

**APR.Intern
SAPC R&D Inquiry Submission**

Please find our submission to the SAPC R&D Inquiry below. APR.Intern contributes to R&D translation by placing highly-skilled PhD students into 3-6 month industry research internships. This submission outlines our contribution to South Australian R&D performance from 2017 to present. The APR.Intern program is currently Federally funded with scope for State participation in funding to specifically boost R&D outputs in South Australia. We would be pleased to respond to any questions you may have.

Australian Postgraduate Research Intern (APR.Intern) is Australia's only national, not-for-profit PhD internship program. It connects businesses with Australia's leading universities through PhD students, who apply their specialised expertise to business challenges. Interns transfer their skills from theory to real-world application, while the companies gain a competitive advantage by accessing high-quality research expertise.

The program was originally founded as the industry arm of the Australian Mathematical Sciences Institute (AMSI); dedicated to increasing the deployment of PhD-level mathematics graduates into industry. With the support of the Australian Government Department of Education, Skills and Employment, APR.Intern has since expanded to service all disciplines and industry sectors with a focus on supporting more PhD women studying Science, Technology, Engineering and Mathematics (STEM) into industry careers.

To-date, APR.Intern has facilitated more than 630 research internships with a growing network of 34 universities and 330+ industry partners. Working with businesses of all sizes – from start-ups through to government agencies and national corporations – the program enhances innovation capability for both industry and academia by opening new areas for investigation and accelerating application of new technologies and processes where they are needed the most.

71 of the program's total internships have been based in South Australia, where industry partners include the Australian Bureau of Statistics, Defence Science Technology Group, Fusetec 3D and REDARC Electronics. These businesses have been matched with PhD students from The University of Adelaide, The University of South Australia, Flinders University and Torrens University, as well as interstate universities where the student's relocation was supported.

For SA businesses, APR.Intern offers a cost-effective solution to engage with academia and tackle R&D challenges. A dedicated, Adelaide-based Business Development Manager works with businesses to define research projects and determine the skill set needed to achieve project outcomes. The Business Development Manager then engages directly with universities to source a student with the targeted skills required to complete the project. With all HR managed by APR.Intern, the business is relieved of administration time and costs.

Adelaide-based start-up, Fusetec, realised the innovation benefits of industry-university collaboration when the 3D printing company first engaged a PhD intern through APR.Intern in 2019. Following the project's success in enhancing 3D printing of human organs for healthcare, Fusetec has since engaged three more PhD students.

"APR.Intern has been invaluable in the growth of Fusetec's capability. The program has simplified the process of engaging with universities to find talented PhD students to undertake cutting-edge R&D projects with impactful and meaningful outcomes," said Mark Roe, CEO Fusetec.

In SA, and nationally, APR.Intern has deepened its presence within the Defence sector by partnering with the Defence Science and Technology Group (DST) to place 100 PhD students into Defence-related R&D projects. These short-term industry-university collaborations build essential industry research skills while driving critical national security innovation. As well as DST, APR.Intern has also partnered with VIC's Defence Science Institute (DSI), NSW's Defence Innovation Network (DIN) and WA's Defence Science Centre (DSC) to provide SMEs with additional research subsidies.

APR.Intern subsidies are also available to businesses within Food, Manufacturing and MedTech sectors through the program's partnerships with the below organisations:

- Food Innovation Australia Limited (FIAL)
- Innovative Manufacturing Cooperative Research Centre (IMCRC)
- MedTech and Pharma Growth Centre (MTPConnect)

Throughout the COVID-19 pandemic, APR.Intern has seen industry demand escalate for cost-effective, rapid R&D solutions and many projects have moved to remote arrangements. The program is now able to offer both on-site and remote internships to accommodate circumstances and continue supporting innovative R&D.

The APR.Intern program holds a 98% satisfaction rate by both industry partners and students, with 36% of all interns offered employment post-placement.

