

# Tegis®



Connected solutions for smart street lighting management



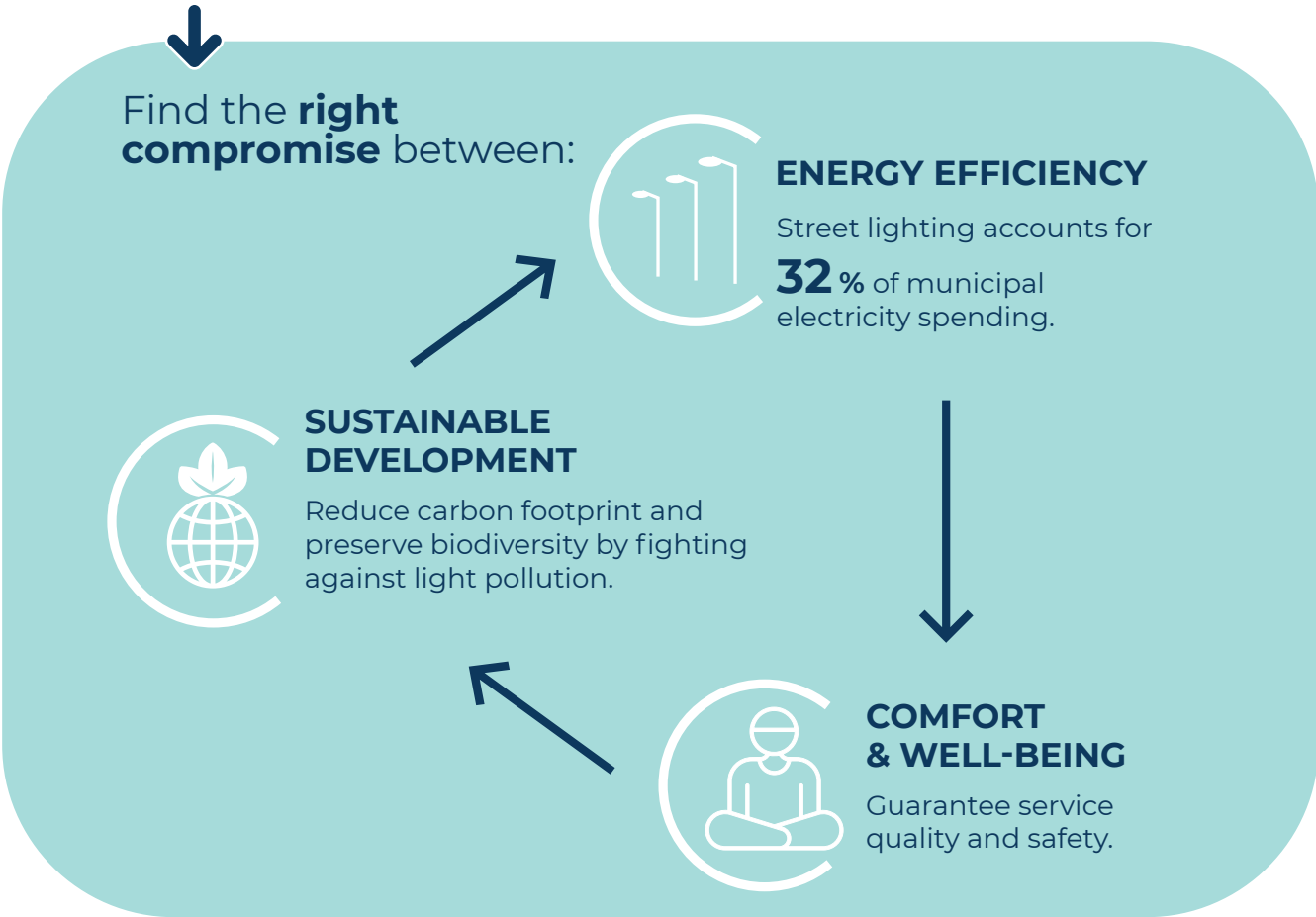
# Smart management **LACROIX**

*M*ake the most of each technology  
by offering modular, scalable  
solutions tailored to local needs.

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# I What are the main challenges facing cities when it comes to street lighting?



# I Our solutions for smart lighting

## Smart local management

Simple, autonomous, locally-controlled devices to:

- Reduce energy consumption and optimize lighting
- Limit investments and digital footprint

## Smart connected management

Connected devices linked to a dedicated platform and remotely controlled to:

- Control, monitor and analyze street lighting systems in real time or on a programmed basis
- Optimize and reduce operating and investment costs.

Find out more about our solutions





**Tegis**

**supports local authorities in the  
management**

of their connected street lighting

Every city manager faces the same challenges when it comes to deploying an intelligent connected management solution. **With Tegis, we offer you a concrete solution** to manage your street lighting in an efficient way.

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## | Your challenges



### Control investment and operating budgets

Faced with increasingly tight budgets, local authorities need to:

- achieve and justify energy savings;
- invest in the most efficient way and optimize human and material resources;
- prioritize investments and optimize maintenance costs.



### Ensure the attractiveness of the city and the safety of its inhabitants

To improve the well-being of citizens and guarantee safe territories, local authorities need:

- the right light at the right time in the right place;
- to be able to intervene quickly;
- to limit the risk of cyber-attacks.

## | The Tegis answer\*

#### The right level of service

- Cabinet or light point offer that integrates management of third-party services as required.

