



# Smart Industry

## THE PARTNERSHIP

Meteca has partnered with Applica to offer complete IoT hardware-software solutions in various sectors, including Smart Industry, based on highly tailorable and scalable Briki technology products and Applica cutting-edge web solutions.

**Applica**  
**Software**  
**Guru**

## THE CLIENT

The Client is an Italian company that has been active in the electromechanical sector since 1974, particularly in the manufacture, sale, maintenance and repair of electrical transformers

## THE CHALLENGE

Meteca and Applica were asked to implement a monitoring and control solution for a rotating system machine that winds coils for electrical transformers.

The machine is featuring mechanical bearings subject to wear that, if not prevented, can lead to machine stoppage. The client management realised that they needed a predictive maintenance system that would allow technicians to anticipate this type of downtime and limit the operational and economic damage.

Another customer's need was to reduce energy loss due to occasional abnormal power consumption of the coil annealing furnaces, thus avoiding waste of energy.

60%

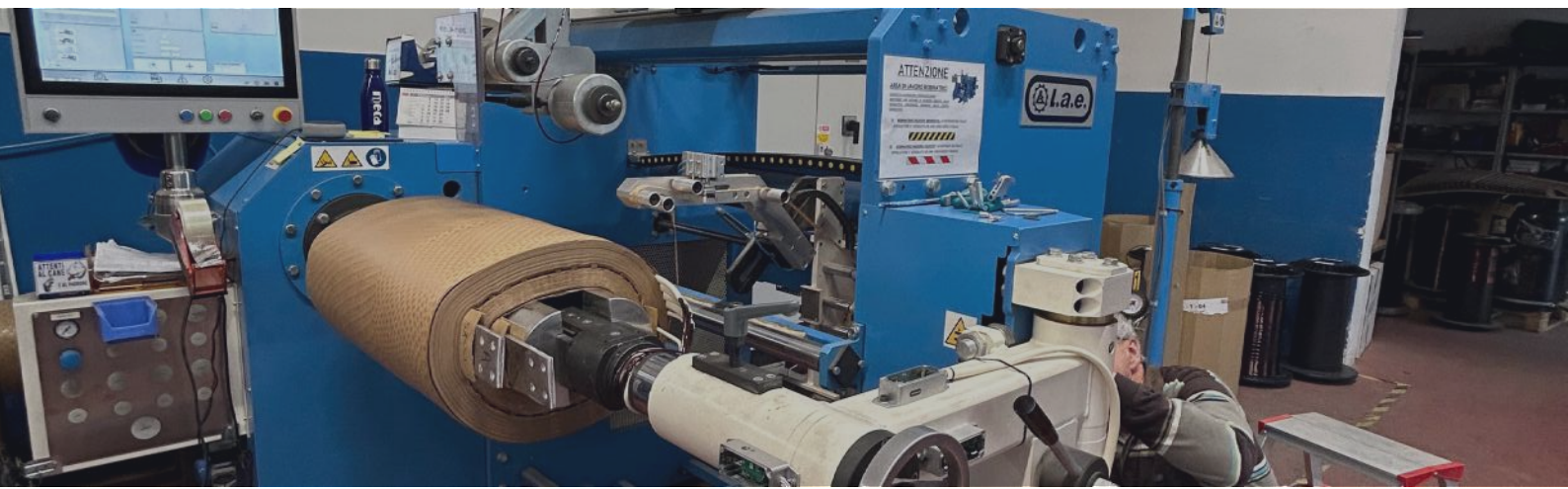
Lower energy  
consumption

24/7

Status  
monitoring

90%

Downtime  
avoided



## THE SOLUTION

Meteca designed, developed and produced an IoT kit consisting of control unit and sensor nodes with different predictive maintenance functionalities that could be used on the company's different types of machinery.

Thanks to Applica advanced IoT Cloud Platform with its dashboard intuitive interface and integrated data mining module, the system allows for in-depth data analysis and provides an immediate overview of the status of all nodes, facilitating timely detection of any issues through configurable alarms.

Both the control unit and the nodes make use of Briki® technology, and in particular the control unit mounts 2 Briki modules: the MBC-WB with Wi-Fi/BT-BLE and MBCLR with LoRa SubGHz connectivity, while the nodes mount the Briki MBC-LR with LoRa SubGHz connectivity.

