



MONASH
University



భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్
भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad



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विद्याविनियोगाद्विद्याः
IIITM
AHMEDABAD



AUSTRALIA-INDIA CRITICAL MINERALS RESEARCH HUB (AICMRH)

A Australia-India Consortium



Presentation of AICMRH to the Hon'ble Kishan Reddy Gangapuram

Union Minister for Mines and Coal, Government of India

Date: Friday, 12 July 2024

Venue: Hyderabad, India



https://www.linkedin.com/posts/mohan-y-9261512b_criticalminerals-india-mining-activity-7217704464864985088-Pw3t?utm_source=share&utm_medium=member_desktop



Signing of MoU in presence of

Hon'ble Dharmendra Pradhan, Minister of Education and the Hon. Jason Clare MP, Minister for Education, Australia

Shri K Sanjay Murthy, Secretary Higher Education and the H.E. Philip Green OAM, Australian High Commissioner to India



Prof Susan Elliott AM, Vice Chancellor, Monash University
and

Prof B S Murty, Director, IIT Hyderabad

Date: 6th November, 2023

Venue: IIT Gandhinagar



Presentation of AICMRH to

The Hon. Dr Andrew Charlton MP
Chair, Australia-India Parliamentary Network



The Hon. Cassandra Fernando MP
Member for Holt, House of Representatives



Date: Thursday, 16 November 2023
Venue: Parliament House, Canberra ACT



Presentation of 1st India-Australia joint workshop report and recommendations on
“Critical Minerals Research for Sustainable Transition to Green Energy”
to **Sh. Pralhad Joshi**, Hon’ble Minister for Mines
in the presence of Prof Subhasis Chaudhuri, Director, IIT Bombay

29th MAY, 2023

IIT BOMBAY, Mumbai



CM Centres of Excellence



75 Azadi Ka Amrit Mahotsav

G20

Australia India Critical Minerals Research Hub

**INDIA-AUSTRALIA JOINT WORKSHOP
ON CRITICAL MINERALS RESEARCH
FOR SUSTAINABLE TRANSITION TO
GREEN ENERGY**

AICMRH

Critical Minerals - Driving the new Future

Organized by
Department of Earth Sciences
IIT Bombay
(3-4 March 2023)

Conveners
Prof. Sakthi Saravanan Chinnasamy
Department of Earth Sciences
Prof. Harish Chandra Phuleria
Environmental Science and Engineering

IIT Bombay

Monash University

Key recommendations to the Government of India, including:

- "Critical Minerals National Taskforce"
- CM centers of excellence
- bilateral PhD scholarships I-A, and
- "Indo-Pacific Critical Minerals Supply Chains for Green Energy Transition Symposium"



CRITICAL MINERALS FOR INDIA



Report of the Committee
on Identification of Critical Minerals

Ministry of Mines
June 2023



Presentation of AICMRH to: Senator the Hon Penny Wong, Minister for Foreign Affairs and the Hon Tim Watts MP, Assistant Minister for Foreign Affairs



Date: Wednesday, 12 April 2023

Venue: Melbourne Commonwealth Parliamentary Offices, Melbourne

https://www.linkedin.com/posts/tim-watts-0aabb04_the-indian-australian-diaspora-is-the-key-activity-7052070270332768256-CG0a?utm_source=share&utm_medium=member_desktop
<https://instagram.com/stories/senatorpennywong/3079163040201710399?igshid=YmMyMTA2M2Y=>



India-Australia Joint Workshop on Critical Minerals Research for Sustainable Transition to Green Energy March 3-4, 2023, IIT Bombay



Presentation of AICMRH to the Hon'ble Kevin Hogan Shadow Federal Minister for Trade & Tourism, Australia



Date: Tuesday, 13 December 2022

Venue: Candela Nuevo, Melbourne

<https://www.linkedin.com/feed/update/urn:li:activity:7008602511255228416/>



Presentation of AICMRH to the Hon'ble Dharmendra Pradhan

Minister for Education and Skill Development, Government of India

H. E. Manpreet Vohra, High Commissioner of India to Australia.



Date: Wednesday, 24 August 2022

Venue: University of Melbourne
Australia

Date: Monday, September 5, 2022

Venue: Minister's Office, New Delhi.

