

Solidité



SEV©
GROUPE RAGNI

CONNECTED SOLUTIONS
FOR SUSTAINABLE REGIONS





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SEV©

At a time when the cost-effective management of public infrastructures has become a major environmental and economic concern for regions, the latest company created by the Ragni Group aims to bring life to connected regional projects. Its social purpose means that SEV© proposes innovative turnkey solutions to support local authorities in their connected projects.

Using a new-generation remote management and control system which produces urban data, we improve the quality of services delivered to citizens, through responsive, adaptable and connected solutions. Lighting, water, mobility, environment, energy, public buildings: all the key infrastructures of a local authority are controlled in real time using our SEV© Connect platform, whatever the communication protocol.

Connected building management relies on real-time data analysis to optimize energy performance, occupant comfort, and safety. Through smart automation, it helps reduce operating costs, anticipate maintenance needs, and minimize environmental impact. This innovative approach transforms buildings into more sustainable, responsive, and user-friendly spaces tailored to modern needs.

SECURITY

Monitor access and parking in real time, detect intrusions, and respond quickly to incidents to ensure a secure and protected environment.



MAINTENANCE

Monitor performance in real time, anticipate failures, and reduce downtime to ensure continuous and efficient operation.



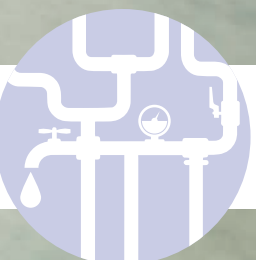
IMPROVING THE WORK ENVIRONMENT

Enhance your spaces by managing waste and noise levels through connected systems to create a pleasant and healthy living environment.



RESOURCE MANAGEMENT

Monitor your water, gas, or electricity consumption in real time, quickly detect leaks, and optimize resource usage for sustainable and efficient management.



Tertiary sector lighting currently accounts for

1 600 000 tonnes

of CO₂ emissions. A well-executed renovation of these spaces could reduce this carbon footprint to 650,000 tonnes.

Since October 2023, a directive requires public buildings to reduce their energy consumption by

1,9% per year and to renovate 3%

of their heated or cooled floor area annually.

ECOSYSTEM

The SEV[©] ecosystem is based on a deep conviction: Sector objectives can only be fully achieved if all stakeholders work together, pooling their knowledge and resources to ensure the success of specific projects. It is with this spirit of collaboration and commitment to sustainability that we are building our business.

We are committed to constantly expanding our network of partners because we firmly believe that diversity of skills and perspectives is essential for innovating and addressing the challenges of our time. When we choose our partners, we do so with a constant focus on respecting our sustainability commitments.

A key element of our ecosystem is the selection of our sensors. These connected objects are the fundamental instruments of our activity, and we ensure that they meet the highest standards in terms of quality, performance, and durability. We also assess their compliance with the challenges of an innovative, evolving, and responsible territory. This means they are chosen to adapt to the changing needs of our environment while minimizing their impact on the planet.

Therefore, the SEV[©] ecosystem is based on collaboration, sustainability, quality, and safety so that our work benefits our company, our partners, and the planet.

Interoperability is at the heart of our platform. Our approach is based on the use of current web standards, which allow us to natively integrate a variety of APIs (Application Programming Interfaces), making our platform interoperable with other systems.

To ensure this interoperability, our research and development team constantly monitors the evolution of communication standards. The architecture of the SEVE Connect Platform is based on the creation of data models (templates), facilitating their constant retrieval. Data is always accessible, either in real-time through automatic periodic extractions or for use in third-party applications.

We strive to respect the data ownership of the client. Subsequently, our platform is open thanks to its Rest API, which allows data transfer to Open Data platforms and integration with third-party tools such as GIS, CMMS, and monitoring systems (hypervisor). Additionally, the application is also completely open, with dedicated connectors and the possibility of creating custom connectors. This enables robust integrations with a wide range of hardware, connectivity protocols, and third-party applications.

INTEROPERABILITY

The SEV[©] Connect platform is designed to be interoperable, to ensure that data and information can be shared, retrieved and used fluidly with other systems, thereby reinforcing the flexibility and utility of our solution.