Feedback from SA Industry Partners

- "We benefited from Alex [intern]'s energy and fresh ideas, which encouraged thinking in different ways,"
– Tatiana Surzhina, Senior Analyst at the Australian Bureau of Statistics
- "This internship provided us with invaluable insight from a fresh set of eyes. Having a researcher who is a subject matter expert in a topic area not associated with our current areas of research had many benefits,"
– John Dunn, Defence Engineer at Defence Science Technology Group
- "Nathan's internship provided us with both immediate and long-term benefits for the business. On completion, we offered Nathan a full-time position with the team,"
– Dr James Palmer, CEO of Silentium Defence

Feedback from Students

- "Working with state-of-the-art industry software was an invaluable opportunity to see the application of my studies first-hand. The internship was also a great environment to develop soft skills such as teamwork, presentation and communication skills,"
– Jiawei Ma, former PhD Intern now full-time Anatomical Engineer at Fusetec 3D
- "This internship built up my expertise in a range of skills around project management, networking, archiving and museum curation – all of which have improved my work-readiness and provided competitive advantage for future employment. I would like to thank all those involved for this unique opportunity,"
– Bronwyn Hall, former PhD Intern at the SA Department for Environment and Water
- "The internship provided me with great experience to prepare for both academic and industry workforces. I benefited from the opportunity to further develop my technical skills, while also receiving access to industry materials that would not otherwise be possible,"
– Liam Courtney-Davies, former PhD Intern at BHP Billiton Olympic Dam Corporation

Feedback from Academics

- "My student gained new technical skills, soft skills and is noticeably more work-ready. I will support other students that are matched with industry projects," – Dr Christian Birzer, School of Mechanical Engineering at The University of Adelaide
- "This internship led to a research publication for the student, their employment and new collaborative projects. It is an excellent scheme I highly recommend to others,"

– Dr Christiana Ciobanu, School of Chemical Engineering and Advanced Materials at The University of Adelaide

SA-based Internships

Industry Partner	Number of Internships	Student Institution(s)	Year Completed
Aucentra Therapeutics	1	University of South Australia	2020
Australia Medic Alert Foundation	1	Swinburne University of Technology	2020
Australian Bureau of Statistics	1	The University of Adelaide	2019
BHP Billiton Olympic Dam Corporation Pty Ltd	3	The University of Adelaide	2019-2020
Bright Arena	1	The University of Adelaide	2019
Bureau of Meteorology	2	The University of Adelaide, University of Wollongong	2020
Carl Zeiss Vision Pty Ltd	1	The University of Adelaide	2010
City of Mitcham	1	The University of Adelaide	2020
Codan Limited	1	Deakin University	2021
Consunet	2	The University of Adelaide	2021
Defence Science and Technology Group	26	University of South Australia, Monash University, Flinders University, The University of Adelaide, RMIT University, The University of Queensland, The University of Melbourne, The University of New England	2017-2021
Delta Theta Investments	1	Murdoch University	2019
District Council of Loxton Waikerie	1	The University of Adelaide	2021
Foodland SA	1	University of South Australia	2019
Fusetec 3D	4	Queensland University of Technology	2019-2021
G & T Technology	1	The University of Adelaide	2019
GAIA Innovations Pty Ltd	1	The University of Adelaide	2020
GPN Vaccines	1	The University of Adelaide	2021
Legatus Group	6	The University of Adelaide	2019-2021
Neumann Space	1	The University of Sydney	2020
Office for Digital Government	1	University of South Australia	2019
REDARC Electronics	2	University of South Australia	2019
Regional Development Australia Adelaide Hills, Fleurieu & Kangaroo Island	1	The University of Adelaide	2019
Resolution Systems Australia	1	The University of Adelaide	2019
SA Department for Environment and Water	2	The University of Adelaide	2019-2020
SA Pathology	1	The University of Adelaide	2015 pre NRIP
Silentium Defence	1	The University of Adelaide	2018
Stratco Australia	1	The University of Adelaide	2020
Telstra Corporation	1	University of South Australia	2017
TTG Transportation Technology	1	University of South Australia	2008
Wakefield Regional Council	1	Deakin University	2019
Wiring Solutions Plus	1	The University of Adelaide	2019