

Hype and reality in the MIDDLE EAST

Lighting has become one of the key elements that makes the Middle East what it is. But are clients getting what they need? And are standards keeping up with technological change? **Heba Hashem** reports



From Qatar Corniche to the Dubai Fountain and Sheikh Zayed Mosque, lighting is integral to the landmarks in the Middle East region, and helps attract flocks of residents and tourists.

'One of the fascinating things about working in the Middle East is that just when you think one country or city has announced the most amazing array of interesting projects, up pops another part of the region with amazing projects to be built,' says Gary Turner, general manager of Complete Lighting

Solutions, the Middle East arm of Swedish manufacturer Fagerhult.

Saudi Arabia alone is estimated to be spending \$784 billion (€581 billion) on infrastructure developments, according to Citistates' Middle East and North Africa Projects Tracker, and the UAE's spending is thought to be \$669 billion (€496

billion). Together, these countries represent almost 60 per cent of the \$2.5 trillion (€1.85 trillion) worth of projects in the region.

Lighting for the future

The industry in the region is represented by the Middle East Lighting Association (Mela), whose members include Philips, Osram, GE, Tridonic and Gulf Advanced Lighting, which together sell half of the lighting products sold in the region.

Mela says: 'The global lighting industry is facing unprecedented challenges and exciting opportunities with the transition to efficient lighting technologies.

Our mission is to support key regional stakeholders to move towards a sustainable lighting future for the benefit of each part of the community, through effective implementation of efficient lighting policy.'

'Whether it's the Trade Centre Roundabout or Dubai Creek, what is it that mesmerises every visitor or expatriate,' asks Ovais Hashmi, senior project architect at supermarket chain Nesto. 'It's the playful and exotic lighting techniques that have been used in these places and everywhere else in the UAE.'

Chris Rimmer of ACDC's Dubai office, says: 'The Middle East offers a hugely exciting landscape for lighting at the moment. We believe the switch to LED is largely thanks to the quality of light output and high CRI values premium LED products can now deliver, along with a desire to reduce carbon footprints and a focus on the environment.

'A benefit of LED technology is miniaturisation and today we see LEDs being seamlessly integrated into the fabric of buildings as standard. Middle East specifiers are also looking for a more intelligent means of lighting, and LED is perfect for this.'

Dubai continues its drive to become the world's top tourist destination, with 50 new hotels and restaurants under construction for the 2020 World Expo, which is expected to attract 25 million visitors.

At the expanded Muscat Airport in Oman, the lighting alone is worth \$20.8 million (€15.4 million), of which more than a third is being provided by UK manufacturer ACDC.

In other parts of the region, the market is proving lucrative for a different set of reasons. 'Egypt is a country of 90 million people with a severe energy problem, hence power-saving technologies, including lighting and solar power, will be essential in upcoming years,' says Amir El-Sobky, general



Lighting makes Qatari capital Doha a striking sight at night



Dubai aims to become the world's top tourist destination, and lighting is essential to realising that ambition

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manager of Specs in Egypt, which works on projects throughout the Middle East.

Value for money

When it comes to lighting, Middle East users have been concerned about telling the hype from the reality, and when it comes to modern lighting technology, they still demand value for money.

'Clients are often swayed by the imagery and promises made to them, but these often do not correlate with the budgetary allowance,' explains Martin Valentine, lighting expert at the Municipality of Abu Dhabi. 'If this is not properly assessed during the initial project stages, then we have the common problem of either the design having to be watered down or the quality of the equipment compromised.'

Turner agrees: 'Clients may well decide to invest in the latest LED technology for their projects, but "nice to have" features like RGB or colour temperature change is a different issue. Often in the Middle East, lighting projects are designed twice: once with LED and then, when the cost is seen, another design is requested using traditional sources. We try very hard to educate our clients and give them all of the facts about LED products and not just the hype.'

Although the region has come a long way in adopting the latest technologies, many are still new to some countries. This learning phase, according to El-Sobky, has resulted in successes and failures while using advanced lighting systems. 'When using LED, for example, harsh weather was a challenge to some outdoor lighting applications.'

