

Minister's Approval for Industrial Transformation Training Centres for Funding Commencing in 2020 Schedule

Approved Organisation, Leader of Approved Research Program (Columns 1 and 2)	Approved Research Program (Column 3)	Estimated and Approved Expenditure (\$)				Indicative Funding (\$)		Total (\$) (Column 10)	Industrial Transformation Priorities (Column 11)	International Collaboration (Column 12)	Partner Organisation(s) (Column 13)
		2019-20 (Column 4)	2020-21 (Column 5)	2021-22 (Column 6)	2022-23 (Column 7)	2023-24* (Column 8)	2024-25* (Column 9)				

New South Wales

The University of New South Wales

IC200100023 Amal, Prof Rose	The centre aims to transform Australia into a hydrogen powerhouse by building enabling capacity in hydrogen innovation in a short timeframe. Australia is well-positioned to capitalise on the emerging global growth of hydrogen, however to be competitive and produce at scale, we need cost-effective hydrogen technologies and capabilities for transitioning hydrogen into industries. This innovative, five-year program will generate new technologies and equip a future workforce of industry-focused engineers with advanced skills for development and scaling-up of hydrogen generation and transport. Benefits include: export of hydrogen fuel and advanced technologies; job creation; and a lower emissions domestic energy industry.	498,906.50	995,978.50	992,312.50	992,312.50	969,026.00	471,954.00	4,920,490.00	Oil, Gas and Energy Resources	Japan, France, England, Indonesia	KOHODO HYDROGEN ENERGY PTY. LTD., SOUTHERN GREEN GAS LIMITED, REHABIT AUSTRALIA PTY LTD, PROVIDENCE ASSET GROUP, LICHENERGY PTY LTD, SHENZHEN EVOLUTION TECHNOLOGY CO. LTD, SHANDONG AOLIAN NEW MATERIALS COMPANY LIMITED, HASNUR GROUP, BLOOM COLLECTIVE PTY LTD, ORIGIN ENERGY LIMITED, H2STORE PTY LTD, KAWASAKI HEAVY INDUSTRIES, LTD., H2H ADVANTAGE PTY LTD
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National Interest Test Statement

The ARC Training Centre for the Global Hydrogen Economy is an innovative, five-year research and research training program that will develop new, cost-effective hydrogen technologies and new research-based engineering and business skills that will transform Australia's energy industry into a hydrogen powerhouse. The centre's research will transform the energy and other Australian industries by building enduring research and industry capacity in hydrogen production and supply chains, which could add billions to the Australian economy. The centre will position Australia as a clean energy export nation, in hydrogen itself, advanced hydrogen technologies and associated knowledge-based services, hydrogen standards and green energy trading. The centre will benefit Australia environmentally and economically through supporting higher penetration of renewable energy generation, electricity grid stabilisation, reduced carbon emissions, lower costs of energy, new venture creation and business competitiveness and growth.

The University of New South Wales 498,906.50 995,978.50 992,312.50 992,312.50 969,026.00 471,954.00 4,920,490.00

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Queensland

Queensland University of Technology

IC200100001	The Centre aims to build the human and technical capability Australia needs to underpin our global competitiveness in advanced manufacturing. The Centre will unite manufacturing businesses, including SMEs, and universities to develop collaborative robotics applications which combine the strengths of humans and robots in shared work environments. The Centre will train researchers, engineers, technologists and manufacturing leaders with the expertise industry needs to boost safety, quality assurance, production efficiency, and workforce readiness. The intended outcome is to support Australian manufacturers to shift toward higher-potential markets, compete globally and attract and retain a digitally-capable workforce for the future.	499,781.50	999,647.00	999,716.00	999,517.00	940,210.00	440,543.50	4,879,415.00	Advanced Manufacturing, Mining Equipment, Technology and Services, Medical Technologies and Pharmaceuticals, Oil, Gas and Energy Resources	Germany	COOK MEDICAL AUSTRALIA PTY LTD, INFRABUILD TRADING PTY LTD, WELD AUSTRALIA, L & A PRESSURE WELDING PTY LTD, JOBS QUEENSLAND LIMITED, KLINGER LIMITED, B & R ENCLOSURES PTY. LTD., IR4 PTY LTD
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National Interest Test Statement

