Middle East Lighting Association

The Newsletter
of the Middle East
Lighting Association
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'You can't switch from black to white, or the other way around, overnight. You have to have a transition and you have to decide your priority. The priority for streetlights: make it efficient. The priority for institutional lighting: make it efficient. But when you're talking about a seven-star hotel or public realm, [does it make sense that] you can't have a chandelier just because you can't afford it energy-wise? There's a big question mark over that. We need to share our challenges and try to figure out a solution which works best for the Middle East' *Lux Review 'Don't apply the wrong lighting standards to the Middle East'*

Message from The Vice President

Dear friends of MELA,
As many of our readers are now aware The Middle East Lighting Association (MELA), an international non-profit making association, was officially constituted in 2013 by Gulf Advanced Lighting, GE Lighting, Osram, Philips Lighting & Tridonic.

Its vision is to play an active role in supporting the development of efficient lighting policy in the Middle East region. Its principle objective is to represent the interests of the leading lighting product manufacturers in their support to legislators across the Middle East region in drafting and implementing policy (standards and regulations) for lighting related products and services.

The Secreatriat and members have to date been active on a range of regulatory initiatives to phase out inefficient forms of lighting in the United Arab Emirates and Kingdom of Saudi Arabia and are increasingly engaging with Governments and Standardisation Authorities across the region including regional organisations such as the Gulf Standards Organisation (GSO).

With MELA still in its infancy founding members are looking to bring new organisations on board particularly those representative of the new lighting revolution and with an interest in the region. Since our last newsletter we have the opportunity to welcome five new members – one to the MELA Board (Amko Solara) and four non-Board members (CREE/RUUD Lighting Arabia, Forest Lighting, Kenall Inc & Uniled Tech). I would like to warmly welcome these new members and their representatives and I look forward to their strong and sustained input to make MELA a more effective association in the future.

I hope you enjoy this edition of the newsletter. Please feel free to reach out to our Managing Director Gerald Strickland gerald.strickland@middleeastlighting.org if you have any suggestions for improvement or other information of interest to convey in future editions.

- Assist governments to develop lighting policy that allows for the 'uniqueness of lighting'.
- Provide solutions to help deliver energy efficiency improvements in practice.
- Help identify barriers to using energy efficient lighting and assist end users to overcome them.
- Develop & communicate user friendly information to end consumers on how to realise savings.

Tobias Metsch
Vice President MELA

The lighting landscape in the region

The speed of change from conventional lighting components to energy efficient LED has been faster than predicted as most countries in the region quickly adopt new lighting technologies for high profile projects.

On the regulatory side concrete examples of the phase out of obsolete lighting technologies, both for consumer and commercial applications are in evidence in various parts of the Middle East, where sustainability appears to be more of a concern more than energy costs.

In general however MELA members see strong demand for lighting and controls as governments increase their spending on nation building infrastructure such as roads, schools, houses and hospitals. Add to this the growth in overall population in many countries in the region and positive demand for more (especially) intelligent lighting solutions can be seen.

Gerald Strickland who leads the regulatory outreach on behalf of the MELA members with standardization/regulatory authorities in the region comments 'Our members see great opportunities with LED lighting and controls to also grow sustainably, and despite the disruptive phase the industry is in, they are committed to helping their customers and partners reduce their energy consumption and environmental impacts, whilst saving money.'

Energy consumption in the Middle East is amongst the highest in the world and still increasing, leading to a higher carbon emissions per capita than world average. MELA members believe that part of the answer to addressing this challenge is to be found in intelligent lighting solutions that will allow cities, offices and individuals to both personalize their lighting solutions and save energy at the same time.

In the region we have seen a huge increase in interest for intelligent lighting solutions from office building owners, hotels and governments alike. This is a big change, but shows that our customers now understand the impact of lighting in their energy footprint. Lighting constitutes around 40% of a city's energy consumption and buildings make up to 60% of overall lighting use, so there are quick wins to be made by switching to energy efficient intelligent lighting.