A GDPR-COMPLIANT SOLUTION

Personal data storage is a sensitive subject and even more so in the case of an SaaS solution. We understand that it is vital to protect access to these data with a high level of security.

For this reason, the data of each customer are stored in separate databases which do not communicate with each other. Whenever a new app is created, new partitioned databases are made available exclusively for the user or the administrator.

CYBERSECURITY

We implement a «**security by design**» approach to ensure optimal security from solution design to operational maintenance.

We continually reinforce our solution security by imposing drastic measures in terms of:

- **architecture**
- **updates**
- **authentication**
- **firewall**
- **data stream encryption**
- **stored data encryption**
- **and more**

Weekly audits provide recommendations in relation to the latest criteria applied for certification:

- **ISO 27001**
- **PCI DSS 3.2.1**: the global data security standard used by the banking industry to protect payment systems data.
- **SOC TSP**: System and Organisation Control > Trust Service Principles





COMPLEMENTARY BRANDS

Close to you and accessible, our human-sized team accompanies you through all stages of your project: from information to awareness, from study to implementation, from training to maintenance and optimization.

Our story is one of passionate entrepreneurial families, and it continues without ever losing sight of the essential values upon which our companies were founded.

For a bright and sustainable territories

Groupe Ragni : connected and solar public lighting, connected solutions.



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PLATFORM

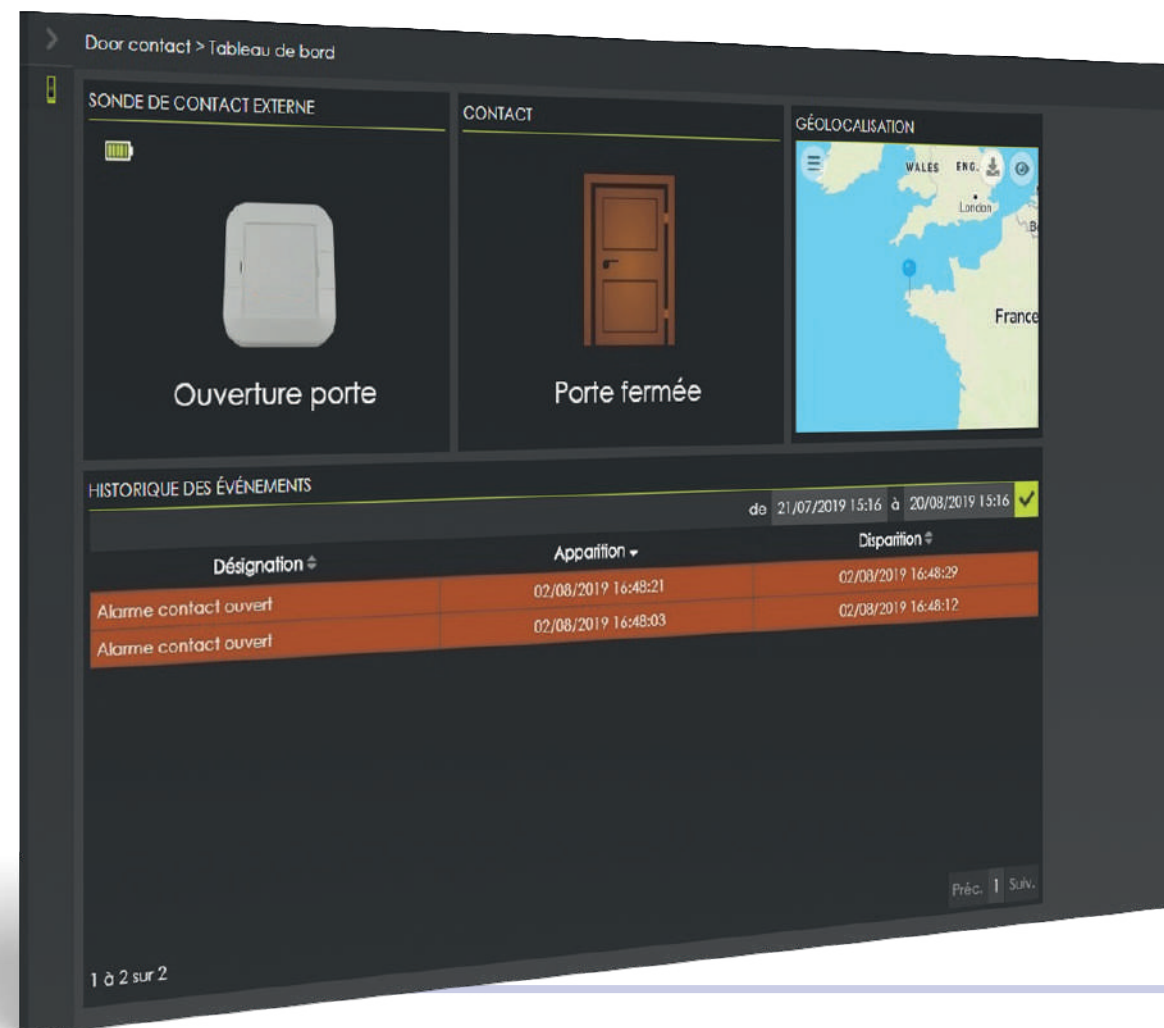
SEV© Connect transforms the way you manage your infrastructure by integrating intelligence and responsiveness. Through real-time data analysis, it optimizes energy performance, occupant comfort, and safety, while reducing operating costs.