<https://www.linkedin.com/feed/update/urn:li:activity:6968067570876772352/>



Presentation of AICMRH to the Hon'ble Pralhad Joshi Minister for Parliamentary Affairs, Coal & Mines, Govt of India, India



Date: Thursday, July 7, 2022

Venue: Four Seasons Hotel, Sydney.

Date: Monday, September 6, 2022

Venue: Minister's Office, New Delhi.

https://www.linkedin.com/posts/australia-india-chamber-of-commerce-aicc_india-supplychain-australia-activity-6951689885644648448-G37e/?utm_source=linkedin_share&utm_medium=member_desktop_web



Presentation of AICMRH to the Hon'ble R K Singh Minister for Power, New and Renewable Industry, Government of India, India



Date: Thursday, 14 July 2022.

Location: MinterEllison, Melbourne

https://www.linkedin.com/posts/australia-india-chamber-of-commerce-aicc_australia-india-university-activity-6954578677082845184-U6Sm/?utm_source=linkedin_share&utm_medium=member_desktop_web



Presentation of AICMRH to the Hon'ble Dan Tehan, Minister for Trade, Tourism and Investment Hon'ble Piyush Goyal, Minister for Commerce and Industry, India



Date: Wednesday, 6 April 2022

Venue: Melbourne Cricket Ground
Melbourne



Presentation of AICMRH to

Mr K Sanjay Murthy, IAS, Secretary, Higher Education
Government of India along with Mr Tim Thomas, CEO,
Centre for Australia India Relations



Date: Friday, 25 August 2023

Venue: Shastri Bhawan, New Delhi

Prof T G Sitharam, Chairman
All India Council of Technical Education (AICTE)



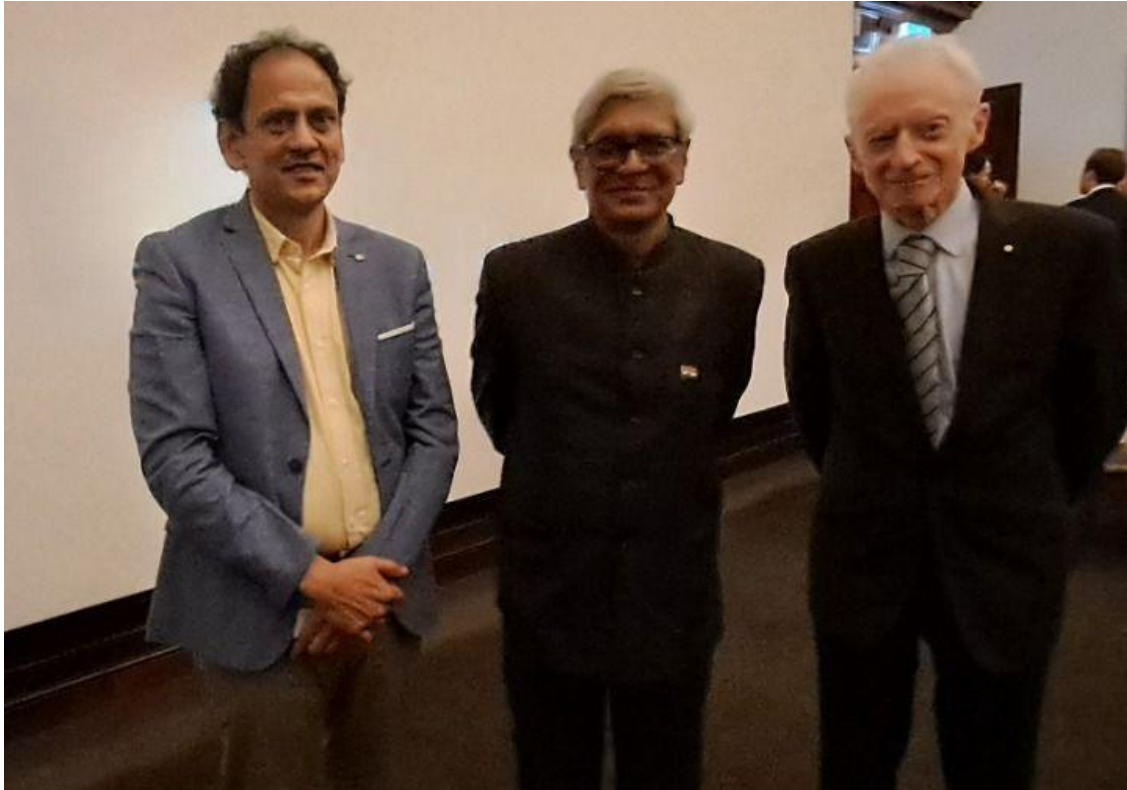
Date: Friday, 25 August 2023

Venue: Office of the Chairman, New Delhi



Presentation of AICMRH to

Professor Bibek Debroy
Chair, Economic Advisory Council to the Prime Minister
Government of India



