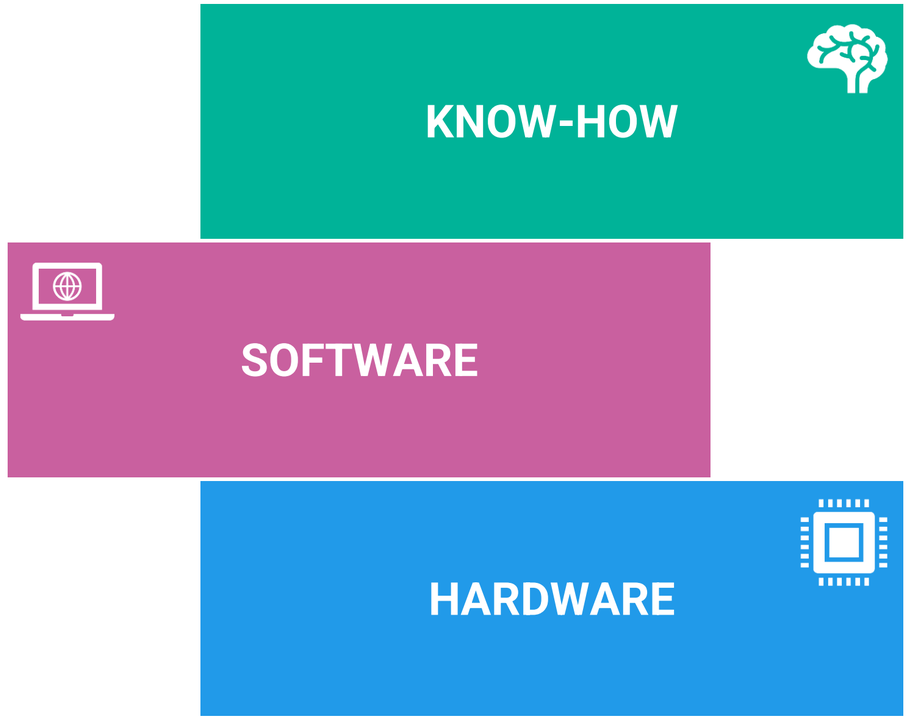
The courage to look beyond the horizon.

Corporate Presentation 2024


MiPU
Predictive Hub
MiPU
Energy Data
MiPU
Machine Care
Inspiring
MiPU
MiPU Predictive School

We optimize industrial processes in factories and cities by applying predictive technologies and AI.



+13 YEARS OF EXPERIENCE
+200 CUSTOMERS
+1,000 PROJECTS

The technologies and solutions of MIPU have made more than 200 customers connected and predictive, in Italy and Europe.

Relying on a strong network of partners, MIPU distributes its software solutions even in Japan, South Korea and in the United States.

