

# PHILIPS

sense and simplicity

Road Lighting Trends: **Smart** and **Efficient** solutions

**Indian Roads Federation  
Regional Conference**

India Expo Center, Greater NOIDA  
5<sup>th</sup> October 2013



# What we mean by Efficiency?

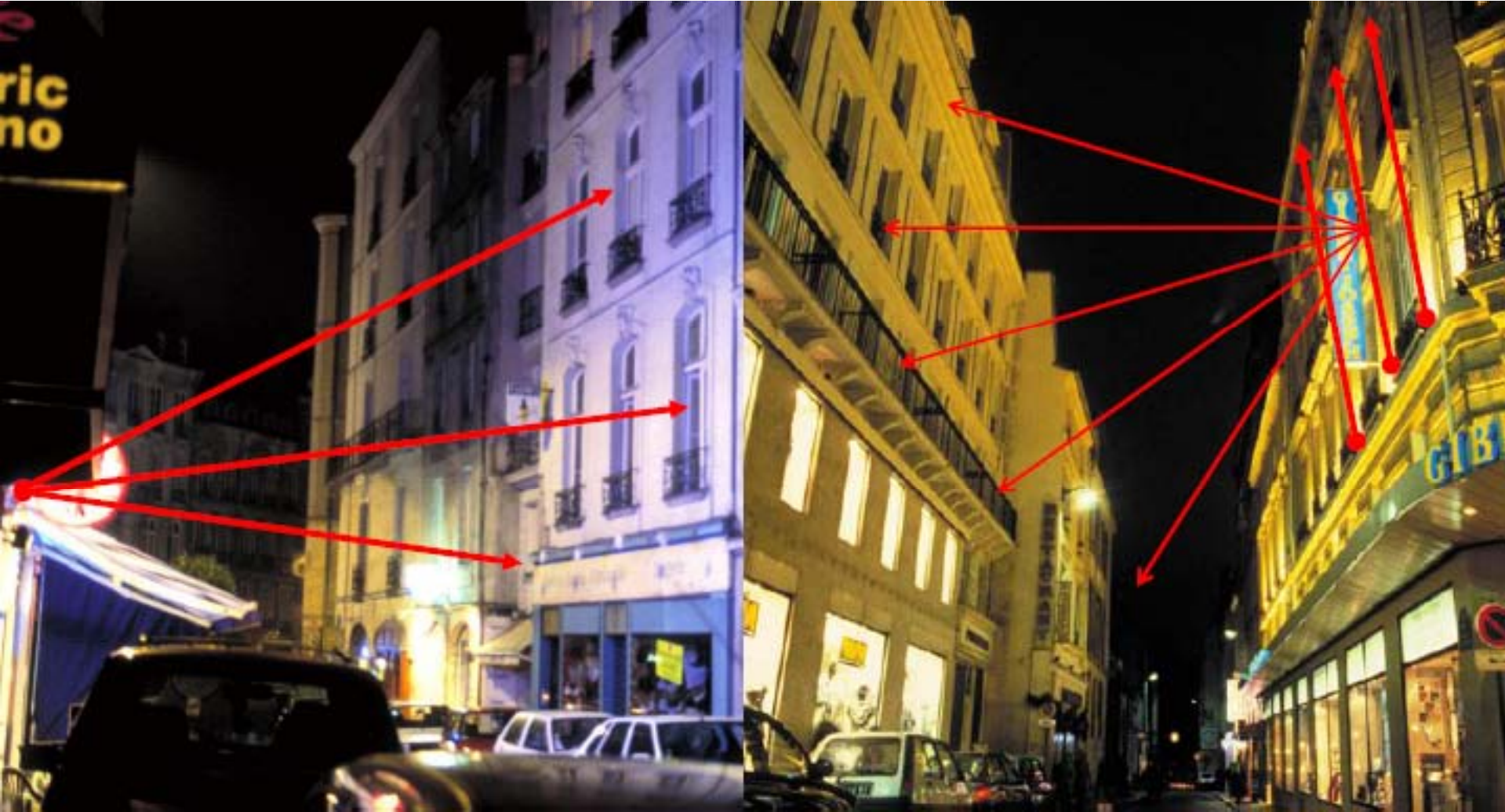
Efficiency is...