#### Optimization of switching times

- Cabinet control (synchronized astronomical clock, special nights);
- Dimming of light points.

#### Fewer field interventions

- Remote equipment management with advanced monitoring and error analysis.

#### Easy monitoring of energy management

- Feedback and analysis of power Consumption.

#### Lighting adapted to different areas:

- Synchronized astronomical clock ;
- Personalised calendars
- Lighting scenarios (dimming/detection).

#### Real-time monitoring and control:

- Alert system (SMS/email);
- Remote override of equipment (on/off switching);
- Lighting adjustments based on external sensors.

#### A secure offer:

- Use of standardized security protocols;
- Regular system updates: equipment and platform.

\* According to offer.

## | Your challenges

## | The Tegis answer\*



### **Simplify the operation of public lighting systems**

Faced with the diversity and complexity of solutions, local authorities need to:

- be autonomous in the deployment and use of tools;
- intervene at the right time, in the right place, with the right teams;
- benefit from expert support when needed.



#### **Ease of installation and maintenance**

- Easy-to-wire products;
- Turnkey offer from product to platform.

#### **Intuitive, ergonomic digital tools:**

- Dedicated platform with personalised setting;
- Real-time forcing smartphone application.

#### **Intuitive visualization and monitoring**

- Map visualization;
- Configurable monitoring;
- Fault analysis.

#### **Complete, personalized support:**

- Single point of contact from pre-sales to after-sales;
- Dedicated training offer.



### **Maintain a sustainable and smart territory**

To guarantee consistent, sustainable regional development, local authorities need to:

- choose robust and reliable solutions;
- capitalize on their investments;
- reduce their environmental impact.



#### **Durable and reliable solutions:**

- 40 years of expertise in street lighting
- Eco-designed products from our factories in France;
- Regular equipment updates.

#### **Use of existing infrastructures:**

- Broad, scalable offer, adapted to field constraints and existing equipment.

#### **Reduction of light pollution and preservation of biodiversity:**

- Dimming scenarios that respect local flora and fauna;
- Autonomous and/or connected detection systems;
- Creation of dark corridors.

## | Your challenges

## | The Tegis answer\*



### Prepare for the future

Today's challenges are not those of tomorrow.  
Local authorities must:

- Rely on interoperable solutions;
- Meet constantly evolving needs

### Compatibility with other systems:

- TALQ and proprietary APIs;
- Standardized designs (DALI 2 / D4I, Zhaga, Nema).

### Shared infrastructure and easy integration of new services:

- Transformation of the public lighting network into a permanent power supply network (e.g. integration of video protection).



Tegis,

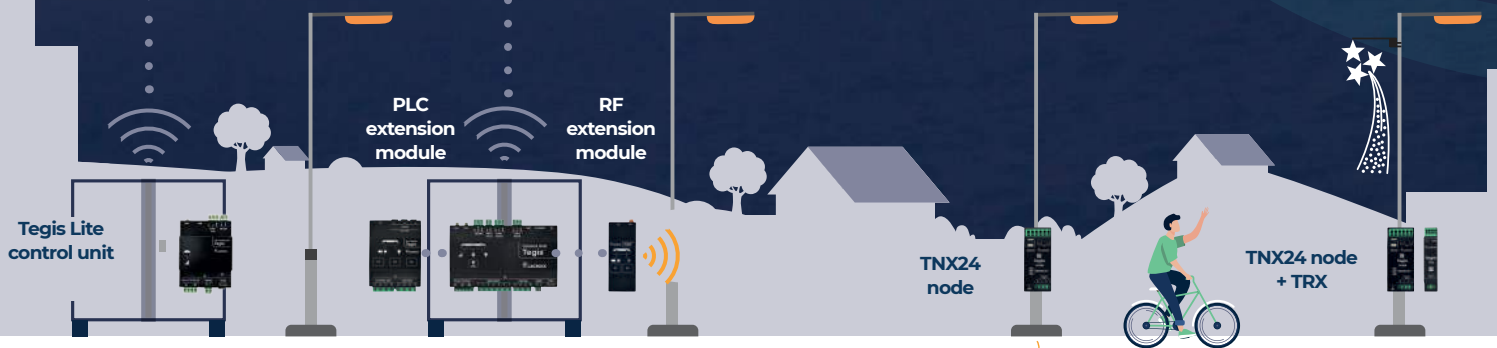
# a modular and connected solution

adapted to the needs of local authorities



Each customer is unique and has specific needs in terms of street lighting management.

From cabinet control to light point management, **Tegis is modular and scalable and meets current and future requirements of local authorities.**



