

Optimo IoT Energy Audits

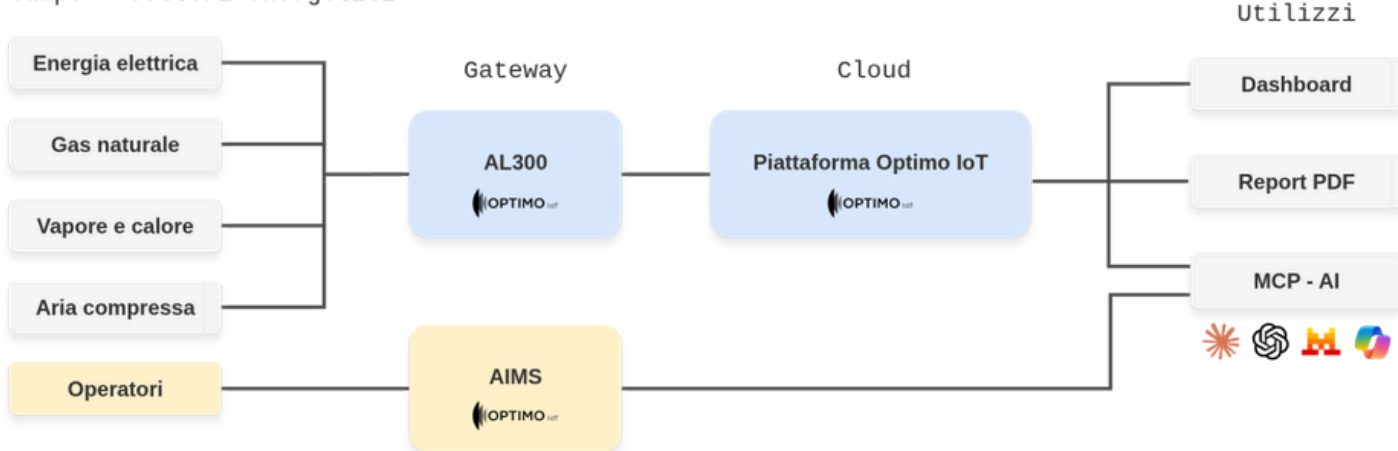
Optimo IoT Energy Audits: from **field measurement** to the **breakdown of consumption into the three functional areas** required by the **ENEA Guidelines** in accordance with UNI CEI EN 16247

STEP 1 Installing the **metering system**

Certified instruments are installed on every significant load: **MID meters** with **split-core CTs** and **power analyzers** for electricity, **energy meters** for steam and thermal circuits, **gas meters** for natural gas and **flow meters** for compressed air. The **metering plan** is validated with the consultant to meet the **minimum coverage percentages** required by ENEA.

Devices are connected via **Modbus RS-485 / TCP IP** to our **AL300 gateway**, which collects the readings and sends them via **Ethernet or 4G** to the **Optimo IoT** cloud platform.

Campo - Vettori energetici



Breakdown into the **three ENEA functional areas**

1. Core activities

Consumption directly linked to the production process: heat treatment furnaces, presses, blanking presses, rolling mills

2. Auxiliary services

Equipment serving the process: compressed air plant, process chillers, air extraction, pumps

3. General services

Activities not related to production: lighting, office HVAC, department services, space heating

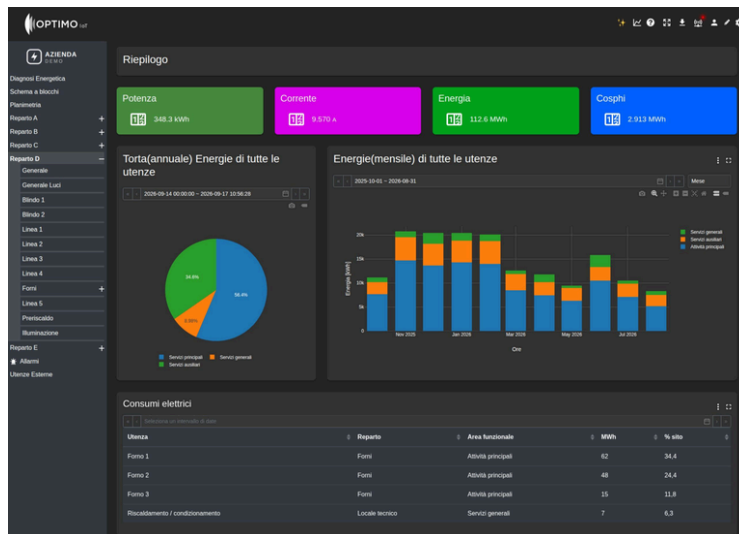
Where installing a dedicated instrument is not cost-effective, consumption is derived by difference using virtual variables calculated on board the gateway: the sum of the three areas always matches the measured total.

STEP 2 Data monitoring on dashboards

Data acquired by the **AL300** is available in real time on the **Optimo IoT** cloud platform, with **aggregations by functional area** already configured.

Energy managers, consultants and company operators can view consumption, **export data to xls**, create **periodic reports** and run advanced analyses with **AI** tools thanks to the **Optimo IoT MCP connector**.

No software to install on company PCs: dashboards are delivered at commissioning and the customer is **free to customize the views**.

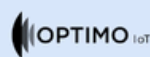


From consumption to energy performance indicators (EnPIs)

SISTEMI DI FABBRICA

MES · ERP · SCADA
pezzi, lotti, ore macchina
cicli di trattamento

Piattaforma Optimo IoT
associazione per finestra
temporale e per asset



Indici di prestazione energetica
kWh / pezzo · kWh / t · kWh / h forno

MISURA IN CAMPO

Gateway AL300
kWh per singola utenza



An EnPI is a ratio: **kWh per part produced, per tonne processed, per furnace hour**. Monitoring provides the numerator, the **MES** the denominator: the **Optimo IoT** platform matches them by time window and by asset.

Documented breakdown

Every kWh maps to a physical metering point

Measurable improvements

A real baseline to verify the savings achieved

Next audit ready

A continuous history, with no last-minute rush for data

Towards ISO 50001

Reliable data for the energy management system

