real-Time Notifications.



Analyze historic data to uncover valuable insights and trends

OVERVIEW

- Customization: Fully customizable remote monitoring software.
 - Device Buffer Analytics: Provides command buffering and execution response reports on the dashboard during device wake-up.
 - Smart & Lightweight: Cloud-based web software utilizing PHP, React JS, and Node JS.
 - Insightful Reports: Generates daily, weekly, monthly, and device-specific reports.
 - Data Alerts: Automated email and SMS alerts for alarms, leaks, tampering, or faults, with software alerts for various issues.
 - Visual Analytics: Offers event history, data logs, data bifurcation, and analytics based on fault types.
 - Device Management: Manages devices based on consumer, zone, and other classifications.
 - Remote Configuration: Allows remote configuration of parameters.
 - Remote Service Operation Synchronization: Facilitates synchronization for streetlight controllers, CCMS panel installations, replacements, removals, registrations, deregistrations, transfers, relocations, technical/service operations, and disconnections.
 - Activity Logs: Records manual adjustments, approvals, logs, status of approvals, timelines, and IP addresses of requesters and approvers on the web dashboard.
 - Extensible Platform: Utilizes the latest OAuth 2.0 API integration protocol for secure integration with smart city, corporation, government portals, or third-party software. Maintains API call logs, history, and records on the web dashboard.
 - Data Collection: Collects data from devices/meters through various protocols/networks and displays it on the AMR software.
 - Activity Logs Management: Maintains activity logs accessible to Super Admin and Admin roles.
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Why?

Every day you delay upgrading to IoT-enabled smart street lights is another day of wasted energy, inflated bills, and missed opportunities. The cost of inaction is not just financial—it's an environmental and operational burden that grows heavier with time. With IoT smart street lighting, you're not just saving money—you're reclaiming resources that can be reinvested into vital sectors like education, healthcare, and infrastructure. You're contributing to a greener planet and a smarter, more sustainable future.

➤ This isn't just a lighting solution; it's a financial and environmental revolution. The time to act is now. Take the first step toward slashing costs, optimizing efficiency, and creating a brighter future—one light at a time.

**JOIN THE REVOLUTION
TODAY AND START
SAVING FROM** **DAY 1!**



**ACT NOW OR
PAY THE
PRICE LATER**

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OPTIMIZING TOMORROW, TODAY!

Smart Device

Smart Controller

CCMS Panels

Smart Software

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