Yet the fully-loaded cars on the streets and the stampedes to buy the latest Apple and Samsung products give a clear indication of how excited consumers get about new technologies.

The same is true for lighting, although this is tempered somewhat by bad experiences in the past with temperamental controls, poor quality LED sources and equipment failures caused by the environment.

These experiences, according to Valentine, have led customers to demand the best, but without being willing to pay for it.

'There still seems to be a big issue in the design chain in understanding the cost of quality lighting design and equipment.' It is more about being cautious with lighting, he says. 'Culturally there are many people seeking some valid local experience, more proof of claims and testing evidence when confronted with something new full of "claims". I think this is sensible and personally have no issue with this if the right things are requested and the right people are assessing them.'

Green trend

Abu Dhabi has had public realm lighting standards in place for three years in which efficiency, efficacy and performance criteria are core factors. The emirate's building energy regulations and the statutory certification system Estidama both now cover private and commercial buildings for construction, extension and permitting.

'For external lighting we see how the flexibility of LED can be used to enhance the architecture of a building and the ease of changing colour adds to the



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**Gary Turner,
Complete Lighting
Solutions**



Egypt has serious energy shortages and will benefit from solid state lighting and controls technology

night skyline,' explains Turner, 'and lighting controls, even of a simple nature, allow the user to ensure that empty spaces are not lit and energy wasted.' All of this is not new in Europe, he says, but for many clients throughout the Middle East it is only now becoming the norm.

The UAE is serious about promoting sustainable lighting technology – a sales ban on inefficient incandescent lamps came into effect on 1 July – a move expected to save the country \$182 million (€135 million) a year on energy bills and the equivalent of 165,000 cars in carbon emissions.

The Emirates Authority for Standardisation and Metrology (ESMA) also restricts hazardous elements such as mercury in lamps.

'At government level, Abu Dhabi, Dubai and some of the other emirates are very much in control and have some of the best standards and regulatory procedures anywhere,' says Valentine. 'Commercially and in the private sector, this is less well covered, but the new ESMA lighting regulations on lamps and certification is a first step in improving this side of the market.'

According to Hashmi, operating costs have been increasing for many large corporate entities and hotels because the cost involved in changing conventional lamps every 3,000 hours is far greater than that of LED luminaires, which should last 35,000 hours.

'New projects are now using LEDs from the start, because the cost per lamp has fallen over the years,' says Hashmi. 'ROI is achieved in a matter of months rather than years and the power saving is more than fifty to ninety per cent.'

Energy factors

As a result, energy use is becoming the most important factor in today's management decision-making. And, says Hashmi, 'according to some reliable sources, Dubai is going to regulate energy efficiency in every new development from 2014 onwards'.

A shift is already taking place in the region and LED lighting has become the norm for newly developed projects. Most lighting

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products are now available with LED sources, from landscape lighting and streetlighting to high-powered applications – and even architectural decorative lighting.

'Without doubt there has been a major shift in clients' attitudes to energy use since 2007 when I returned to the region,' notes Turner, 'but because the actual cost per kilowatt-hour is still low, it is not always a priority. We adopt a smart design philosophy which always looks to offer the "minimum installed lighting points" on a project, which by default provides extremely low-energy solutions but with a choice of sources, not just LED.'

Pace of change

According to Turner, the change will accelerate once the W/m^2 bar is lowered. 'Last week, a client gave us $4.5W/m^2$ as the target for his educational project, so

we know the only way forward is "smart design" and modern high-quality LED solutions.'

Looking to the future – and at the rapid pace of developments in lighting technology – it becomes clear that lighting will no longer be a standalone item, but an integrated element in the structure of a building. 'Flexible OLED systems will perhaps replace elements of ceilings and walls and maybe the door of a room will be the primary lighting source,' suggests Turner.

Indeed, as international architects continue to produce buildings and structures at the very edge of known technology, lighting companies in the Middle East will have to use all of their technology, intellect and creativity to keep up.

As Hashmi points out: 'Many local companies in the UAE have prospered in the past few years based on the growing demand for energy-efficient luminaires, but internationals still have a big share in the market because of better technology, prices and after-sale services.

'I believe this is a healthy activity that will create a core competition between local and foreign manufactures, resulting in better products and technology.'