Connected cabinet control

Combined cabinet and light point management  
+ 3rd party services

**CONNECTED CONTROL Cabinet**

Tegis Astroconnect



**CONNECTED MANAGEMENT Cabinet and light points**

Tegis Lighting Plus

**ADVANCED CONNECTED CONTROL Cabinet**

Tegis Astroconnect Plus



**DETECTION Stand-alone or connected**

Tegis Lighting Plus & Détection

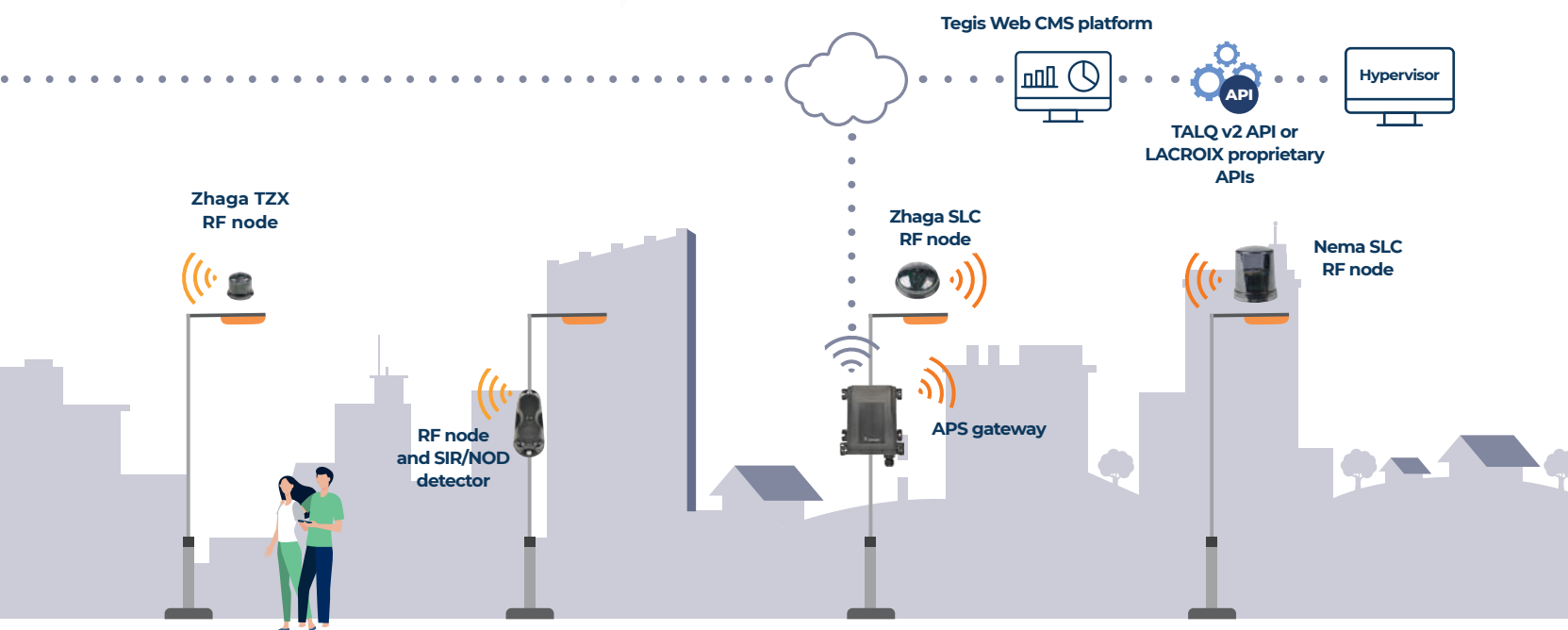
**CONNECTED MANAGEMENT Cabinet**

Tegis Lighting



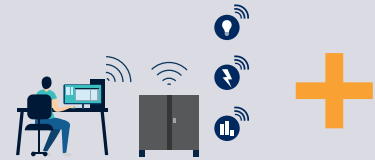
**CONNECTED MANAGEMENT Light points**

Tegis Plus



**Light point management**

# Tegis, from cabinet control to light point management



## CONNECTED CONTROL

## ADVANCED CONNECTED CONTROL

## CONNECTED MANAGEMENT

### Tegis Astroconnect

### Tegis Astroconnect Plus

### Tegis Lighting



 **Connected cabinet control\***

 **Cabinet remote override**




 **Cabinet monitoring**

 **Cabinet power consumption reporting**



-  Energy savings
-  Maintenance costs savings

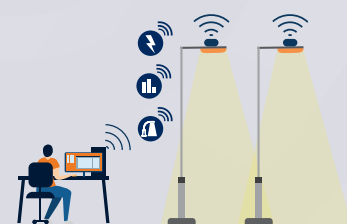
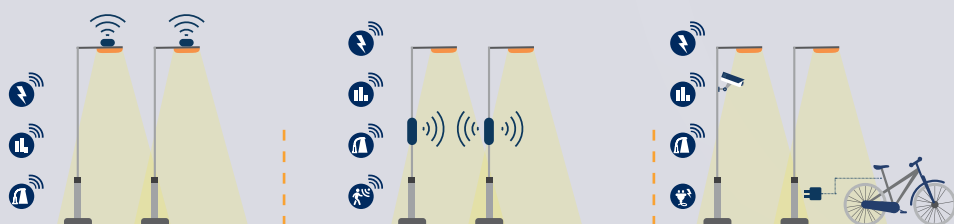


-  Energy savings
-  Maintenance costs savings
-  Contingency management



-  Energy savings
-  Maintenance costs savings
-  Contingency management
-  Service quality and safety
-  Budget control

\* Central remote control optional.



