

EUROPEAN RESEARCH PROJECT

[HTTP://WWW.ENLIGHT-PROJECT.EU/](http://www.enlight-project.eu/)

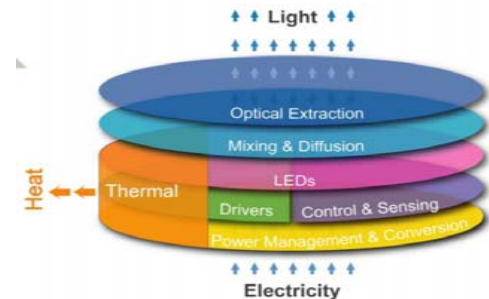
EnLight is a EU-wide project with 29 partners, funded within the ENIAC framework (2011-2014)

Project aim

To reduce energy consumptions by 40% compared to LED retrofit systems **by:**

○ **Energy efficient light source: -20%**

- Electrical efficiency
 - Integrated drivers
 - Power supply
 - Communication & control
- Optical efficiency
 - Higher LOR
- Thermal efficiency
 - Lower T_j



○ **Intelligent control: -20%:**

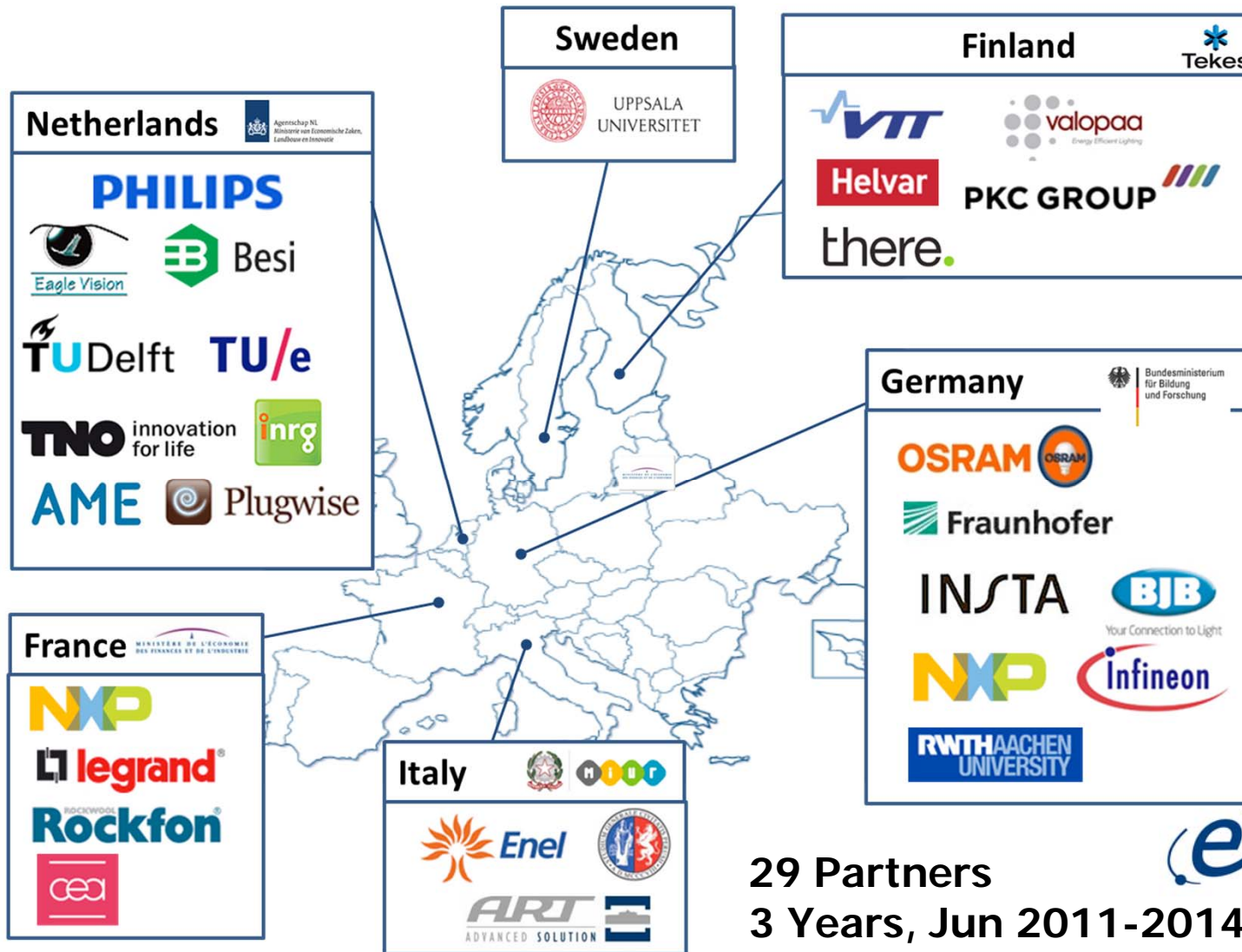
- The right light,
- at the right amount
- at the right place
- at the right time

