

SensyCity®



Sensing ecosystem for outdoor lighting

Maximising energy savings w safety & the nighttime enviro

SENSYCITY,

A COMMUNICATING SENSING
AND DIMMING ECOSYSTEM
FOR OUTDOOR LIGHTING

Smart
and **standalone**,
it enables the main
street lighting issues
of communities
to be addressed.



CONTROL ENERGY CONSUMPTION

Outdoor lighting
represents up to
40% of city
electricity expenses.



BIODIVERSITY AND SUSTAINABLE DEVELOPMENT

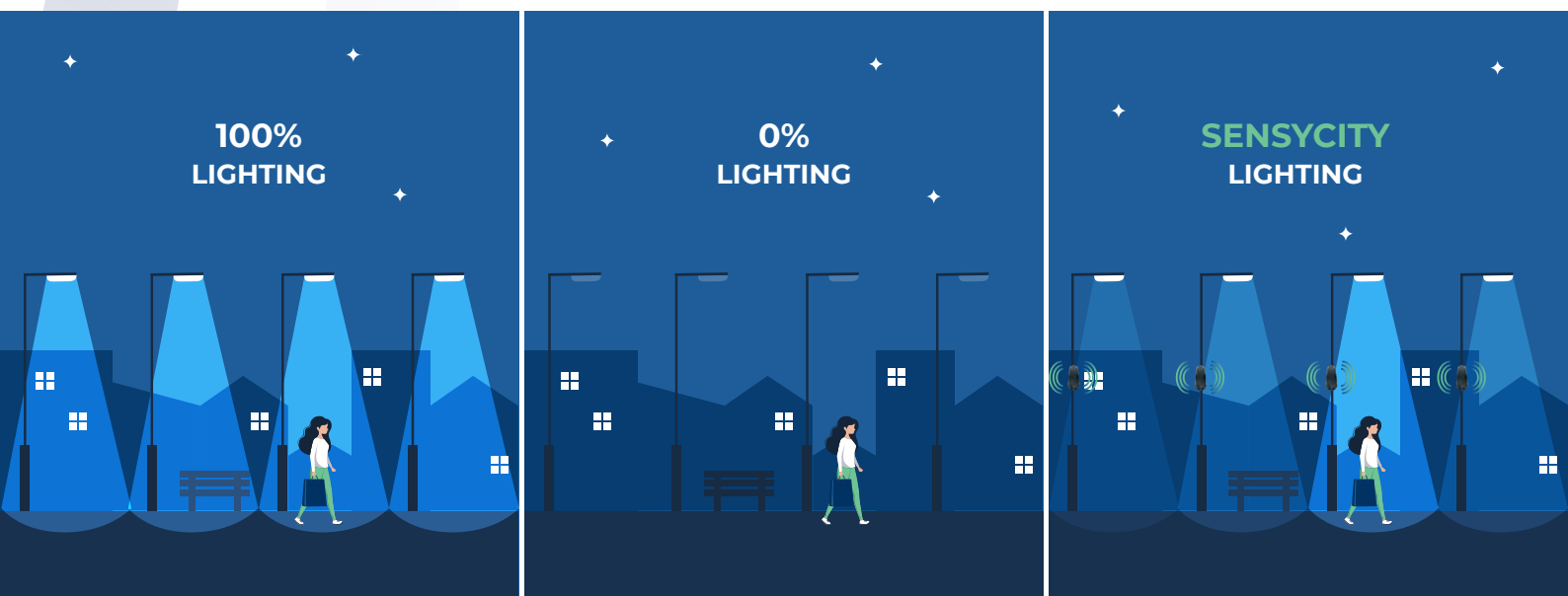
Reducing carbon impact and
protecting nocturnal fauna
and flora by combatting light
pollution.



COMFORT & WELL-BEING

Guaranteeing service
quality and safety.

While maintaining comfortment



Savings



Safety



**Light
pollution**



SensyCity adapts lighting levels to activity and user needs

Savings

Energy savings at night
(mainly during low activity
periods).

Safety

For people and goods
in the street at night.

Light pollution

Citizens, plants and animals
that could be disturbed by
light pollution.

