From
Innovative Control For Outdoor Lighting

To
Smart City

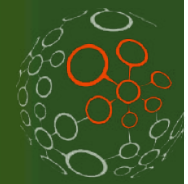
Un module d'éclairage intelligent pour les voiries et la défense des usagers « faibles »

SmartNodes

Outline

- SmartNodes Introduction
- Product & Technology
  - From Smart Lighting
  - To Smart City Solutions
  - Pedestrian & bicycle crossings
- Example of realization

Introduction



SmartNodes

SmartNodes
In a glance…

- Based @ Liège Science Park, Liège (Belgium);
- Team of 7 persons;

From left to right

Etienne Michel	Operations Manager
Matthieu Remacle	Application Manager
Vincent Pierlot	Senior Engineer
Jacques Destiné	CTO
Jean Beka	CEO
Guy Lejeune	Engineering Manager
Steven Conderaerts	Business Development

www.smartnodes.be
info@smartnodes.

At the beginning from 2011…

UCL Université catholique de Louvain

Université de Liège

Wallonie

GEPPAD

spi

Ronveaux LA PERFORMANCE EST UN ETAT D'ESPRIT

Arthos technics

… And from Oct 2014

- An ULg Spin-off with a goal: develop, manufacture, commercialize their Smart Lighting System module
- More than a concept, SmartNodes already offers a qualified and tested product.

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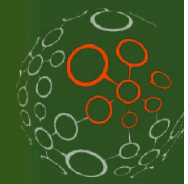
Spin Venture

GESVAL a.s.b.

meusinvest

VIVES Louvain Technology Fund

Product & Technology



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"Light where and when needed, at the right level"

- A bubble of light is generated by communicating agents, in a decentralized fashion.

Lower Energy Costs

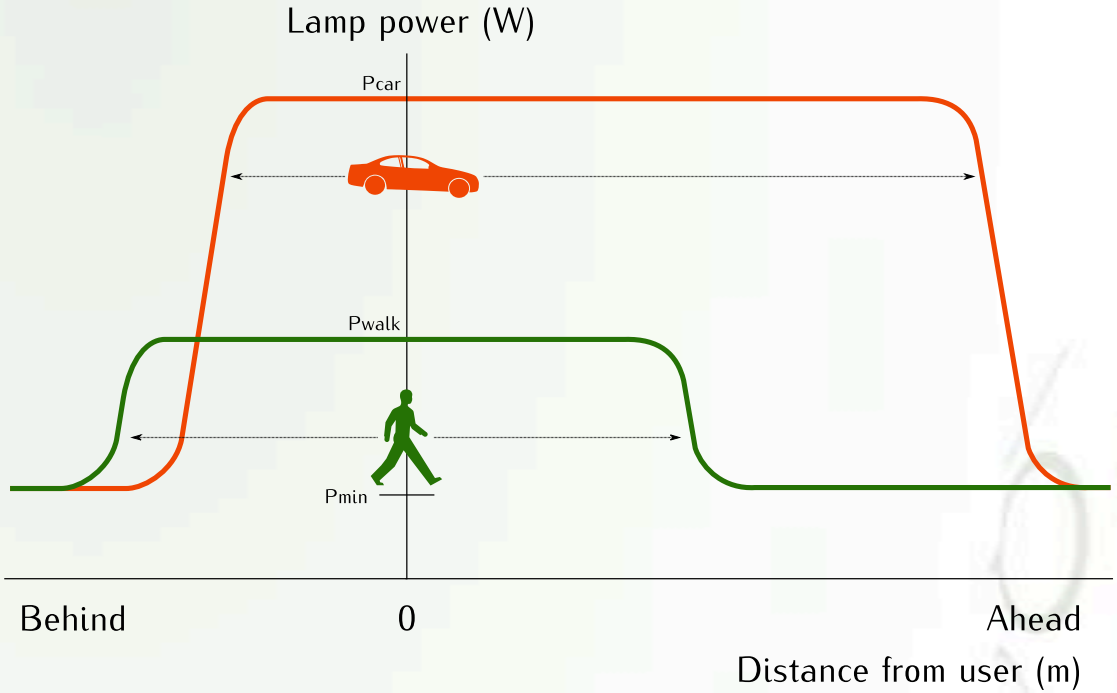
Up to 80% of energy savings and 30% of maintenance costs reduction

Earth Friendly

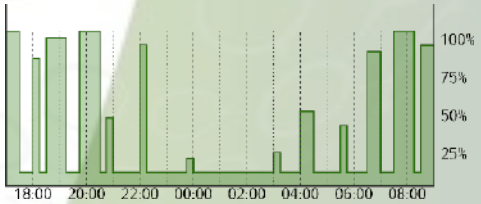
Improved ecological footprint and decreased light pollution

