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IMER – Case Study

INSTITUTE FOR MINERAL AND ENERGY RESOURCES

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CASE STUDY #4

World's largest collaborative effort to explore hidden minerals comes to Adelaide



The University of Adelaide is well and truly on the world map as a centre of excellence and a key player in the search for better ways to extract minerals, find greener mining solutions and kick-start broader Australian exploration to find these valuable resources.

The University of Adelaide's capacity for impactful research in exploration geoscience has been enhanced through involvement in the prestigious MinEx CRC.

MinEx CRC brings together mining and METS (mining, equipment and technology) sector companies, government survey organisations and researchers to collaborate towards safe and environmentally friendly technologies to discover and develop the next generation of mineral resources in Australia and around the world.

It is a 10-year program (2018 to 2027) backed by \$50M cash from the Australian Government Co-operative Research Centre program, \$41M cash and \$49M non-staff in-kind from geological surveys and industry and \$78M (311 positions) of staff in-kind from research organisation – totalling \$218M.

Industry partners include the likes of BHP, South 32, Anglo American and Santos, which just came on board. Every state in Australia is involved through their Geological Survey organisations, as well as Geoscience Australia.

“IMER's main role here was to shepherd the collaboration between the University of Adelaide and the MinEx CRC's National Drilling Initiative (NDI),” says Professor Alan Collins who is leading the University's involvement in MinEx CRC.

“IMER adds value by putting a face to the University's research, a useful conduit that links collaborative research with commercial benefits.

“Only 18 months in, the University is already seeing the benefits of being involved in the National Drilling Initiative,” says Professor Alan Collins who is leading the University's involvement in this third (NDI) program under the MinEx CRC banner.

“It's a world-first collaboration of geological surveys, researchers and industry set to investigate under-explored areas of Australia's potential mineral wealth. We're competing as a nation with the likes of Canada and Africa for the exploration investment required to discover new mineral resources.”

The intangible benefits can also be significant. “Apart from the link to future and current financial and recognition benefits for the University, including grants or funding opportunities, we'll see future developments through the Centres of Excellence and closer involvement

with government at state and federal levels, particularly the state Department for Energy and Mining,” says Professor Collins.

The first focus in setting up the program has been investigating case study areas proposed by partner geological survey organisations, and ‘de-risking’ huge areas of Australia. Traditionally, mining companies must convince their shareholders that it's worth searching for minerals that are often too deep, or are too difficult to measure or investigate. Now, projects are also focused on using geographical data and key performance indicators to attract investors.

“The NDI vision is to drill multiple holes in a region to map the regional geology and architecture and in 3D, define the potential for mineral systems. We will be using various drilling methods, especially the new low-cost Coiled Tubing (CT) drilling technology and associated sensing,” says Professor Collins.

Professor Collins says that data generated by the NDI will help attract exploration investment to Australia to benefit our economy – now more important than ever post-Covid-19.

“The main work of the NDI in 2019 involved setting up a series of about 50 sub-projects in case study areas across Australia. For example, in South Australia we are looking under the Murray Basin, in NSW near Cobar and vast areas of WA referred to as The Gap. We're gathering data by also

making use of ‘legacy’ mineral samples that exist in government storage, which are helping us to predict the sub-surface.

The research effort at the University currently includes five Honours students and five PhD students, amongst a cohort of 50 higher-degree research students across seven universities that MinEx CRC plans to complete.

“We're the largest single geoscience group in the NDI, and apart from myself we have Prof Martin Hand, Dr Stijn Glorie, Dr Lucy McGee, Dr Juraj Farkas, and Dr Wei Hong, who is appointed as the University's researcher embedded within the Geological Survey of South Australia,” explains Professor Collins.

“We're on track and excited by the better-than-expected interest shown already by big industry, as well as the ways we're using new technologies like mineral dating techniques that give us a better picture of what's under the surface. We're aiming for a much smaller footprint than in the past – about the size of a ute – less water use and faster exploration.”

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For further information see <https://minexcrc.com.au/program-three-national-drilling-initiative/> or email Professor Alan Collins in the Department of Earth Sciences at alan.collins@adelaide.edu.au.

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