Some of our customers

MIPU

Our roadmap to the predictive enterprise

KNOW-HOW
SOFTWARE
HARDWARE

ARCHITECTURE

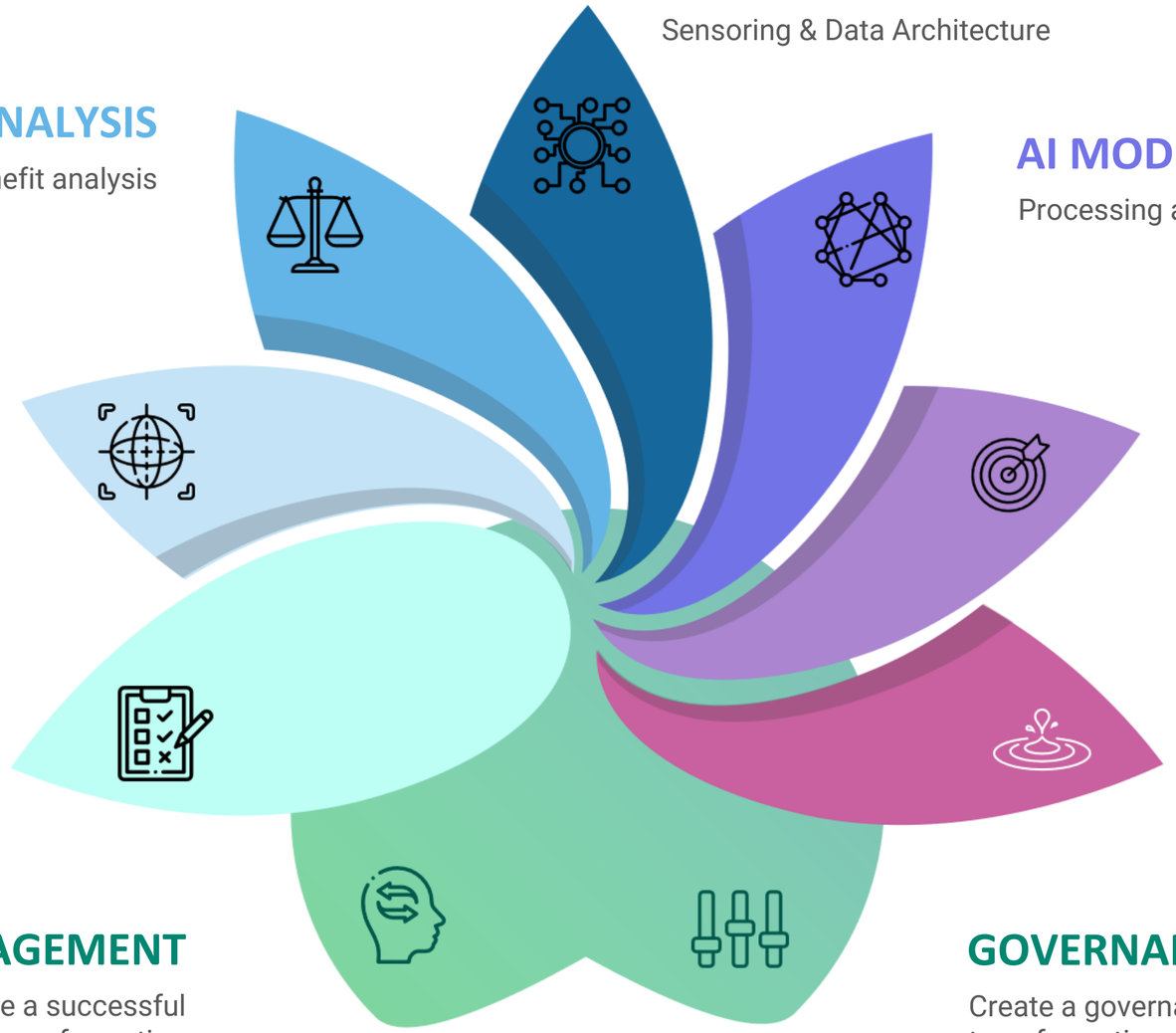
Sensoring & Data Architecture

ANALYSIS

Cost-benefit analysis

AI MODELS

Processing and construction of AI models



AI CANVAS

Generating ideas and identifying opportunities

ACTION

Optimization actions

ASSESSMENT

Study of the AS-IS situation

SCALING

After finalizing the solution adopted, take it to all possible destinations to maximize the return on investment

