The Global Voice of the Lighting Industry

Asia-Pacific Economic Cooperation

Australian Government

Department of Climate Change and Energy Efficiency

Who we are

- The Global Lighting Forum is a network of leading industry lighting organisations from around the world representing over 5,000 lighting manufacturers and US$50 billion annual sales.

GLF Objectives

- The Global Lamp Forum
  - shares knowledge of global trends and legislative developments and opportunities in lighting
  - shares information on the activities of individual associations
  - anticipates and initiates policies and actions on areas of common interest
  - seeks opportunities for communicating with government authorities and other stakeholders
  - provides governments with relevant product and market information

GLF priorities

- Network for industry information exchange
- Forum to develop joint industry positions
- Tool to communicate industry positions
- Accelerate the uptake of LED and OLED lighting solutions

GLF Solid State Lighting Objectives

- Promote the application of Solid State Lighting (LED & OLED) globally
- Communicate to stakeholders a realistic picture of the technology through global case studies
- Create and maintain a framework for distributing global information related to SSL applications, technology, standards and policies

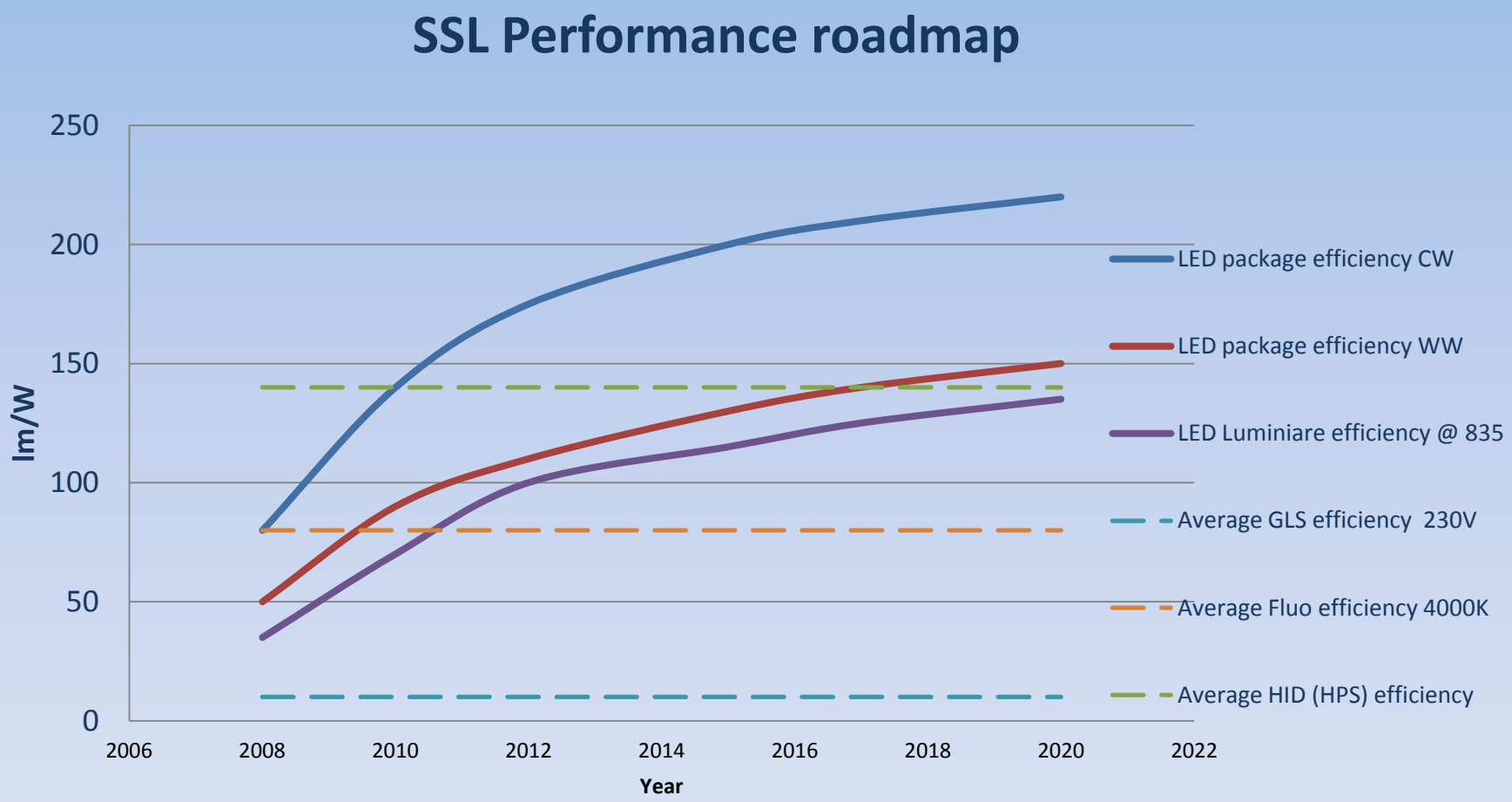
SSL Benefits

- The Energy Dimension
- The System Dimension
- The Environmental Dimension
- The Biological Dimension
- The Business Dimension
- The Design Dimension
- The Quality Dimension

The Energy Dimension

- Lighting is responsible for 18% of all electricity consumption in the built environment
- According to estimations made by DoE in the USA annual energy savings from solid-state lighting will be approximately 190 TWh