The transformation to digital light is a big step, so we are committed as the global leader in lighting to educate our partners and customers on the new innovations and its relevance to their needs. MELA is part of this outreach process in that it allows us as an industry to support regulators interested in moving to efficient lighting solutions in times that are quite challenging. Our members see great opportunities with LED lighting and controls to grow, and grow sustainably.'

Lux Review 'Manufacturers club together to promote 'intelligent' lighting in the Middle East

Middle East Lighting Association

Lighting policy news from the region

United Arab Emirates

A sales ban on inefficient incandescent lamps that came into effect on 1 July 2014 has now formally entered into force as of the 1st January 2015. The regulation which is an initiative of the Emirates Authority for Standardisation and Metrology (ESMA) is expected to save the country $182 million (€135 million) a year on energy bills and the equivalent of 165,000 cars in carbon emissions. Other light sources and control gear for fluorescent lamps have been included in the regulation. MELA has recently been invited to discuss policy initiatives aimed at regulating commercial lighting later this year. Developments in this regard will be covered in our next newsletter.

Saudi Arabia

The Saudi Energy Efficiency Program has embarked on a series of lighting related policy initiatives.

- Part 1 aims to regulate lighting products (mainly light sources) commonly used in residential lighting applications. This regulation is in its final stages of drafting and the date of its entry in force is as yet unclear.
- Part 2 aimed at regulating the commercial lighting sector (traditional light sources and LED retrofits and control gear).
- System level requirements are likely to feature in the medium term
- A list of SASO standards can be accessed via the following link: www.saso.gov.sa/en/eservices/Pages/standardSearch.aspx

MELA is currently in an advisory role to the Saudi Energy Efficiency Program and continues to provide support throughout the drafting phase of the residential and commercial lighting regulations. A meeting between MELA and SASO will take place in March 2015.

Bahrain

Following an exchange of views with the Bahrain Standards & Metrology Directorate (BSMD) the MELA Secretariat has the following information to share regarding the draft regulation on Requirements for non-directional household lamps in the Kingdom of Bahrain. From a general point of view the current draft of the regulation includes aspects extracted from the EU lighting regulations to a differing extent:

- The LED functionality table from the EU regulation 1194 is included as is the Mercury content table for CFLi.
- Amendment of EC/244/2009 which is 859/2009 has now been included by removing the UV requirements in the original version of the test.
- INCANDESCENT lamps will be phased out without any definition of the stages.
- BSDM have indicated that both clear and non-clear INCANDESCENT lamps will be phased out and that clear HALOGEN lamps will be legal, as long as these products meet the efficacy requirement.
- Companies placing products on the market should also be aware that special purpose marking requirement is briefly mentioned in the scope, and specific requirements have been elaborated within the articles of the regulation.
- From the point of view of conformity, suppliers to the market need to be aware that mercury limits are maximum values.

As far as phase out timings are concerned, BSMD expects that the regulation will be effective by August 2015. Once enforced, all lamps within the scope of the regulation should satisfy the specified requirements.

The conformity assessment procedure for the regulated lights will depend on test reports provided by an accredited laboratory as a main component for compliance. Test reports or certificates therefore have to be issued by a body accredited by a member of the ILAC/IAF.

MELA has issued a position paper regarding the inclusion in the text of an exclusive requirement for amalgam dosed lamps. This paper can be found via the following link on the MELA website.

Jordan

Jordanian Decision on Technical Regulations on Ecodesign and Energy Labelling of Electrical Products, Resolution No. 1, 2014.

- On-going issue with the 3rd party/ISO17025 test reports requested for safety and performance. These requirements appear to be independent from the requirements in the regulations published in 2014. For safety and performance JSMO has started to accept only 3rd party safety reports and reports for performance claims should be supervised by a certified body if testing is in house. If this is not the case, 3rd party testing is needed.
- The status of the implementing stages of the regulations is as follows:
  - o Jordanian technical regulation # 2093/2013 (transposed from EU directive 245/2009) that will start phasing out inefficient domestic lamps including (incandescent, low efficiency halogen lamps) by 1st January 2016. The first two stages will be taken in one step.
- Stage 1 - date of entry into force 1st July 2014 (actually written 2013 in the regulation).
- Stage 2 – date of entry into force 13th April 2015.
- With Eco Design implementation there appears to be some confusion. See entry into force dates above. Local customs claim that Eco Design requirements are mandatory.
- Energy efficiency label to be printed on all lighting products.

