

Energy



SEV®
GROUPE RAGNI

CONNECTED SOLUTIONS
FOR SUSTAINABLE REGIONS





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SEV©

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PLATEFORME

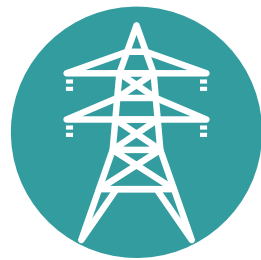
03
OFFRE

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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.

Thanks to technological advances, we are now able to better manage and optimize our resources. Reducing energy consumption is one of our top priorities, requiring the integration of renewable and locally sourced energy. This includes special attention to distribution networks, charging stations, and solar energy production.



ELECTRIC GRIDS

Protect and secure your electrical installation. Monitor your consumption in real time based on your usage and quickly detect any faults or potential theft.



TRANSPORT ENERGY

Monitor your charging stations and fuel levels in real time, optimize their use, and quickly detect any anomalies to ensure smooth and sustainable mobility.



RENEWABLE ENERGY

Renewable energy production is a global challenge for ecology and energy savings. Manage your production while reducing your costs.



RESOURCE MANAGEMENT

Monitor your water and gas consumption in real time, quickly detect leaks, and optimize the use of your resources for sustainable and efficient management.



Around
2-4%
of global natural gas production is lost each year due to leaks and flaring, worsening methane emissions (Source: International Energy Agency).

30%
of global electricity is produced from renewable energy sources (Source: International Energy Agency).

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.

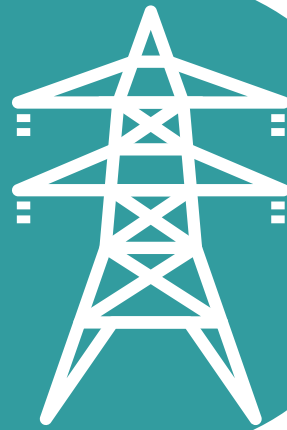


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PLATFORM

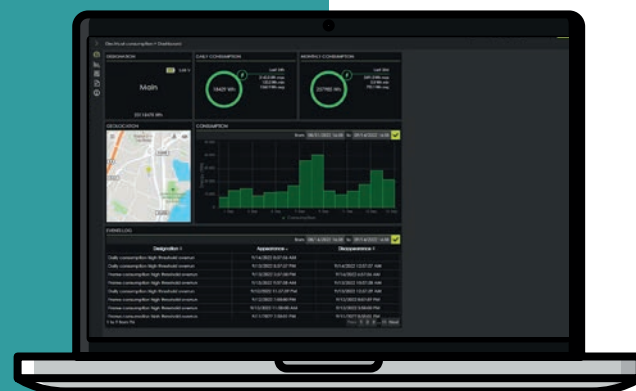
Connected energy management is ideal for monitoring consumption in real time, optimizing usage, and quickly detecting anomalies. With our platform, enable fast, sustainable, and cost-effective decision-making. A concrete lever to improve the energy and environmental performance of your infrastructure.





Connected management of electrical grids allows for precise, real-time supervision of infrastructure, whether it involves transformer stations, power cables, or public lighting cabinets. Thanks to sensors and data analysis, municipalities and operators can anticipate failures, secure equipment, and improve the energy performance of the grid.

ELECTRIC GRIDS



High and Medium Voltage Substations

Our solutions tailored for HV/MV substations enable continuous monitoring of voltage, temperature, current, and loads. They help prevent overheating, detect anomalies, and plan maintenance operations without service interruptions.

Line Losses / Cable Condition

Monitoring electrical losses helps identify weak points in the network. By cross-referencing consumption, voltage, and resistance data, the system can locate areas of loss or cable aging, guiding renovation work accordingly.

Cable Theft

A solution to detect any attempt at cable theft. Real-time alerts are sent in case of suspicious activity, allowing for a quick response.

Meter Data Collection

Centralized monitoring of consumption by zone, equipment, or infrastructure. A solution that provides full visibility to adjust usage, verify billing, and detect irregularities.

Public Lighting Cabinets

Public lighting electrical cabinets can be equipped to transmit data on network status, consumption, anomalies, or unauthorized access. This enables proactive lighting management, more targeted interventions, and reduced maintenance costs.