### ADVANCED CONNECTED MANAGEMENT

### CONNECTED MANAGEMENT

**Tegis Lighting Plus**

**Tegis Lighting Plus & Detection**

**Tegis Lighting Plus 24/7**

**Tegis Plus**

**Combined cabinet and light point monitoring**

**Light point monitoring**

**+ Light points (+3rd party services)**

**Active power feedback on user request**

#### Power consumption

**Light point control**

**+ 3rd party services**

**Light point control**

**Detection**

**24/7 network power supply**

- Energy savings
- Maintenance costs savings
- Contingency management
- Service quality and safety
- Budget control



- Optimized energy savings
- Optimized service quality
- Optimized infrastructure

- Energy savings
- Maintenance costs savings
- Service quality and safety
- Budget control
- Optimized infrastructure

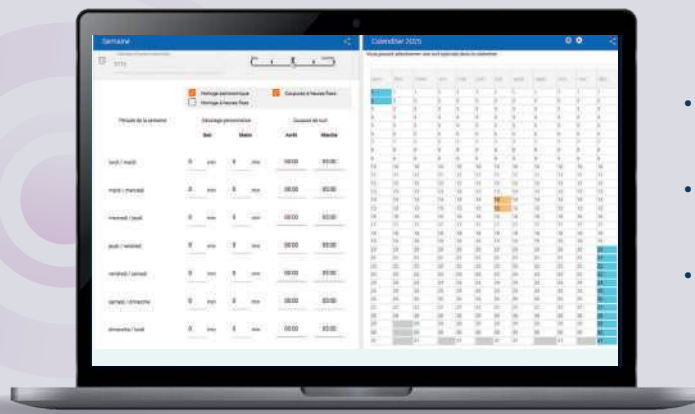
# Tegis Web, the dedicated platform to operate and manage street lighting assets

## An ergonomic and comprehensive platform

A wide range of functionalities to meet the needs  
of local authorities, installers and operators.

Intuitive management of street lighting via a common platform  
for all LACROIX devices.

### Street lighting cabinet control



- Unlimited remote setting of astronomical clock and night cut-off programs;
- Creation of specific dimming scenarios on an annual calendar;
- Remote real-time override\*.



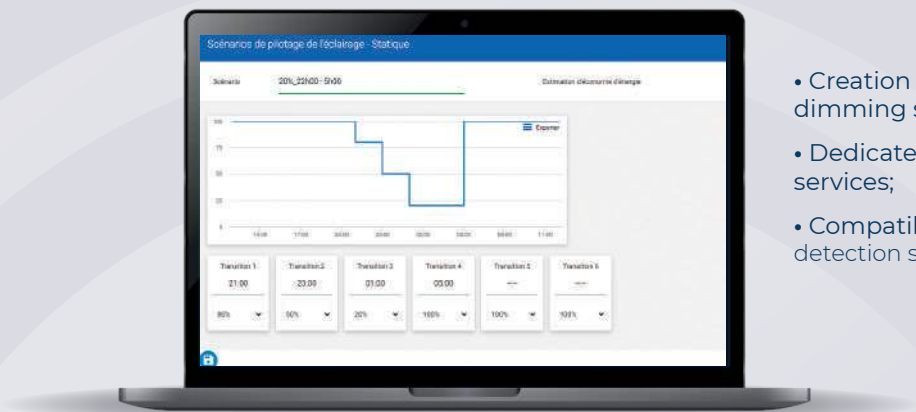
### My Tegis

The application enables **real-time remote override** of street lighting control cabinets equipped with Tegis and Tegis Lite control units.



\* According to offer.

### Control of light points and third-party services\*



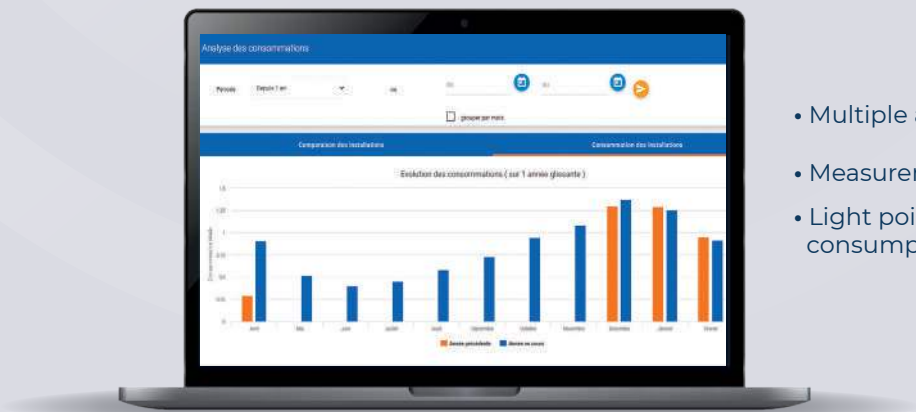
- Creation of light point groups and dimming scenarios;
- Dedicated management of third-party services;
- Compatibility with the SensyCity detection solution.

### Cabinet and light point monitoring\*



- Google Maps visualization of assets;
- Email and SMS alerts with personalized filters based on the type of default;
- Fault analysis.

