

REPLACEMENT EXPLANATORY STATEMENT

Issued by the authority of the Minister for Industry and Science

Industry Research and Development Act 1986

Industry Research and Development (Australian Centre for Quantum Growth Program and Critical Technologies Challenge Program) Instrument 2023

Purpose and Operation

Section 33 of the *Industry Research and Development Act 1986* (the IR&D Act) provides a mechanism for the Minister to prescribe programs, by disallowable legislative instrument, in relation to industry, innovation, science or research, including in relation to the expenditure of Commonwealth money under such programs.

The statutory framework provided by section 33 of the IR&D Act enables a level of flexibility to provide authority for Commonwealth spending activities in relation to industry, innovation, science and research programs. This allows the Government to respond quickly and appropriately to the need to implement innovative ideas and pilot programs on an ongoing basis and as opportunities arise. Prescribing programs in legislative instruments provides transparency and parliamentary oversight of Government programs and spending activities, whilst reducing administrative burden on the Commonwealth.

Once a program is prescribed by the Minister under section 33, subsection 34(1) allows the Commonwealth to make, vary or administer arrangements in relation to activities under the prescribed program. Arrangements may include contracts, funding agreements or other arrangements, and may provide for money to be payable by the Commonwealth to one or more third parties. The power conferred on the Commonwealth by subsection 34(1) may be exercised on behalf of the Commonwealth by a Minister or an accountable authority of a non-corporate Commonwealth entity, or by their delegate (under section 36).

The purpose of the *Industry Research and Development (Australian Centre for Quantum Growth Program and Critical Technologies Challenge Program) Instrument 2023* (the Legislative Instrument) is to prescribe the Australian Centre for Quantum Growth Program and the Critical Technologies Challenge Program (the Programs). The Programs implement elements of the National Quantum Strategy (the Strategy), as released by the Minister for Industry and Science (the Minister) on 3 May 2023. The Strategy is the Australian Government's plan to grow the quantum industry in Australia. The Strategy is available at <https://www.industry.gov.au/publications/national-quantum-strategy>.

The funding for the Programs has been secured through the Department of Industry, Science and Resources (the Department) 2023-2024 Budget. The total funding for the Programs, including Departmental costs, provides for \$19.8 million to establish the Australian Centre for Quantum Growth (ACQG program) to support research and development of the quantum technology industry in Australia, and \$40.2 million to deliver a Critical Technologies

Challenge program (CTC program), as part of the Australian Government's commitment to grow the quantum industry in Australia.

The ACQG program will provide funding for a grant to create a national centre to undertake quantum industry growth activities.

The objectives of the ACQG program are:

- to contribute to the growth of the Australian quantum industry by fostering and encouraging constitutional trade or commerce in quantum technology;
- to facilitate, and improve coordination of, research and development in the field of quantum technology with a focus on industry-led solutions;
- to increase awareness of, and educate industry and other current or potential users about, the benefits of quantum technology and its applications;
- to promote the ethical and secure adoption and development of quantum technology by:
 - addressing any potential risks posed by quantum technology to the security of communications services;
 - collecting and disseminating information about quantum technology;
 - promoting the development and adoption of consistent national ethical or security standards relating to quantum technology;
 - addressing any other ethical or security issues arising from quantum technology that are likely to have significant national or international implications;
- to collaborate and build relationships with international participants in the quantum industry; and
- to facilitate the equal participation of women and First Nations Peoples in the quantum industry.

Eligible activities under the ACQG program will include:

- Connecting industry and end users of quantum technology to Australian researchers, innovators and start-ups to promote commercialisation of quantum technologies and facilitate collaborative R&D projects that drive innovation;
- Fostering opportunities for interstate and/or international trade and commerce to grow the Australian quantum sector;
- Building relationships with key international counterparts to facilitate export and collaboration opportunities;
- Supporting the development and growth of Australia's quantum workforce including students, with a focus on increasing gender equality and First Nations Peoples' participation in the industry;
- Providing advice, connections, referral services and forming partnerships across industry, research, start-ups and businesses to encourage growth of the industry and de-risk quantum technology adoption;

- Mapping the quantum technology ecosystem and its stakeholders (both locally and internationally) and providing this information to industry participants;
- Providing advice on quantum use cases or commercialisation of quantum technology;
- Educating industries on the benefits of adopting quantum technologies, including through digital resources, engagement with peak bodies, C-suite briefings, and technology demonstrator events; and
- Embedding ethical practices into activities and outputs of the Centre and encouraging this in the industry as a whole.

