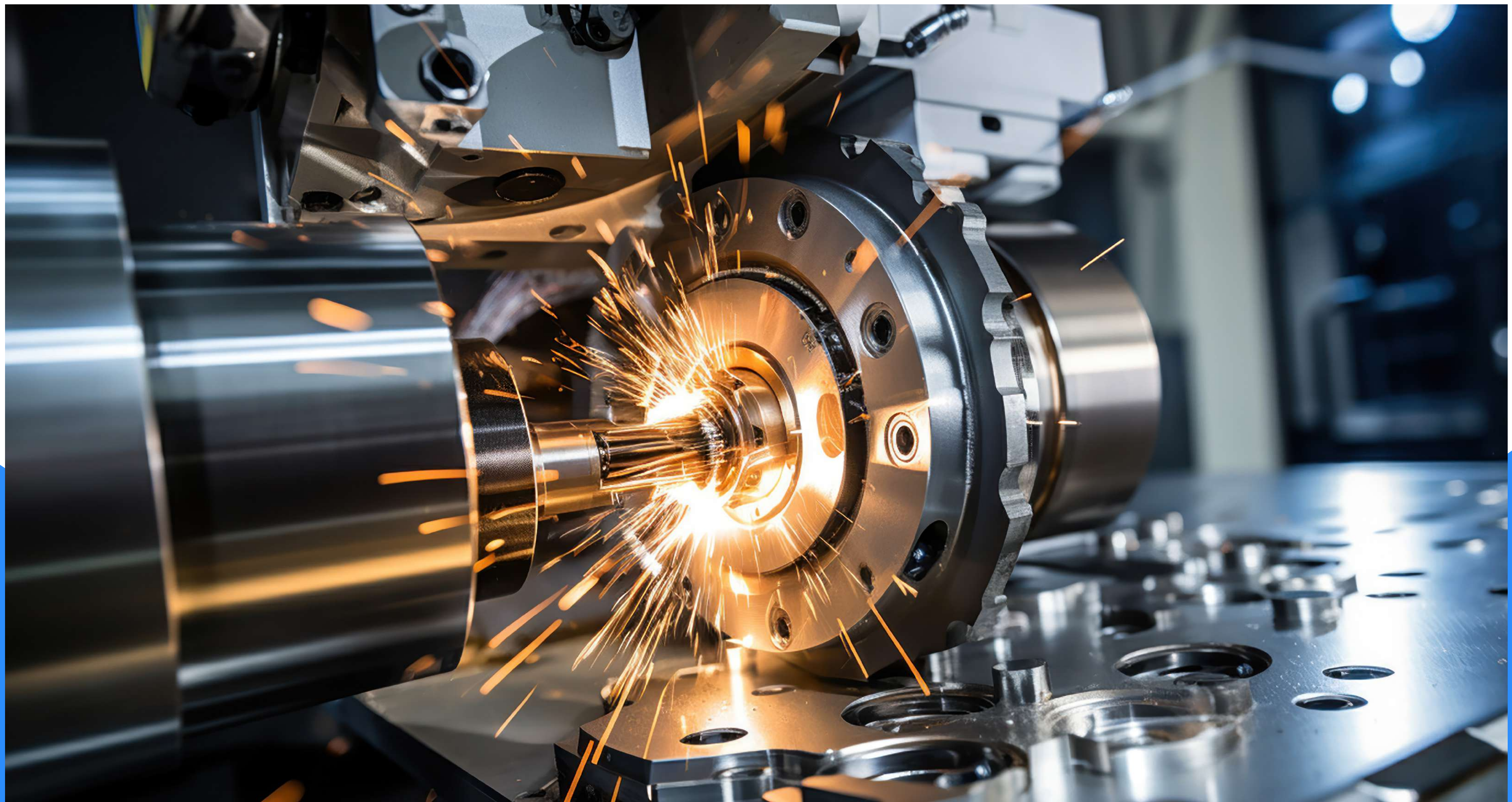


Case Study

Argus Enhances Spindle Reliability in Large Automotive Motors through Smart Vibration Monitoring



Customer Need

A leading manufacturer of automotive engine parts for the leading automobile manufacturer had a requirement to monitor the health of their high speed spindles and to enhance the spindle bearing reliability by performing timely corrective measures. The company has a diverse variant of precise finish spindles to manufacture niche automotive products.

In addition, they have varied spindle speeds for machining the product. There has been a history of early spindle bearing failure resulting in high cost machine tool replacements, Lot rejections, etc. This severely impacted the productivity rates and failure to meet the market demand. For the high speed spindle bearing health monitoring, they were looking for vibration monitoring at actual load and operating conditions to predict bearing or other defects at the very initial stage so as to perform timely corrective actions or to plan Spindle refurbishments.

Case Brief

The Challenge

Solution for High Speed Spindle Bearing Monitoring

SANDS Solution

SANDS Vibration team visited the plant for the vibration audit to understand the root cause of the failure. SANDS suggested deploying ARGUS Portable vibration Analyzer for monitoring the high speed spindle using high frequency vibration spectra data & trend monitoring to reduce the machine downtime.

The idea is to use a single portable sensor to measure vibration data across all the machines to create a trend and baseline data. The plant maintenance team actively started using the vibration analyzer across all the machines and collected data on a daily basis and the trend of the spindle vibrations is recorded and monitored. When an increasing trend is observed in any machine, the vibration spectra are analyzed and corrective actions are performed accordingly.

As a next step, the chronic problematic machines are identified and the scope is being worked out to deploy ARGUS 24 x 7 online monitoring vibration sensor to monitor high-speed spindles, such as machines with expensive tools and bearings on a 24 x 7 basis with a 1 minute data transfer interval. The automobile industry runs high critical speed machining and will utilize the ARGUS ACE cloud web interface to track bearing vibration trends and to take necessary corrective actions to avoid unplanned downtime



About Us

Signals & Systems (India) Private Limited, known by the brand name SANDS, is primarily a technology company, developing and manufacturing niche-technology products using embedded technology for the Industrial segments, Generation, Transmission & Distribution segments of the Power Industry. On the Services front, we specialize in Meter Data Analytics for Power Distribution companies, to curb energy thefts and help in revenue protection. We also undertake online testing of energy meters on behalf of the utilities as part of the regulatory requirements.

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