Control system

Applications & energy saving strategies:

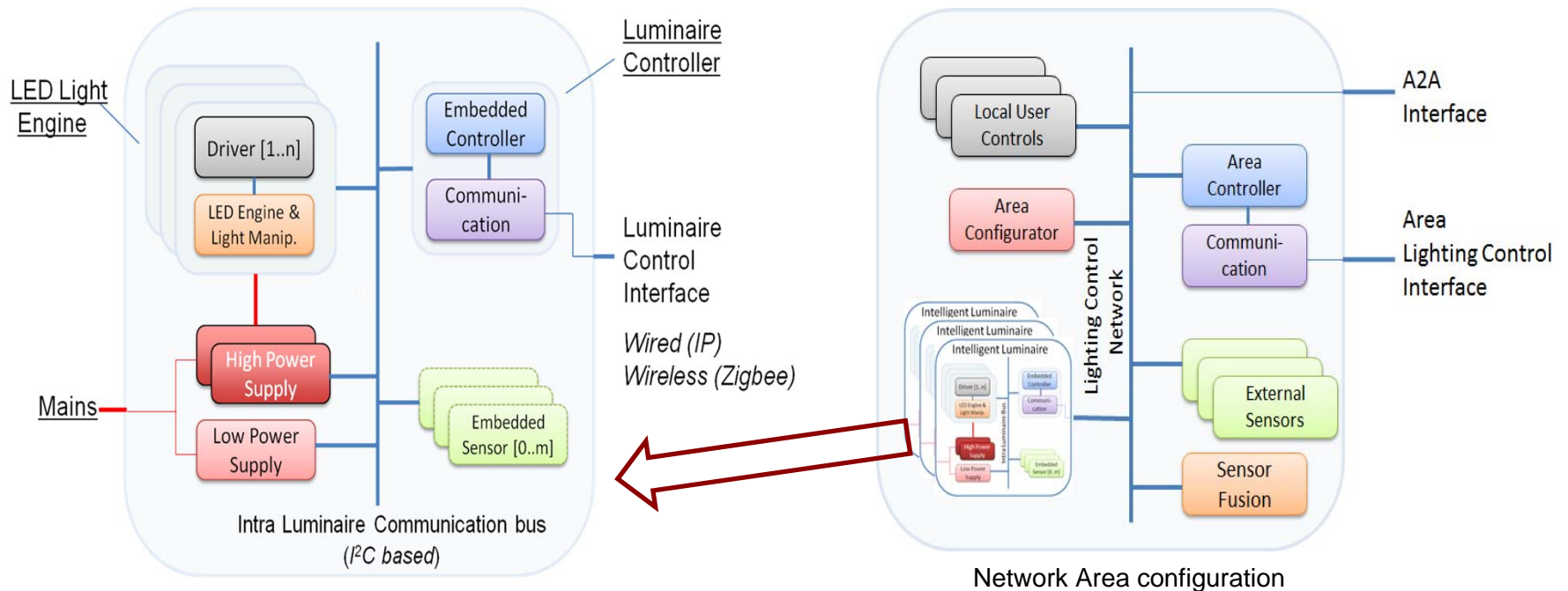
						
	Task Tuning	Personal Control	Occupancy Control	Smart Time Scheduling	Daylight Harvesting	Variable Load Shedding
Private Offices (no windows)	•	•	•			•
Private Offices (with windows)	•	•	•		•	•
Open Office (sublet)	•	•	•	•	•	•
Hallways/Lobbies	•			•		•
Washrooms			•			•
Meeting Rooms	•	•	•	•	•	•
Storage			•	•		•