“....getting the **right amount** of light where needed”

# PHILIPS

Night Preservation

example of light intrusion



# PHILIPS

Night Preservation

example of sky glow



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# Night preservation

Light only where  
it is needed

Energy savings  
up to 30%



# What we mean by Efficiency?

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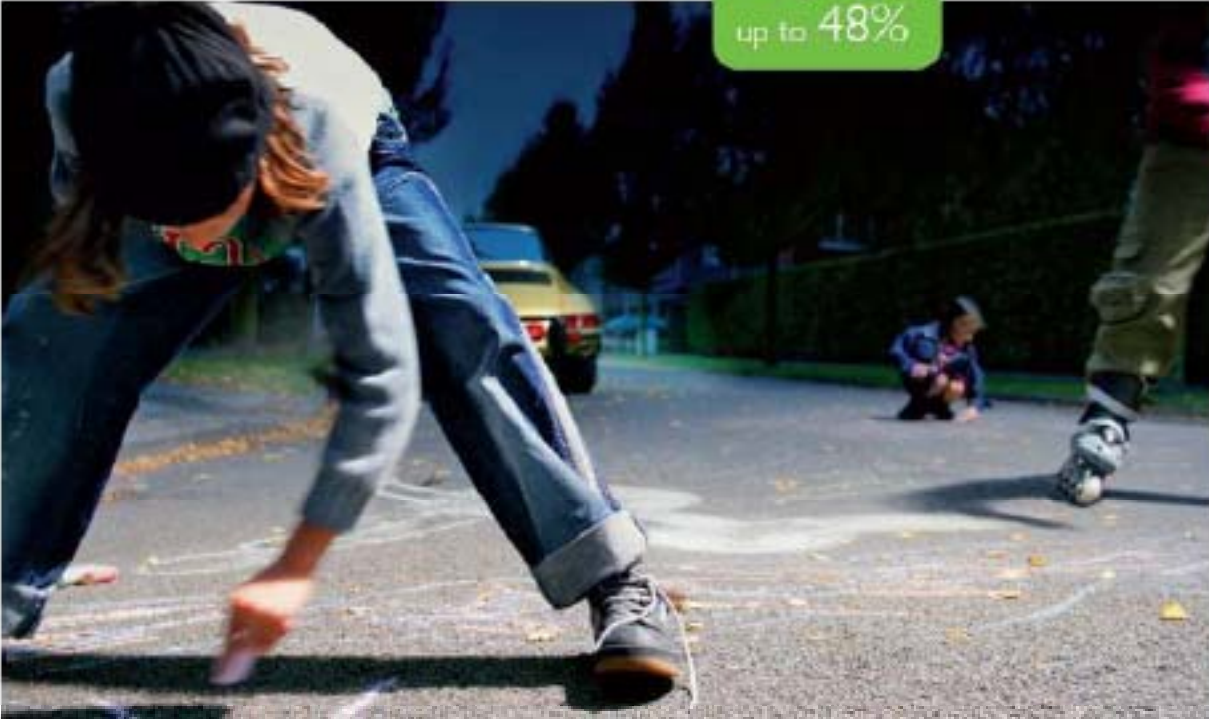
“....**quality**, as much as **quantity** of light”

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# White Light

Transforming your urban nightdcape

Energy savings  
up to 48%



# White Light

## Energy Efficiency

- Reduce the required amount of light
- Increase pole distance
- Consume less power

White light is still preferred even when **using only 1/3 of the light level (5 vs 15 Lux)**

Lighting Research Center, USA



A UK example of EN:13201

Crime Rate	R <sub>s</sub> value	Minimum Maintained horizontal illuminance (Lux)		
		Low Traffic Flow	Normal Traffic Flow	High Traffic Flow
Low	R <sub>s</sub> < 60	5	7.5	10
	R <sub>s</sub> > 60	3	5	7.5
Medium	R <sub>s</sub> < 60	7.5	10	15
	R <sub>s</sub> > 60	5	7.5	10
High	R <sub>s</sub> < 60	10	15	15
	R <sub>s</sub> > 60	7.5	10	10



# Crime reduction

formal surveillance

Growing awareness of white light.

Mesopic vision patterns - researches going on.

