

Inquiry into business commitment to R&D in Australia

Submission from the Cooperative Research Centre for Sensor Signal and Information Processing (CSSIP) and Associated Companies

Basis for the submission.

This submission has been prepared by the CEO of the Cooperative Research Centre for Sensor Signal and Information Processing (CSSIP). It reports a personal rather than a corporate view but reflects on the experience of CSSIP, its commercialising company SPIRE Innovations Pty Limited, and its spin-off companies Wedgetail TRDC Pty Limited and GroundProbe Pty Limited, as well as on observations on the operations of other commercially-focussed CRCs.

CSSIP is an unincorporated joint venture between five universities, the Defence Science and Technology Organisation and four companies. First established in 1992 it secured a second term of CRC funding in 1999 and has been successful in delivering research, education and commercialisation outcomes in defence, mining instrumentation and medical imaging market sectors. Its experience has much in common with the operations of other CRCs with a strong commercialisation drive, multiple commercial partners and spin-off companies. Reflections on this experience, both positive and negative, provide a basis on which to offer a submission directed to the second of the three questions the inquiry is to address, viz.,

“What are the impediments to business investment in R&D [in Australia].”

This is the focus for the following discussion.

Impediment to business investment in R&D.

While there are some notable exceptions, few large businesses in Australia have an R&D *strategy* that is integrated with their core business and provides a basis for business development in the broad. Without such an R&D strategy, there is no coherent framework for investment by a business in R&D, so, unsurprisingly, little occurs.

The substantial absence of R&D strategies among large businesses in Australia derives from one or more of the following four characteristics found widely in the Australian business environment.

- *The business is derivative from a large off-shore company that prefers to sustain its core R&D at an off-shore head office.* While there can be sound arguments about the relatively lower costs of carrying out research in Australia the reality is that many trans-national companies operating in Australia prefer to pay a premium to have their corporate research centre “at home”. In such circumstances there is no requirement for an Australian-based R&D strategy.
- *The business is project-driven.* Most defence companies in Australia fall into this category. The sustainment of a broad capability base in defence technologies in Australia continues to be an unresolved and worrying issue for Defence. Project-by-project business, whether in the defence sector or any other, militates against a business investing strategically in R&D: in what field should it choose to invest strategic research funds when it is uncertain in what field will be its next winning tender?

- *The business outsources non-core work to SMEs.* This means that innovation in these outsourced areas becomes largely the province of SMEs, not the outsourcing large business. In our experience, in particular in both mining and telecommunications businesses in Australia, technological innovation is sought by large businesses mainly through SME suppliers and service providers, not as an outcome from a corporate R&D policy. Unfortunately, while suppliers and service providers are often attuned to the benefits of innovation and R&D, they rarely have funds sufficient to support an R&D strategy and are forced to be opportunistic in accessing R&D outcomes.
- *The business is not involved in market creation, as opposed to responding, often very creatively, to market opportunities opened by the activity of other (usually off-shore) companies.* Market creation calls for an R&D strategy, market opportunity recognition does not, even though it may prompt sharply-focussed opportunistic R&D to capture a specific time-bounded market opportunity.

It is submitted that unless this underlying issue of business R&D strategic planning is understood and addressed the various government encouragements to industry to invest in R&D will return only modest success in terms of encouraging and leveraging business investment. Our experience as a CRC, in observing the operations of other CRCs and in spinning off companies in our technology areas, is that business investment in R&D is usually targeted specifically to a short-term project rather than being a strategic investment integrated with business strategy.

While the CRC program requires a seven-year commitment by companies that become core parties to a CRC (and in today's business environment this is very much a "strategic" planning horizon) the reality we have encountered is that such a commitment is most commonly a concatenation of different projects, not the exercise of a long-term R&D strategy that is integrated with the company's overall business strategy. Present government encouragement to R&D investment, as administered by AusIndustry, cannot readily discriminate between

- R&D investment that is opportunistic and project-based, as opposed to,
- R&D that is strategic and capability-focussed.

The former will always be at the periphery of corporate interest and investment levels – something for a business to do as an act of corporate citizenship, for appearances, as insurance against technological surprise and with some potential for relief from costs through tax or grant benefits. The latter is where Australia must focus if it is to reap the real benefits of government R&D support through linking with and leveraging strategic business R&D investment.

It would be useful if government encouragement to business investment in R&D could seek to discriminate between opportunistic/project-based R&D investment and strategic R&D investment and to bias the encouragement funding towards the latter. This is clearly a significant challenge: the CRC program is designed to be just such an encouragement to strategic R&D in business. But quite clearly long-term (i.e., seven years) funding commitments do not necessarily translate to a seven-year business strategy for R&D and more commonly to seven years of more or less distinct individual R&D projects.

The Australian CRC Program has been a very considerable success whose positive outcomes warrant continuing recognition and celebration. Equally useful is consideration, as a means of learning lessons rather than judging and punishing, of those areas where CRCs have

struggled. It is submitted that a key area of struggle has been to encourage a culture of R&D strategy in business. Absence of such a culture is indeed a major underlying impediment to business investment in R&D.

Professor Don Sinnott
CEO
Cooperative Research Centre for Sensor Signal and Information Processing
SPRI Building
Mawson Lakes Blvd
MAWSON LAKES
SA 5095

14 Aug 2002
Office Secretaries
Miss. Nathan