SECURITY

Connected building security management enables proactive monitoring, faster response to anomalies, and optimized resource use. With smart sensors, it's possible to track space activity in real time, prevent incidents, and enhance user comfort while ensuring a high level of safety.



Open Door Detection

This feature enables real-time monitoring of building access. If a door remains open for an unusually long time or is opened outside of authorized hours, an alert is immediately sent to the relevant teams. This helps enhance site security and reduce energy loss due to prolonged openings.

Entry/Exit Counting

Our solution accurately counts people entering and leaving a building or specific area. This data is essential for flow management, optimizing fire safety procedures, and analyzing space usage. It also helps adjust resources such as cleaning, ventilation, and lighting based on actual occupancy.

Leak Detection

A continuous monitoring function for sensitive systems (water networks, heating, air conditioning) to detect even minor leaks. In case of an anomaly, an alert is triggered to allow rapid intervention, minimizing material damage, water or energy loss, and operational downtime.

Presence Detection

Presence detection improves both security and energy management within buildings. Sensors identify occupied or unoccupied zones in real time, automatically activating lighting, heating, or ventilation only when needed. This enhances occupant comfort while reducing consumption.

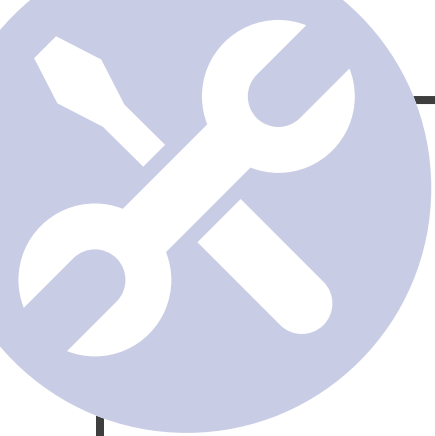
Parking Management

Our solution enables smart parking management through occupancy detection, user guidance to available spaces, and occupancy rate analysis. This improves parking accessibility, reduces time spent searching for a spot, and enhances access security.

Staff Safety

Protect your teams with sensors that can detect falls, abnormal inactivity, or risky behavior. This data allows for swift intervention in case of an accident and helps establish a safer work environment, especially in isolated or high-risk areas (warehouses, technical rooms, underground parking, etc.).





MAINTENANCE

Connected maintenance ensures precise, real-time monitoring of equipment performance. It anticipates malfunctions, facilitates intervention planning, and extends the lifespan of installations. By centralizing data and generating targeted alerts, it enhances the responsiveness of technical teams while reducing maintenance costs.



Operating Status



Each piece of equipment is continuously monitored to verify its operating status. The system automatically detects any deviation from expected parameters (voltage, consumption, response to commands, etc.), enabling rapid identification of potential malfunctions.