Date: Monday, 14 November 2022

Venue: Melbourne, Australia

<https://www.linkedin.com/feed/update/urn:li:activity:6998523153639501824/>

Dr Vijay K Saraswat
Member, NITI Aayog, Government of India



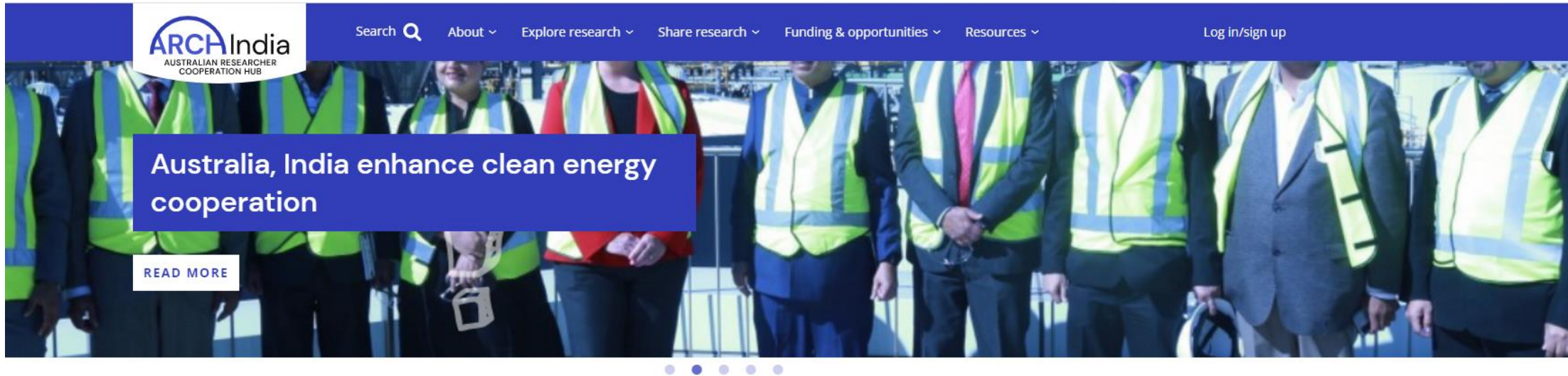
Date: Wednesday, 28 September 2022

Venue: NITI Bhavan, New Delhi

https://www.linkedin.com/posts/mohan-yellishetty-9261512b_aibx-australia-india-activity-6980926225028452352-lj9r?utm_source=share&utm_medium=member_desktop

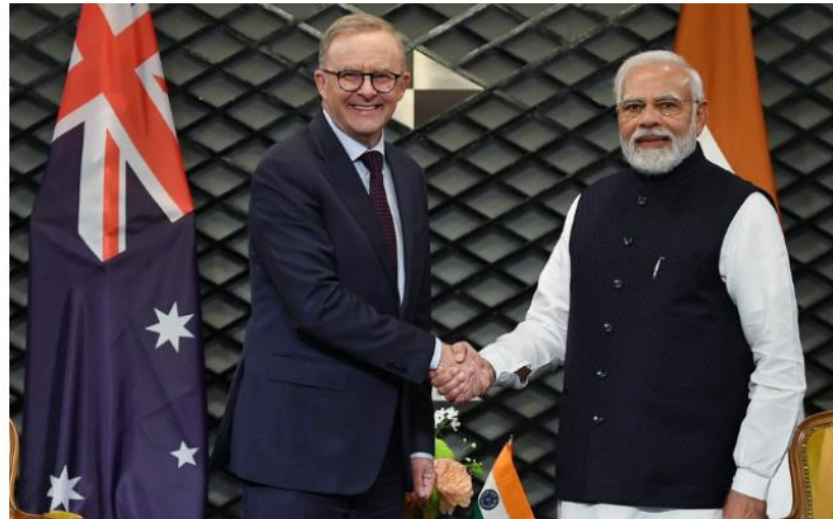


Motivation 1



The Australian Researcher Cooperation Hub India (ARCH-India), established in 2021, supports researcher engagement between India and Australia. Its primary aim is to strengthen and increase bilateral research collaboration and showcase the research excellence of both countries.