SmartNodes Concept

- SmartNodes is a new real time intelligent management model for street lighting

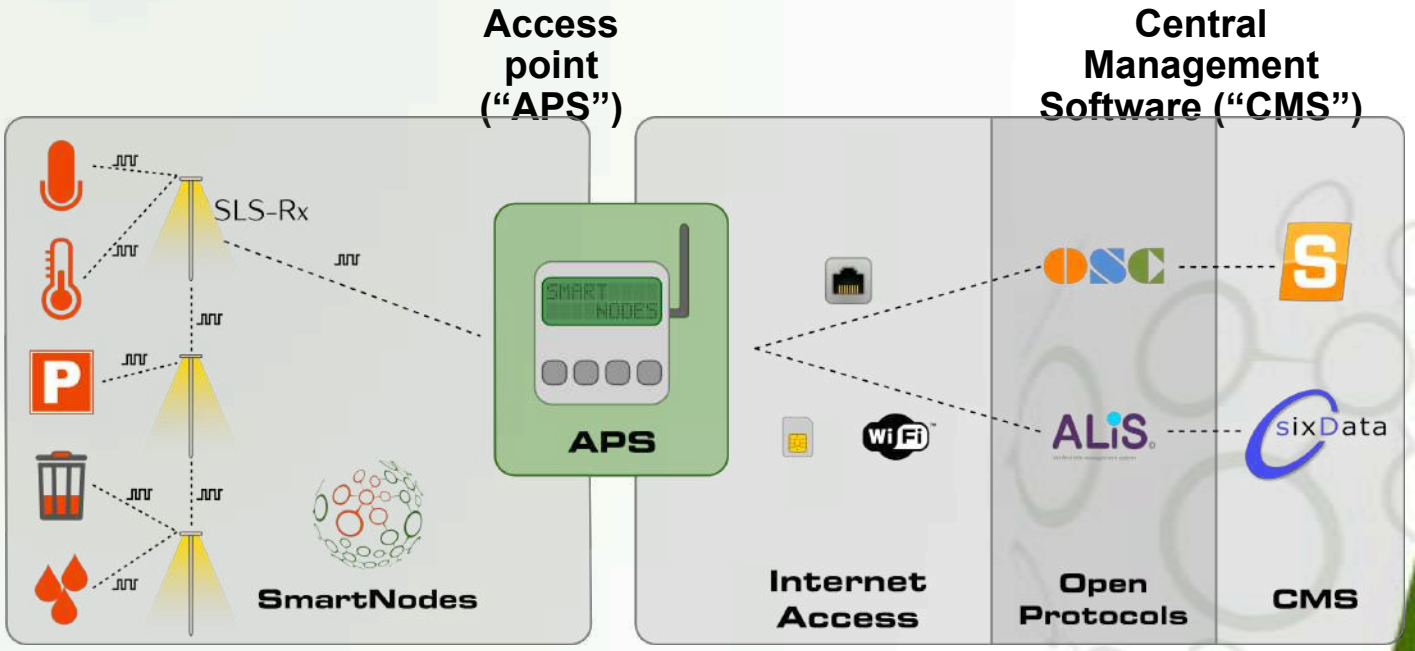


SmartNodes Intelligent Dimming



Smart Cities through Smart Streets Lighting

- SmartNodes module as an intelligent node for different applications than just lighting control

