

Renewable Energy Platform for Intelligent Surveillance and Analytics

The Art of Logic Solar Pole Solution brings advanced video analytics and monitoring capabilities to locations where power and infrastructure are limited or unavailable. By integrating renewable energy systems with intelligent edge processing, the Solar Pole Solution enables organizations to deploy reliable, high-performance surveillance anywhere — from highways and remote infrastructure to urban public spaces.

Built for resilience and sustainability, the solution combines solar power, smart battery management, and AI-enabled analytics to deliver uninterrupted visibility while reducing operational costs and environmental impact.

Transforming vision into insight — anywhere, anytime, sustainably.



ENERGY INDEPENDENCE

100% solar-powered, zero reliance on the electrical grid.



AI-READY ARCHITECTURE

Compatible with **Shogun Analytics**, enabling on-site object detection, counting, and event monitoring.



SUSTAINABLE PERFORMANCE

Reduces CO2 emissions while ensuring long-term cost savings.



FLEXIBLE CONFIGURATION

Modular pole and battery design to support diverse power draws and camera setups.



RUGGED, LOW-MAINTENANCE DESIGN

Engineered for harsh outdoor environments with vandal-resistant enclosures and corrosion-proof finishes.

IMPROVE YOUR CITY'S PERCEPTION OF SAFETY

SOLAR POLE SOLUTION - HOW IT WORKS

Each unit integrates solar panels, LiFePO₄ batteries, and a ruggedized edge AI server into a self-contained, weatherproof pole system.

The Battery Management System (BMS) monitors voltage, current, and performance metrics in real time, ensuring continuous uptime even in low-sunlight conditions.

Depending on requirements, poles can be networked to form multi-site systems or deployed as stand-alone mobile units for rapid temporary surveillance.

We offer solar-powered poles equipped with surveillance cameras. These systems are ideal for remote or expansive industrial operations where reliable monitoring and energy efficiency are essential.

Key Features:

- **Vandal-Resistant:** Durable and designed to withstand tough industrial conditions.
- **Energy Efficiency:** Solar panels combined with battery management systems ensure uninterrupted power supply, reducing downtime and maintenance costs.
- **Remote Monitoring:** Our systems provide real-time data on environmental conditions, temperature, and equipment status, enabling proactive maintenance and rapid issue

System Architecture

Solar Panels: High-efficiency monocrystalline panels rated for minimal light environments.

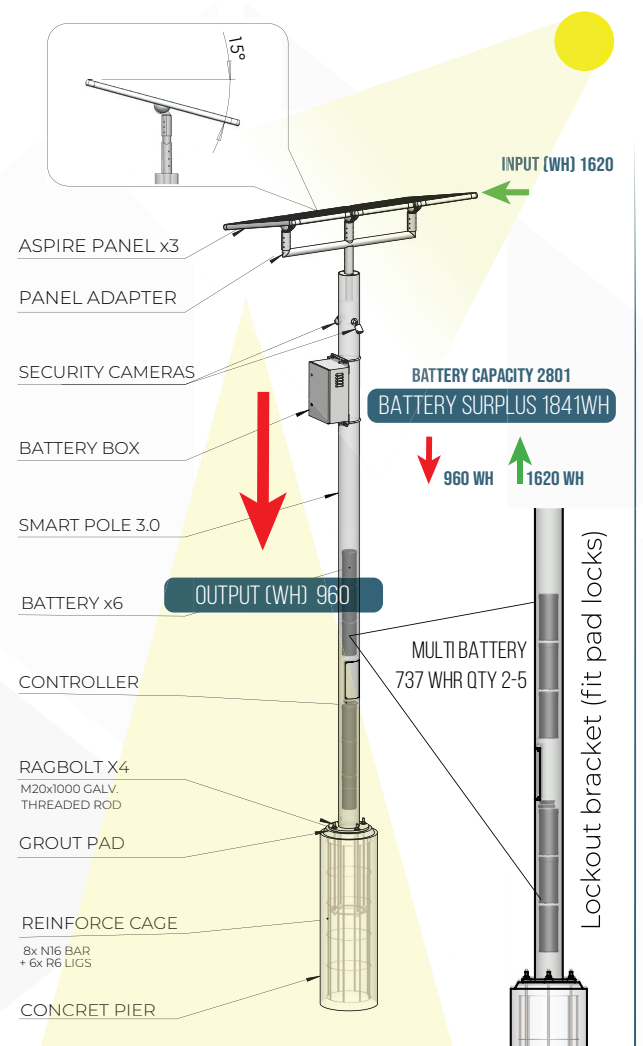
Battery System: Cylindrical LiFePO₄ cells with 10-year design life, built-in thermal control and impact resistance (aluminium alloy shell + conductive gel compound).

Battery Management System (BMS): Monitors voltage, current, and temperature for each cell; includes LED diagnostic interface for quick visual checks.

Edge AI Server (optional): Supports on-device analytics, recording, and VMS connectivity (Shogun, Nx Witness, Milestone).

Connectivity: 4G LTE, Wi-Fi, or Ethernet options.

Lighting Integration: Supports LED flood or street lighting modules depending on power draw.



Renewable power. Reliable vision. Real insight.

Poles & Renewable Energy Solutions

The Solar Pole Solution is designed for reliable, off-grid surveillance deployments in areas without existing infrastructure.

Each system integrates high-efficiency solar panels, durable LiFePO4 batteries, and intelligent power management to ensure consistent operation even in low-sunlight conditions.

Built with high-quality materials and flexible mounting options, the poles are available in multiple configurations to meet different power draw requirements and site conditions.