- This switch to LED can replace 24 (1.000 MW) power plants
- These savings would reduce greenhouse gas emissions by 31.4 million metric tons of carbon
- Total electricity consumption for lighting would decrease by roughly 25 percent (with an assumed market penetration of SSL <50%) relative to a scenario with no solid-state lighting in the market

The Energy Dimension



The Energy Dimension
Case Study from Japan

外観	防犯灯（現在）	全国設置台数（万台）※1	年間CO_2排出量（万t）※2
	水銀ランプ100W	150	27
	水銀ランプ40W 蛍光ランプ20W2灯用	150	11
	蛍光ランプ20W1灯用	700	26
	合計	1,000	64

外観	LED防犯灯	年間CO_2排出量（万t）※2	年間CO_2削減率（%）
	E-CORE LED防犯灯 （水銀ランプ100W相当）	8	70
	E-CORE LED防犯灯 （水銀ランプ40W相当）	4	64
	E-CORE LED防犯灯600 （蛍光ランプ20W相当）	9	65
	合計	21	67

Switching street light for pedestrian can save 67 % electricity
Annually CO_2 will be reduced 67 %,
Around 430 thousand ton CO_2 (in Japan only)

The System Dimension

- New **(ICT) opportunities** will result from a integrated systems approach.
- The use of **controls** like presence detection, daylight control etc. will be key to further reduce energy consumption but will also be applicable to the automation and cooperation of any system in relation to SSL lighting.
- Extension of **communication** and interaction between various control systems for improving or optimizing light quality thereby enhancing peoples life's in domestic, public as well as in road lighting (safety).
- **Innovation** platforms, standardization & new protocols will lead to high level **employment** & jobs in the industry.

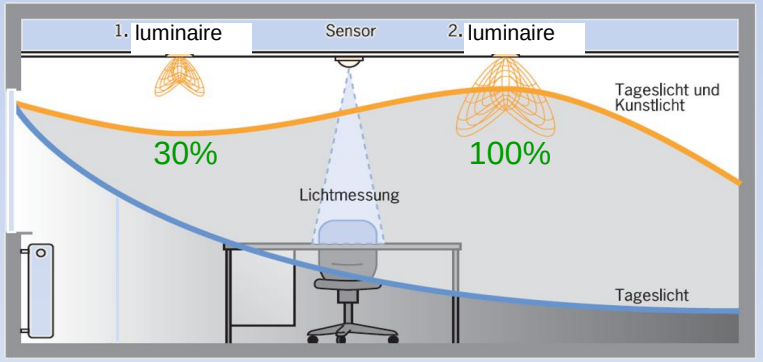
The System Dimension
Case Study USA – adaptive Street Lighting San José, Ca

The System Dimension

Lighting controls seems to be in the same condition as
electronic ballasts one decade ago.

