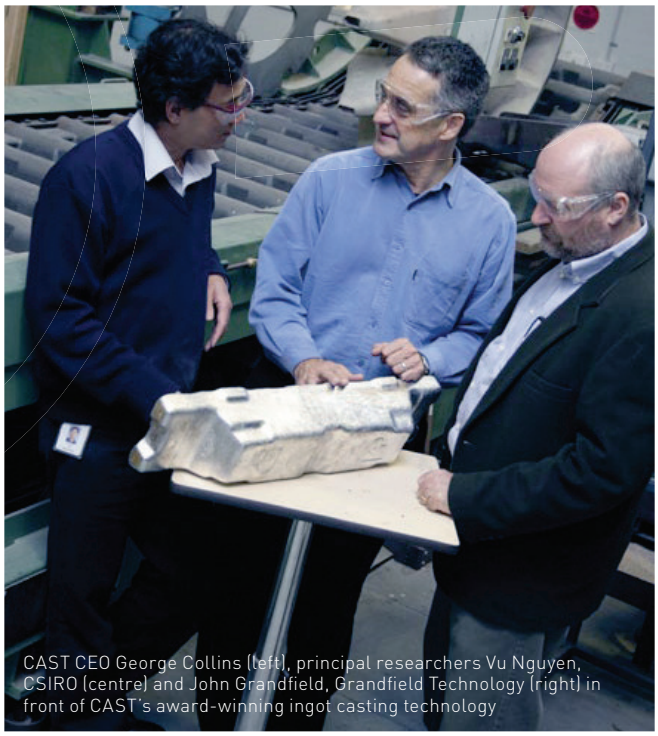
CAST CRC
and aluminium production

High quality aluminium is produced more cheaply, efficiently and safely thanks to technologies developed by the CAST CRC. Four of Australia's six aluminium smelters have implemented CAST's technologies (CASTfill and CASTmould) for ingot casting.

The Australian aluminium industry needs new technology to remain competitive in the global market. Smelter cast houses and casting machine manufacturers want to increase productivity, and improve performance in key areas like cost, energy consumption and reduction in greenhouse gases.

Within the supportive framework provided by the CRC, CAST researchers have been able to conduct extensive plant trials of the technology at Boyne Smelters Limited (BSL), owned by CAST participant Rio Tinto Alcan. This association allowed CASTfill and CASTmould licensee and manufacturer, o.d.t. Engineering, a small family-owned Australian casting machine manufacturer, to gain unprecedented access to Rio Tinto Alcan staff and sites, with suppliers and customers working on several CAST projects together.



CAST CEO George Collins (left), principal researchers Vu Nguyen, CSIRO (centre) and John Grandfield, Grandfield Technology (right) in front of CAST's award-winning ingot casting technology

Stack of aluminium ingots at Boyne Island smelter, ready to be shipped to customers

The research was further assisted by o.d.t. Engineering's donation of a fully operational ingot casting machine for use by researchers for full-scale ingot casting trials. The trust built through these relationships between CRC partners has enabled the testing and delivery of technologies which are now being exported to cast houses around the world. o.d.t. Engineering has assisted two overseas aluminium smelters to adopt CASTfill and CASTmould, while other smelters from Thailand, China and Russia are currently evaluating the technologies.

According to Boyne Smelter Limited (BSL)'s metals production manager Joe Rea, 'We've seen an improvement in quality and also an improvement in throughput. A lot of innovations that come along either give us one or the other. The great thing about this is that we've got both.'

CAST researchers have also used the skills developed in creating CASTmould and CASTfill technologies to enhance their core capabilities and solve other cost of manufacture issues in the cast house. Improved modelling is being applied to a variety of processes in cast houses and downstream casting operations to reduce costs and improve productivity.

More information about CAST CRC is available from www.cast.org.au