CHANGE MANAGEMENT

Engage people and ensure a successful digital transformation

GOVERNANCE

Create a governance team to lead the transformation process

MIPU

Rebecca | a modular and codeless platform

KNOW-HOW
SOFTWARE
HARDWARE

Data Experience

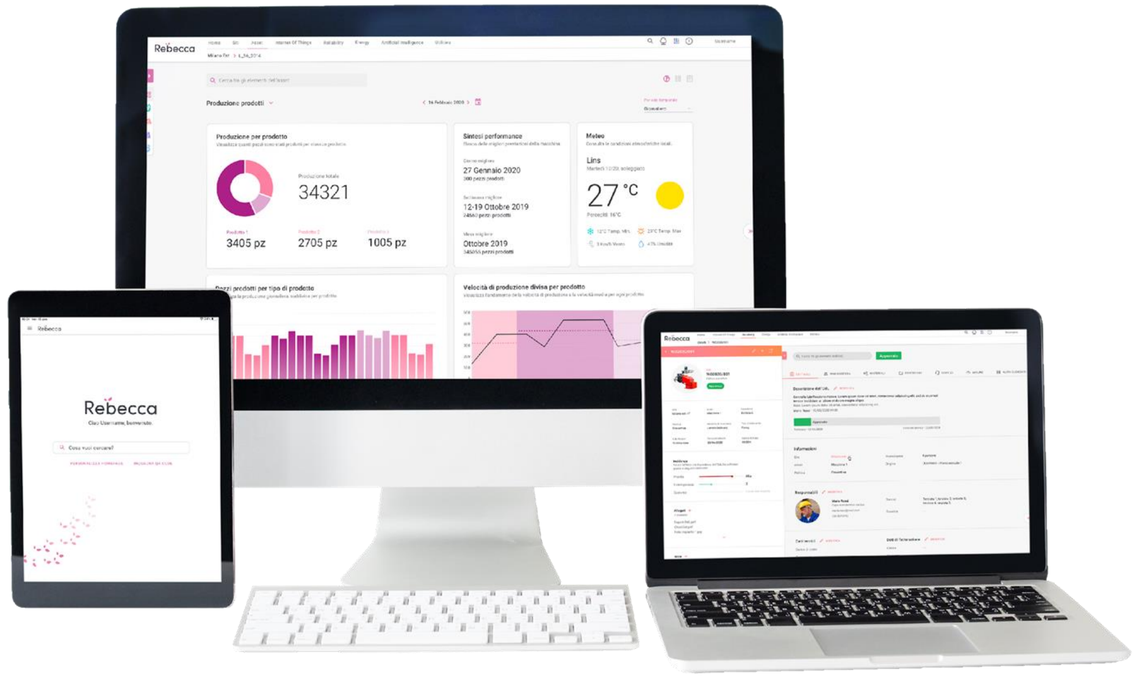
Asset Management

Energy Management

Operations & Verticals

Artificial Intelligence

Internet of Things



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Asset Management | Manage and enhance the value of your assets

