



**Enel Green Power S.p.a.**  
delivered by Proietti Tech

## ENERGY

With the solution provided by Proietti using Sewio RTLS, Enel got a complete insight into the amount and exact real-time positioning of people and vehicles within their facility.

# 81%

less unauthorized  
access to zones

## Background

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# Worldwide Clean Energy

Founded in December 2008, and part of Enel Group, Enel Green Power develops and manages activities for the generation of energy from renewable sources worldwide. Enel Green Power is present in **30 countries** on five continents with a **managed capacity of about 42 GW and over 1,200 plants**. The clean energy generated by Enel Green Power plants is able to meet the consumption needs of millions of families around the world, and helps reduce carbon emissions, combats climate change, and facilitates a new model of decarbonized development.

## Goals

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# To Improve Security and Access Control

To **increase safety**, Enel Green Power needed to know the number of people and vehicles present at the San Giacomo hydroelectric plant as well as identify them individually at any given time.

Considering the huge area of the site, with access tunnels of more than two kilometers and several internal areas, it was also necessary to know exactly the position of vehicles and people to **facilitate emergency assistance**.

The system needed to meet the following requirements:

- To get real-time information about the number and position of people and vehicles
- To allow rescuers to operate directly in areas where people are
- To check the access and working hours of the operators
- To prevent unauthorized access

*“Sewio has provided us with a system that can identify and locate vehicles and people reliably. The technologies we had used up until now had always failed. The high quality of detection and positioning accuracy makes the Sewio solution very suitable in environments with high-security needs. In the world of access control and security, in which our company operates, it is vital to have reliable information. Sewio has a configurable platform that guarantees results at the highest levels. A final aspect of primary importance is the availability and competency of the assistance service provided by Sewio during the design and configuration of the system, with competent and professional technicians.”*



**Luigi Proietti**

Owner, Proietti Tech

## Challenges

# A Very Extensive, Damp, and Isolated Environment

The San Giacomo hydroelectric plant is an extensive facility with long tunnels (two kilometers) at the entrance and additional places.

The customer's requirement was to detect, with precision, the position and the number both of persons and vehicles in real time and to be highly effective in providing assistance in emergencies.

The first challenge to **address was detecting persons and vehicles in transit** through the tunnel at the entrance of the plant while they are moving. Sewio Technology made it possible to detect the UWB RTLS tags, even those placed within the vehicles, with consideration to their medium speed of 30 km- or 19 miles-per-hour.

The second challenge was to map, with Sewio System, the transit zones **of the entire hydroelectric plant**: the extraordinary dimensions of the locations involved made it necessary to map all the areas and transit zones, and then divide them in micro-areas.

Lastly, the third challenge was **the damp environment** where the system systems were to be installed: so it was necessary to find proper protection to guarantee the correct functioning of the entire system, namely, water-tight shielding.

Solution

## Where UWB RTLS Meets RGB Cameras

To satisfy these requirements, Proietti had to introduce two technologies: A Sewio-RTLS-powered **indoor-positioning system** and counting the number of people using RGBD cameras. Radio technologies are used to identify people and vehicles equipped with UWB RTLS tags, while with RGB cameras, it is possible to count the number of people present, even if they are not wearing a tag.

Cross-referencing RTLS Sewio against the number of persons detected by the RGB cameras provides accurate detection of the numbers of persons and their precise position inside the plant

Sewio System is engineered to be expandable, where needed, to monitor additional areas of the plant, as there are more levels and relevant zones to be checked than the one involved in this single operation.

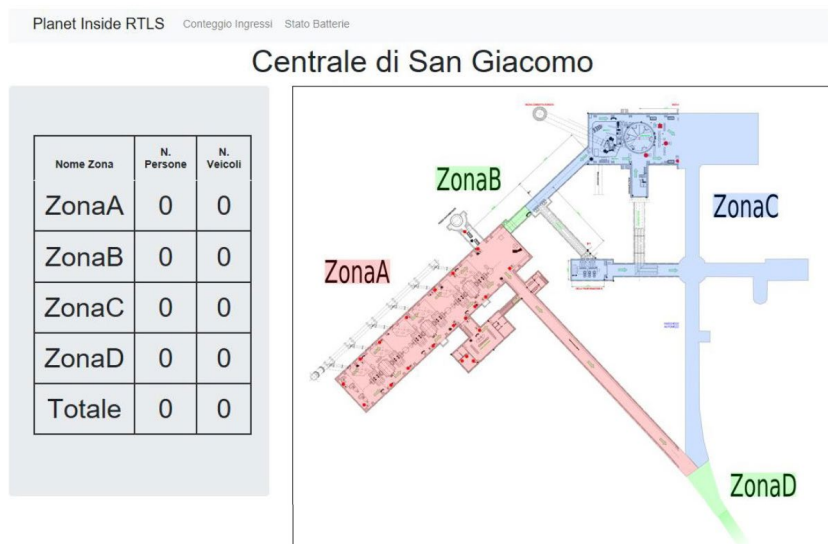
**Solution Numbers:**

**6 000 m<sup>2</sup>\***  
area covered

**15**  
receivers

**60**  
tracked objects

*\*The overall area is 6 000 m<sup>2</sup> is, however, only particular zones have full RTLS coverage.*



## Results

# Increased Efficiency of Operational Safety

With the solution provided by Proietti using Sewio RTLS, Enel got a **full insight into the number and exact real-time positions** of vehicles within the facility. This clearly decreases the time needed for rescuers to reach injured persons and increases the time efficiency in giving them medical treatment and, in critical situations, saving lives. It was found that solution provided a complementary use as an attendance reporting system, which makes attendance reporting easier and error free.

### Results in Numbers:

**47%**

faster access to  
injured person (in avg.)

**81%**

less unauthorized access  
to zones

**25%**

fewer errors in attendance  
data

**6 months**

deployment time



## Key Factors for Choosing Sewio RTLS

- Unlike other technology, Sewio's UWB works with **higher precision** and has the ability to work in **harsh environments**.
- The large area with dozens of receivers makes **TDoA a clear winner against TWR** (with TWR, the greater numbers of receivers (approx. > 20) would make the configuration practically impossible).
- The guaranteed **long battery life** of more than a year, even with the short refresh rate needed for tracking movement, decreases the total cost of ownership.
- Onsite, in-house affordable support from both the partner and vendor, as well as available **remote troubleshooting tools** for easy issue reproduction and quick fixing.
- **The extensibility of the technology** by adding other sensors, RGBD cameras, etc.
- The **short time** for deployment.
- **Continuous track and trace**; unlike RFID and other technologies

Partner

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Always attentive to the needs of our customers, we design and build solutions to improve services to individuals and facilitate control and security in public and private companies.

Our scope is based in services and technology mainly related to Attendance Control and Human Resources Management, Access Control and Security, Building Automation, School Canteens Solutions, Vehicular Access Control.

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