Easier to identify other people.

More effective use of CCTV.





# What we mean by Efficiency?

Efficiency is...

“....getting the right amount of light where needed”

“....quality, as much as quantity of light”

“....more **light per watt** of power consumed”

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# Efficient LED products for all out door lighting needs

>90  
lm/W



Street light

>90  
lm/W



Flood light



>90  
lm/W



Landscape



RGB



ColorReach  
Powercore



iW Reach  
Powercore



NEW  
eColor Reach  
Powercore



eW Reach  
Powercore



ColorBurst  
Powercore



ColorBurst Compact  
Powercore



iW Burst  
Powercore



Jindal

Off-Grid Solar based Solutions – “0” watt streetlights



Vijaywada



Jaipur

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What we mean by Smart?

Smart is...

“....Light on demand”

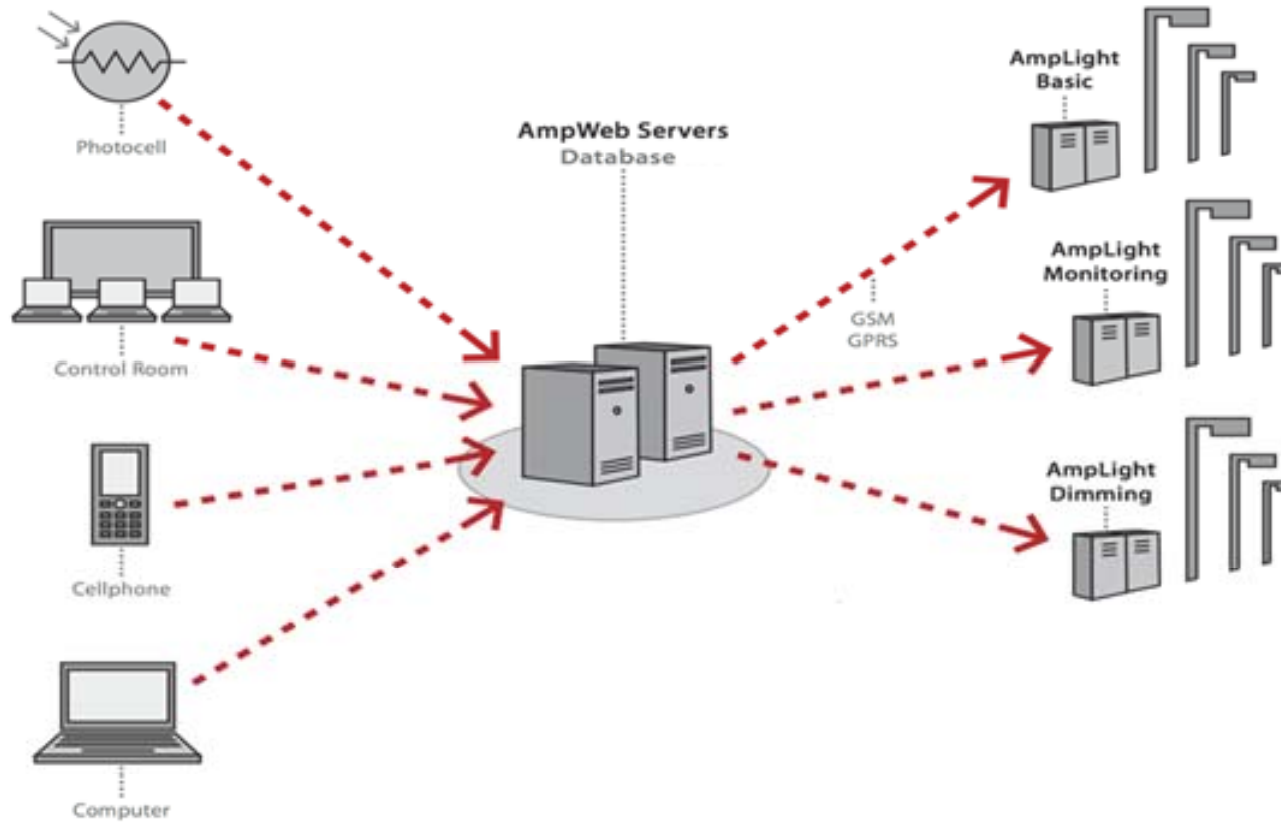
“....efficient deployment of manpower and capital”

Why 100% light if no one is there?