KNOW-HOW
SOFTWARE
HARDWARE

MAP

MAP YOUR ASSETS

TRACK THEIR HISTORY

PLAN

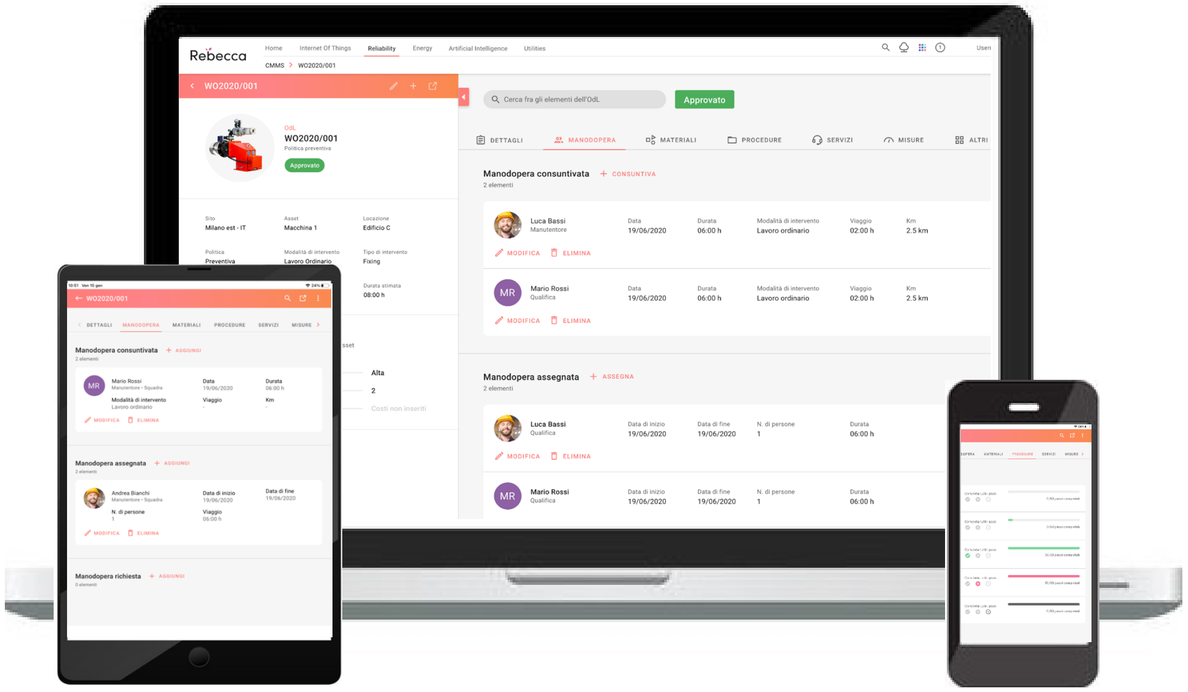
DEFINE WORKFLOWS

SET PERFORMANCES

OPTIMIZE

DECREASE DOWNTIMES

INCREASE PRODUCTIVITY



MIPU

Asset Management | Choose the apps and build your own solution

KNOW-HOW

SOFTWARE

ASSET INFORMATION

INFOMAPPING

TICKETING

CMMS

SPARE PARTS

CALIBRATION MANAGEMENT

DOCUMENT MANAGEMENT

AUDIT & NON COMPLIANCE

REPORT & KPI

MIPU

Energy Management | Give the right value to your investments

KNOW-HOW
SOFTWARE
HARDWARE

PLAN

DEFINE YOUR OBJECTIVES

BUILD THE ENPIs

CONTROL

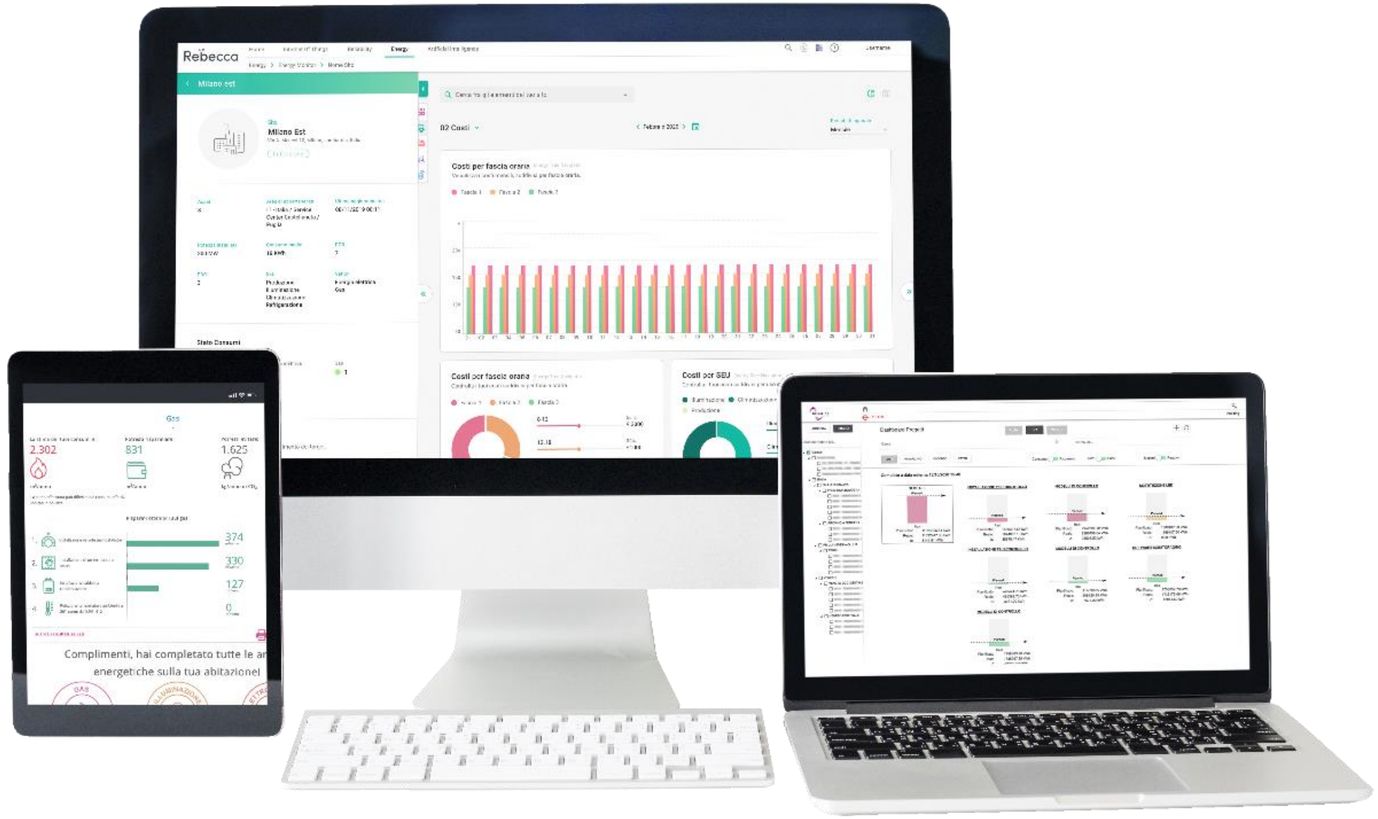
MEASURE DEVIATIONS

CORRECT THE ROUTE

IMPROVE

REACH YOUR GOALS

ENHANCE YOUR RESULTS



MIPU

Energy Management | Choose the apps and build your own solution

KNOW-HOW
SOFTWARE
HARDWARE

FAST CHECKUP

THE ENERGY AUDIT

THE ENERGY MONITORING

THE ENERGY MANAGEMENT

THE ENERGY REVIEW

ENPI GOAL

MIPU

Artificial Intelligence | Predict and resolve problems of your company

BUILD

COLLECT DATA

TRAIN MODELS

INNEST

CREATE YOUR OWN SET OF INTELLIGENCES

CONNECT THEM TO YOUR EQUIPMENT