Australian manufacturing has an opportunity to be more globally competitive by improving manufacturing processes which lower production costs and boost productivity. The Centre for Collaborative Robotics in Advanced Manufacturing will achieve wins for Australian businesses and the economy by developing our capability for new forms of human-robot interaction in manufacturing environments. This will benefit Australian companies, especially small businesses (who will win on process innovation and lower costs), manufacturing workers (whose jobs will become safer and higher-skilled), and the economy (through the growth of jobs and exports). The Centre will achieve this by training the next generation of manufacturing leaders, researchers, and technicians with collaborative robotics expertise to make Australian manufacturing safer, more efficient and globally competitive. We will enhance this capability by researching and sharing with industry new knowledge to improve skills, workforce diversity and readiness to power Australian manufacturing with the digitally-capable workforce of the future.

Queensland University of Technology	499,781.50	999,647.00	999,716.00	999,517.00	940,210.00	440,543.50	4,879,415.00
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The University of Queensland

IC200100022	The proposed centre aims at building workforce capacity in Australian organisations to create, protect and sustain agile data pipelines, capable of detecting and responding to failures and risks across the information value chain in which the data is sourced, shared, transformed, analysed and consumed. Building on strong foundations of responsible data science, the centre will bring together end-users, technology providers, and cutting-edge research, to lift the socio-technical barriers to data driven transformation and develop resilient data pipelines capable of delivering game-changing productivity gains that position Australian organisations at the forefront of technology leadership and value creation from data assets.	450,925.50	948,853.00	997,795.50	997,945.50	992,982.00	494,904.50	4,883,406.00	Cyber Security	United States of America, China (excludes SARs and Taiwan), Germany, Hong Kong (SAR of China), Switzerland	AGINIC HOLDINGS PTY LTD, ALLIANZ WORLDWIDE PARTNERS, ASTRAL CONSULTING SERVICES PTY LTD, QUEENSLAND POLICE SERVICE, MAX KELSEN PTY. LTD., QUEENSLAND HEALTH, DEPARTMENT OF TRANSPORT, DEPARTMENT OF EDUCATION
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National Interest Test Statement

Recent industry reports and media coverage identify data gone wrong as the biggest risk factor for many emerging digital technologies such as artificial intelligence and autonomous decision making. Contribution of digital technologies to Australia's GDP is expected to reach \$65 billion by 2023 and it is acknowledged that the foundational nature of data and the workforce skills required to create value from the data largely underpins this growth. The impact that bad data products and processes can have on emerging technologies is increasingly recognized as a threat not just from mundane cyber-criminals but from sophisticated well-funded entities raising concerns of national security. As technological advancements outpace societal expectations and legislative frameworks, this centre responds to an urgent need to build workforce capacity in Australia that can ensure responsible, secure, and agile value creation from data. Creation of transformational change in Australia's knowledge economy is expected given participation across multiple sectors of health, law enforcement, insurance, education & transport.

The University of Queensland	450,925.50	948,853.00	997,795.50	997,945.50	992,982.00	494,904.50	4,883,406.00
Queensland	950,707.00	1,948,500.00	1,997,511.50	1,997,462.50	1,933,192.00	935,448.00	9,762,821.00

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Victoria

Monash University

IC200100052 Sexton, Prof Patrick S	This Centre aims to train industry-ready, world class graduates in cryo-electron microscopy of membrane proteins. The Centre's graduates and research results would enable tomorrow's industrial expansion in structure-enhanced drug design. Expected outcomes are world-first structural biology knowledge and techniques, and the entrepreneurial and technical skills desired by industry. This should provide significant benefits including advancing Australian biotechnological capacity and improved linkages with major pharmaceutical partners. It should also provide a substantive competitive advantage to nascent Australian biotechnology companies that also links into new National investment into drug discovery and development infrastructure.	497,340.00	993,696.50	994,229.00	995,708.50	903,350.00	405,514.00	4,789,838.00	Medical Technologies and Pharmaceuticals	Netherlands, England, France	FB RICE PTY LTD, BIOCURATE PTY LTD, CLARIVATE ANALYTICS (AUSTRALIA) PTY LIMITED, THERMO FISHER SCIENTIFIC, USA, CATALYST THERAPEUTICS PTY LTD, ASTRAZENECA PTY LTD, DIMERIX BIOSCIENCE PTY LTD, SERVIER IDRS FRANCE, GENENTECH INC, ASTEX PHARMACEUTICALS, NOVO NORDISK A/S, SANOFI AVENTIS, MEDICAGO INC
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National Interest Test Statement