# Amp Light – Propositions

## *Control, Monitoring & Energy saving*



### **Basic Control/Monitoring**

- *Accurate light control - Schedules & photocells*
- *Voltage monitoring & Energy Meter reading*
- *Reports.*

### **Advanced Control/Monitoring**

- *Instant alarms with failure detection*
- *Leakage current detection*

### **Control/Monitoring + Energy saving**

- *Energy savings through dimming*



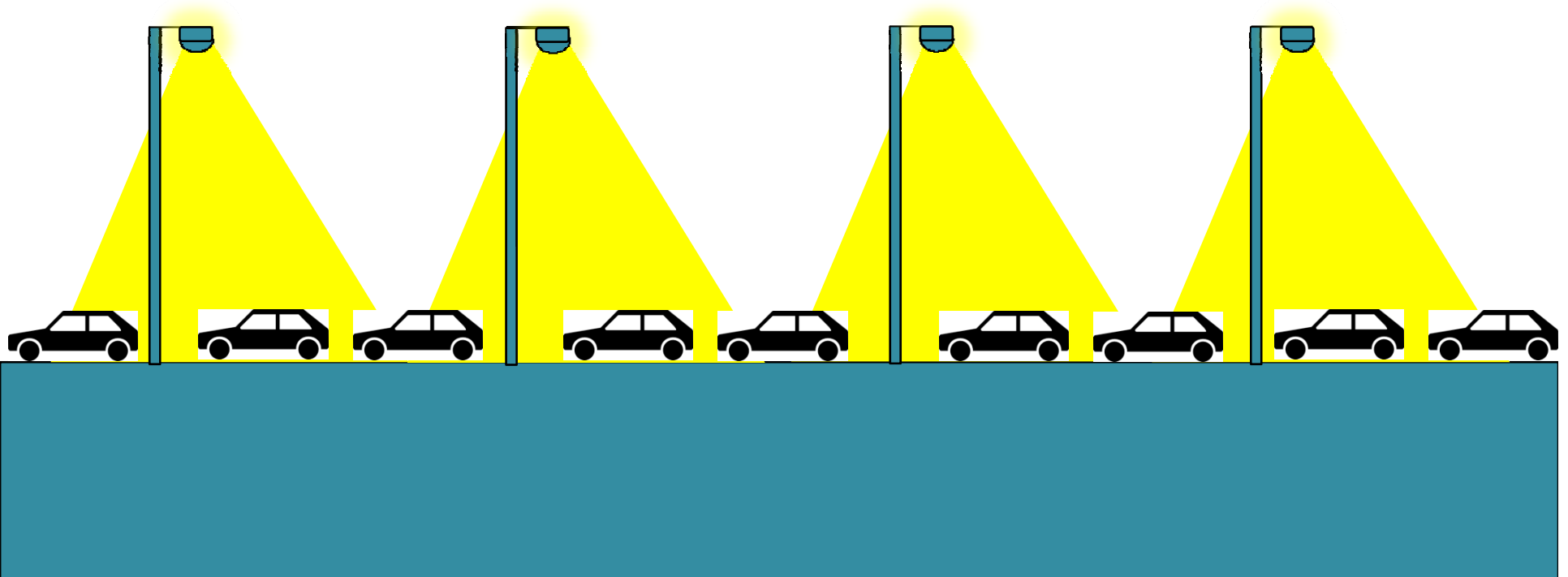
# Power of Control

# Smart Grid



## Dimming and monitoring system

18-21	21-00	00-06
Full On	50% dimming	70% dimming
TIME		