SensyCity, an answer to the new needs of towns and

LIMITING
light
pollution

PROMOTING
active modes
of mobility
at night

BETTER
visibility at night

**PROVIDING
PROTECTION**
on cycle lanes

IMPROVING
the well-being
of users

**PROVIDING
PROTECTION**
for pedestrian
crossings

cities

BETTER
monitoring of
isolated
locations

CREATION
of unlit areas

**DYNAMIC
STANDALONE**
lighting

**PROVIDING
PROTECTION**
for public
transport users

...

SensyCity helps cities and territories to:

- Ensure the **SAFETY** of users of soft and active mobilities
- Ensure **ATTRACTIVENESS** of the cities and territories
- Optimise **BUDGETS** of investments and operations
- Reduce **CONGESTION** and its environmental **IMPACTS**



20 years
OF EXPERIENCE

in smart lighting



25,000
DEVICES

installed since 2015



In more than

800
**CITIES AND
PRIVATE SITES**



In
France
AND IN EUROPE

SensyCity, an answer to the environmental challenges of outdoor lighting

In addition to energy savings, SensyCity makes it possible to **significantly limit the environmental impacts** of lighting installations equipped with its devices.



THE RIGHT AMOUNT OF LIGHTING

Adapts lighting to activity and user needs



LIMITING LIGHT POLLUTION

Enables unlit areas to be created



ENERGY SAVINGS

Permits the RES-EC-03 Energy Saving Certificate to be obtained

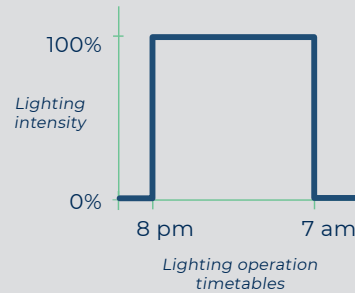


Up to
96%*
SAVINGS

* Measurements carried out on 4 pilot sites in the Agen conurbation, equipped with LEDs vs. previous FB installations (fluorescent bulb)/dimming scenario of reduction to 20% + 100% boost on detection with SensyCity.

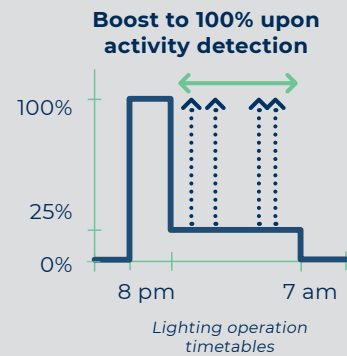
Environmental benefits, Contamines-Montjoie example*

Without **SensyCity®**



- 64 LED lights (69W)

With **SensyCity®**



- 64 LED lights (69W)
- 32 SIR + 16 NOD
- Boost to 100% on detection of activity
- Dimming to 25% when no activity detected

ENVIRONMENTAL ASSESSMENT OVER 15-YEAR LIFE CYCLE

Power consumption



Annual average
per French household = 4,944kWh

Without **SensyCity®**

265,781kWh

= 54 years of average
consumption by a French
household

With **SensyCity®**
1 hour cumulative
boost per night

138,694kWh

= 28 years of average
consumption of a French
household
(i.e. 127,088kWh saved)

-48%

Water consumption



1 Olympic-size pool
= 2,500m³

685,000m³

= 274 Olympic-size pools

362,000m³

= 145 Olympic-size pools
(i.e. 323,000m³ saved)

-47%

Equivalent CO₂



1 flight from Paris to New York
= 717kg CO₂ eq.

28,900kg CO₂ eq.

= 40 Paris – New York flights

15,800kg CO₂ eq.

= 22 Paris – New York flights
(i.e. 13,100kg CO₂ eq. saved)

-45%

* Methodology available on request

SensyCity, a communicating ecosystem for outdoor lighting adjustment

Innovative solution

SensyCity allows light to be adjusted using **local, real-time wireless communication** between lighting points. Able to accommodate the various sensors of the city, SensyCity is highly **interoperable**.

