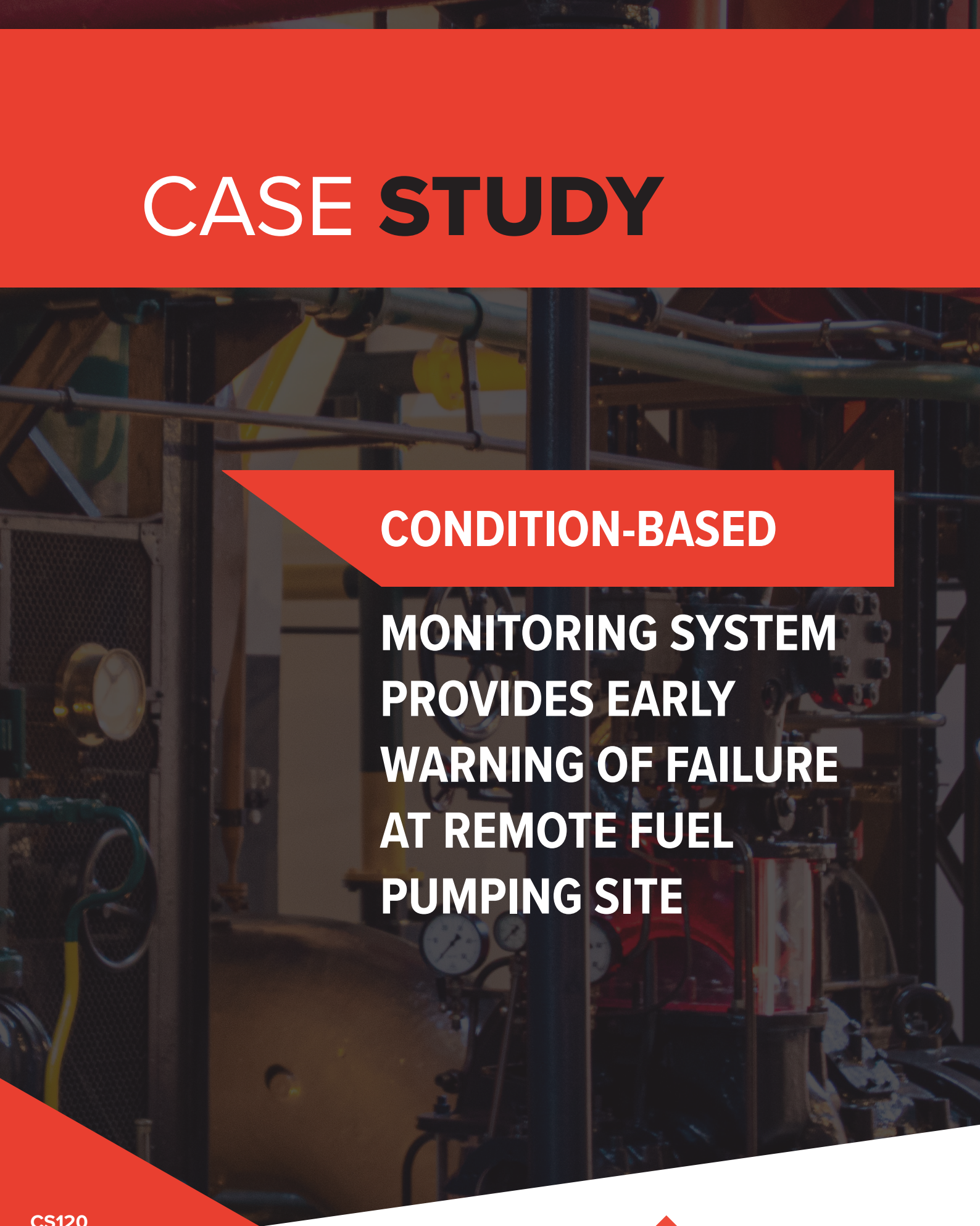
CASE **STUDY**



CONDITION-BASED

MONITORING SYSTEM PROVIDES EARLY WARNING OF FAILURE AT REMOTE FUEL PUMPING SITE

CS120

HAYLEY DEXIS

HAYLEY DEXIS
CONDITION MONITORING // CHEMICALS

Focus on value

TRACK UP

THE SITUATION

HAYLEY 247 DMS DEXIS were invited to work with a customer involved in fuel pumping, to implement a condition-based monitoring programme for critical multi-stage pumps located within a remote ATEX environment. A number of the pumps were obsolete after being in operation for 40 years, meaning a catastrophic failure would result in costly overhauls being required and the customer facing large penalties for non-delivery to key transportation clients.

THE SOLUTION

The Machine Guard AssetMinder system, featuring Bluetooth® accelerometers, gateways and enclosure hardware alongside the AssetMinder IoT platform was accepted as the solution. The accelerometer sensors would record vibration and temperature directly from the David Brown multi-stage pump and Parsons Peebles 3.3kV induction motor that they were installed on, and transmit this to AssetMinder for analysis. The customer's requirements were all met by the system, including the need for multilevel, complex sets of alarms to notify users of specific problems.

Once AssetMinder began receiving data, we could see from the trends and the resultant FFT graphs, that the white metal bearings had a potential concern. The FFT spectra analysis undertaken by Senior Diagnostic Engineers, suggested that the pump white metal (babbitt) bearings were displaying severe signs or wear.

KEY VALUE AREAS

INCOME

SPEND

Notification of this was provided with a real-time SMS to both the clients engineers and the HAYLEY 247 DMS DEXIS team. For confirmation, a member of the team attended site with their hand held vibration analysis equipment, which confirmed the urgent need for attention.

THE RESULT

Upon the AssetMinder findings being backed up by secondary testing, the unit was removed from site in a controlled manner and sent to a local engineering repair centre for inspection. This process found that both bearings in the pump and motor were significantly worn across the loaded zone. The pump impellor hub locations were also worn as a result of the bearing damage.

"SAFETY RISKS ASSOCIATED WITH THE TASK HAVE BEEN MINIMISED, IMPROVING OPERATOR WELL-BEING."

The detailed inspection reports from the repair centre confirmed that the Machine Guard Asset Minder system had worked as the customer had hoped, and allowed them to take action before a critical asset was forced into a breakdown scenario. This early detection enabled the client to eradicate any penalty clauses, reduce the costs associated with a full overhaul, normally associated with a catastrophic failure, whilst assisting in maintaining the long-term efficiency of the pump assembly.

CONTACT US!

Speak to your local HAYLEY DEXIS branch today!

You can find their details by using our online Branch Finder tool:

www.hayley-group.co.uk/branch-finder.

KEY SOLUTIONS

Machine Guard sensors.

AssetMinder IoT platform.

KEY RESULTS

Customer given early warning of mechanical failure.

Downtime costs reduced.

Penalty charges avoided.

HAYLEY

DEXIS