CONSORTIUM



29 Partners
3 Years, Jun 2011-2014

DECENTRALIZED INTELLIGENCE



'Internet of Things' design pattern:

- **No central node** & no global knowledge of network topology is required
- Nodes autonomously react to **events** instead of being instructed by a central controller
- Each node in the network can generate events
- **All decision processes take place locally** at each node
- Behavior determined by **XML rules** configured during the commissioning phase
- Connections to other networks such as **DALI** can be made through gateways

OPEN PLAN OFFICE - FEATURE EXAMPLES

Room occupancy detection

Automated on/off is default setting to activate ambient light
Walking shall not activate the task lighting

Desk presence/activity detection

Automatic task light activation per desk

Task light tuning

Use of Desk lights can reduce overall power consumption while keeping minimum required lighting levels (eg 500 Lux)
Task/ambient light ratio adaptation

Daylight regulation (constant Lux-level)

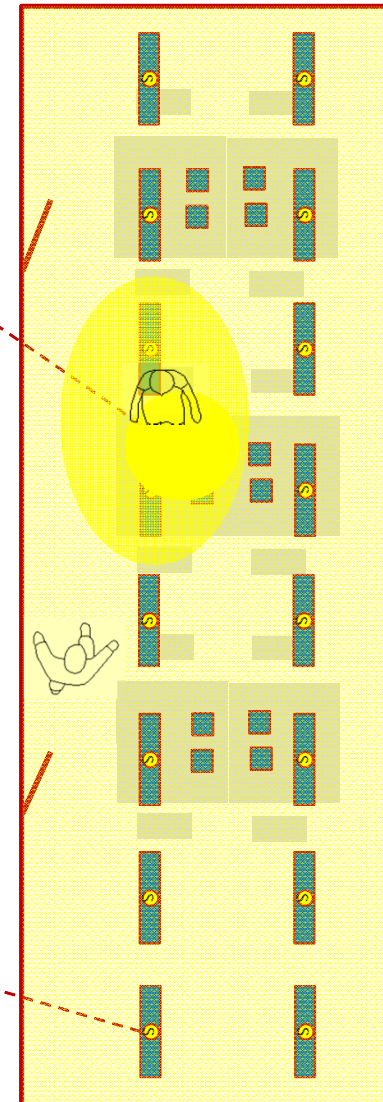
Schedules and circadian rhythm (CCT adaptation)

Personal light settings (CCT, dimming)

Via widget on computer or smartphone app

Load shedding

Energy reduction on demand by dimming of ambient and background lighting levels



BUILDING BLOCKS & DEMONSTRATORS

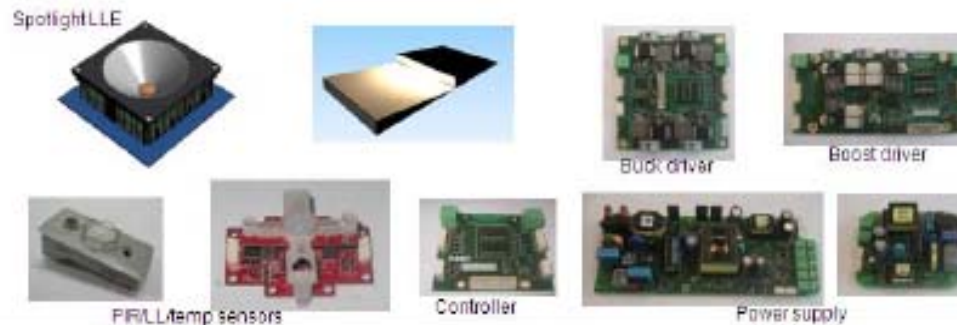
Level
1. System



2. Fixture



3. Module



CURRENT PROJECT STATUS

- 3 major demo installations are under preparation

(Philips, Osram, VTT)

- Integration and testing of modules & fixtures from consortium partners

- Preparation to validate the energy efficiency and lighting comfort is done