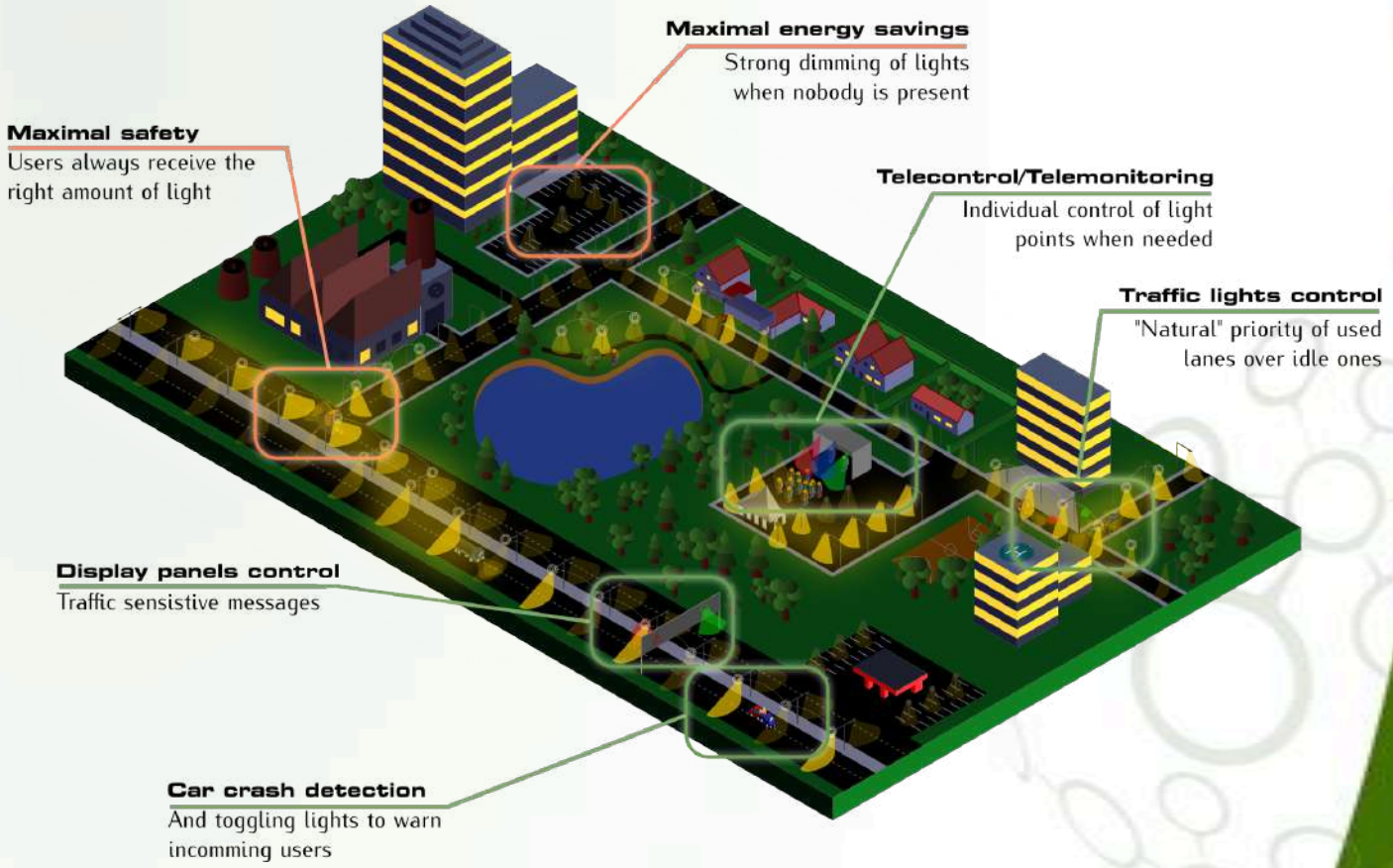


Remote Monitoring & Control

Full remote access and advanced statistics

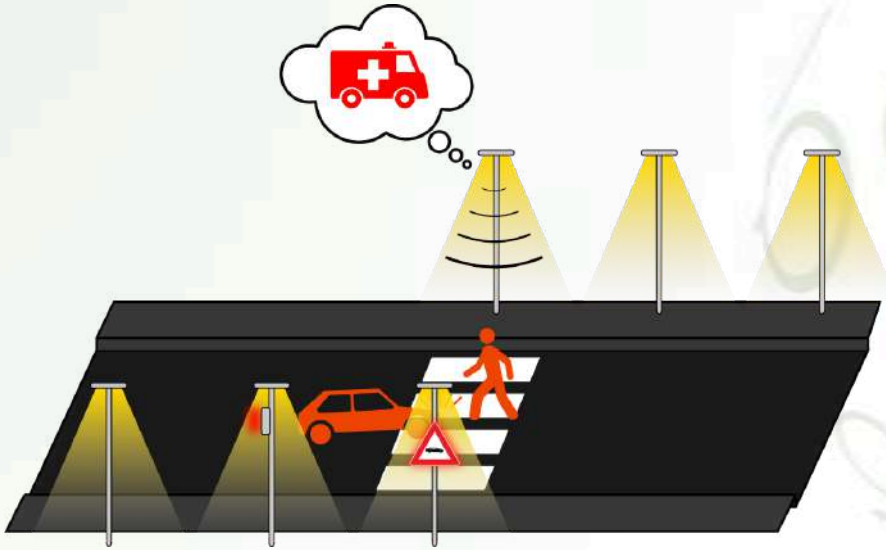
When Smart Connected Lighting Network can feed a platform with services for users”

