

The top half of the image features a large industrial motor in a factory setting, overlaid with a semi-transparent blue tint. In the upper left corner, there is a network diagram consisting of several circular nodes connected by lines. Some nodes contain icons: a cloud, a lightbulb, a smartphone, and a server rack. The motor itself is a large, blue, three-phase unit with a cooling fan on the front, mounted on a metal base. It is surrounded by various pipes and mechanical components.

CASE STUDY

STATUS MONITORING FOR LOW AND MEDIUM VOLTAGE MOTORS

A hand with a pink nail polish is pointing its index finger towards the right side of the page, positioned next to the main title.

CHALLENGE:

A manufacturing company is looking for ways to increase the availability of critical motors for glass production and reduce maintenance costs.

While individual sub-areas are well automated and monitored, critical situations repeatedly arise which lead to downtimes (e.g. overheating of a motor). The company wants to prevent these situations and also save on repair expenses. They would also like to reduce manual maintenance activities.

One example of massive cost savings is the avoidance of new stator windings. This measure can quickly cost EUR 25,000–30,000. Regular and commissioned inspections for individual components are around EUR 2,000–3,000 per motor, without really knowing the condition of a drive.

A further challenge is to find a solution that is manufacturer and configuration-independent, can be quickly adapted to the situation and does not require any intervention.

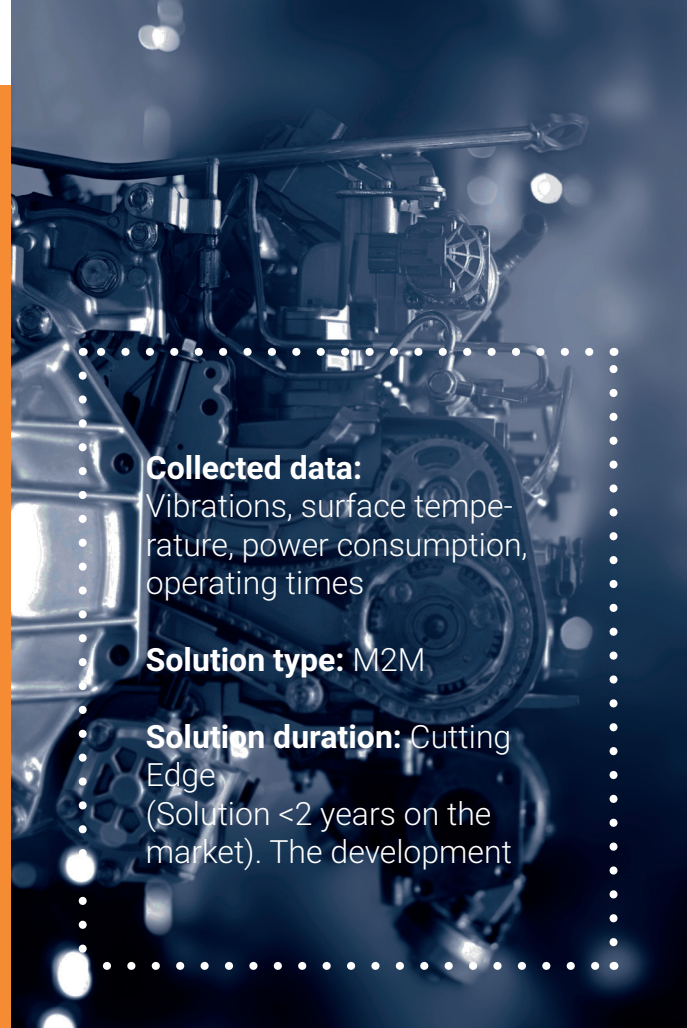
In addition, they do not want to have to carry out additional maintenance with battery-powered or wired systems and set up complex IT components.

SOLUTION:

endiio has installed and configured 20 Retrofit Boxes including 1 gateway for the most critical drives. The boxes are networked with the gateway, monitor all drives and can centrally warn of critical states on the basis of predefined parameters. The current status can also be viewed centrally at any time.

The solution is offered as a service in a 2-year contract. All hardware is provided by endiio and does not have to be purchased.

The system sends alerts as soon as there are abnormal trends. This gives the company the opportunity to keep an eye on critical changes at an early stage and to plan the replacement or inspection in good time. In addition, the system is completely energy self-sufficient. No battery replacement or power connection is required. The robust radio technology from endiio enables stable and secure communication in an industrial environment.



Collected data:

Vibrations, surface temperature, power consumption, operating times

Solution type: M2M

Solution duration: Cutting Edge

(Solution <2 years on the market). The development

OPERATIONAL BENEFITS:

✓ Impact #1

Reduction of workload for manual inspections with measuring instruments in the factory

✓ Impact #2

Planning of repair measures and procurement of replacement components

✓ Impact #3

Continuous overview of operating times and power consumption

QUANTITATIVE ADVANTAGES:

✓ Advantage #1

Reduction of new windings and other overhauls by external service providers

✓ Advantage #2

Reduction of inspections to a minimum (only if issues are suspected, instead of preventive)

✓ Advantage #3

The ROI can already be achieved by reducing downtimes by approx. 5–7 hours or avoiding an unnecessary general overhaul