



Session III Discussion Paper

How do we ensure collaboration with PRC tech and innovation is to our advantage?

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This discussion paper explores issues of free and open technology research and IP security when collaborating with the People's Republic of China (PRC), the new science and technology global power.

Let's come at the discussion from the perspective of insecurity. There are two definitions of insecurity: "the state of being open to danger or threat; lack of protection"; and "uncertainty or anxiety about oneself; lack of confidence".

Next, let's look at our collective uncertainty or anxiety about ourselves when it comes to "deep tech" (i.e. scientific discovery or engineering innovation) collaboration with the PRC.

Australian deep tech research is internationally collaborative and competitive. We trade people and ideas across continents and national borders, and have done so prior to and throughout the rise of the PRC as a global powerhouse of quality research and development (R&D).

The PRC's R&D spending is more than 20 times greater than Australia's. Australian universities, keen to access this funding, have actively sought collaboration opportunities. High-profile joint efforts include the Torch Innovation Precinct, set up by the University of New South Wales and the PRC Ministry of Science and Technology, as well as the Australia-China Research Innovation Centre in Information and Electronics Technologies, run by University of Technology Sydney and CETC, a leading PRC tech company.

Considering this, what's the uncertainty when it comes to collaborating on deep tech R&D with the PRC? The majority of us at the coalface have only just started to pay attention to the emergence of the PRC, and it's mostly because of the anxiety expressed by others. The security establishment constantly reminds us that collaborative research results in dual-use technologies, which helps enhance the PRC's military capabilities. Others point out that Australian universities receiving PRC funds will be susceptible to pressure from Beijing. Foreign governments have also started to block company takeovers by PRC firms to prevent the loss of cutting-edge intellectual property.

Why are others insecure on university academics' behalf? Is it because there's a fear that the PRC may work out how to unlock a huge national resource in ways that Australia hasn't?

We know the statistics. Industry segments that are traditionally considered high tech, like manufacturing, have been in decline as a percentage of the Australian economy since the 1960s. Particularly absent are large-scale companies that generally fund applied research. Australia has a very high proportion of its R&D spend on basic research, the funding comes mostly from government sources, and Australia underperforms on many traditional measures of knowledge transfer and innovation.

Given this, the benefits to Australia from collaboration with PRC tech and innovation are significant. Access to PRC funding enables projects to go ahead that would otherwise not receive financial backing due to the limited research budgets of the Australian government and universities. The opportunity to work with top PRC researchers to develop, for example, revolutionary medical

treatments and renewable energy technologies, gives Australian scientists valuable experience. The PRC will be the source of many technological breakthroughs. Participation in such research, if done on a fair basis, will benefit Australia greatly.

To prevent becoming simply an exporter of basic research ideas and well-trained researchers, Australia needs a smarter approach to tech and innovation with the PRC.

Here are three key issues that I suggest need further discussion and thought.

IP hygiene. Australian researchers in universities can do a lot more to practice a mature approach to IP hygiene (that is, the practice of ensuring legal ownership of IP is explicitly established). If Australia is to benefit from collaboration with the PRC, how do we improve our current attitudes to IP hygiene? Who should make informed judgement calls about what IP should be shared or sold and to whom? What is the appropriate role of government here, particularly in areas of research that have the potential for military use?

Knit the network together. PRC companies are increasingly funding applied R&D and looking to Australia as a source of ideas. Australia has a lot of small companies each contributing to the global production network at the high value-add end of the spectrum. This puts them in a weak position in negotiations with large PRC companies. We should knit together that distributed network so that the whole is greater than the sum of the parts. The network should be able to operate on longer timescales and resource the applied research that would allow Australian researchers to be more selective in their choice of collaborators. There are over 160 high tech zones in the PRC. Could Australia launch its own tech and innovation precincts across the country to bring researchers and business together?

Feed the network. We need to get enough people "in the wild" who understand enough about people, technological systems and science to be creative, and have experience with the PRC approach to tech and innovation. Should the New Colombo Plan provide specific funding for Australians to spend time training and researching in the PRC?

Questions:

How do we protect our security interests while avoiding actions that contradict our commitment to free and open research?

What are the principles and processes we should adopt?

Are existing safeguards sufficient to ensure that our collaboration with the PRC is not detrimental to our interests?



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