

# SMART OUTCOMES

## Success Stories from the WTIA SMART TechNet Project

SUCCESS STORY NUMBER 9: IMPLEMENTATION OF RESEARCH IN INDUSTRY – *The University of Sydney, a WTIA Technology Support Centre developed a new technology for measuring the quality of arc welds, which has now been successfully commercialised and diffused to the automotive industry.*

### The background

Welding Technology Innovations Pty Ltd (WTi) was formed in 1999 to exploit the welding technology innovations developed over a four-year period by the University of Sydney. The University is a Technology Support Centre within the OzWeld Network, and a core partner of the Cooperative Research Centre for Welded Structures, for which the WTIA carries out the technology transfer role.

### The technology

The core intellectual property is a method for identifying patterns and representing distinctive events in noisy or chaotic data streams.

### Application to industry

WTi has applied the technology to automated welding processes, where the product WeldPrint® is able to measure weld quality in real-time from the analysis of welding current and voltage signals only. Previously, this field has defied meaningful interpretive measurement, even with expensive and difficult to maintain image processing equipment.

WeldPrint® is therefore unique in being able to offer real-time quality assurance, welding process optimisation, and real-world fault diagnosis at low cost. It obviates the need for routine destructive testing of products, significantly reducing the cost of quality control whilst improving process control and throughput.

WTi recently won the inaugural Peter Doherty award for commercialisation of innovative technology with WeldPrint®.

They were also awarded an AusIndustry certificate of Achievement for Innovation by the Minister for Industry, Tourism and Resources, The Hon Ian Macfarlane MP.



WeldPrint®'s electronics are contained in a sealed stainless box and are designed to survive in even the harshest industrial environment, providing the operator with immediate quality assurance. The computer can be up to 60 metres away.

### Commercialisation

WTi's strategy is to take this unique and patented technology and apply it to the automotive industry which has demonstrated a clear need for the benefits of WeldPrint®.

Tier 1 suppliers to the automotive assemblers are being driven to supply cheaper and higher quality components, which WeldPrint® can help them deliver. The automotive assemblers will be keen to propagate the technology through their whole supplier base to ensure higher levels of quality, whilst using the technology themselves in their own assembly operations.

WTi has already penetrated domestic automotive assemblers and tier 1 suppliers and is about to expand its operations into Europe and the USA.

A downloadable demonstration of WeldPrint® is available from the WTi website at <http://www.wti.com.au/>