# Power of Control

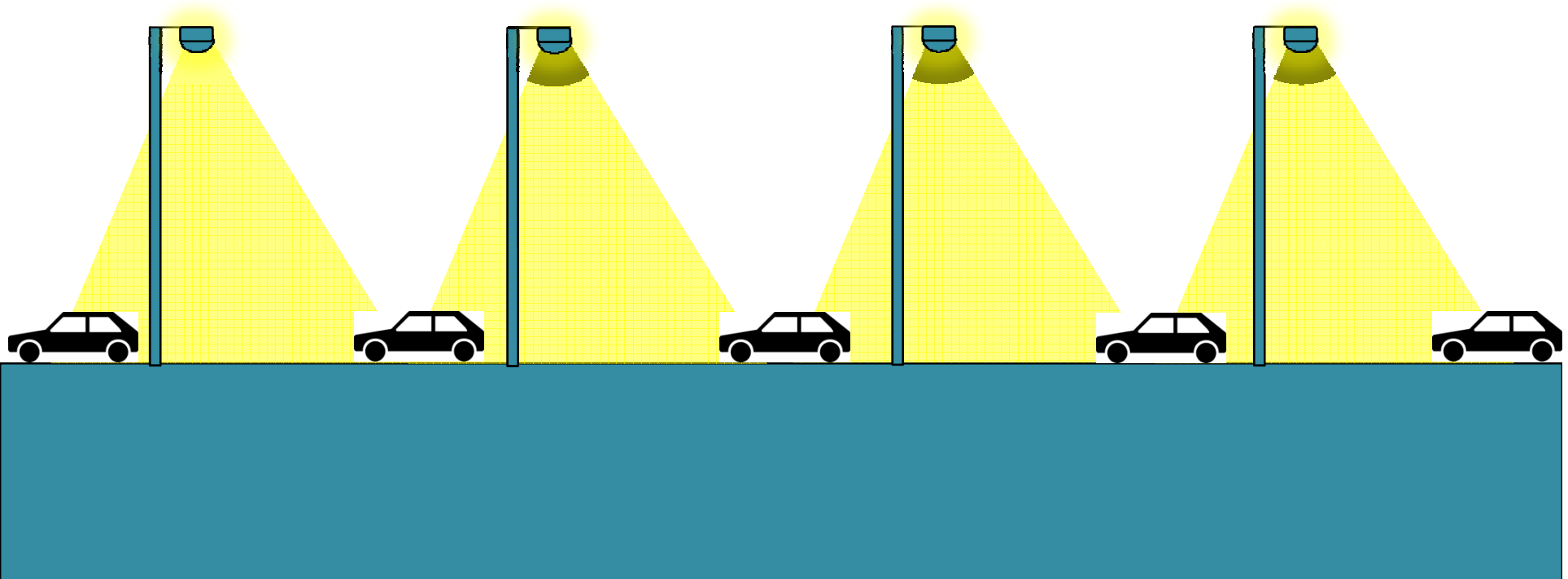
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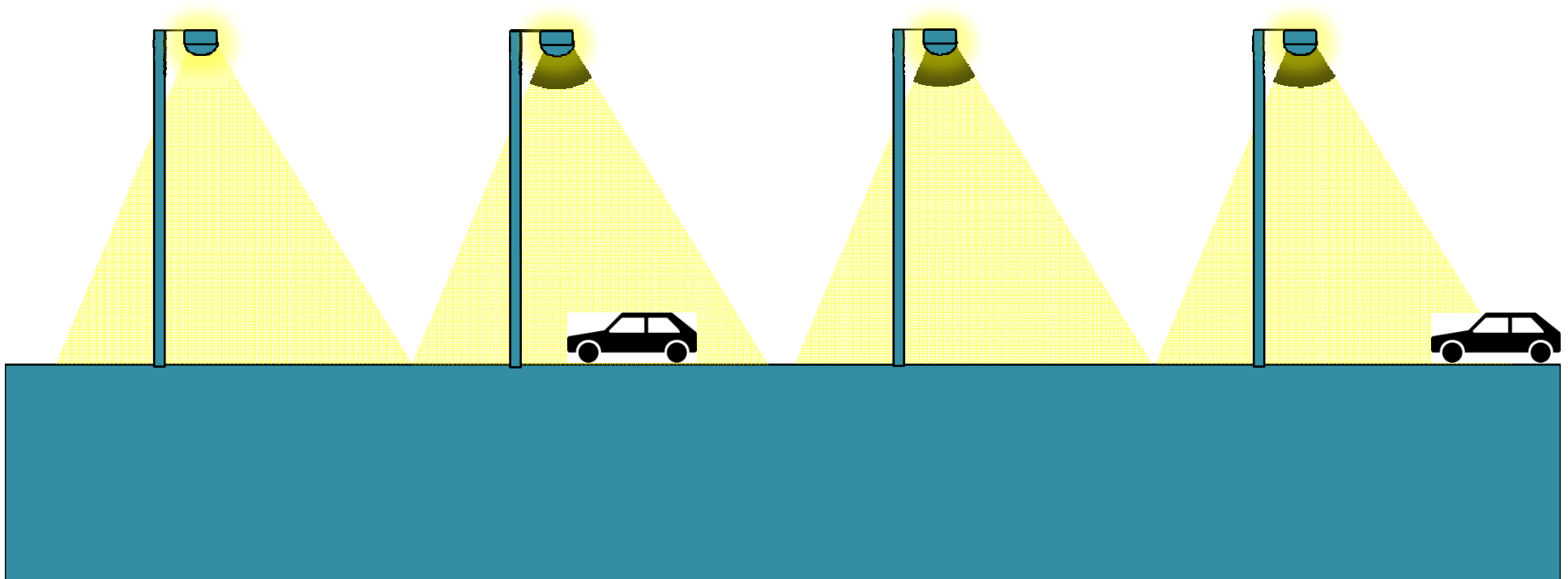
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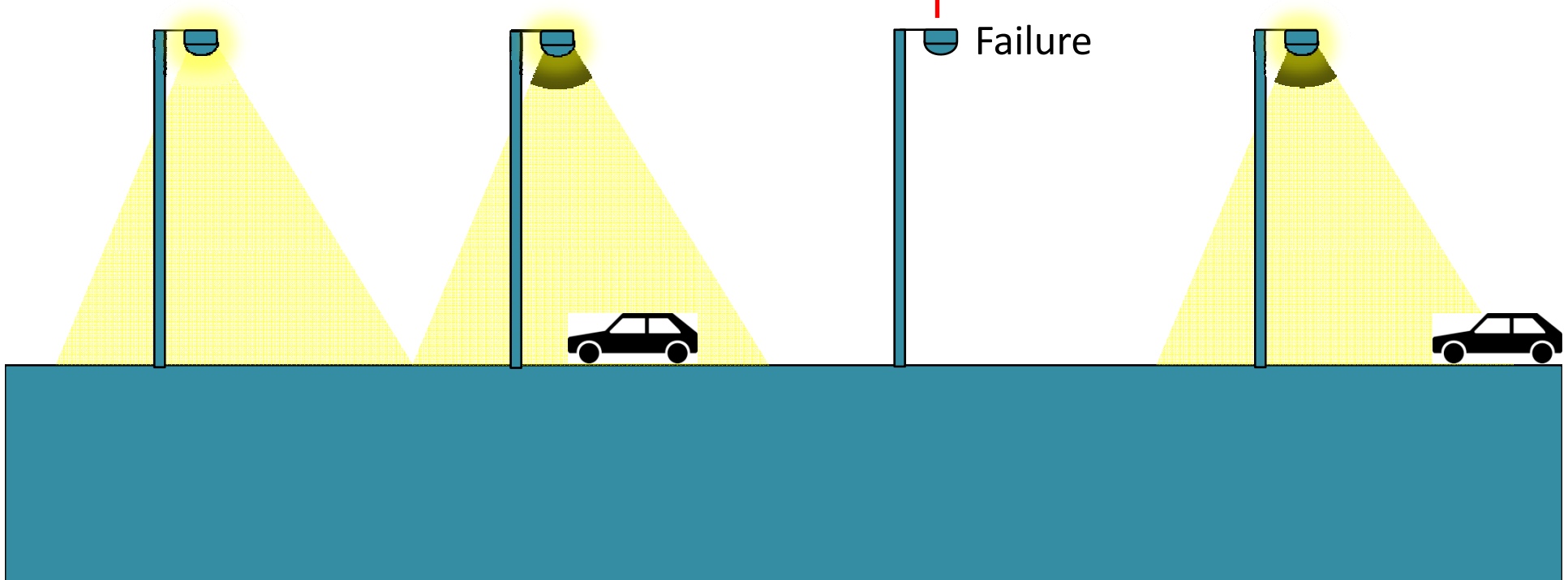
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# Smart Grid