### Reporting and analysis of power consumption\*

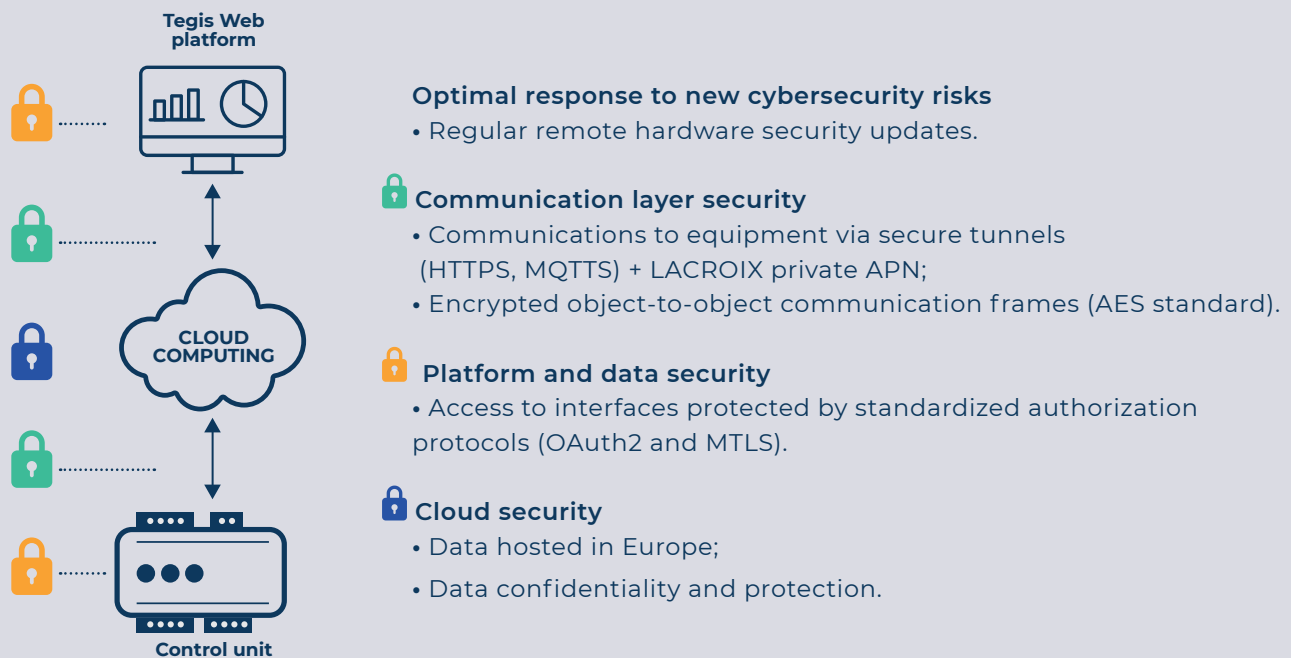


- Multiple analysis possibilities;
- Measurement of deviations with alerts;
- Light point or 3rd party service power consumption.

# Tegis Web, a secure and interoperable platform

## Cyber-secure ecosystem across the entire chain

The software services associated with the Tegis management offer ensure a high level of cybersecurity throughout the entire chain.



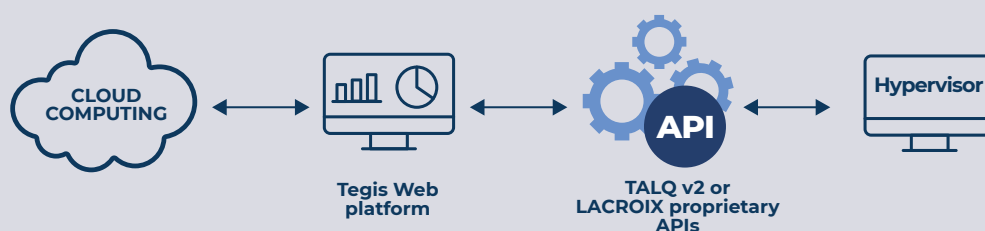
## Security-by-design: cybersecurity at the heart of the LACROIX development policy

Cybersecurity is integrated and taken into account at every stage of project development: from design to end-of-life.



## Direct interoperability and compatibility between systems

Our management solutions are natively open to integrate with existing systems (CMMS, Hypervisors) as well as with multivendor management projects.



• **Bi-directional communication between equipment and 3rd party systems**

• TALQ v2 certification





**Tegis,**

our dedicated team of experts will **guide you through a simple, user-friendly process.**



*Over the last 20 years, we have been at your side to ensure the success of your smart management projects. We put at your disposal teams of men and women to support you from the early stages of your projects to their deployment.*

*Our mission: to understand your needs and challenges, propose innovative solutions, process your orders quickly and efficiently, and support you in using our products and solutions.*

*Our ambition: to offer all stakeholders a smooth, easy and pleasant experience, thanks to our continuous improvement program.*



**Claire FAYA**  
Customer Journey Manager  
LACROIX Environment Smart Lighting



## Teams at your service to provide customized solutions.



### Project design

Right from the design phase, we work with you to:

- identify your needs;
- understand your challenges;
- analyze your expectations as well as your technical and budgetary constraints;
- define customized, reliable and cost-effective solutions;
- present and promote our offers.



### Sales administration

Our teams support you:

- we create the conditions for a pleasant commercial relationship;
- we administer orders;
- we guarantee compliance with commercial contracts and pricing conditions;
- we manage complaints (excluding breakdowns).



### Technical Customer Service

Our teams are responsible for:

- supporting you in the field, both upstream and during the deployment phase;
- providing responsive and efficient technical assistance;
- validate intelligent management orders (consistency, traceability);
- handling after-sales service requests.



### Training

Our training courses enable you to:

- acquire expertise in our solutions;
- optimize the management and use of your installation;
- train your teams for greater autonomy.