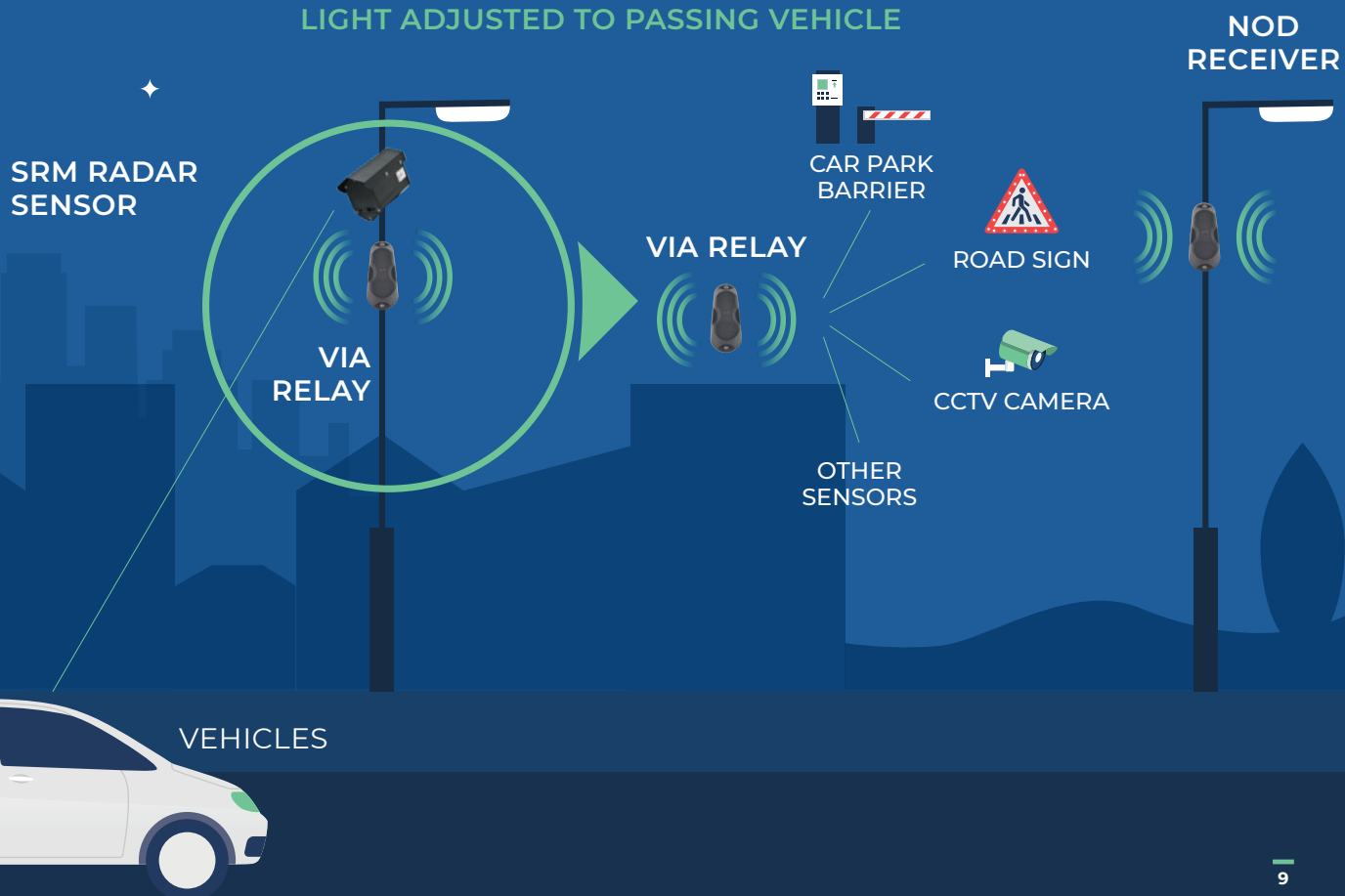
DETECTION OF PEDESTRIANS AND BICYCLES





DETECTION THROUGH VARIOUS SENSORS

EXAMPLE
LIGHT ADJUSTED TO PASSING VEHICLE



SensyCity, a scalable ecosystem for the Smart City

VIA: the key to the smart city

The VIA relay enables **the city's various professions** to connect with the SensyCity detection ecosystem so that street lighting can be adjusted and optimised using the information received from different sensors.

WORKS BOTH NIGHT AND DAY!

