

Manufacturing's Future in a Global Marketplace.
Dr John Blakemore
National President Manufacturing Society of Australia
Principal, Blakemore Consulting International, Sydney

Australia has a problem. Private liabilities at 60% of GDP, trade gap in manufactured goods at \$100Bn per year and increasing, current account in deficit for 50 consecutive months despite very favourable terms of trade, intellectual property (IP) being almost given away because Australian venture capitalists won't invest....I could go on. We need to take action urgently and spend our Government surplus wisely for the long - term development of the nation. Our national interest is not served well by ad hoc decisions.

There are solutions to this crisis, and let's not understate it, it is a crisis. Look at what may happen in the next 12 months to the auto industry in Australia where the cars made in Australia are too big, too thirsty, and largely sold to the fleet market (70%) Mum and Dad have already voted with their wallet and are buying Toyota Corolla's and the new Honda Civic. However there are solutions.

Firstly all massive global shifts create opportunities. The secret is to align these in areas where we have a comparative advantage. Where are our comparative advantages? They are clearly in minerals, coal, bauxite and iron ore and a stable economic climate with a stable well educated workforce and a Federal Government with a surplus of probably \$14Bn.

Leading edge trends in building a successful globally focussed manufacturing base will need a step change in thinking.

Firstly, that section related to export must be given special consideration. A new alignment of knowledge and education and research with industries with a comparative advantage must be brought sharply into focus. No longer can we afford the CSIRO for example to spread itself thinly in over 50 areas of manufacturing in half of which we do not have a comparative advantage. An example of where we should be a dominant player is the downstream manufacture of high value added machined and diecast Aluminium components for the automotive and aerospace industries. Modern automobiles have Aluminium blocks, heads gearbox cases steering arms suspension wishbones to name just a few of the components. Aircraft are still mainly manufactured from Aluminium. In some cases the bodies of modern automobiles are Aluminium (Honda NSX, AudiA8, Range Rover etc). We have the bauxite, we have the most efficient Alumina refinery in the world at Gladstone, we have the Aluminium smelters and we have the coal to fuel them. If you prefer we could fuel them with nuclear power stations since we have 40% of the world's reserves. However, all this will take time and immediate action is needed.

This is only one of many examples of what could be done if we had the will. The food industry, solar energy, wind mills all offer similar advantages.

In the short term we must change our business model to integrate our logistics, innovate all elements of the business from organisation to process to systems, to

remove working capital from the balance sheet and use this capital to make our whole value chain faster and more agile by investing in the latest technology.

In a general sense this means that we must move from mass production to agile made to order production and develop manufacturing systems beyond our simple understanding of what was interpreted as Lean Manufacturing which failed to enhance Ford and GM USA. We need an agile system approach of integration based on continuous innovation of all processes and systems as practised by leading Japanese companies like Honda, Panasonic, Kawai, Canon and Toyota, focusing on all functions of the business. This applies to not only the 70% of our GDP that is related directly to internal consumption but to all manufactured product aimed at the export market. We must use the digital data available much more effectively. Such data is available at any position in the supply chain to any other position in the chain on demand.

There are numerous short-term positive business models that need to be understood and implemented to ameliorate the pain that will certainly come very soon as interest rates continue to rise and the world market takes a dim view of our foreign liabilities and current account and overvalued dollar.

Taking into consideration the weakness of the US economy and their trading deficits and the USA government's inability to deal with their current government debt, it seem to me that we should start measuring our currency against the Yen or the Pound and put less emphasis on the US dollar as it is certainly going to weaken against other major currencies in the next 5 years.

There are least six industry specific business models that can be used to assist in rectifying the current manufacturing decline in the immediate short term.. These are modelled on the innovation principles liking commercialisation of IP generated cooperatively by business led research centres and then integrating supply chains in networks with common goals and then linking continuous process innovation with product development. Examples of these are available on my website, but the essence of their structure involves the Japanese approach of long term but continuously improving and monitoring a business plan and developing a process innovation model that links seamlessly with continuous product development. Such a system led to Honda's ASIMO robot the significance of which escaped most investigators in USA and German experts and led also the resurgence of Ferrari in Formula 1 following the input from Honda scientists and engineers.

We can do it but we need to convince the majority of the economists and politicians that manufacturing is the most valuable wealth creating activity of all.