**Do you have a question?**  
Customer Technical Support

+33 (0)4 72 54 84 31  
support.lighting@lacroix.group

# Tegis, a reliable solution with an international footprint

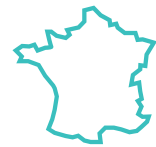
7 or over 20 years, we've been accompanying our customers in France and Europe with solutions matching their local needs.



**20 YEARS**  
OF EXPERTISE  
in smart  
management



IN  
**FRANCE**  
AND IN  
**EUROPE**



Designed and  
manufactured  
in  
**FRANCE**



**12,000**  
CONNECTED  
street lighting cabinets



**700,000**  
REMOTELY  
CONTROLLED  
light points



**3,000**  
3rd party services



## DID YOU KNOW?

In 2013, Clermont-Ferrand became the first city in Europe to implement advanced smart management of its public lighting network. The LACROIX Tegis solution was implemented in 240 cabinets and 16,000 lighting points...

# Troistorrents, Switzerland

## Intelligent and scalable street lighting solution

With the support of LACROIX's Smart Lighting teams and its grid operator Romande Energie, the municipality of Troistorrents has chosen to deploy the Tegis Lighting Plus 24/24 intelligent management system.

Thanks to the Tegis Web platform, this solution allows the municipality to remotely monitor its street lighting network, enabling quick detection and resolution of operational incidents.

## The challenges



To better manage costs by eliminating needless journeys of maintenance teams.



To find a modular solution that enables the remote control and surveillance of 3rd party services such as festive illuminations and CCTV.



To address environmental requirements by saving energy.



## The solution

- **84** light points equipped with TNX24 nodes

- Tegis web platform

- **4** electrical cabinets equipped with Tegis control units.

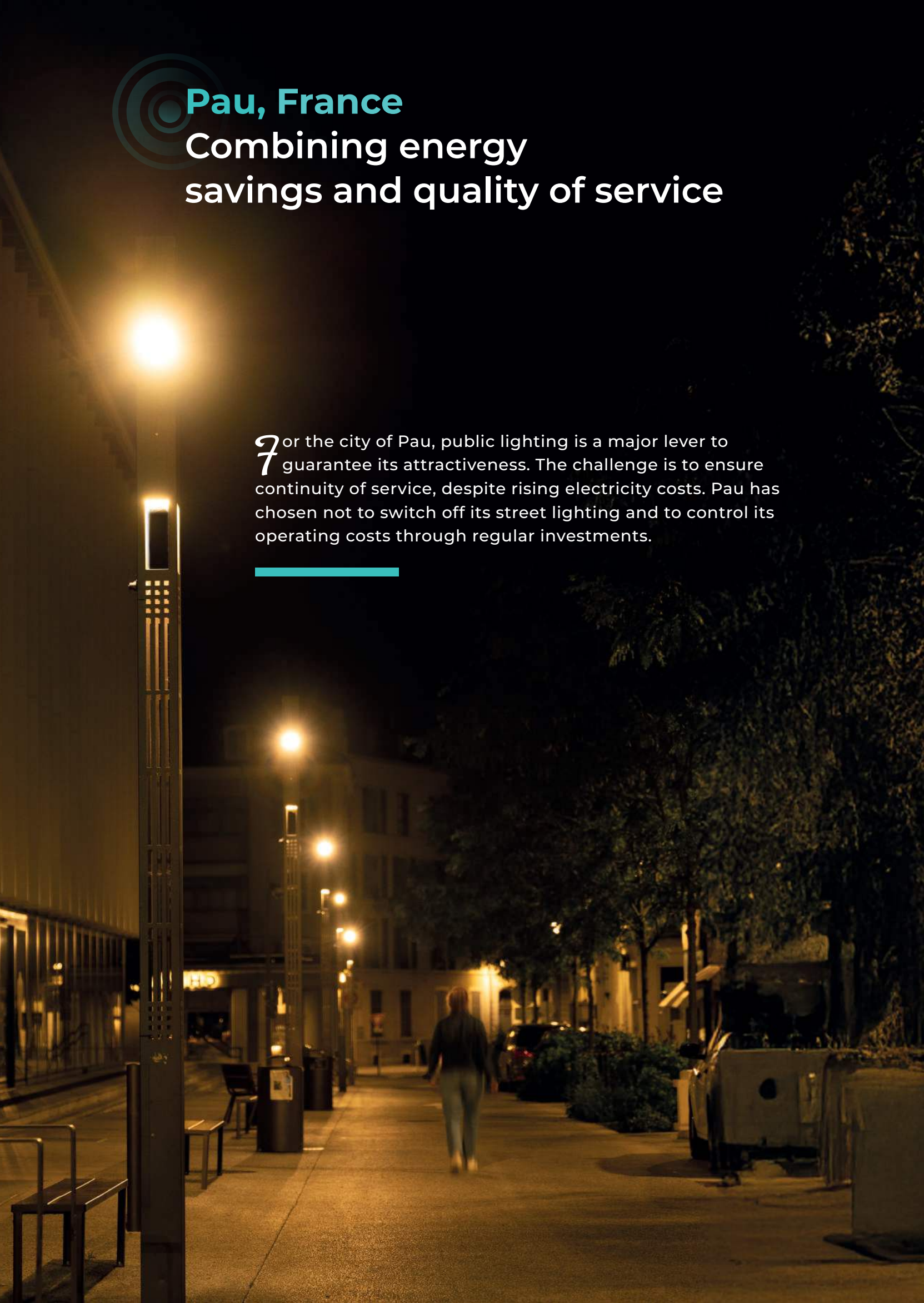


## Pau, France

# Combining energy savings and quality of service

For the city of Pau, public lighting is a major lever to guarantee its attractiveness. The challenge is to ensure continuity of service, despite rising electricity costs. Pau has chosen not to switch off its street lighting and to control its operating costs through regular investments.