Making use of City Activity know-how, VIA is also **interoperable with LACROIX road safety and traffic management equipment.**



Lx3 Link
ILLUMINATED SIGN



EcoCam
SMART AND
STANDALONE
CAMERA



RADAR
for vehicle
detection



RADAR
for other types
of detection



**CCTV
CAMERA**



**FIREFIGHTER
KEY**



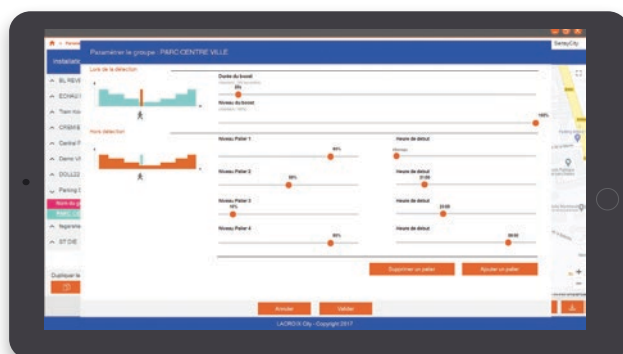
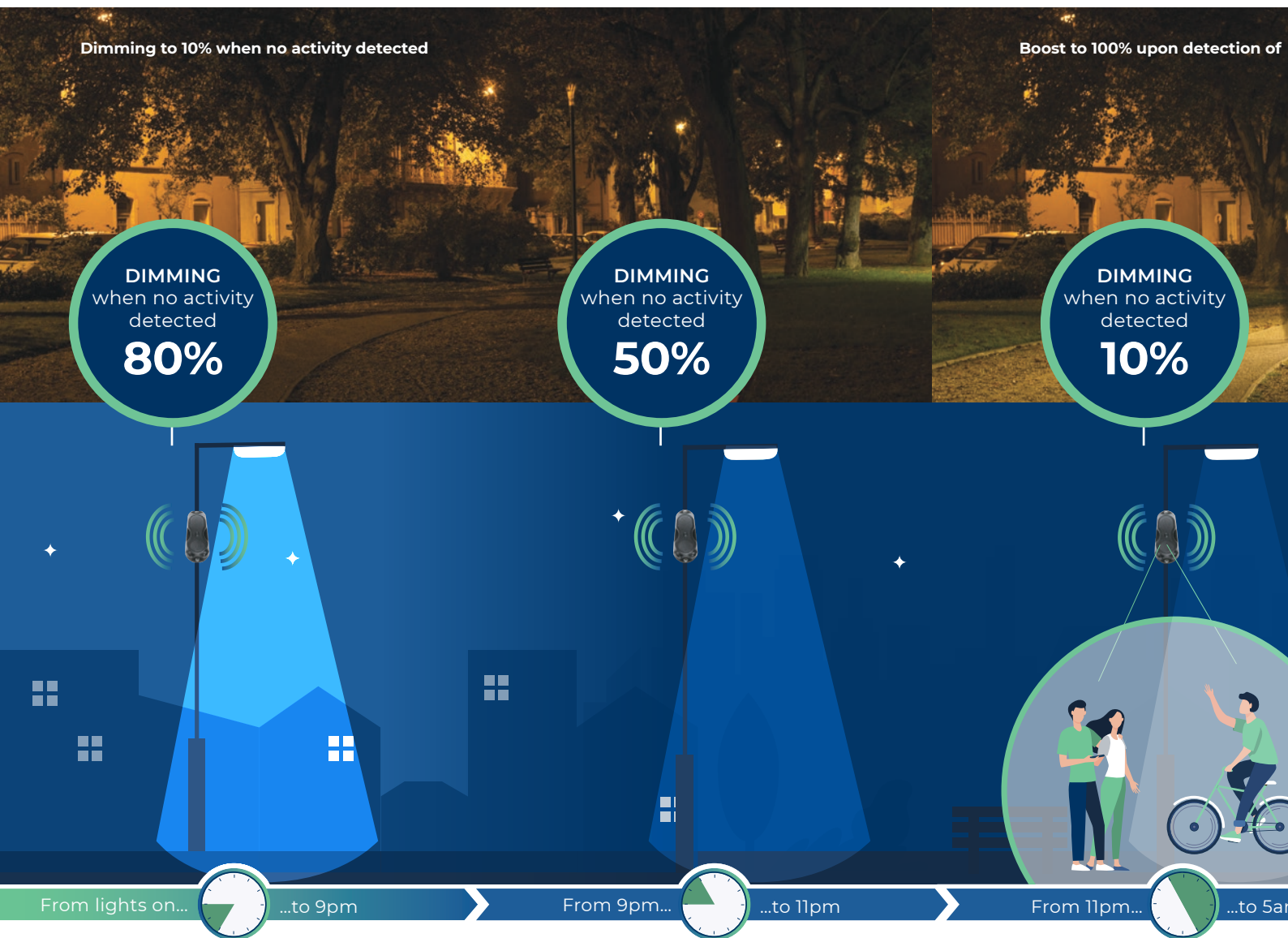
**PUSH
BUTTON**