… LED Solutions will be complimentary and value adding to this !

	Saving potential	Penetration indoor
Permanent (on-off)	0 %	**97 %**
Daylight linking	20-40 %	**< 8 %**
Presence detection	15-30 %	**< 8 %**
Time management	5-15 %	**< 4 %**
Constant illuminance level	10-25 %	**< 3 %**



The Environmental Dimension

- LED do not emit UV Radiation
- LED do protect biodiversity better than other lighting solutions
- LED do create less spill light

The Environmental Dimension

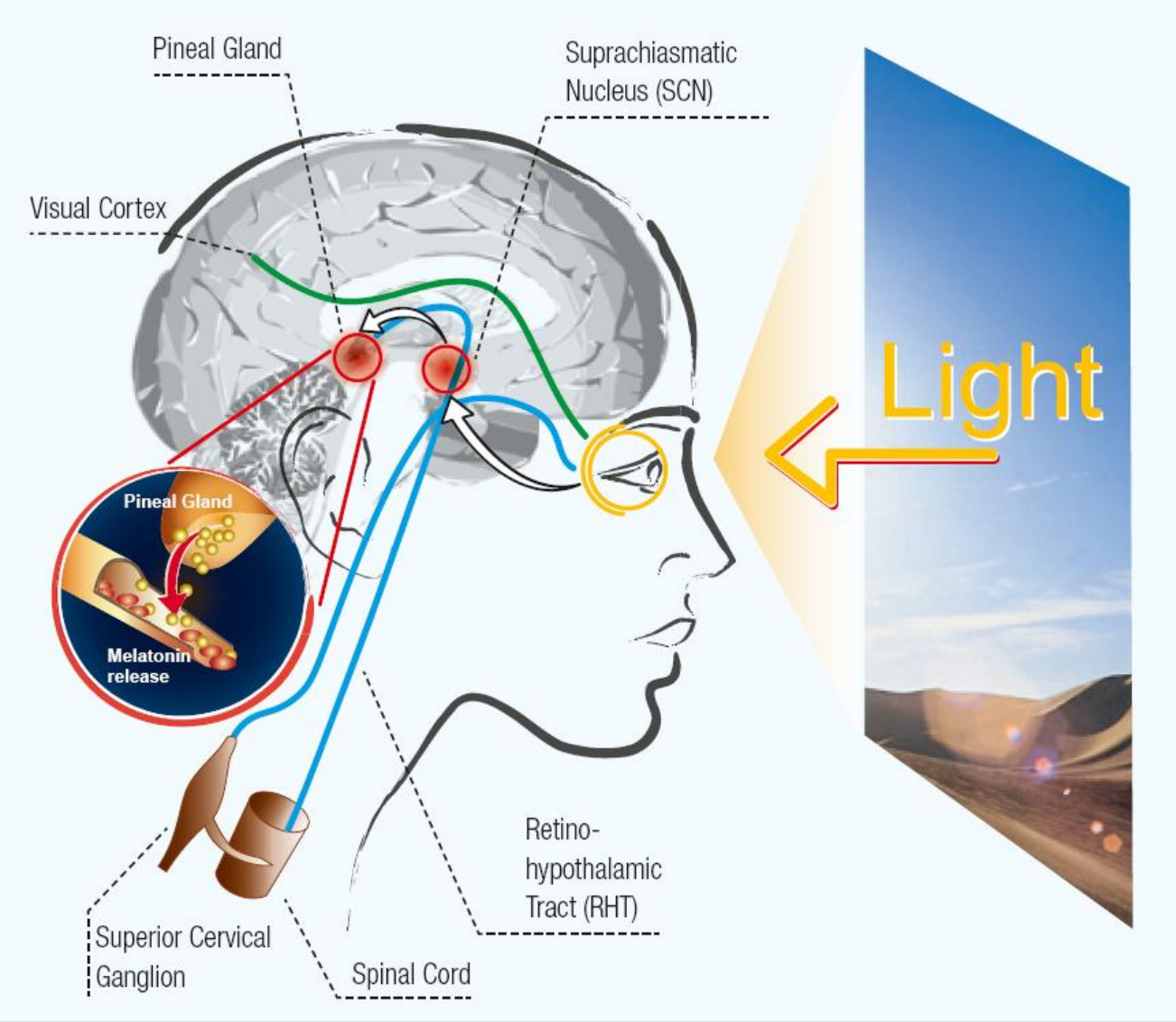
LED Street Light Assessment - City of San Francisco