TRANSPORT ENERGY

In a context of transition, real-time supervision of electric charging infrastructures and fuel stocks is essential. Thanks to connected technologies, it becomes possible to monitor equipment performance, anticipate needs, optimize usage, and respond immediately in case of faults. A key lever to ensure service continuity and performance.



Operational status



Supervision systems allow real-time verification of the availability and proper functioning of charging stations or equipment related to transport energy. This helps prevent service interruptions and ensures user satisfaction.

Statistics



The collected data provide a clear view of usage: charging station utilization rates, average charging durations, peak hours, and more. These statistics facilitate investment planning, network adjustment, and flow management.



Fault alerts



In case of malfunction or abnormal behavior, an alert is automatically generated to enable a rapid response. This helps minimize service interruptions and ensures a high level of equipment availability.

Reserve level



For fuels (CNG, biofuels, diesel, etc.), level sensors allow continuous monitoring of tanks. This enables anticipating restocking, preventing shortages, and optimizing logistics.



RENEWABLE ENERGY

The energy transition requires smart integration of renewable energy sources. To maximize their benefits, it is essential to closely manage their production, distribution, and consumption. Thanks to connected sensors, photovoltaic, wind, and geothermal installations become intelligent systems, capable of adapting to needs while optimizing efficiency.



Operational status

Each installation is continuously monitored to ensure proper functioning. Anomalies are quickly detected, helping to avoid prolonged production losses.

Statistics

Production and consumption data are aggregated into real-time dashboards. These statistics help track performance, plan maintenance, and measure energy and financial benefits.

Fault alerts

In case of technical failure, unexpected shutdown, or abnormal drop in efficiency, alerts are instantly issued. This enables a rapid and targeted intervention to quickly restore optimal operation.

Production / consumption analysis

The system continuously compares energy production with actual consumption. This helps optimize self-consumption, reduce external energy purchases, and more accurately size future installations.

Distribution of produced energy

When multiple energy sources are used (solar, wind, hydro, etc.), sensors allow visualization of each source's share in overall production. This distribution helps showcase efforts made and guide future investment decisions.



RESOURCE MANAGEMENT

Faced with increasing pressure on natural resources, optimizing water and gas consumption has become a strategic challenge. Connected management enables real-time monitoring, early leak detection, and detailed usage analysis. A powerful lever to reduce waste, control costs, and enhance the sustainability of equipment and infrastructure.



Production / Consumption Analysis

Production and consumption data are continuously collected and analyzed. This analysis helps identify consumption peaks, unnecessary usage, or energy inefficiencies, allowing adjustments in practices or settings.

Comparison and Trends

By comparing consumption across sites or periods, it becomes possible to evaluate the effectiveness of implemented measures. This data also facilitates budget planning and environmental certification processes.

Reserve Level

For stored resources (water tanks, gas cylinders, reservoirs), sensors measure the level in real time. This helps prevent supply shortages, anticipate restocking, and optimize logistics.

Meter Data Collection

Automated meter reading simplifies daily consumption monitoring. Manual readings are no longer needed: data is available remotely, consolidated, and immediately usable for quick, informed decision-making.



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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



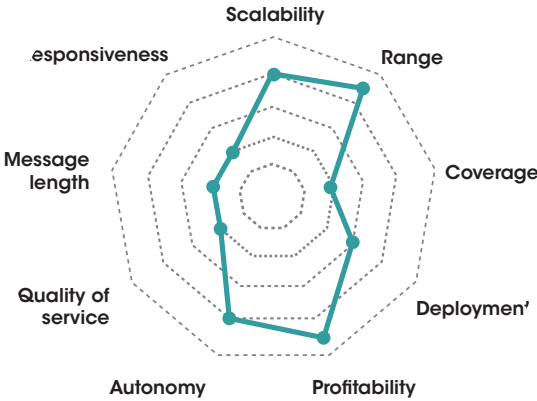
Environment
Air quality, waste management, etc.