The CTC program will provide grant funding to undertake research and development into the use of either or both quantum technology and other advanced technologies to solve significant national challenges. This will demonstrate Australian capability in relation to quantum technology, drive private sector demand and de-risk adoption across the economy. The CTC program will be co-designed with industry and focus on market-led challenges that accelerate technologies from the early-readiness phases when private capital is hard to secure. Drawing on successful examples in Australia and around the world, the CTC program will use a challenge-based innovation approach to drive cooperation and collaboration between quantum researchers, industry, start-ups and the wider economy.

Funding authorised by this Legislative Instrument comes from Program 1.2 – Investing in science, technology and commercialisation, Outcome 1, as set out in the *Portfolio Budget Statements 2023-24, Budget Related Paper No. 1.11, Industry, Science and Resources Portfolio* <https://www.industry.gov.au/sites/default/files/2023-05/2023-24-department-of-industry-science-resources-pbs.pdf> at page 39.

The Programs will be delivered by the Business Grants Hub within the Department, which has extensive expertise and capability in delivering similar programs. Spending decisions will be made by the Minister, taking into account the recommendations of the Departmental assessment panel.

Both the CTC and ACQG programs are open competitive, merit based grants programs. The Programs will be administered by the Department in accordance with the *Commonwealth Grant Rules and Guidelines 2017* (<https://www.finance.gov.au/sites/default/files/2019-11/commonwealth-grants-rules-and-guidelines.pdf>). Eligibility and merit criteria are outlined in the grant opportunity guidelines.

The grant for the ACQG program will be up to a maximum of \$18.5 million, from the 2023-24 to 2026-27 financial years. The grant amount will be up to 75 percent of eligible project expenditure. The CTC program will provide a maximum of \$35.9 million in grants from the 2024-25 to 2026-27 financial years.

The Programs involve the allocation of finite resources between competing applicants and therefore fall within the category of decisions that would not usually be subject to merits review according to paragraph 4.11 of the Administrative Review Council guide, *What decisions should be subject to merits review?* available at <https://www.ag.gov.au/legal->

[system/administrative-law/administrative-review-council-publications/what-decisions-should-be-subject-merit-review-1999](https://www.system/administrative-law/administrative-review-council-publications/what-decisions-should-be-subject-merit-review-1999). In addition, there is a robust and extensive assessment

process, an enquiry and feedback process, and an existing complaints mechanism for affected applicants. Therefore, external merits review does not apply to decisions about the provision of grants under the Programs.

Applications for both Programs will be assessed against the eligibility and merit criteria set out in their respective grant opportunity guidelines in two stages. At first instance, applications will be assessed by the Business Grants Hub against the eligibility criteria. An assessment panel will then consider eligible applications against the merit criteria. This will include comparing the applications and giving each application a numerical score. The assessment panel will comprise Department representatives and may include representatives from other Australian Government portfolios and other experts as required. The assessment panel may seek input from other independent experts to inform their assessments.

Applications must address the eligibility and merit criteria, and provide relevant supporting information. The amount of detail and supporting evidence should be relative to the project size, complexity and funding amount requested. To be competitive, applications must score highly against each merit criterion.

After considering the applications, the independent assessment committee will make recommendations to the Minister regarding which applications are suitable for funding. The Minister will make the final decision about which grants to approve, taking into consideration the independent assessment committee's recommendations, and the availability of grant funds. The Minister will not approve funding if there are insufficient grant funds available across relevant financial years for the Programs.

Both successful and unsuccessful applicants will be informed in writing. Successful applicants will be advised of any specific conditions attached to the grant. Unsuccessful applicants will have an opportunity to discuss the outcome with the Department.

Persons who are otherwise affected by decisions or who have complaints about the Programs will also have recourse to the Department. The Department will investigate any complaints about the Programs in accordance with its complaints policy and procedures. If a person is not satisfied with the way the Department handles the complaint, they may lodge a complaint with the Commonwealth Ombudsman.

For the purposes of subsection 33(3) of the Act, the Legislative Instrument specifies that the legislative powers in respect of which the Instrument is made are the following:

Trade and commerce power

Section 51(i) of the Constitution empowers the Parliament to make laws with respect to 'trade and commerce with other countries, and among states'.

In that regard, the ACQG program is aimed at fostering and encouraging constitutional trade or commerce in quantum technology to contribute to the growth of the Australian quantum industry.

