Zerynth®

ESA – Elbana Servizi Ambientali

CASE STUDY

Monitoring of energy consumption, waste storage processes, and the proper functioning of the facilities.

- **Industry 4.0**
- **Environment Sostenibility**
- **Remote monitoring**
- **Energy consumption reduction**

www.zerynth.com

Esa Spa
ELBANA SERVIZI AMBIENTALI

Zerynth®

IOT TECHNOLOGY ENABLES ENVIRONMENTAL SUSTAINABILITY BY MONITORING VENTILATION SYSTEMS AND ENERGY CONSUMPTION.

| **24/7** | Odor emissions monitoring from plants | **9** | Monitored and interconnected systems | **100%** | Compliant with the sustainability report |

We turned to Zerynth because we needed a tool that would allow us to achieve results from both a social and environmental point of view. IoT technology has helped us to develop a project aimed at monitoring the most sensitive management processes, in order to contain the environmental impact of waste treatment plants on the Elba area and have a concrete measurement tool and effective, able to provide accurate data for the preparation of our Corporate Social Responsibility Report (CSR).

Livio Giannotti, Vice President of ESA

Industry

Environmental Services

Asset

Electrical panels, ventilation systems, tanks, storage facilities

The Challenges

The recent climate and environmental crisis represents a problem that is having a negative impact. Managing the waste cycle by promptly monitoring environmental parameters within the plants is essential to ensure greater sustainability.

ESA Elbana Servizi Ambientali Spa turned to Zerynth in search of a solution capable of solving three main problems at the "Buraccio" waste treatment plant in Porto Azzurro.

ESA needed a continuous monitoring system for operation of all the plants in the factory (the offices, too), to limit the problems of bad odor in the surrounding areas and to **monitor overall energy consumption.** Then they could **control all areas at the plant, save on costs** and have elements available for intervention, and **make processes and processing times more efficient.**
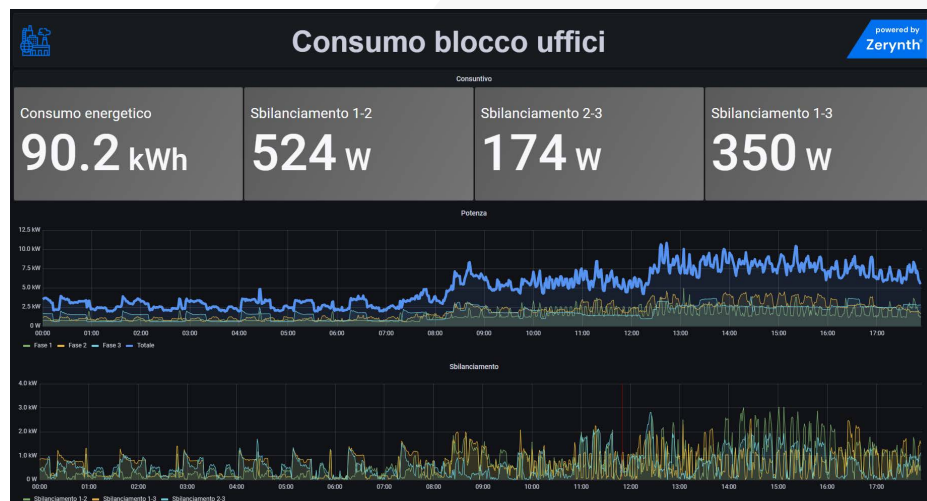
Z Zerynth.

The Solution

To monitor the entire Buraccio site, an architecture based on the Zerynth IoT Platform was developed which involves the use of a Zerynth Edge Device installed on each piece of equipment to be monitored. Here, all **plant data are available in real time** and are visible on a set of plant or single system Dashboards.

Odor management. ESA's main need was to contain the dispersion of odors caused by ordinary operations. In particular, it was essential to keep the openings of the doors to the sheds under control where the waste is stored. The solution that was implemented involved reading the status of the warehouse doors and sending alarm notifications via email should doors stay open longer than 5 minutes.

Air treatment. The area's plants are equipped with a treatment (purification) system for air coming from the warehouses. Thanks to the Zerynth platform it was possible to monitor its operation and electrical consumption, but also to control the use of reagents and vacuum levels inside the warehouses. In this way it is verified that the internal pressure is lower than the atmospheric, in order to not emit bad smells.

Energy consumption monitoring. Through current sensors it was possible to monitor all consumption of assets present in the plant. Furthermore, by connecting to the outgoing phases from the main switchboards, it was possible to monitor any phase imbalances.

Tank level monitoring. Finally, ESA needed to control liquid waste levels stored inside the tanks, remotely monitor the entire process, and make the logistical management of emptying more efficient.

The Results

Greater control of odors and air quality
24/7 Remote monitoring of environmental parameters
Plant monitoring
100% Real-time anomaly detection
Consumption monitoring
Complete overview of energy consumption and total costs.

Why ESA Chose Zerynth?

Implementing the Zerynth IoT platform in the ESA plant has made it possible to carry out an active and total monitoring of the plant: the individual equipment, the related operating parameters, consumption, and costs.

Being able to manage all waste storage and collection areas from an environmental viewpoint has made it possible to reduce odors and consequently limit the impact on the surrounding air quality thanks from the monitoring of filtering and purification actions.

Constantly monitoring consumption, working hours, and plant operation was essential to optimize costs, improve internal processing processes, and have more precise information supporting the processes of choosing the most appropriate strategies to improve overall plant efficiency.

About Zerynth

Zerynth enables companies to streamline production processes and increase the value of connected industrial products. Through a plug-and-play IoT & AI platform, we connect any industrial machine, allowing for a complete 4.0 transformation quickly, flexibly, and securely.

Founded in 2015, Zerynth has grown steadily. Today it has 40+ team members with deep IoT expertise and industry knowledge with over 150 customers across many industries: from manufacturing to agriculture to energy to logistics. Zerynth is based in Pisa, Italy, but also is active in international projects, and foresees an expansion both in EU and non-EU countries during the next three years.

GET START WITH ZERYNTH
Ready to see what Zerynth can do for your business?

LET'S TALK!