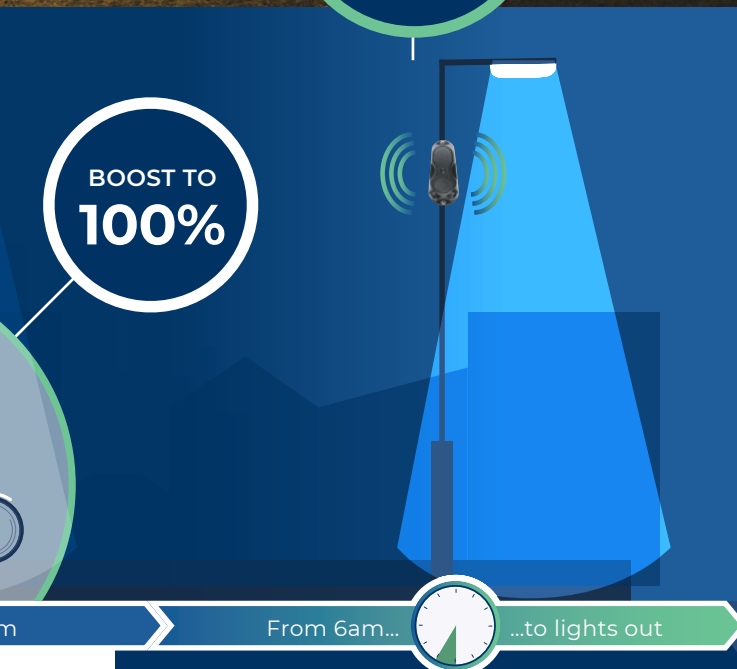


**CAR PARK
BARRIER, ETC.**



SensyCity, a local ecosystem for smart control of lighting points





Local intelligence, simple to program and easy to deploy

The SensyCity app can be used to prepare different lighting scenarios and programme up to 5 dimming levels per night, offering a simple solution for smart control of light points.

Tegis®
compatible
for connected lighting
management.

SensyCity, dedicated sensing for outdoor lighting



EASY to install

Easy to implement: wireless long-range communication avoids complex wiring on all existing installations.

Mounting on any shape of pole, any diameter $\geq 60\text{mm}$, or on facade.

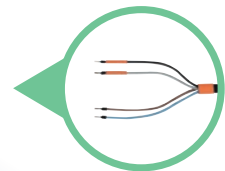
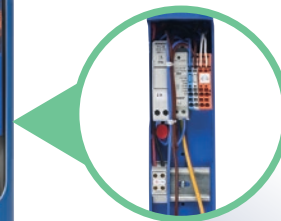
Simple connection at the bottom of the pole, pre-cabled (5 metres).

Integrated **230V mains or 9-30V** power supply for standalone solar pole.



“PLUG AND PLAY” PACK

with complete modules or junction boxes for even **greater simplicity**.



EASY to program

SensyCity intuitive client interface: group light points and configure them in just a few clicks.

Wireless setup of the entire installation.