Statistics



Data on equipment performance and usage are collected and analyzed. These statistics help better understand operational behaviors, adjust settings, and optimize preventive maintenance cycles.

Fault Alerts



In case of a fault or anomaly, an alert is automatically sent to the relevant teams. This enables a rapid response, often before the end user even notices the issue, thereby minimizing service interruptions.

Risk of Failures



By analyzing historical and real-time data, the system can anticipate potential failure risks. This predictive approach enables planning maintenance before malfunctions occur, reducing emergency repair costs and increasing the overall reliability of the installations.

100



Workplace lighting is optimized through scheduling, remote management, and dynamic adaptation to natural light. This approach ensures visual comfort throughout the day, enhances concentration, reduces eye strain, and limits energy use.

Ambient temperature is controlled via programmable, remotely operable systems. Heating or cooling adjusts automatically based on usage patterns and occupancy scenarios, ensuring optimal thermal comfort while reducing energy consumption.

Workplace lighting is optimized through scheduling, remote management, and dynamic adaptation to natural light. This approach ensures visual comfort throughout the day, enhances concentration, reduces eye strain, and limits energy use.

Waste Management

Fill-level sensors provide real-time monitoring of collection bins. Emptying rounds are optimized and triggered only when necessary. This connected management improves hygiene, limits nuisances, and reduces operational costs.

RESOURCE MANAGEMENT

In a context of energy sobriety and resource preservation, connected management enables precise monitoring and fine control of water, gas, and electricity consumption. Thanks to real-time data, public and private stakeholders can anticipate anomalies, identify sources of waste, and operate their facilities with greater responsiveness and efficiency.



Meter Readings

Our solution automatically captures water, gas, or electricity meter readings. Manual readings are a thing of the past: data is centralized in real time, reliable, and ready for consumption monitoring.

Consumption Analysis

Collected data is analyzed to identify high energy uses, consumption peaks, or abnormal deviations. This information supports decision-making to implement corrective actions or optimize daily usage.

Leak Detection

In case of leaks or abnormal consumption (especially in water or gas networks), the system triggers an immediate alert. This enables a rapid response, limiting resource loss, safety risks, and repair costs.

Flow Measurement

Real-time measurement of water or gas flow helps adjust consumption according to actual needs. It also helps detect anomalies or verify equipment performance.

Valve Opening/Closing

Some installations can include remotely controllable valves. In emergencies, maintenance, or management strategies, valve operation can be automated or remotely triggered safely.

Comparison and Trends

Collected data allows comparison of consumption between different buildings, periods, or geographic zones. These analyses help measure the impact of actions taken, set realistic goals, and highlight achieved results.

Reserve Level

For stored resources (tanks, silos), sensors measure reserve levels in real time. This anticipates restocking, prevents shortages or overflows, and helps plan deliveries efficiently.



A group of children, seen from behind, are walking along a paved path towards a school building. They are carrying backpacks of various colors like maroon, teal, and mustard yellow. The scene is brightly lit by sunlight, creating long shadows on the ground. The school building has a red brick facade and a blue roofline. The overall atmosphere is warm and hopeful.

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OUR OFFER

Our commitment is embodied in the integration of comprehensive solutions, services, and products that are both sustainable and innovative. Our goal is to meet the expectations of all our stakeholders by supporting them from project definition through to the management of their territory.

Communication TECHNOLOGIES

WHAT IS AN IOT NETWORK?

The IoT network enables Internet connectivity and data retrieval. A variety of communication protocols are available on the market but they do not all share the same characteristics. Selecting the most appropriate communication network can become a real headache without suitable advice.

MANY APPLICATIONS ARE ASSISTED BY IOT CONNECTIVITY



Smart lighting
Traditional or solar lighting, cabinet-controlled or by individual light point, etc.



Water
Network management, watering, monitoring water courses



Mobility
Parking, traffic levels



Environment
Air quality, waste management, etc.



Energy
Distribution network management, recharging stations, photovoltaic, etc.