The Biological Dimension

- **Biological effective** lighting is based on a recently identified receptor system in the human eye and its corresponding nervous pathway to the brain. This is influencing our hormonal system and sleep/wake cycle, alertness, cognition and in the end our **well being and health**.

- Artificial LED light optimized for the application can provide for better work & living conditions esp. for elderly people. It can also contribute to higher productivity at work places and educational facilities With these benefits, LED technology can strongly contribute to **manage demographic change**

The Biological Dimension



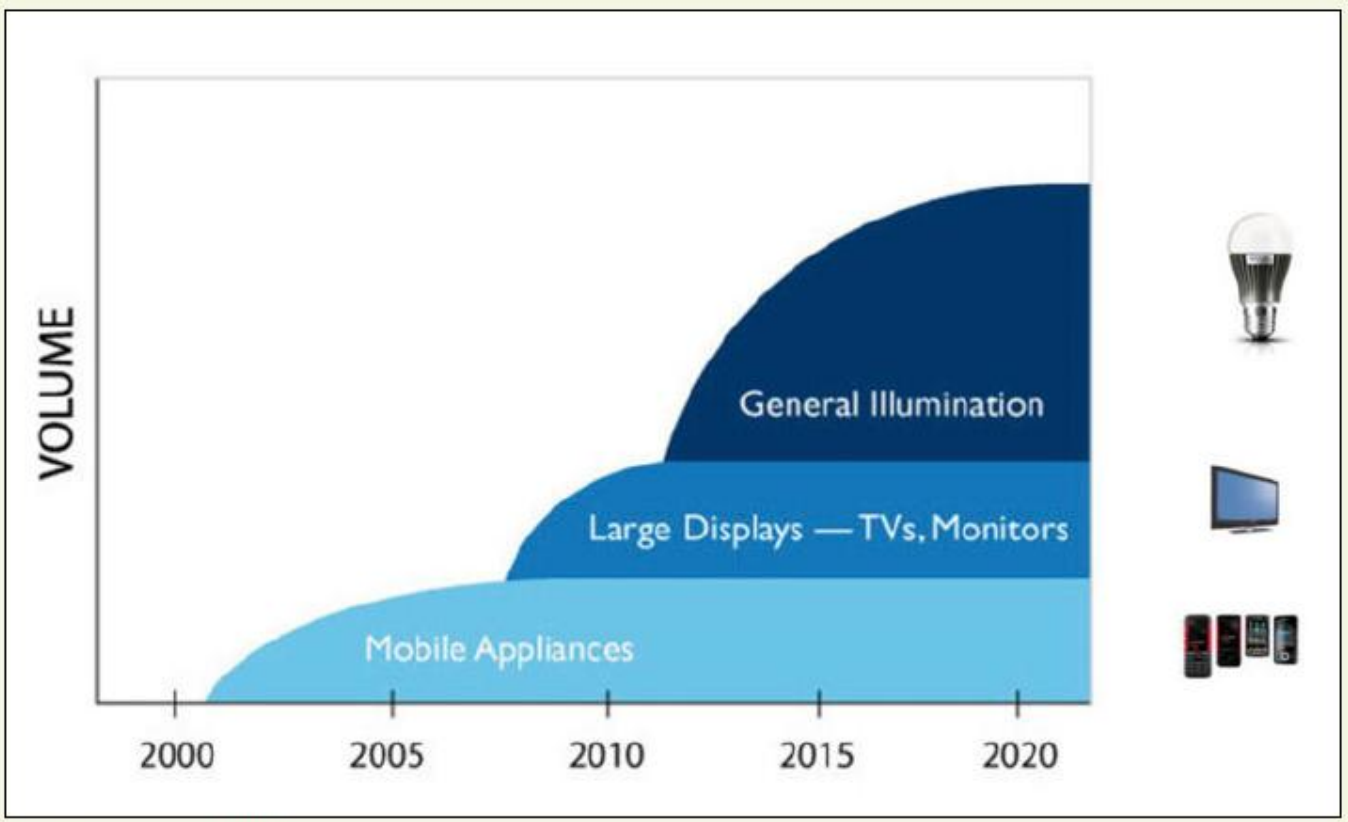
The Biological Dimension

- Wide distribution of light at ceiling and upper walls to effectively stimulate many receptor cells