External affairs power

Section 51(xxix) of the Constitution empowers the Parliament to make laws with respect to 'external affairs'. The external affairs power supports legislation with respect to matters or things outside the geographical limits of Australia.

In that regard, the ACQG program is aimed at collaborating and building relationships with international participants in the quantum industry. The ACQG program will have the objective of enabling the transfer of knowledge and capital to international partners while enabling the retention of Australia's sovereign intellectual property.

The external affairs power also supports legislation implementing Australia's international obligations under treaties to which it is a party. Australia has obligations under the Convention on the Elimination of all forms of Discrimination against Women [1983] ATS 9 (CEDAW).

Articles 2, 3 and 11 of the CEDAW relevantly provide that signatories agree to pursue a policy of eliminating discrimination against women, to take all appropriate measures to ensure the full development advancement of women, and to take all appropriate measures to eliminate discrimination against women in the fields of employment. In that regard, the ACQG program is aimed at reducing discrimination against, and promoting equal opportunities for, women in the quantum industry.

Communications power

Section 51(v) of the Constitution empowers the Parliament to make laws with respect to 'postal, telegraphic, telephonic and other like services'.

The ACQG program will support activities directed at protecting against any potential risks posed by quantum technology to the security of communications services, such as the internet.

Executive power and express incidental power, including the nationhood aspect

The express incidental power in paragraph 51(xxxix) of the Constitution empowers the Parliament to make laws with respect to matters incidental to the execution of any power vested in the Parliament, the executive or the courts by the Constitution. Section 61 of the Constitution supports activities that are peculiarly adapted to the government of a nation and cannot be carried out for the benefit of the nation otherwise than by the Commonwealth.

In that regard, the ACQG program is aimed at facilitating and improving coordination of research and development in the field of quantum technology, collecting and disseminating

information relating to quantum technology, promoting the development and adoption of Australia-wide standards relating to quantum technology, and addressing any other ethical or security issues arising from quantum technology that are likely to have significant national or international implications.

The CTC program is aimed at supporting research and development into the use of quantum technology and other advanced technologies to develop solutions to nationally significant problems.

Race power

Section 51(xxvi) of the Constitution empowers the Parliament with respect to ‘the people of any race for whom it is deemed necessary to make special laws’.

In that regard, the ACQG program prescribed is aimed at facilitating the participation of First Nations Peoples in the quantum industry.

Territories power

Section 122 of the Constitution empowers the Parliament to ‘make laws for the government of any territory’.

In that regard, the ACQG program is aimed at fostering and encouraging trade or commerce in quantum technology between states and territories.

Further details of the Legislative Instrument are set out at **Attachment A**.

Authority

Section 33 of the IR&D Act provides authority for the Legislative Instrument.

Consultation

The Department consulted a wide range of stakeholders across industry, academia, and government on the development of the ACQG program and the CTC program.

In relation to the ACQG program, stakeholders were consulted on:

- the proposed objectives of the ACQG program and its operation;
- what key activities should be undertaken in the ACQG program; and
- what the ACQG program would need to do to successfully grow the quantum industry and the specific skills needed for this growth.

This consultation informed the design of the ACQG program, as it provided the Department with an understanding of what the quantum industry needs to grow and how the program can meet those needs.

In relation to the CTC program, stakeholders were consulted:

- on the proposed objectives of the CTC program and its operation; and
- to identify any significant national challenges that could potentially be solved by quantum and other emerging technologies.

This consultation informed the design of the CTC program, as it provided the Department with an understanding of nationally significant challenges worthy of inclusion. It also provided the Department with an understanding of how the program could be developed to support realisation and commercialisation of potential technological solutions.

In accordance with section 17 of the *Legislation Act 2003*, the Attorney-General's Department has been consulted on this Legislative Instrument.

Regulatory Impact

It is estimated that the regulatory burden is likely to be minor, according to the Office of Impact Assessment number OIA23-04486.

Statement of Compatibility with Human Rights

A Statement of Compatibility with Human Rights for the purposes of Part 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011* is set out at **Attachment B**

Details of the *Industry Research and Development (Australian Centre for Quantum Growth Program and Critical Technologies Challenge Program) Instrument 2023*

Section 1 – Name of Instrument

This section specifies the name of the Legislative Instrument as the *Industry Research and Development (Australian Centre for Quantum Growth Program and Critical Technologies Challenge Program) Instrument 2023*.

Section 2 – Commencement

This section provides that the Legislative Instrument commences on the day after registration on the Federal Register of Legislation.

Section 3 – Authority

This section specifies the provision of the IR&D Act under which the Legislative Instrument is made.