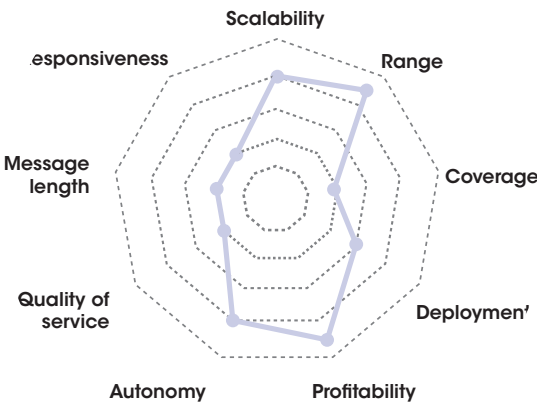
Buildings
Air quality, temperature, leak detection, lighting, building management, etc.



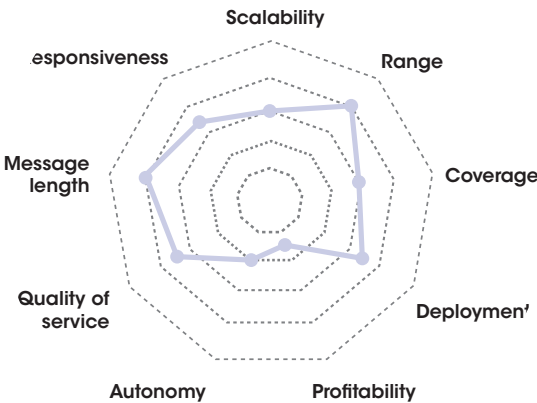
WHAT CRITERIA FOR SELECTING AN IOT NETWORK?

If you have a low energy budget, if you need to collect small amounts of data, and a low frequency of retrieval (a few measurements per day) is sufficient, mesh connectivity such as LoRa or DigiMesh is the most appropriate solution.

If your application requires frequent data transmissions and a high data throughput rate (logistics tracking, Industry 4.0, connected healthcare, etc.), cellular connectivity is better suited. The main choices are between LTE-M NbloT or a 4G network.



LoRaWAN®



4G

OCPP, RJ45, Fibre

Other Available Technologies

PRODUCT SELECTION

SEV® products are carefully selected to meet the most demanding standards in terms of quality, performance, and durability. We evaluate their suitability for the challenges of an innovative, evolving, and responsible territory. Our wide range of products is designed to adapt to a variety of projects.