Qatar

Gulf-times.com recently reported that the Ministry of Environment is considering banning the import of the tungsten lamps into the country and replacing it with energy saving LED lamps. Arrayah daily quoted the ministry's Assistant Under Secretary of the Laboratories and Standardisation Affairs Mohamed Saif al-Kuwari. Al-Kuwari as saying '....the decision to ban tungsten lamps is being made as they are found to be at least 30% more energy consuming and studies have found the lamps are making enormous amounts of thermal emissions which contribute to harm the environment.' The official said the ministry has completed the procedures for adopting Qatar standards and specifications for the modern lighting systems that would help conserve the environment and save energy. Such decisions are within the framework of the implementation of the standards of sustainability and new Qatar construction code. The Qatar construction code, said al-Kuwari, 'adopts standard specifications in respect of energy consumption in all buildings in order to conserve human safety, support sustainable development and national economy.'

GSO

The Gulf Standards Organisation has recently published a Low Voltage Technical Regulation. To confirm the scope of the GSO Low Voltage Technical Regulation please use the link below: www.gso.org.sa/gso-website/gso-website/activities/conformity/technical-regulations-and-guides/bd-142004-01-20141028-bd-v2ab-en.pdf

- This Technical Regulation shall apply to electrical equipment hereinbefore referred to as electrical equipment in Article (1). Electrical equipment: means all electrical and electronic devices and appliances and fixtures that contain electrical and/or electronic components designed for use with a voltage rating of between 50 and 1000 V for alternating current and between 75 and 1500 V for direct current, other than the electrical equipment and phenomena listed in Annex (2).
- Lighting products will fall under the scope of the LV TR however the current phase of implementation will not cover the lighting products.
- LVTR Article (20) determine two lists for two categories of electrical equipment that the LVTR will be implemented for. Please note that List (1) and List (2) will be periodically reviewed, updated and re-issued, providing sufficient time for implementation.

Other news

A big welcome to MELA's five newest members! In February the MELA Board received and accepted five applications for membership from the following company's active on the regional lighting scene.

Board Member

AMKO SOLARA

www.amkosolara.com/en/about.php

(Michael Ng CEO)

Non Board Member

KENALL

www.kenall.com/Kenall.htm

(Greg Mueller CEO)

uniled

www.UniversalLightingGroup.com/

Uniledtech (Kirti Desai, MD)

Forest Lighting

www.forestlighting.com

(Lawrence Lin MD)

RUUD® LIGHTING

RUUD LIGHTING ARABIA

www.creecanada.com/ &

www.cree.com/Lighting

(Vic Andrews MD)

Middle East Lighting Association

The Power of One Light:

The Industrial Internet and Lighting

To get a sense of the power of the Industrial Internet, consider what GE calls the power of 1%. The Industrial Internet will touch on countless sectors and sub-sectors of the economy and the devices that power those sectors, from industrial machinery to smart phones, sensors and controls. If we extrapolate merely 1% efficiency or productivity improvements from a huge installed base of technologies with countless, perhaps exponential, sets of touch points or nodes within the modern economy – every machine, every smart phone, every movement sensor, every control device, etc etc – we start to get a sense of the power of 1%. Lighting, within this epic tale of the Industrial Internet and the power of 1%, has its own compelling story.

After all, lighting infrastructure already exists in many places. Unlike in other segments of the modern technology landscape, it is relatively easy to combine lights with sensors. And, crucially, the advent of LEDs has brought the world of lighting into the digital realm and by extension into the world of the Industrial Internet. LEDs can provide much more than just great light: LEDs can be an infrastructure that can enable internet based communication between brilliant machines and brilliant minds. If we take a moment to visualize this kind of infrastructure, and reflect on all the ways in which lighting impacts on the lives of citizens, we begin to get a sense of the power of 1% in the realm of lighting. Consider for example public, outdoor lighting.

