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Professors of professions

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Programs which allow PhD students get hands-on experience give them invaluable experience and introduces them to potential employers.
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AS founding director of the new Industry Doctorate Training Centre, Professor Lee White has to sell the idea that PhDs badly need skills outside their specialty to operate effectively in big jobs.

But it's clearly no stretch for him to do so, given he has stuffed into his own career as much diversity as it can hold.

White followed an honours degree in physical chemistry and theoretical physics with a PhD in applied mathematics and a post-doctorate in chemistry.

He became among the country's first deans of graduate studies – possibly the first dean – at the University of Melbourne, then taught chemical engineering at Carnegie Mellon University, returning in 2008 to his current job as professor of mathematics at the University of South Australia.

Now in the latter part of his career, he says the 12-month secondment to the IDTC has come at the right time. "This scheme is about getting diversity: people who can problem-solve over a wide area," White said.

The IDTC, being piloted in the mathematics discipline, is the brainchild of the Australian Technology Network of Universities and has $1 million in federal government seed funding to build a cohort of students it

is hoped will reach 100 by the end of four years. The pilot has borrowed from a similar scheme that runs in Britain.

"The students will do the traditional PhD, but it will not be grounded in academia; it will be something the company needs solved for its own business," he says.

The idea is to match mathematics doctoral students with companies that have specific problems requiring their skills. The students will spend substantial time within their assigned company as well as working under a university supervisor. An added layer of support will come from a committee of supervisors from ATN universitie, on whose expertise students can also draw.

Coursework will include skills such as communication, leadership and project management. Each batch of students will meet twice a year, a move intended to help them build a solid network of relationships with each other that will stand them in good stead in future years in business.

The government is on board because it accords with the desire to stimulate and support innovation. But now, White says, it's time for "industry to come to the party".

Cultivating that interest and then commitment is a task shared among Curtin University, the University of South Australia, RMIT University, the University of Technology, Sydney, and the Queensland University of Technology. By January they hope to recruit up to five students each, and hook them up with companies.

While private sector interest was encouraging at the recent launch in Canberra, there is scope for the public sector too: the Australian Bureau of Statistics is a potential partner.

Whoever signs up will cover the $40,000 annual cost of tuition and other expenses. They will have a say in their candidate's selection, and the option of hiring them at completion of the doctorate. White argues it's a cost-effective way of gaining a highly trained employee familiar with and committed to a company's operation.

Even better, if a company can identify someone in its own ranks whom the IDTC judges capable of taking on the doctoral course, they need only to provide $10,000 a year to cover expenses.

"What they are finding in England, where this was pioneered, is that industry is starting to view this program as more effective than an MBA," White says.

"The student who does the program will be the go-to person in the company regarding the problem it wants solved, but they will have these leadership skills as well."
