



**PHILIPS**

Indoor lighting



Case Study:  
Dubai Municipality

# Bright and vibrant LED lighting

By providing innovative and intelligent LED lighting for its offices, Philips helps Dubai Municipality to decrease their carbon footprint and help transform Dubai to become one of the most sustainable cities in the world.

HE Eng. Hussain Nasser Lootah,  
Director General of Dubai Municipality



“ Philips LED has changed the way we look at a space; the lighting is brighter, more vibrant and it creates a comfortable ambience to stay in. The change has made a great impact on our buildings and people feel the difference when they walk in. ”

HE Eng. Hussain Nasser Lootah,  
Director General of Dubai Municipality



### Background

Dubai Municipality is one of the largest governmental institutions driving the growth and evolution of the Emirate of Dubai. Dubai Municipality offers services in six sectors: international affairs and partnership, general support, environment health and safety control, environmental and public health services, planning and engineering, as well as corporate support sectors.

Philips and Dubai Municipality have had a fruitful relationship for over three years, working on specific projects. In the summer of 2013, Philips and Dubai Municipality decided to enter into a strategic cooperation agreement to transform Dubai into one of the most sustainable cities in the world, as part of the Dubai Integrated Energy Strategy

2030. As part of this strategy, Dubai Municipality faces the objective of decreasing its carbon footprint. One of the most effective and quick steps is upgrading the lighting infrastructure to new LED technology.

Across the Middle East, customers begin the transformation process with HVAC optimization or refurbishment of the complete building, instead of focusing on lighting. This is because lighting is not yet viewed as a major element on the total energy bill, with it amounting to just 20% of the total electricity consumption in a building. But Dubai Municipality acknowledged that lighting upgrades are quick and impact the overall sustainability efficiently, in addition to offering tangible benefits.



This led to the signing of a Memorandum of Understanding (MoU) on November 1, 2013 between HE Eng. Hussain Nasser Lootah, Director General of Dubai Municipality and Mr. Eric Rondolat, Chief Executive Officer, Philips Lighting. The main focus of the MoU is cooperation in sustainability initiatives across Dubai, and specifically in transforming the municipality's 262 buildings from conventional lighting infrastructure to energy efficient LED solutions.

To kick start the Dubai Municipality transformation process, plans were put in place to begin refurbishing the first 15 buildings which will help assess and determine the actual energy savings among other benefits of a new lighting system.



“ The first requisite was to save energy and we now have record of saving over 50% of our energy through this partnership, and that’s what matters. ”

HE Eng. Hussain Nasser Lootah,  
Director General of Dubai Municipality

#### Facts

**Client:**

Dubai Municipality

**Project:**

Dubai Municipality Head office lighting

**Location:**

Dubai, United Arab Emirates

**Luminaires:**

CoreLine, GreenSpace Luminaires

**Lamps:**

Master LED

**Light sources:**

Latest LED technology

**Project responsible:**

Philips



### The Challenge

The challenge became evident while planning for the transformation. A few of the buildings had very old lighting in place, which would make it quite challenging to retrofit current lighting infrastructure. Philips had to accurately assess the potential and design a solution accordingly, i.e. correctly identify and estimate the exact number of different types of fixtures, measure actual (not nominal) power consumption of each type, measure current light levels and compare them with the light levels required by the norms; design a solution which allows for maximum energy savings without compromising on light level, comfort for the users and aesthetics.

### The Solution

The team at Philips assigned to the project included an expert lighting designer, account manager, project manager and the installation team, all of whom worked very closely with the customer and his team. First, project requirements and complexity were determined, i.e. the existing installation in place was done over 20 years ago and all the buildings were very different from each other in terms of retrofits and installations. This meant that the Philips team had to conduct thorough assessments of energy consumption and usage as well as the complexity of the installation.

A complete and well-rounded solution was offered to the customer to ensure hassle-free and risk-free implementation. As part of the solution, the Philips team conducted an energy audit to produce a business case to the Dubai Municipality, which was promptly approved by the engineering, maintenance and management team at Dubai Municipality and was underpinned by a real-life demo.

The Philips team designed a lighting concept using the most innovative LED lighting technology. The project comprised of CoreLine and GreenSpace luminaires that not only produced a crisper, brighter and better color rendering light, but also saved more than 50% on the electricity load, compared to their previous solution.

The CoreLine range of LED luminaires offer stylish, energy-saving, affordable, and easy-to-install lighting solutions, and are viable replacements for traditional lighting technologies across numerous applications. The GreenSpace luminaires offer energy savings of up to 70% compared with conventional CFL downlights, giving high uniformity and good color rendering at the same time to ensure comfort to users.

The installation was done by the Philips team to ensure seamless replacement of the fixtures.

### The Benefits

Using Philips' intelligent lighting systems allows Dubai Municipality to save over 50% (or 10.5 GWh) on the lighting's energy consumption, and 6,200 tons of CO<sub>2</sub> emissions per year. The return on investment for Dubai Municipality is over 20%.

Next to savings from energy efficiency, the long lifetime reduces the maintenance costs related to lamp changes. And last but not least, the improved light levels and better quality of light led to happy employees and customers in the building.

Luminaire	Conventional luminaire power	LED luminaire power	Savings
Recessed luminaire	84W	31W	64%
Downlight	25W	11.5W	54%



CoreLine luminaire