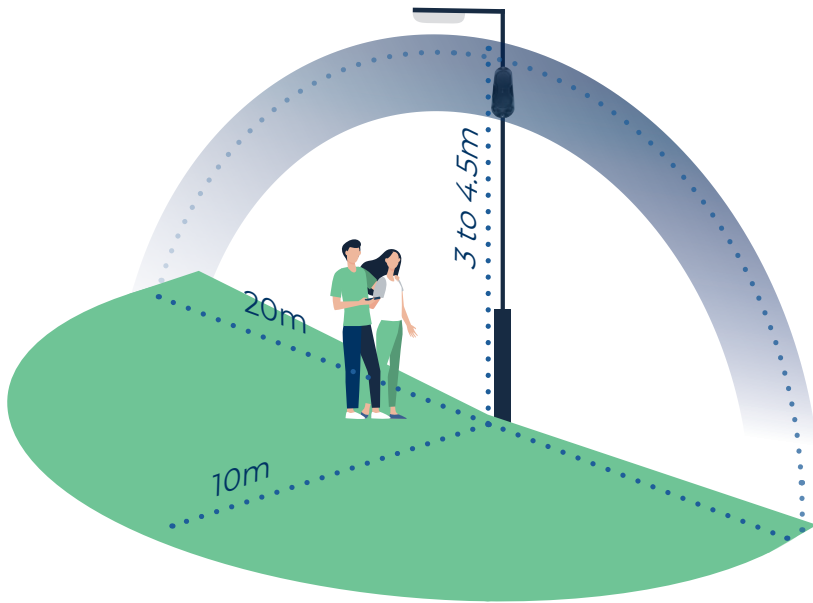
Quick and easy implementation of dynamic detection.

Web backup: shared and secure access to every SensyCity installation setup.





DESIGNED for urban environments



Efficient: detection area perfectly adapted for street lighting with its 2 PIR sensors.

Standards: compliant with lighting standard EN 61 347-2-11.

Robust: IK08 housing and protective flange for the 2 sensors.

Discreet: compact, it integrates perfectly into the urban landscape.



FUTURE-PROOFED for tomorrow's city

Interoperable with any new or existing LED lights, on grid or standalone, as it can be installed on poles or on facade.

Future-proof: installations can be reconfigured and extended to meet your needs.

SensyCity: the offer



— SIR WIRELESS: communicating motion sensor

Intelligent system based on motion sensors for pedestrians and cyclists.

When no activity is detected in the area, light is dimmed down to a minimum level, offering only guidance.

The slightest movement:

- immediately restores brightness thanks to priority instructions to the LED driver (level and time adjustable).
- sends wireless information to surrounding lighting points equipped with S.I.R. Wireless sensors, NOD receivers or VIA relays.

Dimming scenarios configurable in the S.I.R. Wireless with the SensyCity application.

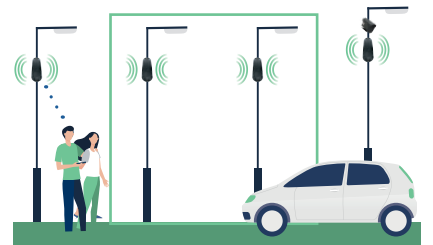


— NOD: receiver

Device receiving the radio information coming from a S.I.R. Wireless sensor or a VIA relay.

The NOD immediately restores the light level when receiving the radio information through a priority instruction sent to the LED driver (level and time adjustable).

Dimming scenarios configurable in the NOD using the SensyCity application.



— VIA: relay

Device allowing the city's various professions to link with the SensyCity ecosystem to adjust and optimise light based on a variety of information.

The VIA relay receives the information as soon as a sensor is activated (vehicle radar sensor, traffic sensor, weather sensor, etc.) and sends it immediately via radio to the light points equipped with NOD receivers or S.I.R. Wireless.



— SRM RADAR

For vehicle detection and with a range of 150m for light vehicles, the radar uses the Fizeau Doppler effect principle at a 24.125GHz frequency. Its mounting system, specially designed for street lighting posts, allows for easy mounting and multi-axial radar orientation.

To be used with the VIA relay to interface with the SensyCity ecosystem.



— Configuration DONGLE

Plugged into the USB port of a laptop or a tablet, it allows the **ecosystem' devices** (S.I.R., NOD, VIA) installed on the lighting points to **be localised and registered**.

The dongle enables configuration or **wireless re-configuration of all your SensyCity installations**.

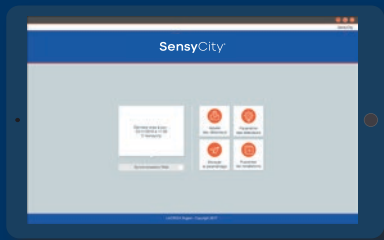
Configuration APP

The SensyCity configuration application enables highly intuitive use of the sensing ecosystem and allows you to upgrade your installations easily.