The ITTC will provide new links between academic and commercial partners, providing increased opportunity for generation of new IP and expansion of economic investment into the Australian biotechnology section. The breadth of training undertaken by our graduates will provide future flexible integration into both Australian and International pharmaceutical science industries. Current international commercially-focused cryo-EM platforms encourage placement of company scientists at their facilities to support sample preparation and data acquisition. These models are well suited to new start-ups and SMEs, allowing engagement with state-of-the-art imaging facilities but which require expert graduate staff. The ITTC could provide a substantive competitive advantage to nascent Australian biotechnology companies that also links into new National investment into pharmaceutical sciences infrastructure. Our ITTC trained staff could also support academic led innovation enabling improved commercial value prior to partnership with industry.

Monash University	497,340.00	993,696.50	994,229.00	995,708.50	903,350.00	405,514.00	4,789,838.00
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The University of Melbourne

IC200100009 Smith-Miles, Prof Kate A	OPTIMA addresses industry's urgent need for decision-making tools for global competitiveness: reducing lead times, and financial and environmental costs, while improving efficiency, quality, and agility. Despite strong expertise in academia, industry is yet to fully benefit from optimisation technology due to its high barrier to entry. Connecting industry partners with world-leading interdisciplinary researchers and talented students, OPTIMA will advance an industry-ready optimisation toolkit, while training a new generation of industry practitioners and over 120 young researchers, vanguarding a highly skilled workforce of change agents for transformation of the advanced manufacturing, energy resources, and critical infrastructure sectors.	488,885.50	979,991.50	984,477.00	969,905.00	957,255.50	480,721.50	4,861,236.00	Advanced Manufacturing, Oil, Gas and Energy Resources	England, Ireland	BOEING AEROSTRUCTURES AUSTRALIA PTY LIMITED, CSR LIMITED, FUTURE FIBRE TECHNOLOGIES, MECCA BRANDS PTY LTD, AGL ENERGY LIMITED, AUSNET SERVICES (TRANSMISSION) PTY LTD, WOODSIDE ENERGY LTD., IBM AUSTRALIA LTD, MELBOURNE WATER CORPORATION, SOUTH EAST WATER CORPORATION, LANCASTER UNIVERSITY, THE UNIVERSITY OF WARWICK, UNIVERSITY COLLEGE CORK
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National Interest Test Statement

To strengthen its global competitiveness, Australian industry urgently needs to improve how complex decisions are made in relation to intersecting drivers of cost, quality, efficiency and sustainability: reports from the sector call for solutions to optimize these decision processes. The OPTIMA ARC Training Centre will partner with Australian companies to develop an industry-ready optimisation toolkit that will tackle complex decision making and enhance market position. Our industry partners in advanced manufacturing, energy resources, and infrastructure sectors seek to do more with less, balancing environmental concerns and commercial goals: e.g. efficient energy generation, managing water supply, efficient and sustainable manufacturing. This initiative will have applications to other sectors – defence, space, transport. Crucially, it will train a highly-skilled future workforce and address a critical skills shortage that currently represents an estimated \$315 billion missed opportunity for the Australian economy.

The University of Melbourne	488,885.50	979,991.50	984,477.00	969,905.00	957,255.50	480,721.50	4,861,236.00
Victoria	986,225.50	1,973,688.00	1,978,706.00	1,965,613.50	1,860,605.50	886,235.50	9,651,074.00
	2,435,839.00	4,918,166.50	4,968,530.00	4,955,388.50	4,762,823.50	2,293,637.50	24,334,385.00