

# Smart Solar Lighting System





## Overview

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Can smart solar street lighting improve efficiency and sustainability?

**Abstract:** This research presents an advanced smart solar street lighting system that integrates IoT technology for enhanced efficiency and sustainability. The system incorporates features such as solar energy harvesting, adaptive lighting control, and real-time monitoring, leveraging the ESP32 microcontroller and sensors.

What is a smart light system?

Our smart light system consists of High, Medium and Low Intensity LED obstruction lights, a visibility meter, helihoist light, system controllers, junction box and a battery backup system. All products are suitable for use both onshore and offshore.

What is smart lighting?

Smart lighting is a technology that automatically reduces the light output when artificial light is not required. The LC1, a low cost dimming lighting controller, is equipped with a sensitive passive infra-red occupancy sensor, a precision light meter, and a high resolution 0-10V dimming output. It integrates this smart lighting control technology into each individual luminaire.

What is a solar lighting system?

A solar lighting system refers to an eco-friendly lighting solution that harnesses power from sunlight through photovoltaic (PV) panels. It captures and converts sunlight into electricity, which is then stored in batteries for use when needed, such as during the night or on cloudy days.



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