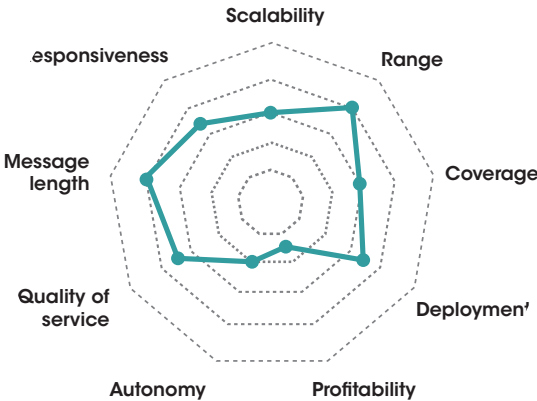
Energy
Distribution network management, recharging stations, photovoltaic, etc.



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



LoRaWAN®



4G

OCPP, RJ45, Fibre

Other Available Technologies



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.

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.

LEVEL
SENSOR



PULSE **SENSOR**



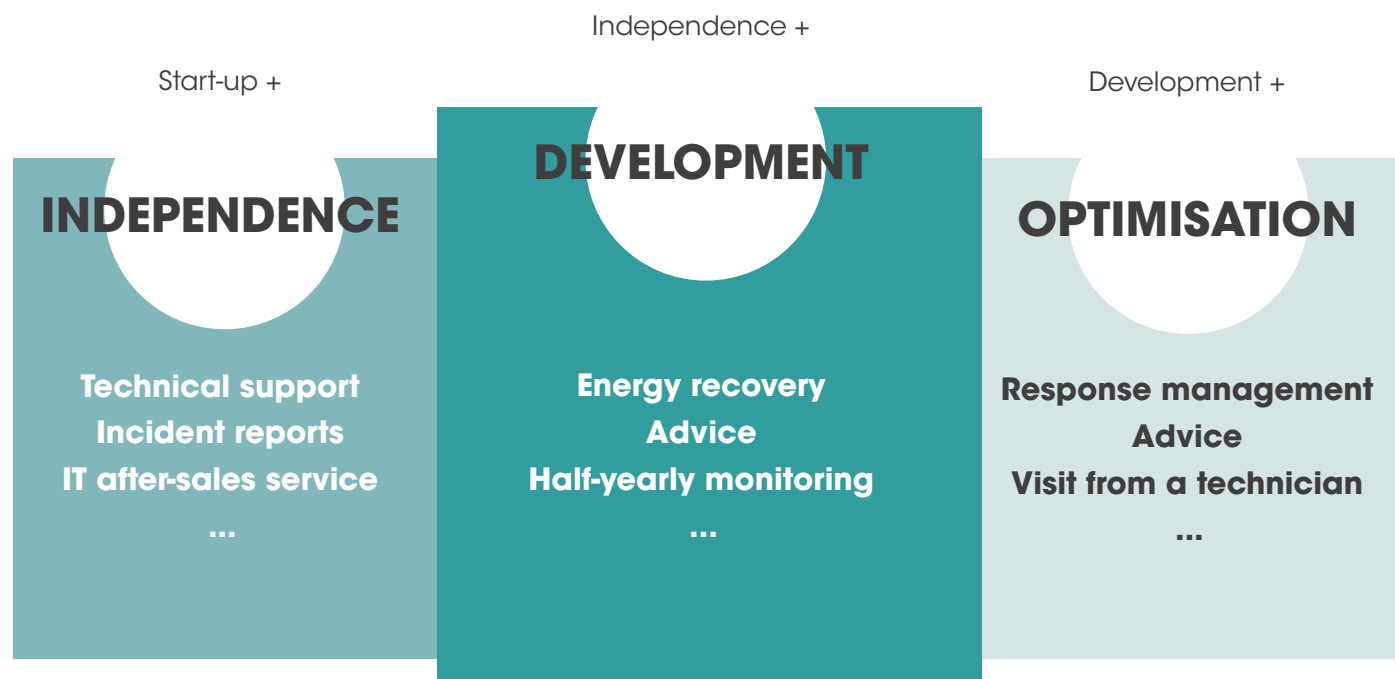
SMART **PLUG**



ENERGY
CONSUMPTION SENSOR

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



1 Energy consumption sensor

• LoRaWAN® network



5 anti-vandalism sensors

• LoRaWAN® network



2 consumption sensors 1 occupancy sensor

• 4G connectivity
• LoRaWAN® network



Energy

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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