Feature	Option / Range	Description
Power System	Solar panels (1–3) with integrated LiFePO4 batteries	Fully self-contained renewable energy supply.
Voltage	12 VDC / 24 VDC	Configurable based on device and load requirements.
Battery	LiFePO4, Aluminium alloy shell	Cylindrical cells with conductive gel for heat management and impact resistance.
Battery Life	10 years	Proven longevity even in low sunlight conditions.
Battery Management System	Integrated monitoring	Monitors voltage, current, and power across the LED load, solar array, and batteries.
Pole Height Options	6 m (0.3 / 0.5 / 1.0 m arm) / 9 m (3 m arm)	Standard or extended poles for wide-area coverage.
Solar Array	1–3 Panels per pole	Configurable based on power draw and autonomy requirements.
Mounting Options	Ground screw / Rag-bolt / Concrete block.	Fixed or relocatable installation depending on site conditions.
Material	Steel or Carbon Fiber	Weather- and corrosion-resistant construction.
Connectivity	4G LTE / Wi-Fi / Edge Server	Supports VMS and cloud integration.
Mobile Version	Telescopic Pole + Portable Ballast	Rapid-deploy unit for temporary sites.
VMS & Camera Compatibility	Camera-agnostic	Compatible with multiple camera brands and AI analytics systems.
Warranty	Standard coverage	Includes performance and component warranty.

Sustainability & Cost Efficiency

Adopting solar solutions delivers both environmental and financial advantages:

- **Zero-emission operation:** Reduces carbon footprint and aligns with ESG goals.
- **Minimal operational costs:** Eliminates cabling, trenching, and power connection fees.
- **Long lifespan components:** 10-year battery life and corrosion-resistant pole design reduce maintenance.
- **Scalable design:** Combine multiple units to form distributed networks covering vast areas.

Reliability & Safety

- **Built-in safety controls:** Overcharge, over-discharge, and temperature protection.
- **Anti-tamper design:** Lockable panels, internalize components, and optional theft deterrent features.
- **24/7 monitoring:** Voltage, current, and battery status accessible via onboard interface or remote dashboard.
- **IP-rated enclosure:** Withstands rain, dust, and temperature extremes.

Power Management Intelligence

The integrated Battery Management System (BMS) delivers intelligent power control and diagnostics. It continuously monitors voltage, current, and temperature to optimize energy distribution and extend battery life.

Through predictive analytics, the system automatically balances energy usage and storage based on real-time environmental conditions — ensuring consistent uptime, even during low sunlight periods.

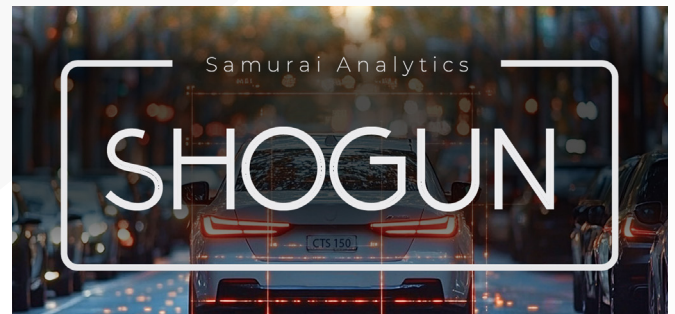


Smart monitoring ensures every watt of energy delivers maximum operational performance

Analytics & Integration

Each Solar Pole acts as a smart edge device, powered by clean energy and built for advanced AI analytics.

- **Object Detection & Counting:** Tracks vehicles, people, and assets in real time.
- **Re-Identification (Re-ID):** Follows subjects across multiple cameras — privacy-first, no facial data.
- **License Plate Recognition:** Automates access control and traffic monitoring.
- **Journey Mapping:** Visualizes movement and flow across zones.



Seamless Integration

- **Shogun:** Delivers real-time analytics at the edge
- **Ronin:** Monitors system health and uptime.
- **VMS Ready:** Nx integrated and compatible with your existing VMS

**Smart
Edge Deployments**
Compact and
efficient
Ready for anything



Smart Poles

- Space Utilisation
- Parking Infringement
- Crime Detection



Vehicles

- Mobile Parking Infringement
- Mobile Plate Detection
- Mobile Object Detection



Mobile Trailers

- Health and Safety Monitoring
- Proactive Security with Object Detection

CITY SOLUTION

Elevating Safety in your space

Why Choose Art of Logic?

At Art of Logic, we merge AI-powered analytics with sustainable infrastructure to create intelligent ecosystems that deliver actionable insight anywhere.

The Solar Pole Solution extends our Samurai Suite ecosystem, ensuring unified visibility and reliability from city centres to the most remote environments.



Art of Logic provides advanced solutions to enhance safety, resource efficiency, and public space management in your space. Our real-time Detection Suite, featuring License Plate Recognition (ALPR), thermal cameras, and AI-driven analytics, enables precise monitoring of public areas, vehicles, and infrastructure, helping prevent incidents and streamline urban operations.

- Real-Time Insights:** Immediate data on vehicles, machinery, and critical areas.
- Focused Surveillance:** Region-of-interest technology for targeted monitoring and alerts.
- Renewable Energy Poles:** Self-powered poles for continuous operation in remote areas.

With Art of Logic's technological innovations, urban authorities can elevate public safety, optimize the use of resources, and improve operational efficiency through AI-driven analytics and sustainable energy solutions. Our solutions are tailored to the unique needs of cities, providing reliable, scalable, and adaptable tools to enhance community welfare and ensure efficient urban management.

OUR PARTNERS: We work with world class partners.

HAILO

BOSCH

maris

n^x NetworkOptix
VIDEO-POWERED

corsight

VELASEA

AlVerMedia

DELL Technologies

PRO

ZANCAP

HIVE

DYNACOLOR
always watching



The City+ Solution
Creating Integrated Smart Cities

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