EVOLVE

ANTICIPATE CHANGES

BOOST YOUR INTELLIGENCES

BUILDER

INNEST

FRAME

MIPU

Tools for predictive maintenance

KNOW-HOW
SOFTWARE
HARDWARE

Smart Sensors

Condition Monitoring Tools

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SUCCESSSFUL CASE STUDIES

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AI & Predictive Maintenance in POWER GENERATION

OUR CUSTOMER

One of the main Italian players for energy production and distribution, part of a French multinational company.

OUR SOLUTION

Development of machine learning models able to predict energy consumption and production

Software system to easily manage the created models and to create new ones with no coding

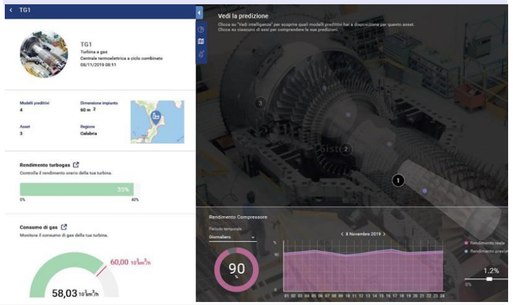
Automated alerts for deviations + optimized data experience for the overview of the assets performances

Rebecca INTERNET OF THINGS

Rebecca ENERGY MANAGEMENT

Rebecca ASSET MANAGEMENT

Rebecca ARTIFICIAL INTELLIGENCE



THE CHALLENGE

The customer wanted to implement an **AI-based framework for predictive maintenance** on the turbines of its thermal power plants and on wind turbines.

