



# A better Light, a better climate

‘Energie en klimaat | Lighting’

Lighting consumes 22% of electricity  
8% of total energy

Solid State Lighting, by 2027  
*50% reduction of energy consumed by lighting*  
*Customer savings of \$30 billion annually in USA*  
*Reduction of greenhouse gas emissions*  
(U.S. Dep. Energy)



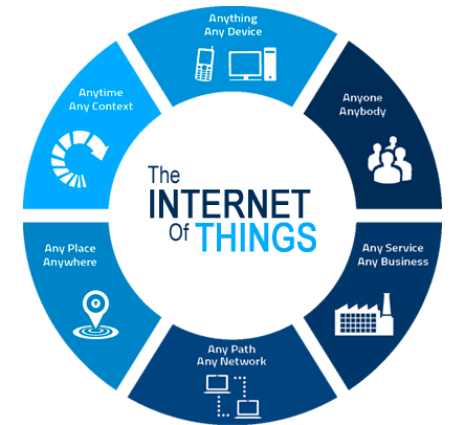
## level 1

- LED will reduce electrical consumption by 50%
- Intelligent lighting systems will reduce another 40%

## level 2

Office optimization and improved productivity will be enabled by connected lighting systems:

- The right light at the right moment (morning/afternoon, summer/winter etc.)
- data will be used for improved building management (rooms allocation etc.)
- Energy usage will be further optimized

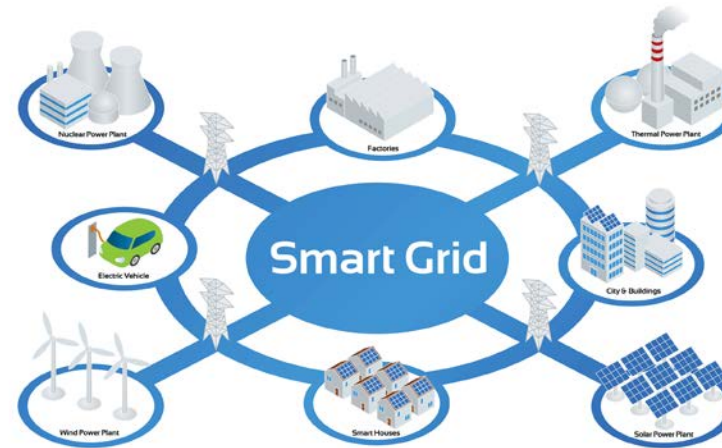
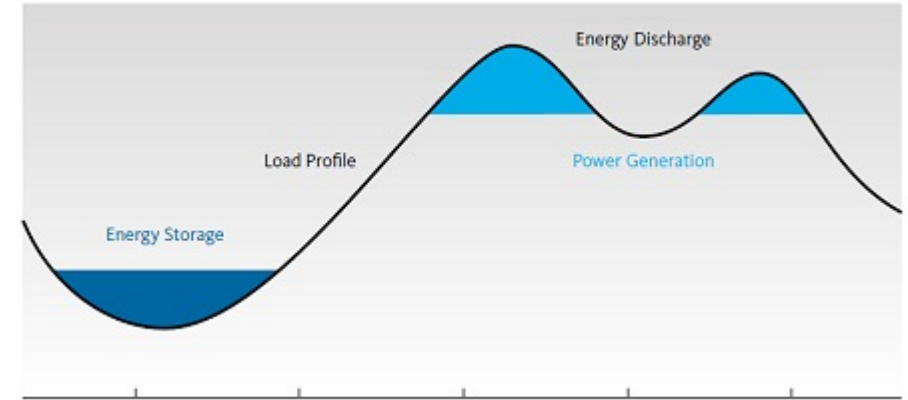


# level 3

Connected lighting system will linked to smart grids:

- Prediction of usage
- Integration of storage
- Peak shaving, energy provider

Figuur Peak shaving: energieopslag in tijden van lage energieprijzen, zodat dit tijdens pieken kan worden gebruikt.



Nano-photonics

Photonic materials

Thermal mgmt

OLED materials

Transparent conductive materials

## A. Breakthroughs in SSL technology

Led packaging

Comp integration

Colour optimization

Manufacturing and characterization equipment

Electronics

Hard/software reliability

## B. SSL system innovation

daylight

Thermal mgmt

Integration tech

Off-grid

Optical designs

## C. SSL service innovation: creating added value beyond energy efficiency

Data analytics

Insight generation

User-system interaction

System of system integration

Validation under real-life conditions

Lighting on cognition

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