[LEARN MORE](#)



<https://arch-india.org/>



Motivation 2

Supply Chain Workshop Series Critical Minerals

Report and Recommendation



MONASH
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Australia
India
Chamber of
Commerce

MinterEllison

Key Takeaways/Recommendations:

- Establishment of Critical Minerals International Alliance
- Establishment of the 'Australia-India Critical Minerals Research Hub' with Indo-Pacific participation
- Formation of National Industry Working Group (Critical Minerals)
- Critical Minerals Round Tables and Workshops



Motivation 3

“**The Chinese Society of Rare Earths (CSRE)** founded in 1980:

“The CSRE is a **scientific and technological researchers’ organization** There are more than 100,000 registered experts in CSRE, which is the biggest **academic community on rare earth in the world**.

Besides serving for the government and researchers on the science and technology of rare earths, CSRE provide a stage for rare earth scientists to exchange their research ideas, propose scientific and technical plans on fundamental and applied fields on rare earths, as well as rare earth R&D plans for the industry. CSRE is, therefore, the most important social force in developing the rare earth science and technology in China. It organizes the International Conference on Rare Earth Development and Application once every four years, and Annual Meeting once every two years periodically. There are 15 subcommittees in CSRE, which cover almost every R&D field on rare earth.”

Source: http://metallpedia.asianmetal.com/metal/rare_earth/organization.shtml

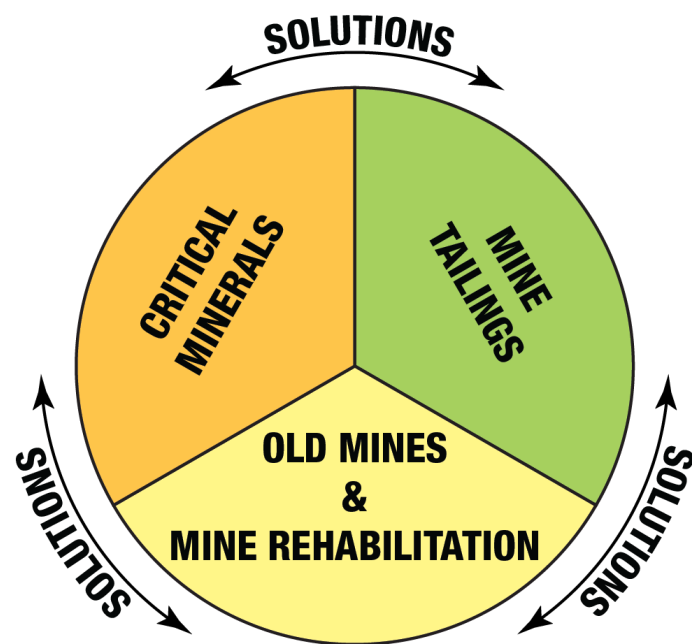
“When you think that **between 2015 and 2019**, China filed more than **11,000 patents in critical minerals extraction and processing**, five times more than the second largest filer, 10 times more than Australia” - [The Hon Dr Jim Chalmers MP](#)

<https://ministers.treasury.gov.au/ministers/jim-chalmers-2022/speeches/address-australian-critical-minerals-summit-sydney>





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[Prof Sapna A. Narula](#)
Nalanda University



[Professor David Whittle](#)
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[A/Prof S S Chinnasamy](#)
IIT Bombay



[Prof Y C Sharma](#)
IIT (BHU) Varanasi



[A/Prof A K Verma](#)
IIT Patna

MINING

- How to get ore in a safe, stable & sustainable way
- How to get ore cheaper and purer
- Valorising the mineral wastes

MATERIAL SCIENCE

- New alloys and materials for optimum performance
- Metal substitutes

GEOCHEMISTRY

- Understanding mineralogic signatures
- Delineation of refractory and non-refractory mineral phases