The company expected to:

- Create a digital twin model of the plants and most critical assets
- Have quick and easy overviews of plants performances

RESULTS

- Algorithms **precision in modeling the assets: 99.2%**
- **Easy management of algorithms** even for dislocated assets and teams

ECONOMIC SAVINGS: fixing the anomalies identified by the algorithms is allowing a production increase of avg. 30 MWh per day -approximately **€135.000 monthly revenue increase**

Maintenance Management in MANUFACTURING

OUR CUSTOMER

First tyre manufacturer in the world. Developing prototypes in Italy, in a Technical Center employing 500 technicians.

THE CHALLENGE

A modular CMMS for the comprehensive organization of maintenance operations, both on equipment and on facilities.

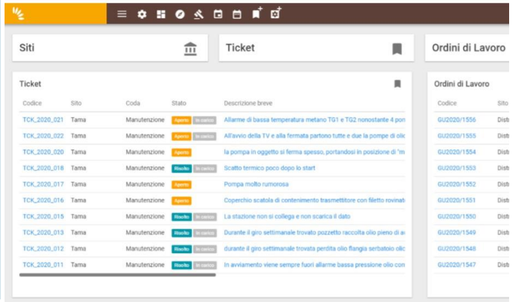
The company was looking for:

- A modular and user-friendly platform
- A smart solution to manage 2 different teams
- **A partner** able to help them in the implementation of the CMMS

OUR SOLUTION

- Asset inventory and implementation of maintenance plans
- Implementation of an online Ticketing system for the automatic generation of documents and workflows
- Digitization of Spare Parts Warehouse management operations

Rebecca INTERNET OF THINGS | Rebecca ENERGY MANAGEMENT | Rebecca ASSET MANAGEMENT | Rebecca ARTIFICIAL INTELLIGENCE



RESULTS

- **Use of only one software platform for all maintenance operations** instead of 2 + paper
- Digitization of operations previously performed manually or on paper, resulting in a **better coordination of the maintenance teams**

Energy Management in MANUFACTURING

OUR CUSTOMER

The company produces paper goods for personal care, employing 1700 people in 5 production plants in Italy and abroad.

THE CHALLENGE

The main objective was to **identify and control the EnPIs** (Energy Performance Indicators) of the plant.

The final goals:

- Interception of anomalies and deteriorations in the plant performances
- Energy consumption control and reduction

OUR SOLUTION

Installation of 120 energy meters DAVIDE to collect data in the plant

Software platform able to combine energy and production data

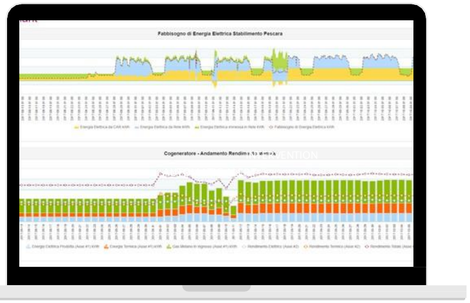
Dashboards for the easy creation of baselines, consumption control and overview of the main EnPIs

Rebecca INTERNET OF THINGS

Rebecca ENERGY MANAGEMENT

Rebecca ASSET MANAGEMENT

Rebecca ARTIFICIAL INTELLIGENCE



RESULTS

- Easy assessment of the energy needs
- Automatic reports for the overview of consumption, anomalies and energy sources to control

ECONOMIC SAVINGS: 5-7% of annual energy saving

Internet of Things in MACHINERY

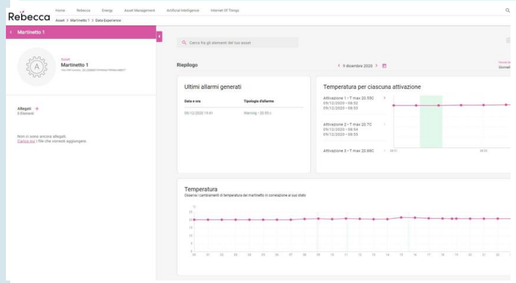
OUR CUSTOMER

Italian machinery company that produces high customized industrial components such as jacks.

