

# TVILIGHT



## Case Study

### Cloud-Based Street Lighting - Muscat Hills

By embracing Smart Street Lighting Solution, the prestigious residential area in Oman, the Muscat Hills takes a major step towards becoming energy-efficient, safe, modern and environmentally sustainable.

# The Muscat Hills management committee chooses cloud-based smart street lighting solution to:

- Gain control over every light point
- Enhance energy efficiency
- Improve night-time safety
- Lower light pollution and carbon footprint
- Reduce maintenance costs
- Create a base for Smart IoT applications



## Customer Challenge

**Save energy, improve visibility and safety, and become environmentally sustainable**

Muscat Hills is a premium residential area in Oman with a total landscape of 1.2 million square meters. There are 363 residential units in Muscat Hills, which are surrounded by a stunning golf course and greenery with pleasant views of a calm environment.

Although the neighborhood had solar street lights in place, due to inadequate installation, they were not performing optimally, leading to increased maintenance costs and reduced efficiency. These solar street lights didn't offer the required illumination or sometimes remained off, compromising the safety of the residents.

The management of Muscat Hills wanted to address these issues, and wished to have an effective and environmentally sustainable lighting solution that aligns with green practices.

The goal of Muscat Hills management was to create a livable neighborhood, where streets at night are energy efficient, safe and environmentally friendly.

# Solution

## Cloud-based smart street lighting system

The entire solar street lighting installation has been replaced with high-quality LED street lights, customized as per the preferences of the residents – by our partner **IMTAC LLC**. These new LED street lights are designed to host RF Mesh lamp controllers from Twilight as well as cameras from a third-party supplier.

The RF Mesh lamp controller (**SkyLite Prime RF**) connects individual light point with Twilight **CityManager**, an advanced cloud-based street light management platform. Through platform, the Muscat Hills management can now monitor all the street lights and set ideal illumination for different periods of night to achieve maximum energy savings, lower electricity bills and reduction in the carbon footprint, while ensuring highest safety and comfort for the residents.

The CityManager platform also offers automatic alert / fault notifications, enabling the management to address the potential issue quickly and efficiently, and reduce the overall maintenance costs.

Furthermore, thanks to the openness of the entire cloud-based smart street lighting system, integrating third-party IoT applications is easy. Now, if the management wishes, it can easily integrate motion sensors, acoustic sensors, surveillance cameras or other applications into our smart lighting system.



# Project Outcome

## Benefits from day one

The implementation of the cloud-based smart street lighting system yielded significant benefits for Muscat Hills.

- ✓ **Energy Savings:** The new system resulted in 50% to 70% energy savings compared to the previous solar lighting system, contributing to a more sustainable and cost-effective solution
- ✓ **Reduction in Maintenance Costs:** With improved efficiency and remote monitoring capabilities, maintenance costs were significantly reduced, leading to long-term financial savings
- ✓ **Remote Monitoring and Controlling:** The central management system allowed for remote monitoring and controlling of each street light, providing real-time insights and the ability to respond promptly to changing conditions
- ✓ **Improved Visibility and Safety:** The new smart LED street lights enhanced visibility while also contributing to a safer environment for residents through better-lit streets
- ✓ **Base for Smart IoT Applications:** The implemented infrastructure provided a foundation for hosting additional smart IoT applications, such as motion sensor, noise sensors and surveillance cameras. This further contributed to making the neighborhood technologically advanced and safer



# Project Summary

**Location :**

Muscat Hills, Oman

**Client(s) :**

Muscat Hills Management

**Application Areas :**

Residential Roads

**Products :**

SkyLite Prime Zhaga (Street Light Controller),  
CityManager (Central Management Platform)

**Project Partner(s) :**

IMTAC LLC.



## About TVILIGHT

TVILIGHT PROJECTS B.V. is a European market leader specializing in motion sensors, wireless lighting controllers, and a complete portfolio of street light management software – to manage, monitor, operate and maintain citywide public lighting infrastructure. Our smart lighting platform and open API allow integration to city's preferred software platform and thus constitute an open, reliable and future-proof base for Smart Cities and the Internet of Things. The company has installed over 800 projects globally across 20+ countries, including iconic cities and critical infrastructure around the world. Tvilight's international projects include Amsterdam Airport Schiphol, Dutch Railways, Port of Moerdijk, Seoul, Beijing, as well as some of the largest German cities such as Düren, Münster, Cologne, Dortmund, and Berlin. To discover more about us and our products, visit [www.tvilight.com](http://www.tvilight.com)