## Dimming and monitoring system

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# Naya Raipur Development Authority



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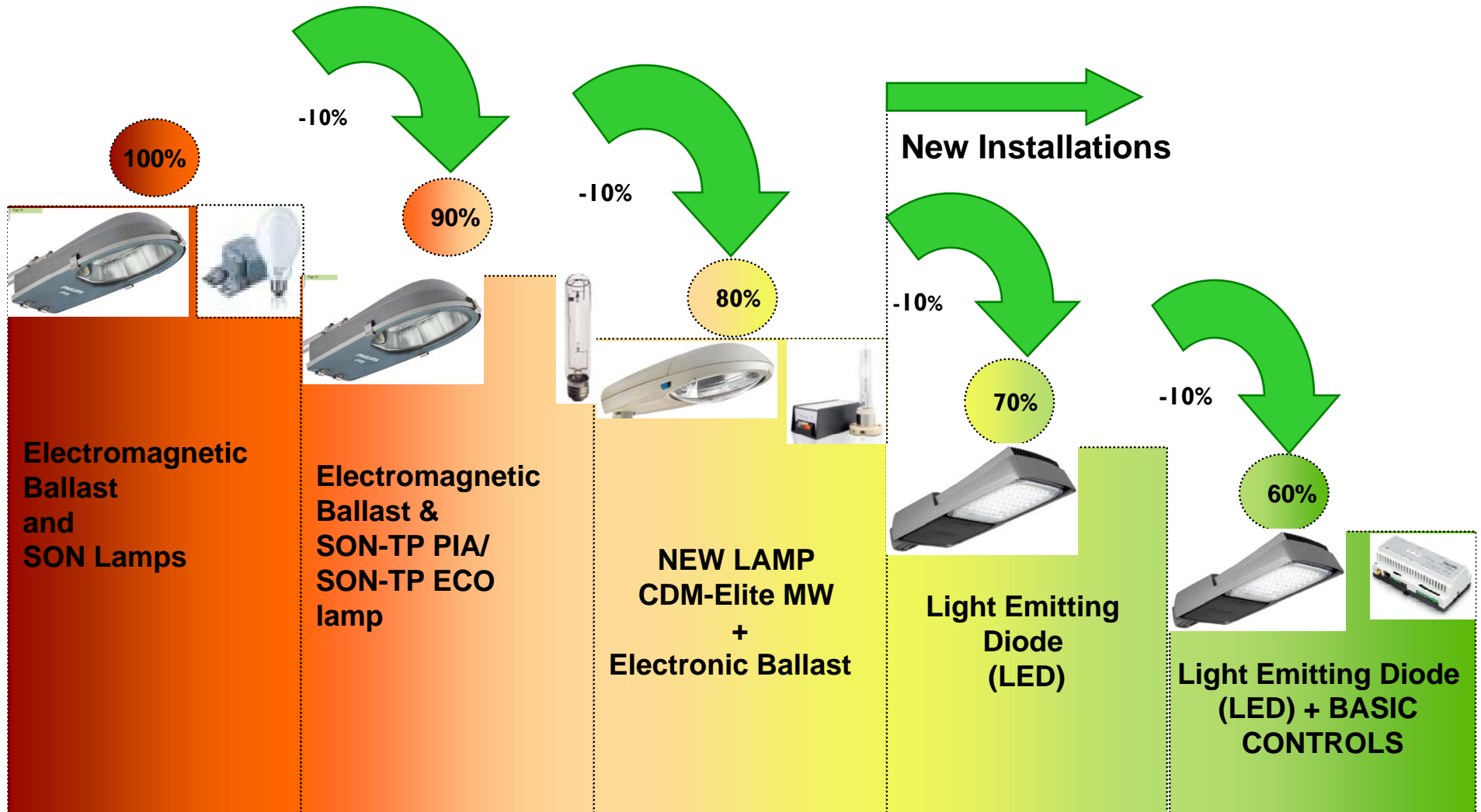
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## Smart is...

“....Light on demand”

“....efficient deployment of manpower and capital”

# SUMMARY





BHASKAR NAYAK  
M:99537 06423  
[bhaskar.nayak@philips.com](mailto:bhaskar.nayak@philips.com)