



REGIONE
PUGLIA



Project OVERVIEW

EnPAS is an energetic, integrated and adaptive Plug & Play measurement system for the optimization of manufacturing SMEs processes. Using various protocols, the hardware system allows data to be acquired at the field level and sent to the software platform which is the "brain" of the entire system. Through the analysis of the data, implementation logics are made available to improve services both from a qualitative and quantitative point of view.

Project PARTNER

Established in 2006, Kad3 is a company specialized in design services, technical consultancy and integrated engineering. With over 30 years of experience, it offers professional and complete technical consultancy and assistance in the field of mechanical and mechatronic design, industrial design and automation and applied research.

ENPAS

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Project IMPLEMENTATION

1 Definition of State-of-Art

- State of the art and market analysis to define:
 - the main acquisition and control systems;
 - the communication specifications;
 - the requirements for the application layer;
 - the functional flows and the logic for optimizing production costs.

2 Field Layer



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- Standardization of communication protocols
- Secure remote communication methods
- Field-board design: the EnPAS box
- Field-board HW development: the EnPAS box
- Firmware development for field-box
- Software development of data management at field level

3 Application Layer

- EnPAS platform design
- Interface design
- Implementation of the platform and its interface



4 Test and validation

- Communication system testing
- Platform testing and validation
- Framework development: Field-Application Layer integration
- Implementation of the test case
- System tuning and validation



5 Dissemination & Exploitation of the results

- Communication and promotion of scientific research results
- Scientific dissemination, exploitation and dissemination of results



THE SYSTEM

The system is a modular, scalable and minimally invasive solution, being able to rely, without replacing, the existing systems. EnPAS allows to pursue a gradual approach towards an "industry 4.0" system.



THE OBJECTIVE

The objective is the realization of a Plug & Play control and management platform for process optimization and service improvement.



THE BENEFIT

This product is intended for SMEs, excluded until now from the possibility of acquiring supervisory systems to carry out process optimization due to the excessive prices caused by the presence on the market of a few large manufacturers. The innovative EnPAS system is a "turnkey" solution, minimally invasive and easily configurable.