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## I Multiple challenges



**to significantly reduce** energy consumption,



**to provide** a high level of service while maintaining their safety and well-being,



**to reduce** energy costs and cope with the energy crisis,



**to take** care of the environment and the biodiversity.

## I Differentiated lighting management thanks to scalable and modular solutions

- **252** Tegis control units
- **1,067** SensyCity detection nodes
- **55** Tegis extension modules (PLC)
- **2,864** Tegis TNX communicating nodes
- **2,643** Sogexi junction boxes

## I Convincing results



Up to **91%** energy savings



**12%** reduction in energy consumption



**satisfied**  
Citizens

Read the full story ▶





# Neustadt, Germany the 2nd largest wine-growing municipality in Germany

*A*n iconic project that includes new paving, upgraded electrical infrastructure, decorative lighting, redesigned street furniture and landscaping through smart control. The city also wants to emphasize the enhancement of its iconic spaces and the preservation of its heritage and environmental identity. The lighting must support this, without excessive energy consumption or light pollution.

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## I Multiple challenges



**Enhance** the city's heritage and preserve the environment with high-quality, energy-efficient decorative lighting.

The installation must provide a true lighting experience, ensuring the right light in the right place at the right time. It includes three distinct applications - public lighting, façade lighting and Christmas lighting - which must be controlled independently.



**Improve** operational efficiency in order to reduce maintenance trips over a large area.

In a 23 km long sprawling city, maintenance trips can be as long as 10 km between the central workshop and the cabinets. The lack of visibility on breakdowns leads to wasted time and prevents any anticipation of interventions.



**Deploy** a scalable solution capable of gradually replacing aging technology and extending to the entire city.

The existing ripple control technology must be gradually replaced without disturbing the synchronized switching times of the street lighting over the entire city.

## A phased approach to a long-term lighting vision

The City of Neustadt has a clear vision of its long-term project. They can plan their renovation work according to their available resources and budget. This allows them to move forward at their own pace, without the stress of carrying out a complete renovation all at once.

This first installation phase of the Tegis lighting management system has laid a solid foundation for its future expansion throughout the city.



### What people say about us

«The LACROIX solution allows us to monitor our lighting fixtures in real time and anticipate failures, while preparing for the transition to centralized city management.»

**Florian Rosenbaum**  
Head of Street Lighting

# Douai, France reconciling street lighting with environmental concerns

In 2021, the city of Douai launched a major project to renovate its street lighting network in the pedestrian and cycling areas along the banks of the Scarpe River. The aim was to combine energy cost control and protection of the environment by restoring ecological corridors at night.

## Combined use of LACROIX management and detection solutions:

- **25** Tegis control units
- **791** Tegis PLC nodes
- **568** SensyCity detectors
- **835** Sogexi junction boxes

## Conclusive result



Return of  
**2 new**  
bat species



**Positive**  
impact of solutions



Up to  
**180,000€**  
savings over 15 years

## Reykjavik, Iceland

# Outdoor lighting meets the Northern Lights: coexistence achieved

Reykjavik, considered as the «greenest city in the world», aims to make certain roads around Lake Raudavatn, which are used by a wide variety of people, safer and more attractive.

This site is unique in that it features two parallel paths: one for horse riders and the other for pedestrians. The detection system and smart lighting management were adapted to illuminate users while preserving the nocturnal environment

### Combined use of LACROIX management and detection systems:

- 63 light points equipped with TNX24 nodes
- 66 SensyCity detection nodes
- 1 Tegis control unit



### What people say about us

«These solutions combine energy consumption, safety and protection of the environment. LACROIX smart lighting solutions strongly reduce environmental impacts, respect light pollution and promote the natural beauty of our landscapes.»

Arsaell Johannsson  
Project Manager – City of Reykjavik

# Tegis, flexibility and operability at its best

## I Our products for the cabinet



### Tegis Lite control unit

Compact communicating control unit  
2 relay outputs (astronomical clocks).



### Tegis control unit

Connected control unit for the management of cabinets  
and light points (control, monitoring, reporting and  
analysis).  
3 relay outputs (astronomical clocks).  
7 digital monitoring inputs.



### Extension modules

PLC and RF extension modules, to enable the control and  
monitoring of light points in addition to the cabinet.



### Additional modules

Monitoring module for supervised and  
remotely controlled elements in the cabinet (11 inputs).  
MID-certified three-phase electricity meter,  
to report electrical consumption in the cabinet.

## I Our software services

### Tegis web platform



Dedicated platform for the  
remote management of all  
Tegis equipment.  
Functionalities depend on the  
level of service chosen.

### API\* Tegis



Available in the standardized  
TALQ v2 format or as a  
proprietary model, for  
bidirectional communication  
between Tegis equipment  
and third-party systems.

\* Application Programming Interface.