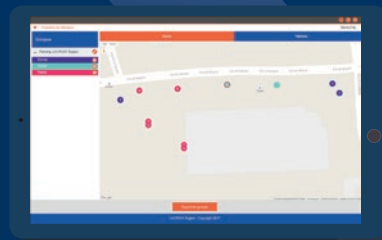
Examples of features:

- Automatic update when application is launched
- Creation of groups on Google Maps in just a few clicks
- Configuration of levels, durations and night profiles
- Duplication of group settings
- Locking of lighting scenarios

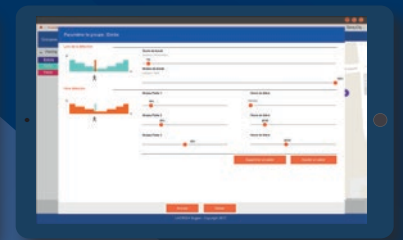
HOME MENU



CREATION OF GROUPS ON GOOGLE MAPS



CONFIGURATION OF SCENARIOS

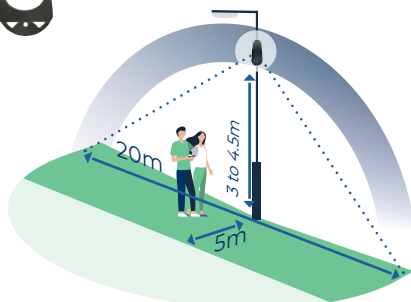


Accessories: detection zones

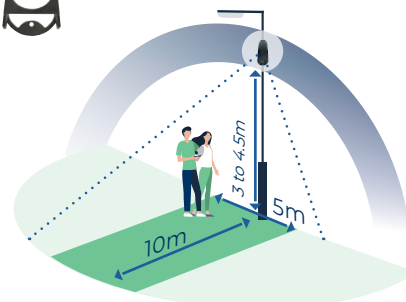
Positioned directly on the SIR sensors, the accessories make it possible to adjust the detection area of the PIR sensors to best meet the desired detection needs.



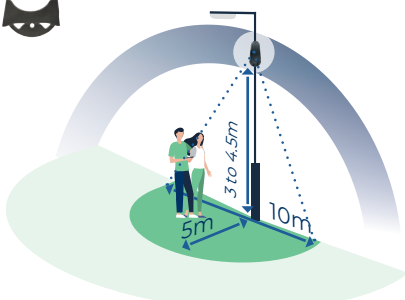
ZONE 1: for applications requiring a reduction at the front of the detection zone.



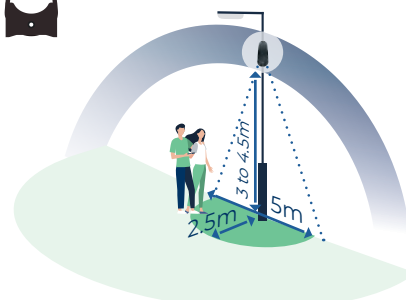
ZONE 2: for applications requiring a reduction at the sides of the detection zone.



ZONE 3: for applications requiring a reduction of the entire detection zone.



ZONE 4: for applications requiring a greater reduction of the entire detection zone (e.g. cycle path).