The Business Dimension

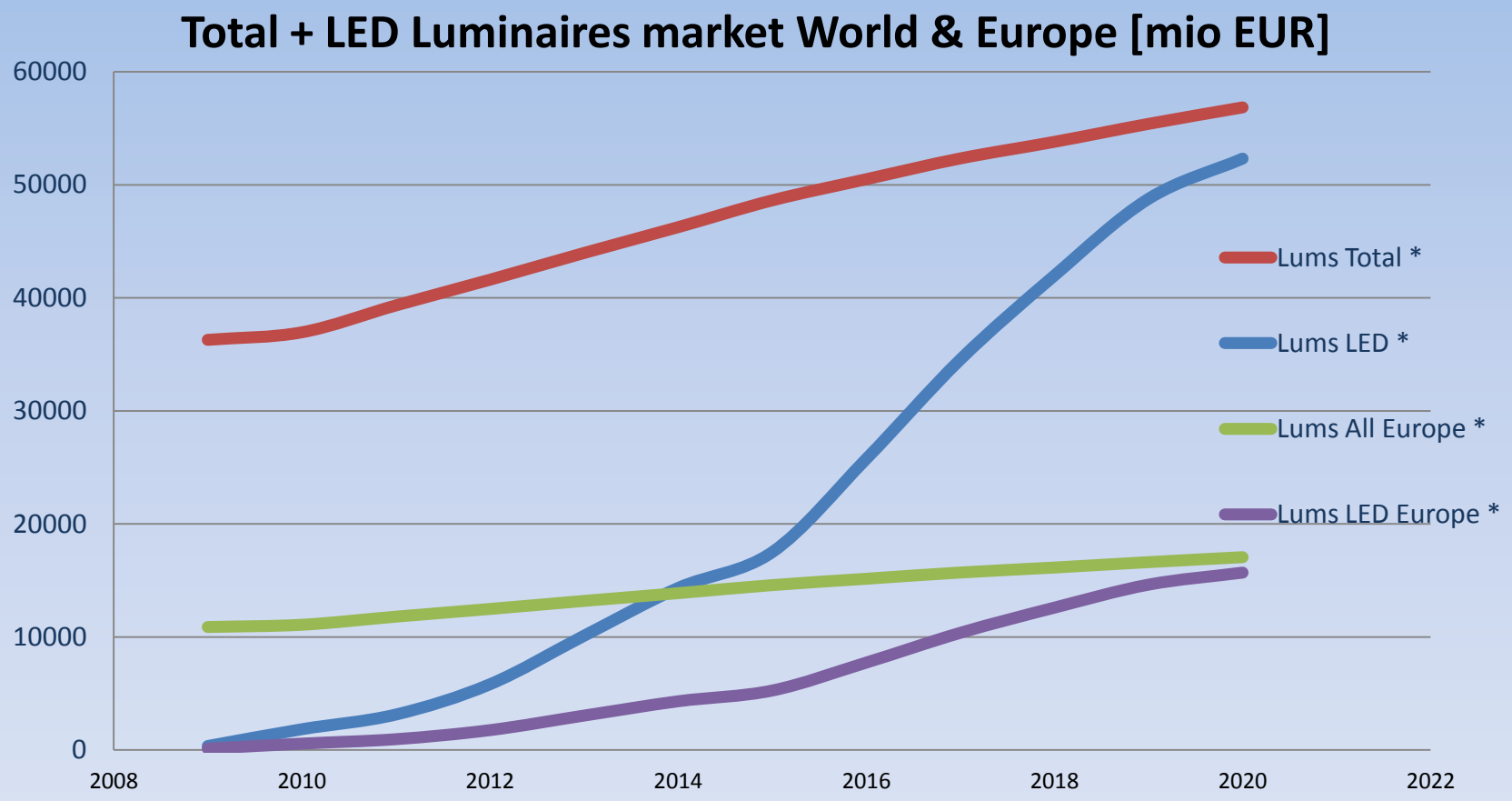
- The characteristics & benefits of LED lighting technology will lead to a **change in business models** in lighting.
- Lighting Services are expected to become highly value adding, leading to the need to deliver horizontally integrated solutions
- From recurrent revenues of replacement sales to revenues over life by energy savings, requiring new **innovative finance models** to appropriately accommodate lighting systems and services
- Intelligent & communicating systems will lead to **lighting system providers.**
- Tailor made solutions will become a **growth opportunity for many SME's** by taking up the possibilities the new LED technology offers to creative lighting design and cost savings.