OUR SOLUTION

- Installation of a **gateway** as a remote unit near the component
- Supply of an **IoT Software system** to easily collect information about the components on the cloud
- Supply of a customized **Data Experience** for data analysis for any single component

Rebecca INTERNET OF THINGS
Rebecca ENERGY MANAGEMENT
Rebecca ASSET MANAGEMENT
Rebecca ARTIFICIAL INTELLIGENCE



THE CHALLENGE

The customer wanted to implement an **IoT solution** in order to have the complete overview of its components worldwide.

The company expected to:

- Have a quick overlook of all the components installed at the end customers, in any moment
- Control and manage the components installed at the end customers

RESULTS

- **Easy remote management and control** of the components installed at the end customers
- Possibility to offer an **efficient and valuable after saleS service**

AI & Asset Management in PACKAGING MACHINES

OUR CUSTOMER

Italian company specialized in the design and production of conifying machines for the packaging industry

OUR SOLUTION

- **IoT platform** to collect data from machines and components
- Customized **Data Experience** to visualize production trends and analysis of OEE
- **Ticket application** for the opening of assistance tickets and remote support
- **Energy module** for energy monitoring
- **Artificial Intelligence** for performance control and predictive maintenance

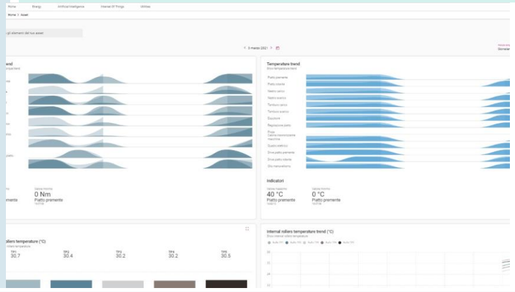
Rebecca INTERNET OF THINGS | Rebecca ENERGY MANAGEMENT | Rebecca ASSET MANAGEMENT | Rebecca ARTIFICIAL INTELLIGENCE

THE CHALLENGE

The customer wanted to implement a **software platform** to always have the complete overview of the installed equipment and to optimize after sales services.

The company expected to:

- Have a quick overview of all the machines installed at the end client
- Manage the entire maintenance cycle with automatic tickets
- Apply predictive maintenance on the machines
- Control energy consumption and reduce waste



RESULTS

- **Easy remote management and control** of the components and machines installed at the end customers.
- **Complete platform for the control of** machine performances and monitoring of energy consumption;
- Possibility to offer an **efficient and valuable after sale service**
- artificial intelligence models to identify anomalies and failures

A SELECTION OF **SUCCESSFUL CASE STUDIES**

INDUSTRY	CLIENT	CHALLENGE	SOLUTION	IMPACT
TERMAL POWER PLANT	One of the main Italian player in production & distribution of energy	Creating an AI Based Framework for **predictive maintenance** on thermal power plant	Rebecca's AI and IoT modules to: · Create **Digital Twin & +40 AI models** · **Predict Energy Consumption/Production** · Create **alert for performances deviations**	· Inefficiency identification within **0.3 % (prev. 0.7%), 99.2% reference performance** · **+ € 135.000 monthly revenues**
WIND TURBINES	One of the main Italian player in production & distribution of energy	Creating an AI Based Framework to · **Predict anomalies** · **Predict energy production** considering weather forecasts	Rebecca's AI and IoT modules to: · Create **Digital Twin & 25 AI models** · **Predict Energy Consumption/Production** · Create **alert for performances deviations**	· **98% precision** of assets models · **Anomalies intercepted up to 6 months in advance**
RAILWAYS	Italian railway infrastructure manager, owner of Italy's railway network	· **Automating low-skill and routinary tasks** with AI models · Scale the assets management and **anomaly detection** activities	Rebecca's AI module powered with **machine vision algorithms** to identify & monitor 22 assets categories, with anomalies real time notification	· **94% precision** in anomalies detection · **80% anomalies predicted 4 months in advance** · Costs decrease in maintenance & assets inventory management
STEEL PRODUCTION	Steel producer with 2 plants in Europe	Creating an AI-Based models modules to **monitor melting furnace health** and identify in advance leakages in the cooling system, causing safety and quality issues	Rebecca AI modules to **control +30 different parameters with 3 AI models** and spot in real time degradation w/r/t reference behaviour.	· Detect **100% leaks** · **Critical leaks detected 1-5 hours in advance** (prev. leakages detected late and with visual inspection)
HYDRO – PRED. MAINTENANCE	One of the main France player in energy production	Introducing **predictive maintenance for monitoring turbines**, to predict failures and lower preventive maintenance costs	Rebecca's AI module with sensors analysing vibrations to **predict the behaviour via vibration analysis**	· **Reduction of anomalies costs** · **€ 37.000 saved** after just one day of analysis
HYDRO – POWER MANAGEMENT	Italian green energy provider and producer, with 9 hydro plant.	**Predict in advance the flood wave** based on weather forecast, in order to optimize the plant management	Rebecca's AI module with **AI model to simulate the basin behaviour**	· Est. **+1M€ savings** · **Minimized flood risks** for nearby cities