Smart City



Pedestrian & bicycle crossings

- High risk traffic situations with weak users
  - Decentralized activation of lighting when pedestrians/ cyclist use the crossing
  - Lighting up to 100 % upon usage of crossing
  - Warning signs activated for motorized traffic upon usage of crossing
  - Automatic warning of control room if system failure
  - Panic button in case of accident



Example of realization

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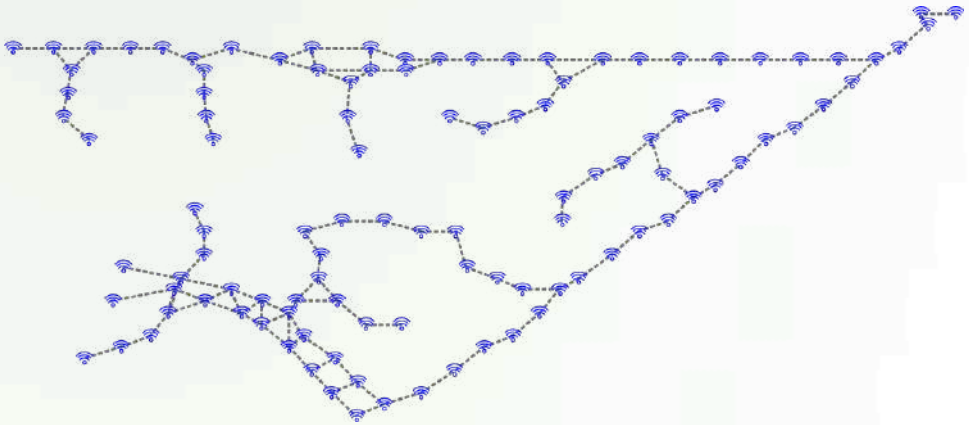
Smart City

Wavre (South of Brussels)

- Site Description
  - Contracting authority : Régie de Wavre
  - Residential area of about 400 houses
  - 282 standalone modules since Apr'15

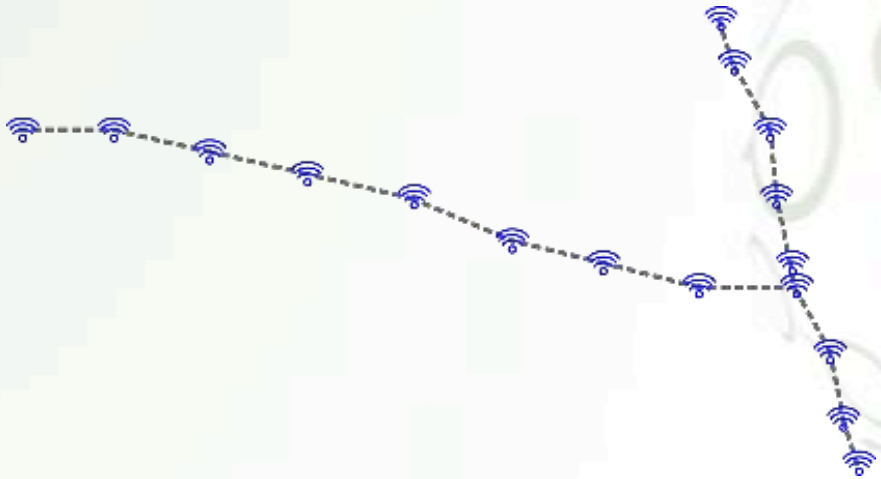
- Video on www.smartnodes.be/ installations



Tienen

- Site Description
  - Contracting authority : Flemish Brabant - Tienen [EANDIS]

    “Ecological, sustainable, attractive: the ambition is to create a sustainable, CO2 neutral business park typified by efficient space utilization, as part of an extensive facility and park management strategy.”
  - Test site: bicycle track
  - 17 standalone modules installed since May 2014
  - Released version [v2]



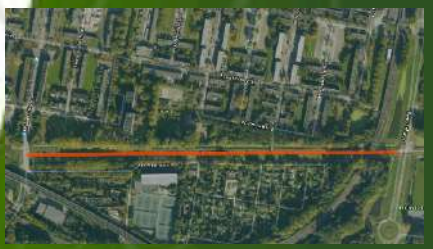
Smart City

Liège (University Campus Sart-Tilman)

- Site Description
  - Contracting authority : ULg
  - Test site: Pedestrian Path
  - 26 standalone modules since May'15
  - Released version [v2]

Rotterdam (Havenspoorpad)

- Site Description
  - Contracting authority : City of Rotterdam
  - Test site: Bike Path
  - 27 standalone modules since May'15
  - Released version [v2]



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