The Business Dimension

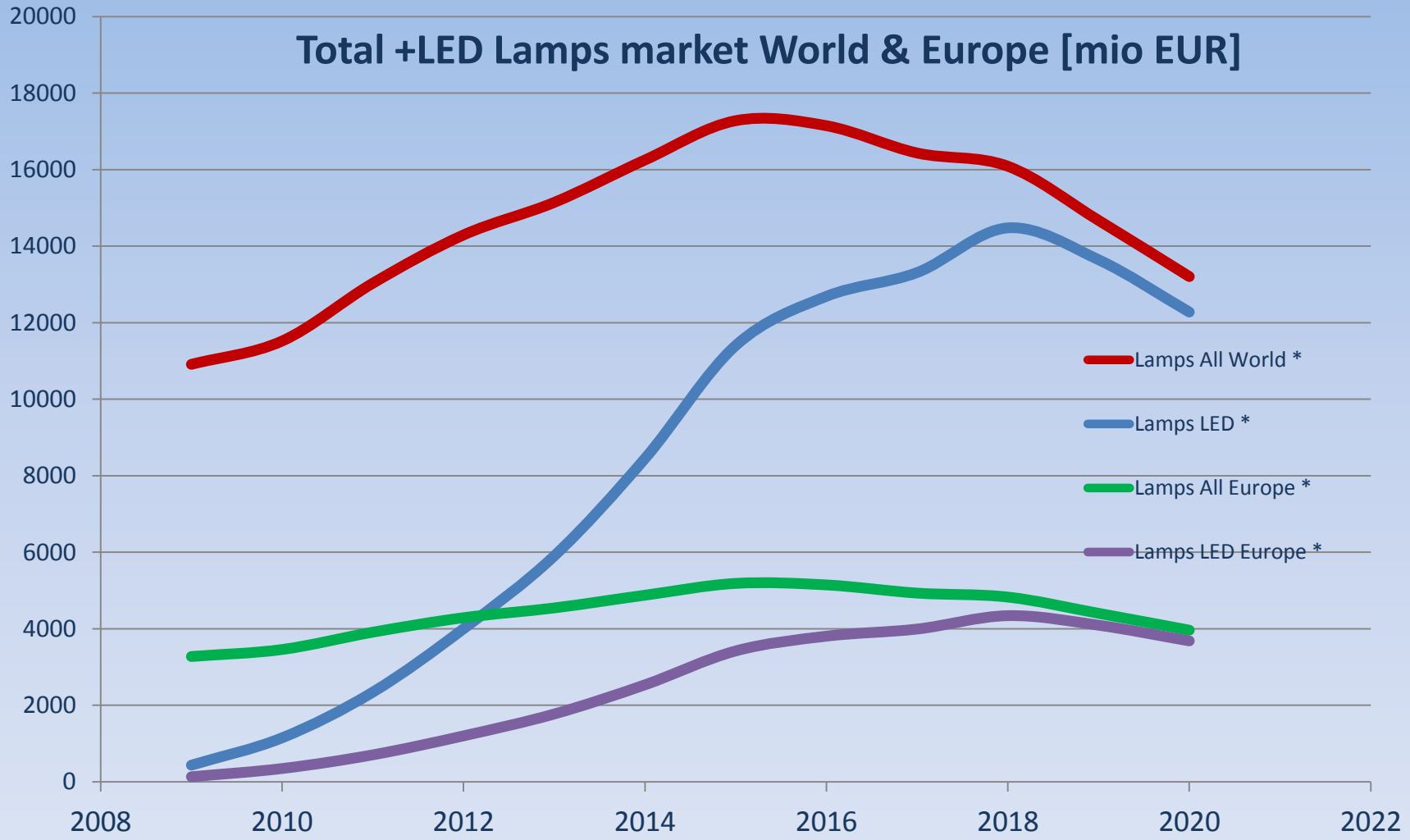


Graphic courtesy of Philips

The Business Dimension



The Business Dimension

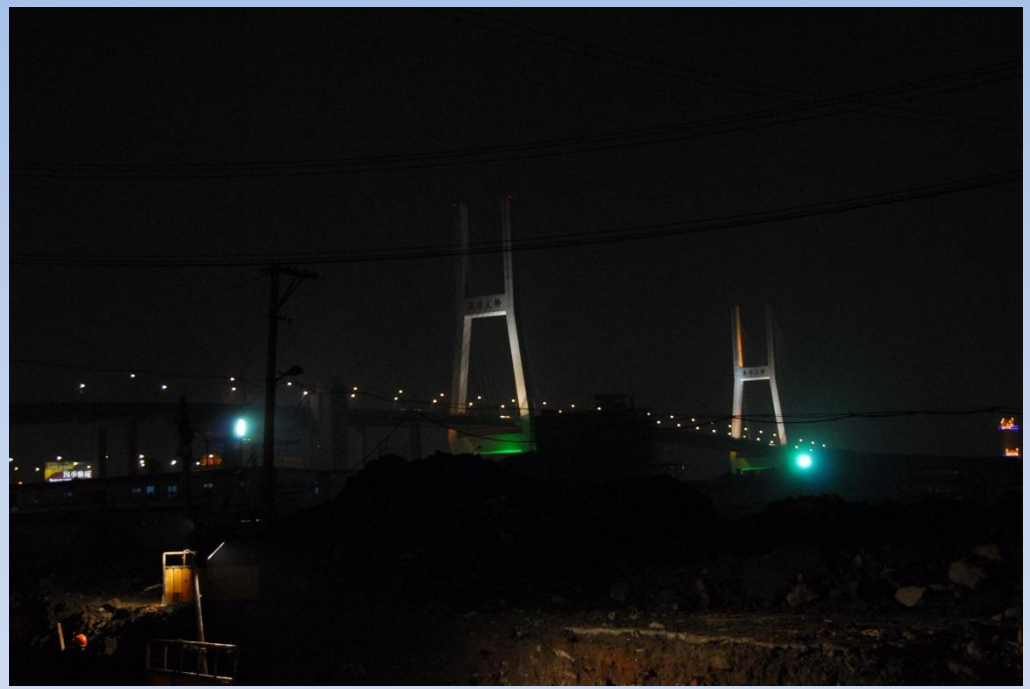


The Design Dimension

- Almost unlimited possibilities for creative lighting design
- Enhancing the feeling of safety in the built environment
- Redefine and re-invent lighting
- Make techno-aesthetics happen

The Design Dimension

The Design Dimension



Landscape lighting design of Nan Pu bridges at the Shanghai EXPO opening ceremony