## I Our products for the light point or the pole



### TNX24 communicating node and associated TRX relay

PLC communicating node, positioned at the base of the pole to control and monitor light points.

Relay node for control and monitor 3rd party services powered by the public lighting network.

Works in conjunction with the Tegis cabinet control unit and its associated extension module.



### TZX communicating node

Standardized Zhaga communicating node to control and monitor light points.

Works in conjunction with the Tegis control unit and its associated RF extension module.



### SIR detection communicating node

Pole-mounted communicating motion detector. Combined with Tegis control unit, it becomes a radio frequency communicating node.

Available as a simple node, without detection.

Works in conjunction with the Tegis control unit and its associated extension module.



### SLC communicating nodes

Standardized Zhaga and Nema communicating nodes for the connected management of individual light points (control and monitoring).

Communication via the Wirepass RF mesh network.

Works in conjunction with the APS communication gateway.

## My Tegis mobile application



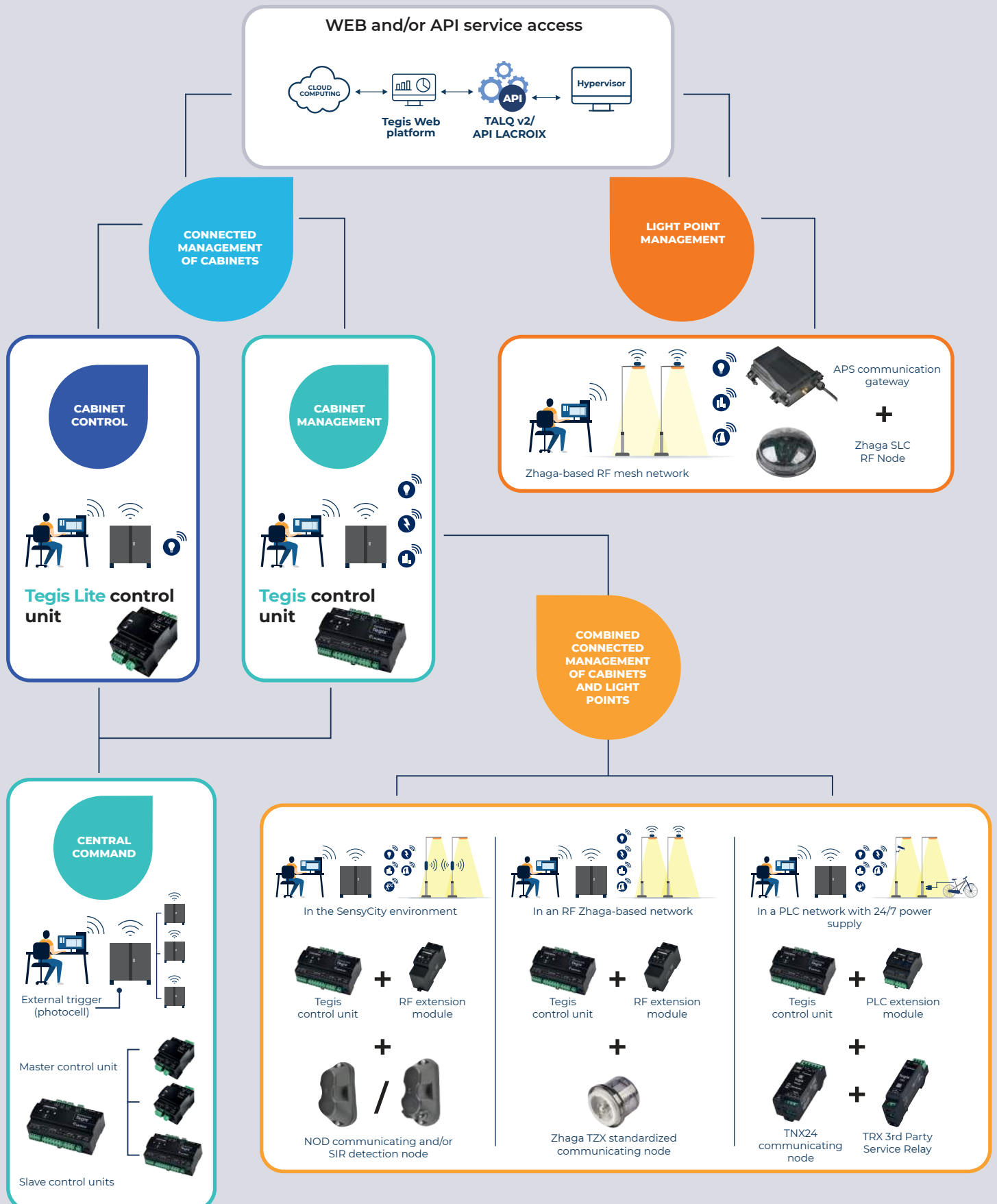
Mobile app for remote real-time override of cabinets equipped with Tegis and Tegis Lite control units.

Available on iOS and Android

Find out more here



# Tegis, Smart and scalable street lighting management



Tailor-made, scalable, intelligent and much more...



Environment Smart Lighting

1, rue de Maupas

69380 LES CHÈRES · France

Tél : +33 (0)4 78 47 33 55

Info.eclairage-public@lacroix.group

[www.lacroix-environnement.com](http://www.lacroix-environnement.com)

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FOR **SMARTER**  
**WATER &**  
**ENERGY**



Paper from sustainably managed forests.

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