

# Australian Industry

# WINS!

WTIA National Diffusion Networks  
Project (NDNP) funded by the  
Federal and State and Territory  
Governments and industry



**AusIndustry**

## **SUCCESS STORY NUMBER R03: RAIL INDUSTRY BENCHMARKS PERFORMANCE IN EUROPE – Visits in the UK, France and Germany bring latest technologies to Australia**

A very successful Industry Study Mission was organised in 2005 as an activity of the WTIA Rail Industry Sectoral Project, with the aim of transferring technologies back into Australian industry to improve industry performance and competitiveness.

### **Great Britain**

The group first visited Thermit Welding (GB) Ltd in Derby UK that provides products and equipment for the joining of rails using the aluminothermic welding process.

SKV-E Enhanced Thermit Welding was of particular interest, as it has a number of advantages over current processes. A test batch is being produced for verification testing prior to more widespread adoption in Australia. Contact with Thermit Welding (GB) Ltd also facilitated resolution of software problems with the company's electronic rail alignment gauge currently being used in Australia. Software engineers will be visiting in 2006 to give further assistance.

Collinson Dutton Limited hosted the delegates in London. Discussions centred on the wheel-rail interface and defects and new technologies for the measurement of the coefficient of friction. A site visit to the Metronet/London Underground Railway facilities and the LWR welding plant and new automatic high speed weld grinding machine proved extremely interesting.

After discussions with TWI in Cambridge, delegates attended a meeting of the Institute of Rail Welding (IoRW) entitled "Developments in Training and Competence Assurance in Rail Welding" attended by 90 experts from throughout the UK. Delegates established valuable networking links for future support of Australian industry technical needs.

The Study Mission also met with representatives of Tubelines which works in partnership with London Underground and are responsible for the maintenance, renewals and upgrades of the infrastructure including track, trains, signals and stations.

### **France**

The Mission Delegates travelled to Paris, and during the Saturday night attended a site visit to see the latest Speno 48 stone rail grinding

machine with laser profile measurement in action.

A meeting at SNCF International Headquarters focussed on quality control and defect reduction while at Railtech International demonstrations of rail repair technologies including welding processes and moulds for rail repair proved extremely interesting.



*Rail delegates visit the Metronet/London Underground Railway practical facilities at Ruislip.*

### **Germany**

Here the delegates were able to witness the Deutsche Bahn ultrasonic rail inspection vehicle while it underwent maintenance and testing in Minden. This unique vehicle conducts eddy current testing for rail surface defect detection while travelling at speeds up to 100 km per hour.

At SLV Hannover, the German Welding Institute which specialises in railway track welding technology, training, quality assurance and certification, discussion on the standardisation of welder training, and a visit to the rail welding training facilities highlighted a number of concepts with potential application in Australia.

At the Institute of Transport, Railway Construction and Operation (IVE) - University of Hannover delegates learnt of work in the monitoring of round motion of railway wheels, computer aided planning of track maintenance and rail grinding strategies to combat rolling contact fatigue. The establishment of links to personnel in these areas of expertise could prove extremely valuable to Australian industry, particularly in terms of technical problem solving.

At Elektro Thermit GmbH potential technology demonstrations in Australia of rail measurement systems were discussed after viewing an excellent range of technologies in action, including one shot crucible thermit welds.

A track welding demonstration by Deutsche Bahn was followed by an extremely informative meeting at Brandenburg-Kirchmöser with non-destructive testing and materials science specialists.

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