The sensor nodes communicate with the control unit via the MBC-LR's SubGHz protocol, which is present on both.

The node implements a set of sensors that enable the detection of temperature, humidity, acceleration, rotation, and general vibration. It is also able via the RS-485 interface to control an external third-party power meter.

Then the control unit via the MBC-WB Wi-Fi technology transmits the measurements taken by the sensors to the Applica cloud, allowing real-time control of the system status and future processing.

The platform has the ability to handle automations using natural language, enabling users to define custom automation rules. Furthermore, through integration with Applica's proprietary blockchain, it offers the option to securely and immutably store data.

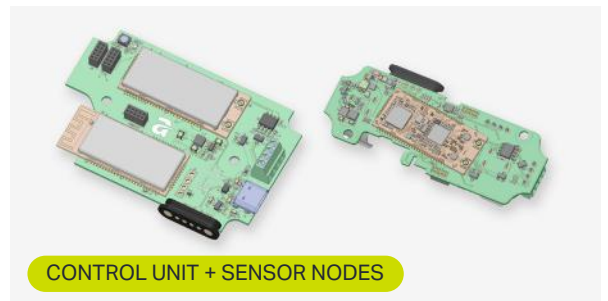
**In collaboration with Meteca, an integration has been implemented that allows sensors to perform automatic handshakes with the platform, simplifying the data management process.**

### IOT KIT

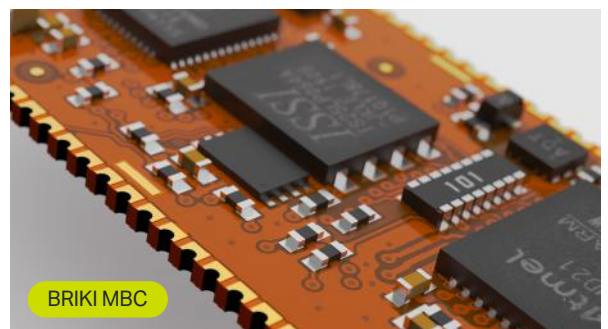
Control Unit + Sensor Nodes

Powered by:  
Briki MBC-WB with Wi-Fi / BT-BLE  
Briki MBC-LR with LoRa SubGHz connectivity

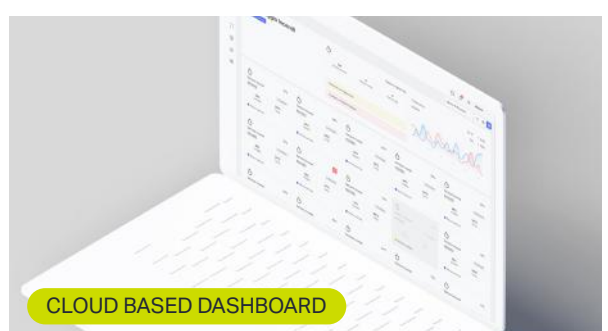
Cloud based Dashboard



CONTROL UNIT + SENSOR NODES



BRIKI MBC



CLOUD BASED DASHBOARD

## THE RESULTS

## Enhanced productivity and reduced costs thanks to predictive maintenance offered by Meteca and Applica solution.

Thanks to the new IoT kit, the customer was finally able to implement **24-hours monitoring** of the rotating system machine and of the furnaces, remote or otherwise.

With **malfunction alarms**, the client also gets the possibility to **intervene promptly in case of problems**, and avoid serious damage to the machine or even prevent breakdowns thanks to predictive maintenance.

The solution devised by Meteca and Applica allows an **80% lower energy waste** and 90% more downtime machine avoided.

In conclusion, the client gained optimised production cycle and significant production cost reduction.

## BENEFITS

## Advantages you get with Meteca and Applica

- Support in defining the best technological solution
- Hardware design
- Software design
- Prototyping
- Error correction of the first prototyping phase
- Design-for-manufacturing realisation
- Cloud based dashboard
- Field testing and on-going corrections
- Dedicated and continuous technical support
- Assembly and product testing during the MP phase

## METECA COMPANY

## Meteca is a swiss company that provides unique electronic tools and support for the development of tangible Internet of Things solutions.

Take your company to the next level, whatever your industry, with an excellent travelling companion. With our innovative Briki technology, we offer you complete and continuous support to achieve your goals with your IoT project.

[BEGIN YOUR JOURNEY](#)

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