MODELING & MINERAL ECONOMICS

- Scenario models
- Forecast future material requirements
- Mineral criticality

GEOLOGY

- Reserves estimates
- Providing better understanding of grades and gangue minerals

EXTRACTIVE METALLURGY

- Recovery of critical metals from wastes and tailings
- Value adding and coproduct recovery

POLICY / GOVERNANCE

- Environmental, Social and Governance Standards
- Securing supplies
- Prices, Taxation and royalties
- How and where to secure from

ADVANCED MANUFACTURING

- Value-addition Analysis innovation
- Substitutions, metal alloys and performance



Vision, Mission and Scope

Vision

Empowering mineral security for the acceleration of a low carbon economy.

Mission

- Establish research partnerships with leading entities within our quad network focused on addressing mineral security.
- Establish a future talent development program on resources trinity to enable the renewable energy transition.
- Progress advocacy and thought leadership initiatives to elevate our partnerships and research recognitions.



The Team Australia (1/2)



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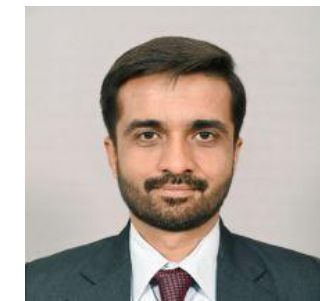
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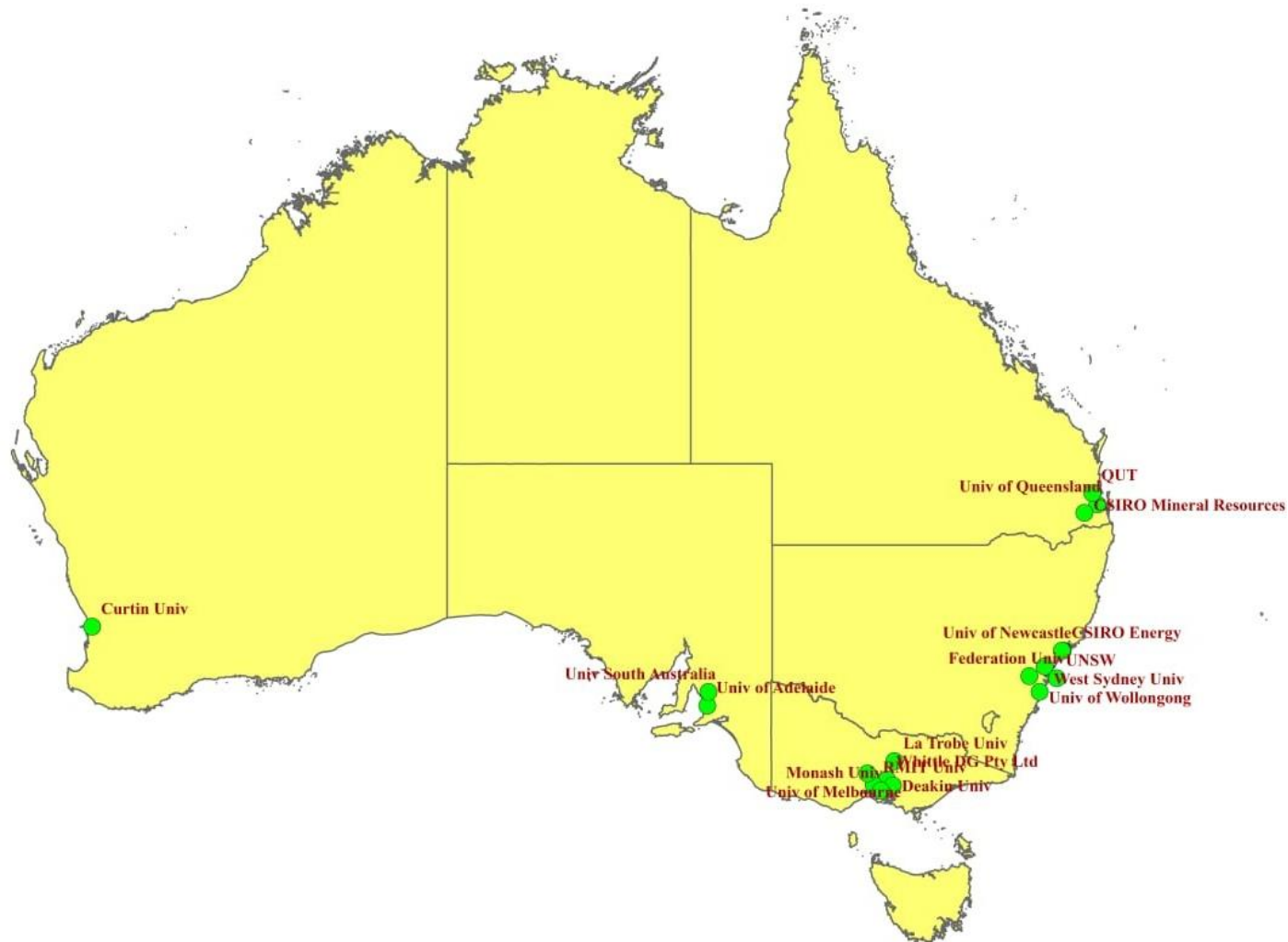


