



I-care's Wireless Vibration Monitoring Solution helps **BASF** make Production more Reliable and Efficient while Reducing the Incidence of Unplanned Downtime and Maintenance.

CUSTOMER SUCCESS STORY



BASF COMBINES ECONOMIC SUCCESS WITH ENVIRONMENTAL PROTECTION AND SOCIAL RESPONSIBILITY. AROUND 111,000 EMPLOYEES IN THE BASF GROUP CONTRIBUTE TO THE SUCCESS OF CUSTOMERS IN NEARLY ALL SECTORS AND ALMOST EVERY COUNTRY IN THE WORLD. THE PORTFOLIO COMPRISES SIX SEGMENTS: CHEMICALS, MATERIALS, INDUSTRIAL SOLUTIONS, SURFACE TECHNOLOGIES, NUTRITION & CARE AND AGRICULTURAL SOLUTIONS. BASF GENERATED SALES OF €87.3 BILLION IN 2022.

THE CHALLENGE

BASF offers many different products that require individual product lines and a variety of machine types and modes of operation. To ensure reliability, BASF relies upon a variety of maintenance processes and routines. Nevertheless, continuous equipment operation can lead to unforeseen and/or early wear and tear on parts, resulting in machine defects and unplanned maintenance.

BASF has long been committed to ensuring that all of its plants operate with maximum reliability and efficiency. At the time, the company was also engaging in digital transformation, which was delivering new opportunities for the company's plants to further improve outcomes in both areas.

The company had already been using condition monitoring solutions for a variety of both rotating and static equipment. Its staff aggregates and analyzes the information the systems produce, as well as interprets the data to see which changes might increase equipment efficiency and uptime.

However, the pathway to maximum machine reliability would be to collect and interpret more data, more easily. As Mario Flory, BASF Asset Monitoring Engineer and Project Leader, notes, the question for BASF was, "How do we achieve greater transparency into the health of even more machines?"

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-Mario Flory, BASF Asset Monitoring Engineer and Project Leader

APPROACH

"Our goal was to use wireless vibration monitoring in addition to the other approaches our teams were using internally. In this way, we could increase the reliability of even more of our machines," said Flory.

"However, due to the individual product lines, different machine types and modes of operation with different impacts, machine defects and maintenance processes, we needed to find a solution which meets our requirements and fits BASF as a whole."

The selection was not a given. Before choosing I-care, according to Flory, BASF performed "a market research survey, including detailed testing of different systems."

"Concerning I-care, we additionally made use of our BASF-Network and asked for referrals from colleagues," since BASF was already using I-care's service for handheld equipment measurements at varied sites across France.

The existing partnership gave BASF management additional confidence regarding I-care's commitment to excellence. Nevertheless, BASF only extends its implementations after specific criteria for the machines have been confirmed, such as full technical feasibility and profitability.





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RESULTS

Since that time, the I-care solution has proven its value in several specific ways, especially as it relates to greater uptime and reliability. For example, I-care's monitoring devices detected some early bearing damage that helped a BASF plant schedule a maintenance intervention and reduce downtime. I-care also detected a spontaneous bearing failure — one that could have posed a safety risk — that the BASF maintenance crew was able to fix immediately.

Additionally, I-care's experts validated their dedication when they helped BASF with some "workarounds" for problems. Shortly before Christmas 2021, a loud machine was causing concern, so the BASF staff asked I-care to examine the data. They wanted to avoid shutting down the plant before Christmas and perform repairs. I-care determined that the plant only needed to relubricate the equipment. After relubrication, the noise was alleviated.

This case is only one example where I-care helped BASF to ensure small issues didn't become big ones. Another one was loose screws or misalignments, which are hard for the plant crew to detect. Over a long period, these issues would cause higher vibrations of the machine(s), thereby resulting in provably larger consequential damages. Addressing these smaller problems continuously required minimal effort to prolong the lifespan of the machines.

In concrete terms, the value is clear: some BASF plants have been able to avoid hours of unplanned downtime within a production year. Another positive result is that the I-care solution enabled BASF maintenance teams to reduce their "fire-fighting" activities and focus on planning.

"The I-care solution is an incremental approach in addition to our reliability center and internal machine monitoring," says Flory. "We have found that the whole I-care package is substantiated with a realistic assessment of its possibilities. It really fits our requirements. It not only reduces these spontaneous failures and increases the availability of the assets but also enables us to optimize maintenance costs and procedures."



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