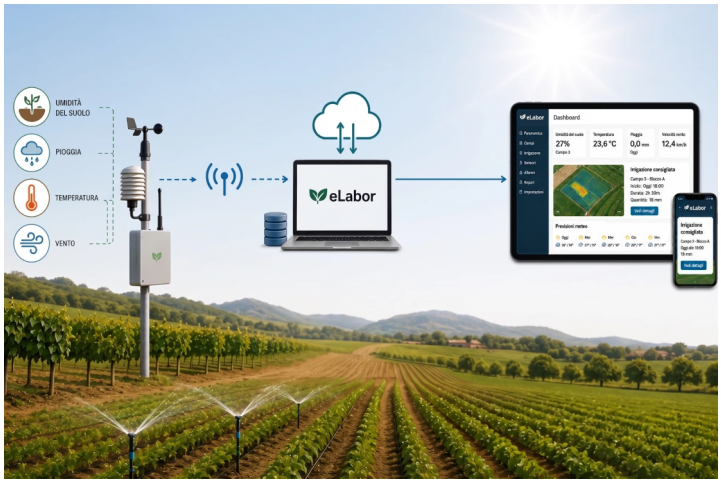
CASE STUDY
SMART IRRIGATION

PROJECT OBJECTIVE

The project was born with the aim of introducing digital tools and innovative technological solutions to optimize the irrigation of parks, gardens, and cultivated areas, reduce water waste, and support more sustainable and intelligent management of environmental resources.

NEEDS

Traditional irrigation systems have repeatedly proven to be inflexible, non-automated, and lacking integration with real-time climate data. This configuration resulted in inefficient water use, the need for frequent manual interventions, and a limited ability to dynamically monitor and manage environmental conditions.
In this scenario, the introduction of advanced digital technologies responds to the dual need to optimize water consumption, reducing waste, and enable more timely, reliable, and data-driven operational management.



THE PROJECT

The eLabor project involved the implementation of a smart irrigation system based on a network of IoT sensors capable of detecting key environmental parameters such as soil moisture, rainfall, temperature, and wind.
This data is transmitted via a long-range, low-power wireless network to a central platform that processes it and integrates it with predictive models and weather forecasts, intelligently suggesting when, where, and how much to irrigate, optimizing time and resources. Operators can consult an intuitive dashboard, receive notifications, and plan interventions based on objective, real-time data.

PREVENTION AND SCALABILITY OF THE MODEL

The introduction of the smart irrigation system has led to significant water savings, with consumption reduced by up to 30% compared to traditional methods. Furthermore, the ability to control the system remotely and receive automatic alerts has significantly reduced manual interventions, improving operational efficiency.
The project has also demonstrated significant preventative action: thanks to predictive analytics, irrigation can be planned, avoiding waste due to impending rainfall or adverse weather conditions.
The system has also proven scalable and replicable, representing an innovative model for water resource management in urban and agricultural settings.

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