SUBMISSION 10

The House of Representatives Economics Committee

Inquiry into the state of Australia's manufacturing industry now and beyond the resources boom

This document has been prepared by QMI Solutions Ltd (QMI) formerly Queensland Manufacturing Institute.

Background – QMI Solutions Ltd's role in diffusing technology

The Queensland Manufacturing Institute was established in the early 1990's to help Queensland manufacturing companies adopt technologies (hard and soft) and assist them become world class competitors. Renamed QMI Solutions Ltd in 2002, it is now a nationally recognised provider of best practice technology diffusion services.

At QMI, we adopt a philosophy of supporting manufacturers on their "Journey to Manufacturing Excellence". This means, for individual companies, identifying areas to improve performance and innovate; implementing waste reduction and productivity improvement practices and adopting technologies and practices, irrespective of origin, which best support their journey to excellence (technology diffusion).

Recognising that some 98% of the world's innovation occurs outside Australia, an important aspect of QMI's technology diffusion activities is the identification of technologies that are particularly relevant to Australia's diverse manufacturing sector.

Universities, CSIRO and CRC's are not meeting the needs of SME manufacturers

Research organizations and universities have a preference for dealing with larger firms because they have the financial resources to fund R&D (*Qld Government Technical In Action report* 2005). This is particularly evident in the 2006 CSIRO Manufacturing Road Map which identified that *"CSIRO has major engagement with relatively few companies"* and that their external revenue is in decline with disproportionately low revenue from SME's.

Under the new Research Quality Framework, universities are driven to focus on basic research and publishing papers. This coupled with lengthy time frames associated with programs that promote industry collaboration, such as the ARC linkage program (typically one year to apply and three years to implement a project), has become a greater disincentive for engagement by either researcher or private enterprise.

Another avenue for industry cooperation, the CRC scheme, is particularly prohibitive to SME participation. With long-term (7year) commitments and big dollar investments CRCs are only attractive to large enterprise. Any SME participation is often token, their research projects and access to IP overshadowed by the large multinationals.

Countries that have strong manufacturing industries have well established Technology Diffusion Agencies

Countries like Germany, Japan, and South Korea that have strong manufacturing industries have invested heavily in technology support agencies. These agencies can be described as a group of geographically disperse institutes (often acting independently) that operate under a guiding umbrella organization to delivered applied R&D and technology support. They are often described as a bridge between researchers and industry. Examples are the German Fraunhofer Gesellshaft, 12500 employees in 58 institutes; Japanese Kohsetsushi centers which employ 7000 staff in 180 locations, and

managed by prefectures and local governments; and South Korean Institute of Industrial Research - Kitech which employs 850 engineers in 12 R&D and support centers.

Extracts from their missions statements and strategic objectives identify common themes which drive these organizations – for example "*Leading industrial innovation and commercialization of SME's"* (Kitech); "*application oriented research – science in the service of industry, training with practical focus"* (Fraunhofer); "*focused on SME's-under 300 employees"* (Japanese kohtetsushi).

Increasing number of Industry and Technology Support Agencies in China

In 1992, China had only four productivity centers, all established by the government to support state industries. In 2004, that number grew exponentially to an estimated 1000 centers serving over 200,000 companies. These productivity centers, which are overseen by China's Ministry of Science and Technology, are technology or industry specific often containing state-of-the-art facilities.

Australia technology diffusion is under funded and fragmented.

Unfortunately, Australia places more emphasis on R&D of home grown innovation than diffusion of leading technologies regardless of source. Public expenditure on technology diffusion is negligible compared with the multimillion dollar programs that subsidize R&D.

Australian organizations such as QMI, Welding Technology Institute of Australia (WTIA) and Tooling Industry Forum Australia (TIFA), as part of our charters, scan the world for emerging technologies, foster collaborative innovation and deliver educate and training.

Although we have different technology (or industry) platforms our common goals are similar to the larger European and Asia counterparts – that is acting as a link between industry and technology and our common focus is SME's manufacturers.

By employing credible specialists from industry who deliver practical solutions our organizations are highly engaged with SME's. However the scarcity of public funds for technology diffusion limits the capacity and scope for any of us to effectively deliver nationally.

Recommendations

That the significant imbalance between Technology Diffusion funding, and R&D funding be addressed.

That a Federal technology diffusion program be adopted that is focused on fostering a cohesive approach to delivering applied technology solutions (hard and soft) to SME manufacturers.