

Success Stories from the WTIA SMART TechNet Project

SUCCESS STORY NUMBER 8: DIFFUSION OF SHAFT TESTING TECHNOLOGY – A WTIA Technology Support Centre based in New South Wales developed a new technology, but needed help from WTIA to diffuse it to industry throughout the country.

The background

CCI Pope Pty Ltd, a Technology Support Centre within the OzWeld Network, has developed an automated ultrasonic system to test and monitor fatigue cracking in large steel components such as critical shafts and pins, which are common in heavy industry. Dr Guy Cotterill, Manager - *SHAFTTEST*, said “the motivation for developing such a system was that we believed that existing technology did not allow us to deliver to industry the level of benefits that experience told us should be achievable”.

WTIA’s role

As CCI Pope’s operations are primarily based on the east coast of Australia, the WTIA were aware that industry in Western Australia might not have been benefiting from these new advances. The WTIA took a pro-active role in facilitating the diffusion of this technology, arranging presentations and demonstrations at a number of key power and mining companies in WA.

The benefits to industry

As a result, CCI Pope’s business has benefited through this introduction to a new market while at the same time industry in that region is now better informed of the latest developments in testing technology. In this instance, the benefit to industry can be considerable in terms of cost savings and reduction of potential safety risks to personnel.

Dr Cotterill commented that “this type of technology diffusion provided by the WTIA, which is educational rather than product sales, has broad benefit to

Australian industry and service providers, yet difficult to quantify and pass on costs. CCI Pope greatly appreciates the assistance received from the WTIA to date.

I look forward to future opportunities for our organisations to cooperate in any way that provides benefits to the industries that we service”.

SHAFTTEST has had many successes. Shown below is the latest commercial model of the system, which is being used to test a critical ball mill pinion.



At this site *SHAFTTEST* was able to clearly identify defects in a number of pinions. By recording a three-dimensional ultrasonic map (V-Scan) of the shaft CCI Pope were able to graphically display the size and shape of the defects. Maintenance engineers were able to make an informed and confident decision regarding which pinion to immediately replace with the only spare when an incorrect choice may have resulted in a catastrophic failure.