

SMART OUTCOMES

Success Stories from the WTIA SMART TechNet Project

SUCCESS STORY NUMBER 7: INNOVATION IN INSPECTION TECHNOLOGY – A WTIA Technology Demonstration of leading-edge inspection techniques from overseas facilitates Australian company savings through take-up of the technology.

The background

The Product Terminal at BP Refinery Bulwer Island, Queensland, a member of the SMART Petro/Chemical Industry Group and one of Brisbane's leading petrochemical sites was the venue for an exciting real-time demonstration in September 2001.

The aim of the demonstration was to bring together a range of relevant technologies, from Australia and overseas, in one place, where owner-users, inspectors, NDT technologists could effectively evaluate and compare them, with the view to facilitating informed on-the-job decisions to assist Australian industry.

Leading NDT technologies from Technology Support Centres in the UK, which were not available in Australia at the time but which promised great savings to industry here, were displayed in action. Experts from Unit Inspection South Africa and Singapore International Refinery Services brought leading-edge long range guided ultrasonics equipment to the demonstration.

Long range guided ultrasonics

The inspection of pipes and pipelines for corrosion can be a very expensive but routinely necessary exercise, especially those pipes which are covered with insulation or are buried underground.

Two long range guided ultrasonic systems, developed in the UK, were demonstrated.



Teletest® in action

Teletest® Long Range Ultrasonic System, is a process developed in the UK by TWI (The Welding Institute) while the Wavemaker® technique was developed by Guided Ultrasonics Ltd (GUL) UK. Both systems use low frequency ultrasound waves to screen long lengths of pipe, up to 175 metres, in each direction from a single point. Inspection of up to 1 km per day of above-ground pipe is attainable.

The benefits to industry

On-site evaluation of these technologies has since been facilitated in critical plant maintenance applications in the Northern Territory, Western Australia and South Australia.

Roy Choudhury, Maintenance Engineer at Worsley Alumina commented "we recently used Wavemaker® in detecting corrosion in gas pipelines and caustic lines. It promises a significant cost saving for us as the inspection could be carried out without removing insulation".

At Alcan Gove in the Northern Territory, upwards of 5 kilometres of pipelines was 100% inspected in only 5 days using Wavemaker®. "Under normal circumstances the inspections would have taken weeks to complete plus utilised extra manpower for the lifting of the pipeline at each pipe support".

"We are hopeful that this technology and other up and coming state of the art inspection methods can be utilised at Alcan Gove in the future to ensure continuing, uninterrupted performance of our pipework."



Wavemaker® about to be demonstrated