MOTORIZED VALVE



ZHAGA NODE



VIDEO ANALYSIS



PREDICTIVE MAINTENANCE



AIR QUALITY

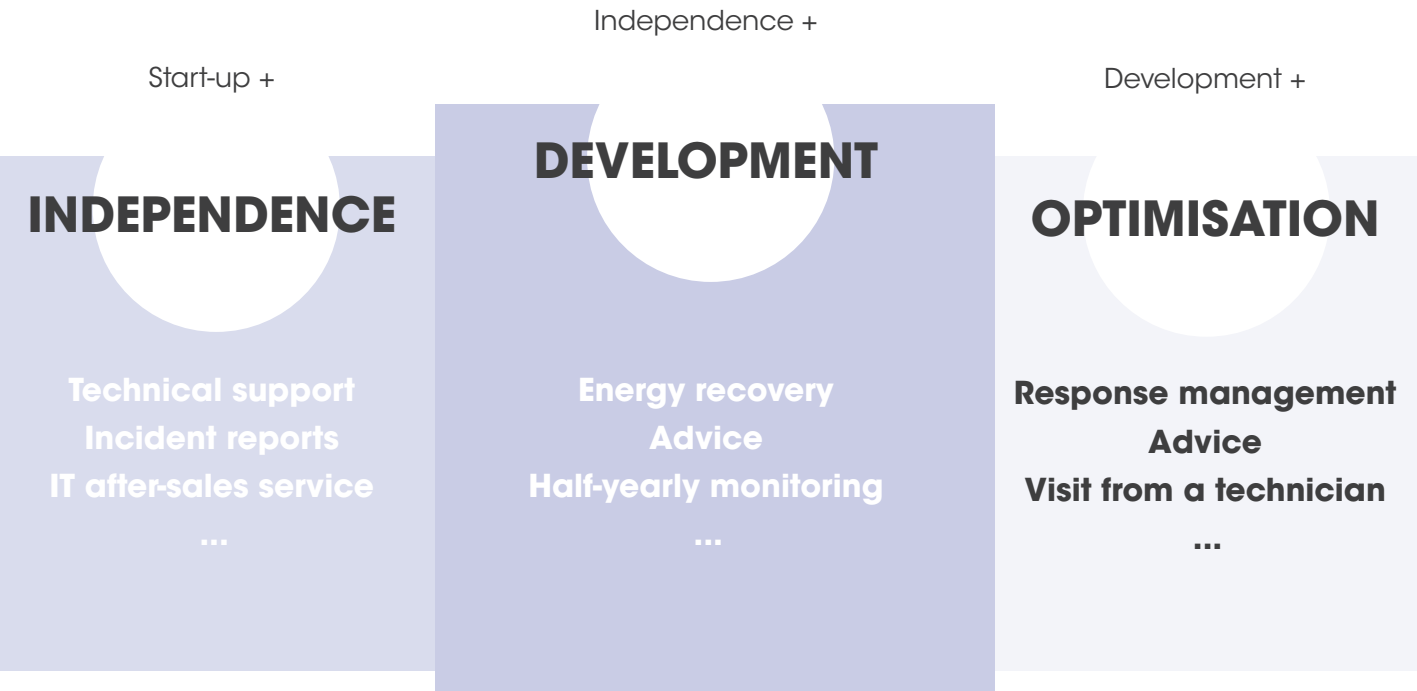
REMOTE READING
SENSOR



The products shown are examples. SEV®'s offering is tailored to the needs of each project.

SERVICES OFFERING

Our packages, simple and flexible, evolve according to your needs, offering you comprehensive support ranging from technical support to after-sales IT service, through energy recovery or intervention management.



	START-UP	INDEPENDENCE	DEVELOPMENT	OPTIMISATION
● Reporting of sensors on the computer server	✓	✓	✓	✓
● Initial network setup	✓	✓	✓	✓
● Presence of a SEV® technician during installation	✓	✓	✓	✓
● Access to the SEV® Connect platform	✓	✓	✓	✓
● Functional guarantee of the communication network		✓	✓	✓
● Detection and reporting of incidents in the communication network		✓	✓	✓
● Incident alert to the client		✓	✓	✓
● Sending information to our after-sales IT service		✓	✓	✓
● Resolution and intervention report		✓	✓	✓
● SEV® technical support		Email	Email telephone	Email telephone priority access
● Analysis and sending of consumption report		Quarterly	Monthly	Monthly
● Follow-up appointment		Annual	Half-yearly	Quarterly
● Detection and reporting of physical incidents in the network			✓	✓
● Tips on optimal irrigation profile configurations			✓	✓
● Resource valuation			✓	✓
● Adaptation of sensor parameters according to customer preferences			✓	✓
● Intervention management with the client's technical team				✓
● Intervention of a SEV® technician				✓
● Operational optimization				✓

virtual CONNECTED PROJECT

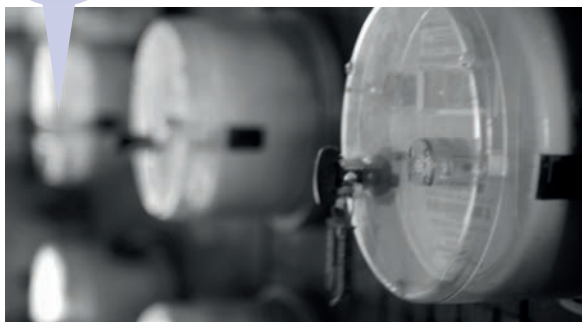
 **2 preventive maintenance sensors**
• LoRaWAN® network