Section 4 – Definitions

This item provides for definitions of terms used in the Legislative Instrument.

Section 5 – Prescribed Programs

This section prescribes the Programs for the purposes of section 33 of the IR&D Act.

The ACQG Program will provide a grant to create a national centre to undertake quantum industry growth activities. The ACQG program will build genuine, strategic and lasting relationships spanning industry, research, consumer and government stakeholders to drive innovation and translation. It will accelerate the growth of the quantum industry in Australia and increase Australia's global competitiveness by supporting greater collaboration and coordination of research and development, focusing on industry-led solutions that boost the adoption and diffusion of technologies across Australian and international markets.

The CTC program will provide grant funding to undertake research and development into the use of either or both quantum technology and other advanced technologies to solve significant national challenges. The CTC program will drive greater awareness and uptake of quantum technologies by creating stronger ties between researchers, industry, and other parts of society through challenge-based innovation.

Section 6 – Specified Legislative Power

This section specifies that the legislative powers in respect of which the Legislative Instrument is made are:

- a) trade and commerce with other countries, and amongst the States (within the meaning of paragraph 51(i) of the Constitution);
- b) postal, telegraphic, telephonic and other like services (within the meaning of paragraph 51(v) of the Constitution);
- c) the people of any race for whom it is deemed necessary to make special laws (within the meaning of paragraph 51(xxvi) of the Constitution);
- d) external affairs (within the meaning of paragraph 51(xxix) of the Constitution), including as it relates to measures that would assist Australia to meet its obligation under Convention on the Elimination of all forms of Discrimination Against Women, particularly Articles 2, 3 and 11;
- e) enterprises and activities that are peculiarly adapted to the government of a nation and cannot otherwise be carried on for the benefit of the nation (see paragraph 51(xxxix) and section 61 of the Constitution);
- f) the government of a Territory (within the meaning of section 122 of the Constitution).

Statement of Compatibility with Human Rights

Prepared in accordance with Part 3 of the Human Rights (Parliamentary Scrutiny) Act 2011

Industry Research and Development (Australian Centre for Quantum Growth Program and Critical Technologies Challenge Program) Instrument 2023

This Legislative Instrument is compatible with the human rights and freedoms recognised or declared in the international instruments listed in section 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011*.

Overview of the Legislative Instrument

The *Industry Research and Development (Australian Centre for Quantum Growth Program and Critical Technologies Challenge Program) Instrument 2023* (the Legislative Instrument) provides legislative authority to commit Commonwealth funds for the Australian Centre for Quantum Growth (ACQG) Program and the Critical Technologies Challenge (CTC) Program (the Programs). The Programs implements elements of the National Quantum Strategy, as released by the Minister for Industry and Science on 3 May 2023. The National Quantum Strategy is the Australian Government's plan to grow the quantum industry in Australia.

The ACQG program will provide funding for a grant to create a National Centre to undertake quantum industry growth activities.

The CTC program will provide grant funding to undertake research and development into the use of either or both using quantum technology and other advanced technologies to solve significant national challenges. This will demonstrate Australian capability in relation to quantum technology, drive private sector demand and de-risk adoption of quantum technology across the economy.

Human rights implications

This Legislative Instrument engages the following rights:

- The right to equality – articles 2, 3 and 11 of the Convention on the Elimination of all Forms of Discrimination against Women (CEDAW); and
- The right to equality and enjoyment of cultural rights – article 2 and 15 of the International Covenant on Economic, Social and Cultural Rights (ICESCR).

The ACQG program upholds Articles 2, 3 and 11 of the CEDAW as it will assist the development and advancement of women, and support women's access to employment and opportunities in the Quantum Industry. The ACQG program will thereby assist women to overcome discrimination, as women are underrepresented in STEM fields. The ACQG

program engages the right to equality as it aims to improve gender equity in the Quantum Industry.

The ACQG program uphold Articles 2 and 15 of the ICESCR as it will assist the development and advancement of First Nations Peoples, and support First Nations Peoples' access to employment and opportunities in the Quantum Industry. The Program will thereby assist First Nations Peoples to overcome discrimination, as First Nations Peoples are underrepresented in STEM fields. The Program engages the right to equality as it aims to improve representation of First Nations Peoples in the Quantum Industry.

Conclusion

This Legislative Instrument is compatible with human rights as it promotes the right to equality and non-discrimination for women and First Nations Peoples.

The Hon Ed Husic MP
Minister for Industry and Science