[Dr Anand Kumar](#)



[Dr M V Ravibabu](#)
NIRD&PR, Hyderabad

Geographical Spread of the Participating Institutes



Funding and Sustainability Plan

AICMRH

Australia-India Partnerships Fund

Seed Funding

Tuition Fee scholarship request ~10-12 for Indian PhD students (across universities)

Monash University

IIT (BHU) Varanasi

Funding Beyond 2025 (potential)

National R & D Hub and Industry Funding
Supported by Universities and NIWG (CM) members

Centre of Excellence
Supported by Universities and National Minerals Exploration Trust, DST, Industry, etc

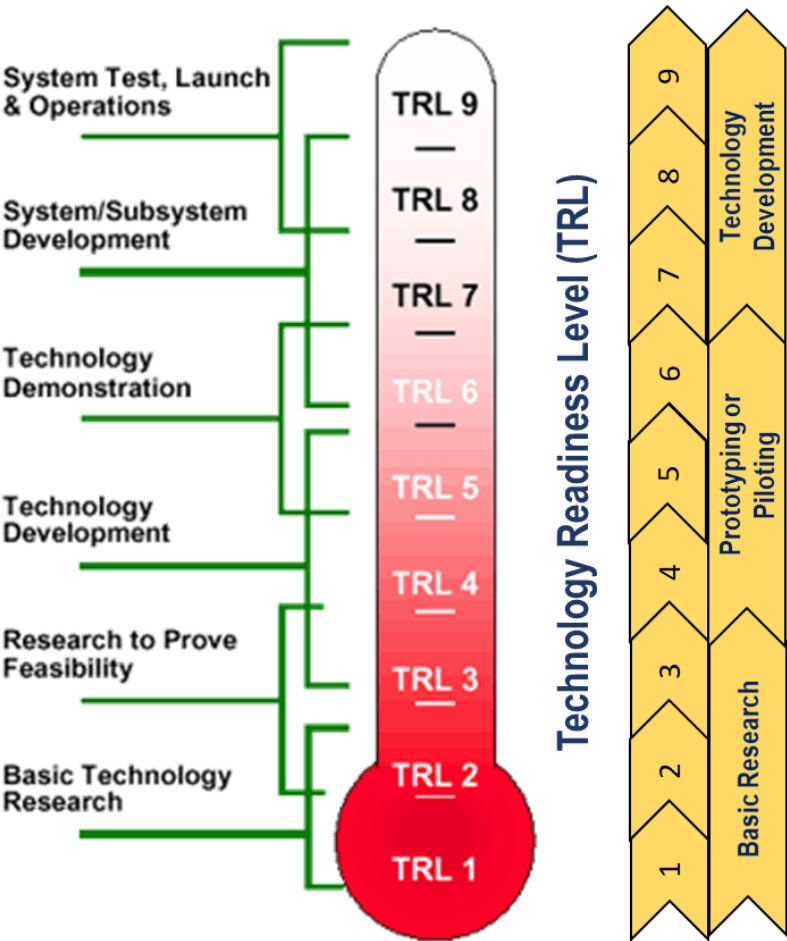
Potential Industry Partners

Rio Tinto, Hindalco Industries, Tata Steel, Vedanta, Cobalt Blue Holdings, Fomento Resources, V M Salgaokar, Australian Vanadium Limited, Critical Minerals Group Ltd, Group 6 Metals Limited, Tablelands Mining Group, Australian Strategic Materials