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A SELECTION OF **SUCCESSFUL CASE STUDIES**

INDUSTRY	CLIENT	CHALLENGE	SOLUTION	IMPACT
COGENERATION	One of the main Italian airport, est. +20 million people traveling	Creating an AI Based solution to **maximize cogeneration production ate the minimum cost**	Rebecca's AI module to: · Create **Digital Twin & AI models** · **Optimize the cog. Behaviour** · **Provide best hourly setpoint for next 24h**	· **+ € 1.2M revenues** in the first year · **+ € 500.000 revenues** from second year
FASHION RETAIL	International fashion retail company, € 200M share capital	Creating an AI Based Framework to · **Optimize store consumptions** · **Detect anomalies** · **Identify inefficiencies**	Rebecca's AI and IoT SW modules + HW device to: · **Model chiller consumption** · Act on setpoints **to minimize consumption** (light & AC)	· Est. **-20% energy consumption/year** · **Optimized comfort at minimum energy cost** · Switch **from corrective to on condition maintenance**
FOODCHAIN STORES	One of the main Italian supermarket companies. +400 stores	· ISO 50001:2018 certified, needs to **reduce energy consumption yearly** · **Data management from different sources**	Rebecca's AI + IoT module to: · **Model stores consumption** with 7 AI models to identify saving opportunities · **Detect inefficiencies on main assets** · **Automatize energy audits with AI**	· **-4% energy consumption yearly** for 3 years in a row · **-80% time** to spot saving opportunities · **-70% time** to implement an energy audit
BUILDINGS	International bank with offices in 18 different countries, quoted on stocks exchange	Creating an AI & IoT framework to **minimize maintenance cost and switch to pay-per-use**	Rebecca AI modules to **monitor 65 HVAC and 13 chiller health** in order to detect 3 different failure modes with +6 AI models.	· Est. **-5% maintenance cost** switching from corrective to on condition maintenance · Est. **+10% energy savings** thanks to inefficiency detection
LOGISTIC	One of the largest manufacturers and distributors of soft drinks and syrup concentrates in the world.	Create an AI based solution **to predict the number of travel needed** to provide goods in the next 9 days	Rebecca's AI module with **+500 AI models to simulate travel scenarios** for different cities	· **Prediction error around 10% (prev. 25%)** · Est. **-60% time** to plan daily travels
MANUFACTURING	Leading producer of paper tissues for personal care	Predicting the Energy Performance Indicators (EnPIs) of the plant to: · **Intercept anomalies in the plant** · **Reduce energy costs**	Rebecca's AI module and energy meters to **combine energy and production data**	· **7% of annual energy costs saving** · **Detection of energy needs** · Eased energy reporting

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DO NOT POSTPONE MORE

Start your journey to the Predictive Factory Now!