AUSTRALIA INDIA INSTITUTE

Advanced Manufacturing Technologies

Australia-India Research Collaboration Framework

AUGUST 14, 2025

Supported by

Australian Government
Department of Education

AUSTRALIA-INDIA RESEARCH COLLABORATION FRAMEWORK

Advancing Bilateral Research for Shared Impact

The **Australia–India Research Collaboration (AIRC) Framework** is a strategic initiative designed to support impactful research partnerships between Australia and India. It supports all stakeholders involved in research collaboration, including higher education, industry, government, and community sectors. The Framework revolves around three action areas:

- **Promote**: Encourage the development of new, interdisciplinary research collaborations.
- **Support**: Sustain and strengthen research partnerships over time, ensuring they remain impactful and mutually beneficial.
- **Translate**: Establish pathways to apply research into practical outcomes, with a focus on innovation, commercialisation, and early engagement with delivery partners.

The Framework is designed with a five-year outlook to guide, grow, and scale research collaboration with lasting impact across both countries. It focuses on four key thematic areas of shared importance to both countries:

- Energy Transitions and Climate Change Resilience
- Sustaining Healthy Communities
- Advanced Manufacturing Technologies
- Cybersecurity and Digital Governance

Online workshops on each theme will be hosted between August and September 2025. Each workshop is co-led by Australian and Indian experts and will gather practical insights and recommendations that will directly inform the Framework. The initiative is supported by the Australian Government Department of Education.

About the Australia India Institute

The **Australia India Institute** is Australia's leading centre dedicated to enhancing Australia-India relations. We aim to increase the policy and public importance of India as a crucial partner in Australia's future, and of Australia as a crucial partner in India's future. Our activities across the academic, political, business and community sectors have helped to shape engagement with India among Australian decision makers, change perceptions about Australia in India, promote trade and investment and activate bilateral networks.

CO-LEADS

Mohan Yellishetty is a Professor in the Department of Civil Engineering at Monash University, with a distinguished career spanning more than three decades across renowned institutions including Monash University, CSIRO, and IIT Bombay.

He is the co-founder of the Critical Minerals Consortium at Monash University, the founder of the Australia–India Critical Minerals Research Hub, and serves as the Convenor of the Critical Minerals National Industry Group at the Australia–India Chamber of Commerce.

Rajat Verma is the Founder and CEO of Lohum Cleantech, a pioneering company based in Delhi, India, focused on clean technology solutions and growing India's EV ecosystem. At Lohum, Mr. Verma is working to develop technologies that make battery power sources more affordable and longer-lasting.

A serial entrepreneur with over 18 years of experience, he has worked with start-ups and in technology investing internationally.

DISTINGUISHED GUESTS

Lisa Singh is a former Australian Senator and was the first woman of South Asian heritage to be elected to the Australian Parliament. She is also a former Tasmanian Member of Parliament and Minister in the Tasmanian Government.

She is currently the CEO of the Australia India Institute at the University of Melbourne, a leading research and policy thinktank advancing Australia-India relations at the government, business, diaspora and academic levels.

SPEAKERS

Farhan Ahmad is the Chief Financial Officer of Intel Corporation's Client Computing Group, bringing over 25 years of leadership experience across the semiconductor, technology, and clean energy sectors. His career spans investor relations, finance, strategic planning, product management, and engineering, giving him a uniquely broad perspective on driving growth in innovation-driven industries. Prior to Intel, Mr Ahmad served as CFO of Enovix, a Nasdaq-listed disruptive battery company.

Dr Sarb Giddey is Senior Principal Research Scientist and currently Group Leader in the Energy Technologies Program at CSIRO. Dr Giddey has over 20 years of R&D experience in hydrogen-related technologies and has played a key role in the establishment of the prestigious Centre for Hybrid Energy Systems in Melbourne. His visionary approach to technology commercialisation has led to the successful spin-off of two companies – Endua and Hadean Energy, commercialising respectively PEM and solid oxide electrolyte technologies.

Maddy Gupta is the CEO and Founder of Manhari Metals. He has over 18 years of experience in the recycling and resource recovery industry, with a focus on metal recycling, circular economy innovation, and sustainable supply chain management. Under his leadership, Manhari Metals has grown into an Australian leader in the recycling and sustainability industries.

Dr Joanne Loh manages CSIRO's India-Australia Critical Minerals Research Partnership, part of the Australian Government's updated India Economic Strategy. She leads collaboration between researchers, industry, and government in both countries to deliver projects that strengthen and integrate critical minerals value chains.

Dr Ramanuj Narayan is the Director of CSIR – Institute of Minerals and Materials Technology. He is also an Outstanding Professor at the Academy of Scientific & Innovative Research (AcSIR). His research spans coatings and paints, hyperbranched polymers, polyurethanes, nano-, functional, and hybrid materials, as well as third-generation solar cells.