Example distances, may vary depending on site configuration

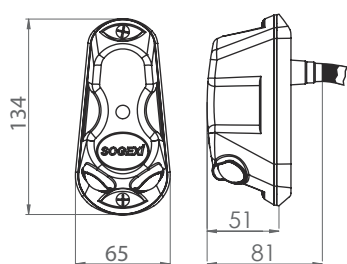
Technical specifications

SIR Wireless



Compatible with Tegis

Communication		
Communication between lighting points	Secure LoRa wireless	
Output (driver control)	DALI output	Dry contact output
Input	n/a	
Electrical specifications		
Mains (integrated)	220-240 VAC/50-60 Hz	
9-30 VDC battery version	Yes	
Power consumption	<1 W	
Electrical class	Class 2	
Overvoltage resistance	4 kV	
Mechanical specifications		
Mechanical resistance	IK08 casing	
IP level	IP54	
Material	Housing: polypropylene Protective skirt: thermoplastic elastomer	
Colour	Black	
Installation		
Operating temperature	-20°C to +60°C	
Min. temperature difference with the target	+/- 4°C	
Cabling	5 m cable included (4 conductors)	
	Power: 2 conductors	Power: 2 conductors
	DALI output: 2 conductors	Dry contact output: 2 conductors
Mounting	3 holes/2 M4 self-tapping screws	
Advised mounting height	from 3 m to 4.5 m	
Detection area	On the ground: 180° with a radius of 10 m around the sensor	
On-site configuration		
On-site configuration interface	SensyCity App	
On-site configuration tools	Wireless dongle	
Settings that can be adjusted on-site	Light point groups	
	Light level when sensing activity (≤100%)	n/a
	Boost duration (≥3 sec.)	
	Light level when no activity (≥ 10%)	n/a
	Dimming scenario (1 to 5 levels)	n/a
Standards and certifications		
Product standards	NF EN 60529	
	NF EN 61347-2-11 (street lighting)	
Certifications	EC	



DONGLE

Dimensions

- 63 × 50 × 25mm

Connection specifications

- Connection on PC or tablet: USB plug
- Communication with S.I.R., NOD & VIA: Wireless

Configuration interface

- 'SensyCity' App
- Hard drive space required: 200MB
- Operating systems: Windows (10 and higher)
- App and user guide can be downloaded from LACROIX City website



NOD		VIA	
			
Compatible with Tegis			
Secure LoRa wireless		Secure LoRa wireless	
DALI output	Dry contact output	n/a	DALI output
n/a		Dry contact input	
220-240 Vac/50-60 Hz		220-240 Vac/50-60 Hz	
Yes		Yes	
< 1 W		< 1 W	
Class 2		Class 2	
4 kV		4 kV	
IK08 casing		IK08 casing	
IP54		IP54	
Housing: polypropylene Protective skirt: thermoplastic elastomer		Housing: polypropylene Protective skirt: thermoplastic elastomer	
Black		Black	
-20°C to +60°C		-20°C to +60°C	
n/a		n/a	
5 m cable included (4 conductors)		5 m cable included (4 conductors)	5 m cable included (5 conductors)
Power: 2 conductors	Power: 2 conductors	Power: 2 conductors	Power: 2 conductors
DALI output: 2 conductors	Dry contact output: 2 conductors	Dry contact input: 2 conductors	Dry contact input and DALI output: 3 cond.
3 holes/2 M4 self-tapping screws		3 holes/2 M4 self-tapping screws	
from 3 m to 4.5 m		from 3 m to 4.5 m	
n/a		n/a	
SensyCity application		SensyCity application	
USB radio dongle		USB radio dongle	
Light point groups		Light point groups	
Level when activity detected ($\leq 100\%$)	n/a	n/a	Level when activity detected ($\leq 100\%$)
Boost duration (≥ 3 sec.)		n/a	Boost duration (≥ 3 sec.)
Level when no activity detected ($\geq 10\%$)	n/a	n/a	Level when no activity detected ($\geq 10\%$)
Dimming scenario (1 to 5 levels)	n/a	n/a	Dimming scenario (1 to 5 levels)
NF EN 60529		NF EN 60529	
NF EN 61347-2-11 (outdoor lighting)		NF EN 61347-2-11 (outdoor lighting)	
CE		CE	

SRM RADAR



Technology

- Ultra high frequency 24.125Ghz

Mechanical characteristics

- Dimensions: 180 × 100 × 70mm
- Weight: 1.2kg
- Housing: IP65 with thermal protection/Painting & anodising

Electrical characteristics

- Switched power
- Resistive load: 110 Vac 0.3A - 24 Vdc 0.3A
- Inductive load: 110 Vac 0.2A - 24 Vdc 0.3A
- Supply voltage: 220 Vac +/- 10%
- 48/62 Hz - fuse protection
- Consumption < 1.5 VA

Installation

- Radar range: 150 m for light vehicles
- Operating temperature: - 40°C to +75°C
- Connecting: 1 IP68 7-pin connector pre-wired 5m

Settings:

- Mode: One-way/two-way incoming flow
- Configured using the switch on the front panel
- Display: high-performance red LED on front panel

Standards

- Compliant with CE standards
- Fulfils the requirements of directive R/TTE 1999/5/EG



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ENERGY



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