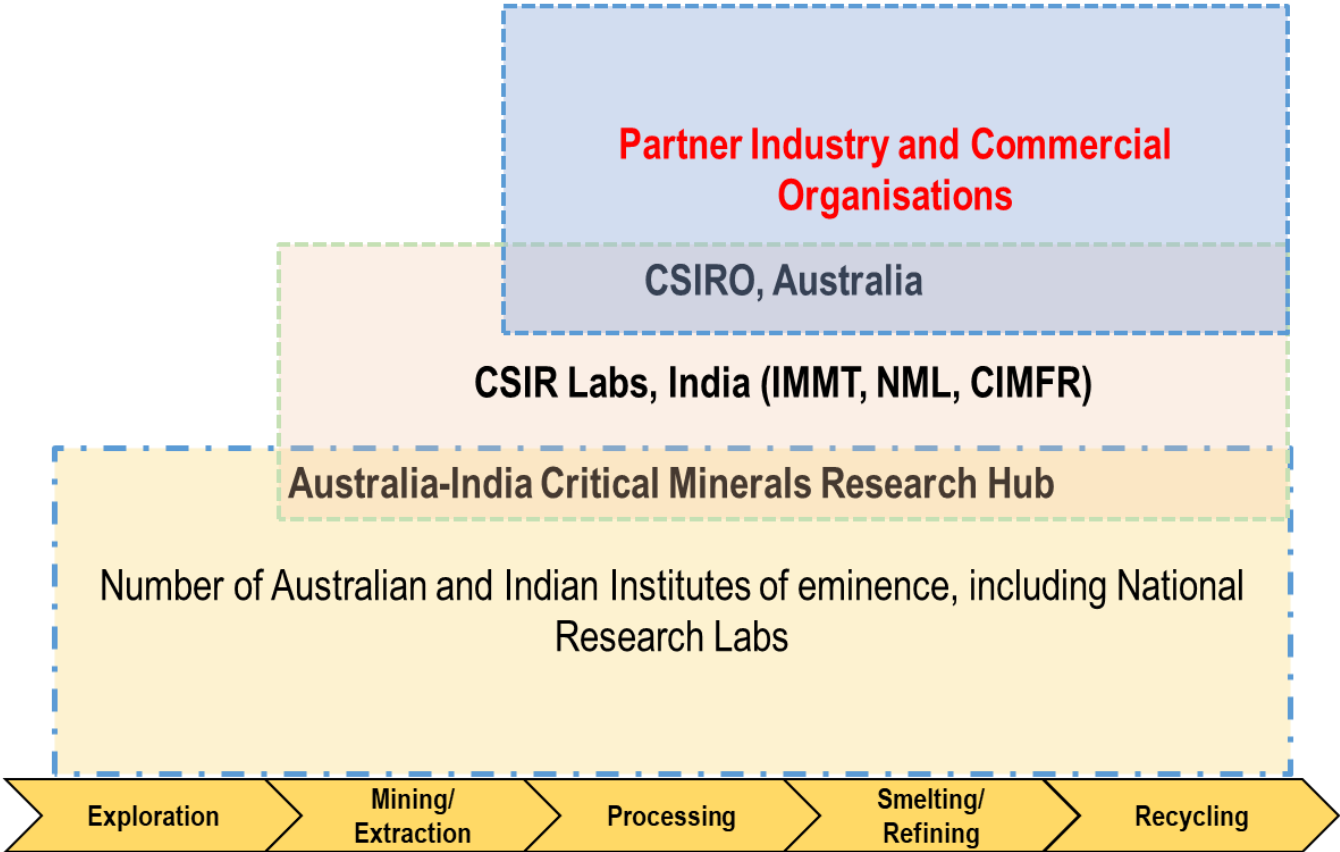
Hutti Gold Mines, Coal India Limited, NTPC Limited, NMDC, Hindustan Copper, NLC India Limited, Gujrat Mineral Development Corporation, Odisha Mining Corporation, Singareni Collieries Company Limited



Concept to Technology Roadmap



Source: [NASA TRL Meter.png](#)



Source: [NASA TRL Meter.png](#)



IIT Hyderabad and Monash University Join Forces to Establish Australia-India Critical Minerals Research Hub

IT Hyderabad and Monash University collaborate to create the Australia-India Critical Minerals Research Hub, endorsed by India's Ministry of Education. This initiative fosters sustainable resource management and international collaboration, aligned with educational goals and the G20 agenda.