Professor Sapna A. Narula is a Professor and Director at the National Institute of Agricultural Marketing, Ministry of Agriculture, Government of India. With 25 years of academic leadership, she is a leading researcher in sustainability, covering climate change, ESG, sustainable finance, business and climate change, and sustainable agriculture. She has been the Founder Dean, School of Management Studies, Nalanda University, Ministry of External Affairs, Government of India.

Shri Anshoo Pandey is Director of the National Critical Mineral Mission in the Ministry of Mines, Government of India. He leads efforts to secure key minerals for India's clean energy goals – such as electric vehicles, batteries and solar technologies – and to reduce import dependence through domestic exploration and processing. Prior to this role, he served as Executive Director of Indian Railways.

AGENDA

10:00–10:05 IST **14:30–14:35 AEST**	**Welcome & Overview** • **Professor Mohan Yellishetty**, Professor in Resources Engineering, Monash University; Founder, Australia–India Critical Minerals Research Hub • **Mr Rajat Verma**, Founder and CEO, LOHUM Cleantech
10:05–10:10 IST **14:35–14:40 AEST**	**Opening Remarks** • **The Hon. Lisa Singh**, CEO, Australia India Institute • **Ms Carly Partridge**, Australian Acting Deputy High Commissioner to India
10:10–10:15 IST **14:40–14:45 AEST**	**Overview of the AIRC Framework** • **Associate Professor Haripriya Rangan**, Principal Consultant Government Projects, Australia India Institute
10:15–10:55 IST **14:45–15:25 AEST**	**Expert Presentations** **Shri Anshoo Pandey**, Director, National Critical Mineral Mission, Ministry of Mines **Topic**: Policy, partnerships, and pathways for bilateral collaboration **Dr Joanne Loh**, Group Leader - Critical Minerals, CSIRO **Topic**: India-Australia Critical Minerals Research Partnership **Mr Farhan Ahmad**, Chief Financial Officer, Client Computing Group, Intel Corporation **Topic:** Building a secure semiconductor supply chain in geopolitically uncertain world
10:55–11:20 IST **15:25–15:50 AEST**	**Breakout Session 1: Materials innovation and circular economy for sustainable manufacturing** **Breakout Lead: Dr Sarb Giddey,** Senior Principal Research Scientist, CSIRO **Focus Areas** • Innovations in critical minerals extraction and processing, resource-efficient technologies, and semiconductor design and manufacture • Circularity in design including waste valorisation, urban mining, and design for recycling • Bilateral research opportunities in critical minerals extraction and processing, resource-efficient technologies, and semiconductor design and manufacture **Guiding Question** *How can Australia and India advance innovations in critical minerals extraction and processing while fostering resilient, bilateral research ecosystems?*

11:20–11:25 IST **15:50–15:55 AEST**	**Short Break**
11:25–11:50 IST **15:55–16:20 AEST**	**Breakout Session 2: Driving climate-smart advanced manufacturing** **Breakout Lead: Dr Bajesh Kumar Dubey**, Professor, Civil Engineering, Indian Institute of Technology Kharagpur **Focus Areas** • Integration of digital technologies (AI, IoT, digital twins) in energy-efficient and low-carbon manufacturing, and critical minerals processing • Australian and Indian case studies on decarbonising industrial systems • Enabling visibility, traceability and lifecycle emissions tracking across supply chains **Guiding Question** *How can we leverage digital technologies to decarbonise critical minerals processing and industrial systems while ensuring supply chain transparency?*
11:50–12:15 IST **16:20–16:45 AEST**	**Breakout Session 3: Policy, partnerships and pathways for bilateral climate-tech manufacturing collaboration** **Breakout Lead: Professor Sapna A. Narula,** Director, National Institute of Agricultural Marketing, Ministry of Agriculture, Government of India **Focus Areas** • Policy alignment for clean tech manufacturing and critical minerals across both countries • Enabling industry–academia–government collaboration in the net-zero transition and critical minerals processing • Joint roadmap for Australia's Net Zero Industry Strategy and Viksit Bharat **Guiding Question** *What policy and partnership frameworks can align clean tech manufacturing and critical minerals strategies in support of Net Zero and Viksit Bharat goals?*
12:15–12:30 IST **16:45–17:00 AEST**	**Final Reflections** • **Professor Mohan Yellishetty**, Professor in Resources Engineering, Monash University; Founder, Australia–India Critical Minerals Research Hub • **Mr Rajat Verma**, Founder and CEO, LOHUM Cleantech
12:30 IST **17:00 AEST**	**Close**

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