



**Recognising Innovation**  
**10 December 2009**

Australians on the whole are not overly innovative and regularly fall below average in measures of innovativeness across countries around the world. There is little doubt that this contributes to poor equipment performance. I noted in a Highgrade article a few weeks back where Dr Peter Lilley of CSIRO was lamenting the lack of "transformational" R&D. I was staggered (although maybe I shouldn't have been) that the Minerals Down Under group has a budget of \$100 million per year for R&D. Think about that for a minute. \$100 million per year and they can't come up with some workable transformational ideas? You have got to be kidding.

A project which my company undertook was one of outstanding engineering projects which won Engineers Australia State awards and competed for National Awards in Canberra recently. What a privilege to be amongst some truly transformational engineering. Our project – Optidrag, had a budget of \$276,000 (thank-you to ACARP). Now Optidrag really is transformational and is being embraced by a number of the major mining companies.

I am sure this industry suffers a serious case of Myopia when it comes to innovation. Here you have a project which is one of the outstanding engineering projects in Australia in 2009, as judged by Engineers Australia, and the Australasian Institute of Mining and Metallurgy rejected it as being unsuitable for their 7<sup>th</sup> Large Open Pit Mining Conference to be held in Perth next July. Quite apart from the fact that it is my project and I was prepared to fly across the country to present it in Perth, how can a project recognised by the pre-eminent professional engineers association in Australia as one of the outstanding engineering outcomes in 2009 be not recognised by my esteemed colleagues in the mining industry?

Sour grapes? You are joking. I got to sit in Parliament House in Canberra with the engineers who were recognised as having the most outstanding projects in Australia in 2009. I will happily save my money and not go to Perth next July but I am distressed for the industry I work in. I side with Dr Peter Lilley in so far as believing this industry needs transformational change. However, I believe it is needed in R&D, technology and attitudes.

The biggest problem with research and development in Australia is they are too focussed on the process rather than the outcome. Tick the boxes, get your government money and if it costs more than budget or you don't get an outcome then so be it. Move on to the next project. Compare that with the private sector. We are currently developing a new product. Exciting and terrifying at the same time. We went to Westpac, cap in hand and asked them to finance a shoestring budget. They took mortgages over our properties, a fixed and floating charge over the

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business, personal guarantees by the owners of the company (my wife and I) and security on our souls in case we decide to depart this world (watch out - banks have contacts in high and low places, although not too many above). If we can't produce a product when the money runs out we are screwed. If the product fails to sell we are screwed. Despite our patent protection, if a big company steals the idea, I can't afford to fight it for 10 years in the courts – we are screwed. If a Rio or BHP fund it they will rightly tie it up so not only does nobody else get it, we also can't do any further work on it. The research organisations haven't delivered and small people have incentive not to be innovative.

Transformational changes in technology don't come along too often. You can think about draglines, hydraulic shovels, etc as being major advances but they are few and far between. The thing which concerns me is that sometimes ideas are not advanced for the wrong reasons. Case in point. Bosmin patented an idea called the Overburden Slusher and some NERDDC funding was provided in the 1980's to develop it. When it looked prospective one of the large mining companies offered to buy the IP from Bosmin for \$50,000. The offer was refused. This large mining company told the owner of the IP that he would never get rich at their expense and over the next few years the large mining company lodged their own patents which were all successfully appealed against at great personal expense to Bosmin. Subsequently, the R&D money dried up and the Overburden Slusher drifted into history (except for a remnant who still believe in it, including me). Here is a technology which could revolutionise the use of draglines with increases in productivity of up to 150% with substantial reductions in the unit cost of uncovering coal and it has never received a fair hearing from the coal mining companies. Why doesn't the CSIRO put some of their \$100 million per annum into the slusher? It couldn't provide a worse return than some of the current projects.

I have said much in recent weeks about transformational changes in attitudes towards productivity. Productivity is largely about attitude. It is the key input into the differences between best practice operations and the other 90%. Some have given up and accept mediocrity or pay contractors to be mediocre. Some mines and contractors have grabbed the opportunity and have moved to fill the gap between average and best practice performance. They are the companies you really want to work for and with.

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