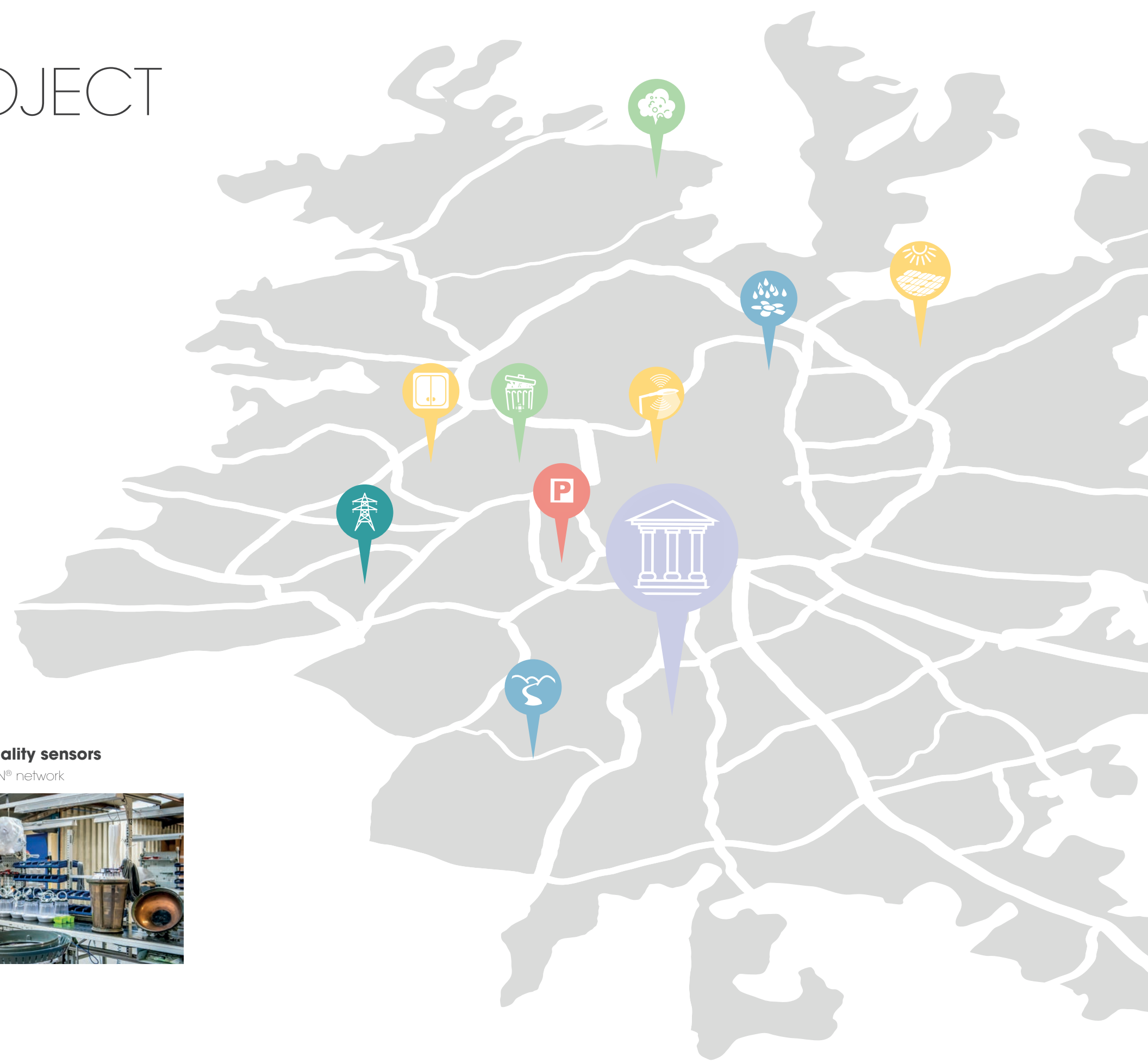
 **1 leak detection sensor**
• LoRaWAN® network



 **1 three-phase electricity consumption sensor**
• 4G connectivity



 **3 air quality sensors**
• LoRaWAN® network



Buildings

A simple and intuitive
PLATFORM

to control your smart regions and
use data in real time.

SENSORS

for each use case, whatever the
communication protocol.

A range of
SERVICES

packages to build and deploy
your infrastructure according to
your needs



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all our brochures are eco-designed.



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