СЕКЦІЙНІ ЗАСІДАННЯ

СЕКЦІЯ А – ДЖЕРЕЛА СВІТЛА. ОСВІТЛЮВАЛЬНІ ТА ОПРОМІНЮВАЛЬНІ УСТАНОВКИ. СВІТЛОТЕХНІЧНІ ВИМІРЮВАННЯ. КОМП’ЮТЕРНІ МЕТОДИ У СВІТЛОТЕХНІЦІ

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LED LIGHT SOURCES IN THE WORLD AND NAMIBIA

A review of lighting systems based on LED has been conducted. Perspectives of their use and possibilities of introduction are considered.
Keywords: LED light source,light systems Namibia

About 50% of the world population lives in cities and it is estimated that this number will continue to grow to reach 70% by 2050.Street lighting is a core piece of urban and rural infrastructure where lighting helps to create a safe environment for both pedestrians and drivers. Many streetlights around the world are now being updated to LED lighting, which uses less energy and is more reliable than traditional sodium lamps, significantly reducing the cost of keeping streets illuminated.It is now cost effective to add communications technology to streetlamps at the same time as LED upgrades take place. Mobile operators’ Internet of Things (IoT) solutions can provide low cost, ubiquitous coverage across a city, and are designed specifically to connect city services and sensors, including streetlights. This connectivity enables the lights to be remotely monitored and controlled. Moreover, additional sensors can be added to the lighting infrastructure, offering a cost effective way of creating a citywide IoT sensor network and enabling the deployment of more smart services [1].Namibia is one of the African country investing in crucial project for development by indenting to build its (capital city) Windhoek into a smart city with the use of LED lighting. Light Systems Namibia deploys it’s standardised energy saving solutions as an alternative conventional. As a an Engineer in a marine and fishery company Light Emitting Diodes (LEDs) are the most widely used in my work premises and in all marine vessels because semiconductor diodes among all the different types of semiconductor diodes available today. Light emitting diodes emit either visible light or invisible infrared light when forward biased.TheLEDs which emit invisible infrared light are used for remote controls.

Today, LED lighting technology has come of age and is able to deliver benefi ts to cities and citizens alike. It offers more controllable and higher quality light, enhanced visual performance and improves the ambience and safety of urban

environments. Moreover, LED lighting will make our cities ‘greener’ by saving up to 70% of lighting energy and reducing costs compared to existing lighting infrastructures. Procuring and deploying innovative lighting infrastructures at the municipal level also off ers the potential to boost local innovation, growth and jobs.

The larger roll-out of intelligent LED lighting systems in cities will be part of the creation of sustainable smart cities: cities where lighting innovation is interlinked to other smart city networks (communications, renewable energy, building or traffic management systems). This is the ideal way to offer dynamically adaptable optimised lighting services to citizens and businesses.

LED based lighting systems have enabled radically new possibilities in the field of artificial lighting. This is due to in part to the LED being digitally controllable which means this efficient light source can also be integrated with sensors and smart environments. This has opened up a new world of lighting and lighting interaction opportunities that has been applied in new concepts in many of the indoor lighting domains. The outdoor lighting domain however has focused mostly on the LED’s efficiency and low cost of ownership to save energy and money for local governments. The use of the LED as a potential means for providing interactive city lighting for social good or entertainment is as yet a fairly unexplored area. This is therefore the focus of this workshop to bring together a community of researchers, designers and technologists to explore the potential of interactive city lighting and how it could support or enhance the lives of those living in a city [2].

Literature

1. IERC – Internet of Things, “The Internet of Things 2012 – New Horizons,” 2012, /pdf/IERC Cluster Book 2012 WEB pdf.
http://www.photonics.org/download/PhotonicsStrategicResearchAgenda_aktualisierte_Neuaufl age.pdf