Animesh Bhardwaj | Updated May 31, 2024, 18:55 IST

fXinW



<https://www.timesnownews.com/education/iit-hyderabad-and-monash-university-join-forces-to-establish-australia-india-critical-minerals-research-hub-article-110598628>

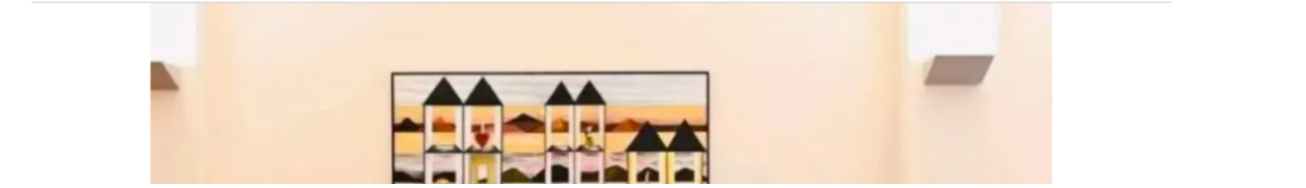
Home » Business

India-Australia Alliance: Critical Minerals Research Hub Approved

Business

DC Correspondent

2 June 2024 3:03 AM



<https://www.deccanchronicle.com/education/india-australia-alliance-critical-minerals-research-hub-approved-896862>



IIT Hyderabad, Monash University jointly launch Australia-India critical minerals research hub

The AICMRH will provide expertise on critical mineral extraction, processing, and sustainable mining practices.



IIT Hyderabad (Image - Wikimedia Commons)

Yutukuri Sai Kiran | May 30, 2024 | 07:38 PM IST

NEW DELHI: Monash University and Indian Institute of Technology (IIT) Hyderabad have jointly established the Australia-India Critical Minerals Research Hub (AICMRH), approved by the ministry of education (MoE). This research hub accelerates a low-

<https://news.careers360.com/iit-hyderabad-monash-university-jointly-launch-australia-india-critical-minerals-research-hub>

India's IIT Hyderabad and Australia's Monash University Unite to Advance Critical Minerals Research

Ronit Bisht · Jun 1, 2024

Jun 1, 2024



In a significant move to bolster sustainable resource management and accelerate the transition to a low-carbon economy, the Indian Institute of Technology (IIT) Hyderabad and Australia's Monash University have jointly established the Australia-India Critical Minerals Research Hub (AICMRH).

This pioneering initiative, approved by India's Ministry of Education (MoE), aims to revolutionize the critical minerals sector through cutting-edge research and collaboration.

The AICMRH is poised to become a leading center of expertise on critical mineral extraction, processing, and sustainable mining practices. It will offer invaluable advice on criticality assessments, economic geology, and supply chain analysis.

Popular Threads (Last 6 Days)

US Arrow Denial Fuels India's Missile Defence Ambitions, Reaches New Heights
Tuesday at 4:49 PM · Views: 590

GE to Retain Intellectual Property Rights Over Made in India F-414 Engines
Friday at 5:13 PM · Views: 390

GE Offers F-414 Engine and Tech Transfer to Power India's AMCA Fighter Jet Ambitions
Monday at 4:33 PM · Views: 341

TEDBF Astra Missile Pylons Shifted to Wing Roots, Enhancing Performance and Operational Effectiveness
Wednesday at 4:58 PM · Views: 333

<https://defence.in/threads/indias-iit-hyderabad-and-australias-monash-university-unite-to-advance-critical-minerals-research.7032/>

Key Contacts

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Co-Founder, [Critical Minerals Consortium](#), Monash University

Co-Founder, [Australia-India Critical Minerals Research Hub](#)

Honorary Academic Fellow, [Australia India Institute](#)

Co-Convener, [National Industry Working Group \(Critical Minerals\)](#),

Australia-India Chamber of Commerce (2021-23)

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