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# DORSAL Project (Digitalization fOR SustAinabiLity)
# Digital platform for the management and analysis of sustainability data

Piano Nazionale di Ripresa e Resilienza (PNRR) – Missione 4 Componente 2 (M4C2) – Investimento 2.3 – Potenziamento ed estensione tematica e territoriale dei centri di trasferimento tecnologico per segmenti di industria
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Consortium: ORI Martin S.p.A., MADE S.C.A R.L. (CSMT Gestione S.c.a.r.l., Lutech SpA)

## THE PROBLEM

The steel industry faces a range of technological, organisational and cultural challenges as it evolves towards greater efficiency and flexibility. The management, analysis and protection of production data are no longer merely supportive but fundamental to any decision-making process. Furthermore, market trends relating to environmental impact are driving a shift towards new management policies and corporate strategies in a context of rapidly changing market demand. In this context, the adoption of innovative digital systems is becoming an increasingly significant factor in corporate competitiveness.

## THE SOLUTION

The DORSAL project aims to create an innovative digital platform capable of managing, standardising and analysing data – sourced from various information systems and factory automation systems – relating to the environmental sustainability of the production process. The data, acquired from diverse sources, is managed at different levels of quality, ranging from raw sensor data to final certified data, depending on the analytical approaches required for various business purposes. The DORSAL platform is based on complex, highly configurable data models, designed to perform analyses with various objectives: energy consumption, production efficiency, and even the evaluation of individual production batches to be sent to the customer.

## TECHNOLOGY

The platform has been implemented by using the latest Microsoft Fabric technology available in the Microsoft Azure cloud environment. The chosen architecture, of the data lakehouse type, has been designed as a tiered structure with three levels of data management: gold, silver and bronze. This makes it possible to progress from the raw data received from field IoT systems through to aggregated data for business reporting.

## PROJECT ACTIVITIES

- WP1 – State of the art, data mapping, requirements definition, gap analysis
- WP2 – Integration of additional IoT sensors and interconnection
- WP3 – Data modelling and platform design
- WP4 – Software development for the DORSAL digital platform
- WP5 – Installation and testing of the overall system in the rolling mill area.

## IMPACT

The DORSAL platform is a strategic asset for competitiveness, meeting the growing demand for sustainable steel. It has been designed to support management in planning investments for decarbonisation, through accurate monitoring of environmental impact and rapid, objective assessments of the effects of interventions. This approach enables more informed decisions and better results on the path to sustainability.

**BENEFITS FOR THE BUSINESS**

The platform enables you to:

- **Centralise data** for integrated and secure management.
- **Ensure traceability and reliability**, reducing risks and errors.
- **Analyse historical data** to identify trends and support strategic decisions.
- **Optimise the flow of information** for the sustainability report, speeding up its preparation.
- **Improve efficiency in the use of resources**, reducing operating costs.
- **Simplify the audit process**, making it more structured, formal and compliant with regulations.

**KPIs (Key Performance Indicators)**

From an economic benefits perspective, the project will impact the following key areas:

- A **reduction in operating costs of between 20% and 30%** for the organisations involved in the data collection and sustainability report preparation process, and **time savings of up to 50%** thanks to automation, the elimination of duplication and the reduction of errors.
- A **25% reduction in operating costs for the Sustainability Office** in the process of completing ESG rating questionnaires.
- A **reduction in electricity consumption in production of more than 1%** through continuous monitoring and data analysis to implement corrective actions.