Sensing ecosystem for outdoor lighting
Maximising energy savings while maintaining safety & the nighttime environment

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.

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 cities

- **LIMITING** light pollution
- **PROMOTING** active modes of mobility at night
- **PROVIDING PROTECTION** on cycle lanes
- **PROVIDING PROTECTION** for pedestrian crossings
- **Better** visibility at night
- **Dynamic standalone** lighting
- **Creation** of unlit areas
- **Providing** protection for public transport users
- **Better monitoring** of isolated locations
- **Improving** the well-being of users

SensyCity helps cities and territories to:
- Ensure the **safety** of users of soft and active mobilities
- Ensure the **attractiveness** of the cities and territories
- Optimise the **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

Environmental benefits, Contamines-Montjoie example*

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

Without SensyCity

With SensyCity

Environmental assessment over 15-year life cycle

**Methodology available on request**

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

Power consumption

Without SensyCity: 265,781kWh
With SensyCity: 138,694kWh

Water consumption

Without SensyCity: 685,000m³
With SensyCity: 362,000m³

Equivalent CO₂

Without SensyCity: 28,900kg CO₂ eq.
With SensyCity: 15,800kg CO₂ eq.

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

S.I.R. WIRELESS SENSOR

NOD RECEIVER

PEDESTRIANS

CYCLISTS

DETECTION THROUGH VARIOUS SENSORS

EXAMPLE LIGHT ADJUSTED TO PASSING VEHICLE

SRM RADAR SENSOR

VIA RELAY

VIA RELAY

VEHICLES

CAR PARK BARRIER

ROAD SIGN

CCTV CAMERA

OTHER SENSORS

OTHER SENSORS
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.

DIMMING when no activity detected
- 80%
- 50%
- 10%
- 80%

BOOST TO 100% upon detection of pedestrians or cyclists
**SensyCity, dedicated sensing system 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 ≥60mm, 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. 
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’s 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

**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

**Configuration**

**DONGLE**

Plugged into the USB port of a laptop or a tablet, it allows the ecosystem’s 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.

The dongle enables configuration or wireless re-configuration of all your SensyCity installations.
### Technical specifications

#### Communication

<table>
<thead>
<tr>
<th></th>
<th>SIR Wireless</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure LoRa wireless</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Output (driver control)</th>
<th>DALI output</th>
<th>Dry contact output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>DALI output</td>
<td>Dry contact output</td>
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</tbody>
</table>

#### Electrical specifications

<table>
<thead>
<tr>
<th></th>
<th>220-240 Vac/50-60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power consumption</td>
<td>&lt;1W</td>
</tr>
<tr>
<td>Electrical class</td>
<td>Class 2</td>
</tr>
<tr>
<td>Overvoltage resistance</td>
<td>4 kV</td>
</tr>
</tbody>
</table>

#### Mechanical specifications

<table>
<thead>
<tr>
<th></th>
<th>4 kV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Polypropylene</td>
</tr>
<tr>
<td>Colour</td>
<td>Black</td>
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#### Installation

<table>
<thead>
<tr>
<th></th>
<th>4 kV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. temperature</td>
<td>-20°C to +60°C</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-20°C to +60°C</td>
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</table>

#### Cabling

<table>
<thead>
<tr>
<th></th>
<th>4 kV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power: 2 conductors</td>
<td></td>
</tr>
<tr>
<td>DALI output: 2 conductors</td>
<td></td>
</tr>
<tr>
<td>Dry contact output: 2 conductors</td>
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</tbody>
</table>

#### Mounting

<table>
<thead>
<tr>
<th></th>
<th>4 kV</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 holes/2 M4 self-tapping screws</td>
<td></td>
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</tbody>
</table>

#### Detection area

<table>
<thead>
<tr>
<th></th>
<th>4 kV</th>
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<tbody>
<tr>
<td>On the ground: 180° with a radius of 10 m around the sensor</td>
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</table>

#### On-site configuration

<table>
<thead>
<tr>
<th></th>
<th>4 kV</th>
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</thead>
<tbody>
<tr>
<td>On-site configuration interface</td>
<td>SensyCity App</td>
</tr>
<tr>
<td>On-site configuration tools</td>
<td>Wireless dongle</td>
</tr>
</tbody>
</table>

#### Standards and certifications

<table>
<thead>
<tr>
<th></th>
<th>4 kV</th>
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<tbody>
<tr>
<td>Product standards</td>
<td>NF EN 60529</td>
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<tr>
<td>Certifications</td>
<td>CE</td>
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