



Dubai, United Arab Emirates

Dubai Water Canal Lights Up with InteliLIGHT® Smart Street Lighting

Located on the southeast coast of the Arabian Gulf, Dubai is the capital of the Emirate of Dubai and the most populous city in the United Arab Emirates with more than 2.5 million people. An important business and commercial hub of the Middle East, Dubai has recently attracted international attention through many innovative and large construction projects, skyscrapers and high-rise buildings becoming an important touristic destination, including the Dubai Water Canal with its exterior lighting.

The Challenge

Dubai Water Canal is an artificial canal and Dubai's newest touristic and commercial attraction. With a shopping center, hotels, restaurants and luxury housing stretching over 3 km, the construction team did not compromise on quality. The architectural and pedestrian street lighting was an important concern and for that, they sought a street lighting control management system to live up to the requirements.

With the canal being Dubai's newest touristic attraction, the street lighting control system needed to be proven and reliable, while meeting the following criteria:

- Control & monitor pole lights, handrail lights & step lights.
- Scheduled dimming of lights based on five different scenes & reduce energy consumption.
- Available and compatible with other manufacturers for a very short execution term.
- Provide seamless operation and be able to function in a hot climate.
- Support long distance PowerLine Communications (PLC) over the bridges and difficult access.

The Solution

The streetlight control system is based on Flashnet's inteliLIGHT® FPE 220 controllers (dimmable for electronic ballasts up to 500W) and LonWorks Smart Servers, using PLC to communicate between nodes. The contractors chose LonMark because PowerLine Communication insures a stable and continuous communication with all controllers, enabling real-time feedback and control of every lamp. Furthermore, inteliLIGHT® PLC has proven its reliability in several large-scale projects all over the world.

A mixed deployment team formed by Spectrum's Solution Architect, Project manager and FLASHNET specialists installed all the feeder pillar equipment within a tight time frame of seven days. One third of the lamp controllers were directly embedded into the lighting fixtures by the manufacturer at FLASHNET's specifications and the rest were retrofitted with existing lighting fixtures.



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The main inteliLIGHT® streetlight control system included:

- **7 x Distribution Feeder Pillars (Monitor):** Remote Terminal Unit equipment sets (FPC-200 data concentrator, FNM-232 electric network analyzer, FVD-124 voltage presence monitor and FRB-110 intelligent communications router)
- **24 x Lighting Feeder Pillars (Control & Monitor):** Remote Terminal Unit equipment sets (FPC-200 data concentrator, FNM-232 electric network analyzer, FVD-124 voltage presence monitor and FRB-110 intelligent communications router)
- **735 x inteliLIGHT FPE-220 controllers (Control & Monitor):** 242 were embedded into the lighting fixtures by the lamp manufacturer & the rest controlling handrails & step lights.
- inteliLIGHT® streetlight control software

The Results

The inteliLIGHT® streetlight control system provides continuous communication, safe operation, real time system feedback and control. It also:

- ON/OFF/DIMM Schedules of lights
- Five different scene lights from sunset to sunrise & DIMM down the lights gradually to adapt to time
- Reduces energy consumption by dimming of lights
- Continuously monitoring all Lights, LFP & DFP & reports any errors to respective teams
- Reduced maintenance costs by 42%, with the possibility to reduce consumed energy by up to 35%
- Improved lighting quality (including real-time alerts of any malfunctions)
- Improved safety
- Helped reduce light pollution and CO₂ emissions
- Provides open protocols and interoperability – enabling unhindered lighting system expansion and even sensor add-ons if required in the future.

“After several successful projects in the Middle East, Flashnet’s inteliLIGHT® is our solution of choice for any intelligent street lighting system in the area,” said Malcolm Noronha, COO of Spectrum Group. “Our partnership has improved the wellbeing of millions of people, and we were extremely proud that we collaborated successfully to implement the superb Dubai Water Canal.”



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