

CASE STUDY

Root cause failure analysis in pulp/paper production – reduced maintenance costs and lessons learned

nCode ReliaSoft

HBK Engineering Solutions worked with its client in standardising their Root Cause Failure Analysis (RCFA) across their organisation empowering them to improve their failure data collection and analysis process – delivering increased output, optimise maintenance, and reduced operational costs.



CHALLENGE

The client needed a standardised system – for managing their reliability practices – related to high warranty costs due to failed components, lost productivity, and unplanned downtime of critical assets at their paper mills.

SOLUTION

A FRACAS system was deployed to manage and track Major Reliability Incidents (MRIs) across multiple mills, integrating with the client's CMMS systems and gaining insights on lessons learned, as a common source of truth to convert data into viable corrective actions and preventative maintenance.

RESULT

Achieved a significant reduction in warranty costs, improved components and plant availability, and an annual maintenance cost savings of \$1.6 M per mill.

THE CHALLENGE

Reducing failures and unplanned downtime is critical to the operations of Pulp/Paper mills. Often, various mills within the same organisation will have their own reliability process to track and mitigate failures, making it difficult to have any commonalities across the fleet.

A wide variety of Computerised Maintenance Management Systems (CMMS) will be present at various sites to manage reliability activities such as RCFA, Management of Change (MOC), and Change Log. This lack of uniformity and disjointed systems results in inefficiencies in communication, higher warranty costs, and the failure of critical assets. The multiple systems or siloed approach limits the amount of information shared between different mills, restricts ability to roll up information to management, and hinders personnel moving to different mills across the organisation.



THE SOLUTION

HBK's ReliaSoft XFRACAS solution – a Failure Reporting and Corrective Action System – was deployed to give the mills a universal tool focused on identifying the RCFA, which allowed the client to continually improve maintenance actions on their equipment, while also mitigating the risks of future failures by leveraging the lessons learned across the organisation.

Integrating our solution with the client's legacy CMMS systems is essential for the adaptation of a common language and decision-making process to be shared across several mills, simultaneously improving the reliability, communication, and operational best practices.



THE RESULT

HBK's ReliaSoft XFRACAS software and services helped our client optimise the reliability and availability of critical assets at the mills, resulting in multi-million-dollar cost savings each year, which leadership has been able to reinvest within the company. The RCFA benefits were rolled out to many other mills and the adoption of this common tool has improved not only the communication between the mills, but also eliminated many common MRIs, which our technologies have now been standardised across the organisation as a single source of truth.



ABOUT HBK ENGINEERING SOLUTIONS

HBK Engineering Solutions ensures customer success through value-driven solutions for product and process development, and operational monitoring. We are a multi-disciplinary team with expertise in failure analysis; predictive analytics and modelling for reliability, durability, and deterioration; asset health and usage monitoring; prognostics; and the development and testing of embedded software to deliver robust solutions to our global clients. Our team of engineers, analysts, software developers, data scientists, and program managers, many holding United States Government security clearance, are readily available to provide technical expertise and deliver value-driven solutions.

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