According to the European Commission, there are more than 90 million traditional streetlights in Europe. Now there is an installed base of technologies for you! Let us imagine that all of these light points can be converted to LEDs and equipped with low cost sensors, controls and other devices so that they can communicate with each other and with central management systems. Here a few examples where the intersection between lighting and the industrial internet really come to life: ¬ Safety and saving lives: outdoor LEDs can be connected with CCTV systems and movement sensors to help police and emergency services respond in real time to crimes, accidents and other incidents. A 1% improvement in the responsiveness of police and emergency services can mean the difference between lives saved and lives lost. Let's come back to that thought in a moment.

Traffic: interconnected LED road lighting infrastructure can gather invaluable data from vehicle and pedestrian flows. This data can be analysed and fed back to city planners so that they can make traffic networks and signaling more efficient. Imagine spending 1% less time, every day, to get to work, to the grocery store, to your child's school... Extrapolated over the course of one year, those one percent daily savings in time can dramatically improve not only productivity, but quality of life.

This kind of intelligent lighting based infrastructure is bound to produce a significant amount of data to say the least. And data, a key player in the Industrial Internet story, can in turn be used to analyze and improve all manner of systems, for example indoor office environments where lighting can be optimized according to building usage and occupancy. These kinds of systems exist already of course, but the data is trapped in silos and individual projects. A lighting based, industrial internet infrastructure could produce invaluable data especially if indoor and outdoor lighting systems are linked using existing LED technologies.

Once we bring data into this picture – and especially 'big' data – we can also begin to compare systems and use analytics to drive technological innovation. In the lighting 'story', this could mean comparing, cross referencing and running analytics on data from street lighting systems in major cities, industrial sites, college campuses, highways, etc. The intelligence obtained from these kinds of analytics could help design better lighting technologies and systems, which are truly tailor made to specific conditions and deliver optimal efficiency and controllability.

Again, let us stay mindful of the power of just 1% savings across each of these lighting touch points in the economy...
Big data obtained from lighting systems and related analytics can also help spur the development of new business models and value-add innovations. In fact, the possibilities may be exponential. We can imagine an entire city, illuminated by an intelligent, sophisticated and interconnected lighting 'eco system' that not only provides great light, but also provides a platform for e-commerce and service delivery.

Let's consider some examples in the context of what is commonly known as the 'smart city': ¬ A better lunch: each day, workers at office buildings in a given city zone leave their desks to find food in a canteen or nearby cafes. The office lighting systems 'knows' or 'recognises' this and sends a signal to a set of lunch providers, who prepare fresh meals according to preference. Meanwhile the outdoor lighting system monitors and helps controllers facilitate lunch time traffic movements.

Valuable time has been saved: queues have been avoided and vendors have been given advance notice of customer arrival so that food preparation can be rationalised according to projected needs and real time conditions. Imagine lengthening your lunch break, each day, by even just 1%. That is 1% more time to rest, to eat, to catch up with a colleague and, as a result, to be more productive. Extrapolated over one year and across the economy, that 1% begins to add up...

A better journey home: it is evening, and workers across the city are leaving their desks or places of work to engage in the nightly struggle to reach home. Lighting infrastructure can help improve, track and predict movements of commuters, all the while aligning preferred service delivery with estimated arrival times for various destinations: home, a restaurant, a university course, etc. At each touch point in the night commute home, lighting enabled system intelligence and clever data analysis can contribute to a 1% improvement in overall efficiency. In other words: getting home more quickly, more safely, while stimulating the economy and being more productive along the way.

Over time, these kinds of 'smart city' innovations are likely to produce further sets of valuable data that would make it possible to compare energy efficiency gains, productivity gains and a number of other indicators between different cities in a more precise way. If, for example, one city launches a specific service or an initiative to conserve energy, the data would allow planners and officials to see and quantify the impact in different urban areas, by roads, residential buildings, schools, office buildings, etc. These results could be compared with previous consumption patterns and patterns found in other cities. All of this information could be used to inform policy making, the impact of regulations, and beyond. If we begin to aggregate the different touch points and sectors we have explored in this paper, the 1% picture takes on another dimension entirely.