The Quality Dimension

- New standards ensure that new LED products will be of high quality,
- Bridge the gap between expectations and the reality
- Good quality and high consumers' acceptance is the basis to achieve all dimensions of benefits

Conclusion

- Benefits over all other lighting technologies are unique, as only SSL combines all dimensions
- Highly environmentally friendly while not compromising on lighting quality
- A truly breakthrough technology in all aspects
- GLF is YOUR global platform to ensure successful deployment of Solid State Lighting

What‘s Next?

The Global Lighting Forum becomes the

Global Lighting Association

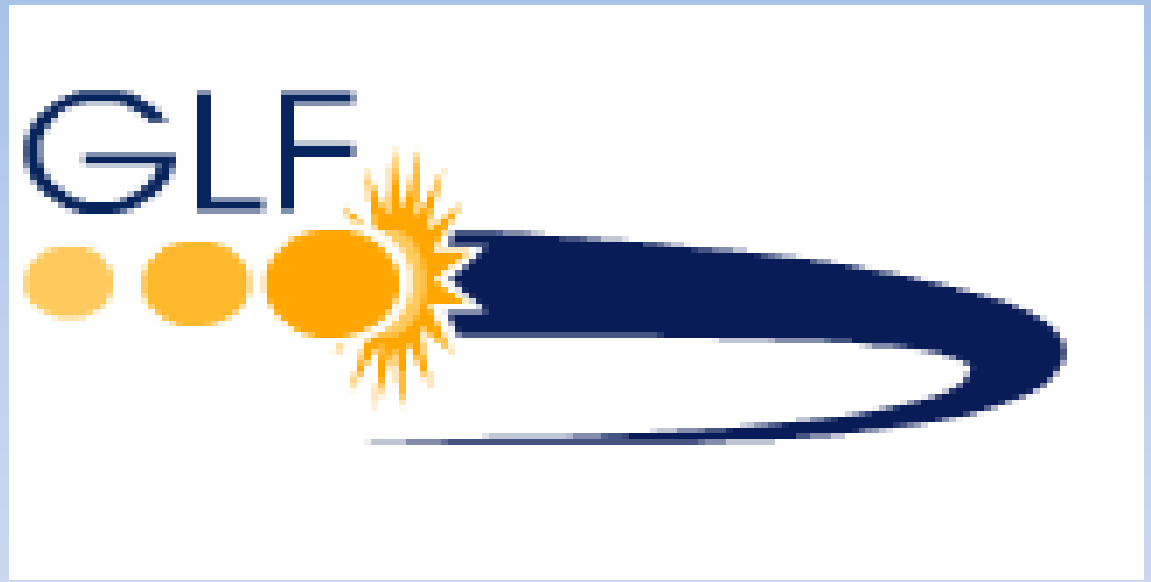
new identity,

new website,

new logo,

new activities

The Global Voice of Lighting



www.globallightingforum.org

info@globallightingforum.org

PAPER FROM:

APEC LED WORKSHOP: *POLICIES TO PROTECT AND EDUCATE CONSUMERS*

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