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UOW SUBMISSION IN RESPONSE TO THE NEW ROADMAP FOR AUSTRALIA'S ECONOMIC ENGAGEMENT WITH INDIA

INTRODUCTION

The University of Wollongong (UOW) welcomes the opportunity to provide feedback on the New Roadmap for Australia's Economic Engagement with India discussion paper. This submission outlines the breadth and depth of UOW's engagement with India and highlights strategic opportunities for future collaboration, recognising India's emergence as one of Australia's most significant strategic and economic partners. As a leading Australian university, UOW plays a crucial role in advancing the ambitious bilateral agenda between the two countries, particularly in education, research and innovation.

UOW prioritises educational and research programs that enhance regional capacity and meet the demands of both Australian and international employment markets. Our integrated approach fosters economic, social, environmental and cultural value at global and regional levels, ensuring compliance with offshore accreditation authorities and timely market introduction of new offerings. As such, UOW is well-positioned to significantly contribute to India's *National Education Policy*, which includes the goal of increasing the percentage of young people enrolled in higher education to 50% by 2035. Additionally, UOW can play a key role in the Australian Government's updated *India Economic Strategy to 2035 - Navigating from potential to delivery* and *A Partnership for the Future – Australia's Education Strategy for India,* as well as the NSW Government *India Strategy NSW International Engagement Strategy.* The Australia-India Economic Cooperation and Trade Agreement has deepened our economic ties.

UOW's key focus areas in this submission are education, energy and resources, and technology and innovation. We are committed to strengthening educational partnerships, collaborating on renewable energy projects, and promoting technological exchange and innovation. The recent Mechanism for the Mutual Recognition of Qualifications between Australia and India supports our efforts to facilitate access to higher education in both countries. UOW is dedicated to enhancing the Australia-India education partnership by driving research and innovation collaboration, leveraging partnerships to increase vocational education and training linkages, and helping Australian researchers and firms access India's talent pool and market opportunities. ***(See Attachment 1).***

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ABOUT THE UNIVERSITY OF WOLLONGONG

UOW has developed a strong offshore presence since the opening of the University of Wollongong in Dubai (UOWD) in 1993. In addition to UOWD, we now deliver world-class education programs in Malaysia (UOW Malaysia), Singapore (Singapore Institute of Management), Hong Kong (UOW College Hong Kong), and China (Central China Normal University). As of December 2023, more than 13,000 students (undertaking postgraduate, undergraduate or pathway programs) were enrolled across our international footprint.

UOW is also expanding our global campus network with the launch of UOW India. As a leading teaching and research university, UOW attracts significant numbers of Indian students across our campus network with over 4,400 Indian student enrolments as of December 2023. We have longstanding partnerships in India, spanning higher education, government, industry, and research organisations. UOW's robust network of over 9,700 Indian alumni enhances professional connections, mentorship opportunities, and influential partnerships, fostering a supportive community for current and future students.

UOW has research and education collaborations with many Indian universities, including initiatives in the areas of 3D bioprinting, water security, advanced medicine solutions, multi-functional materials, molecular and life sciences, software development, railway engineering, and mining technologies.

Creating bridges between education and business: Adam Gilchrist AM, who enjoys a high profile in India because of his successful international cricketing career, has played a pivotal role in facilitating UOW's successful engagement with Indian institutions and corporations as UOW Global Brand Ambassador. His stature as a respected sports personality has helped in strengthening the partnership between the two countries, highlighting the importance of education and academic exchanges. Furthermore, Gilchrist's personal connections in India have also contributed to his role in enhancing bilateral relations in education and business.

EDUCATION AND UOW INDIA

UOW is upskilling employees, encouraging lifelong learning, and producing graduates with the competencies required for the jobs of the future. We deliver student-centred, intellectually challenging programs to the highest standard in technology-rich and immersive teaching environments.

Our academic excellence is recognised globally, and our programs are relevant and industry-related with a strong focus on encouraging creative and critical thinking, problem-solving and the development of leadership skills. Our students are provided with an expanding work-integrated learning program and mobility opportunities to enrich their experiences and build lifelong networks.

UOW is consistently rated in the top 200 universities in the world for the quality of our graduates and we have a proud history of working closely with our communities to drive increased participation and attainment among underrepresented groups.

UOW's campus in GIFT City, Gujarat, further strengthens the historical bond between Australia and India, as well as the sister-state relationship between New South Wales and Gujarat. This physical presence in India will enable deeper engagements with our Indian partners, leading to impactful global outcomes. It is one of the first foreign universities to establish an International Branch Campus (IBC) in India

UOW India was due to be launched in July 2024, however adverse weather conditions have delayed the connection of critical services to the campus building and teaching will now commence in November.

The campus, located in the Pragya II building, offers an initial course portfolio of:

- Master of Computing (Data Analytics)
- Graduate Certificate in Computing
- Master of Financial Technology
- Master of Financial Technology Extension; and
- Graduate Certificate in Financial Technology.

These programs align with the business and technology focus of GIFT City, offering students a world-class education and experience in computing and financial technology. Future expansion plans include undergraduate courses in information technology and business.

UOW uses innovative and hybrid teaching models that allow students to experience international campuses by commencing studies in India and subsequently transferring credits. This approach delivers mutual benefits through education, strengthens institutional and research partnerships, and enhances people-to-people links, mobility, and employability. Student fees at UOW India are set at 50% of those for international students at UOW's Australian campus, supplemented by merit scholarships to ensure bright and capable students can study at UOW India. Students will receive a UOW Australia degree, recognised in Australia.

UOW is placed in the top 1 per cent of universities worldwide in the QS World University Rankings, ranking 167th internationally and 12th in Australia. This effectively positions UOW India as the third highest-ranked university in India, after the Indian Institute of Technology (IIT) Bombay – outranking all other IITs and IISc across India. UOW is ranked in the top 250 universities in the world for accounting and finance subjects. The Master of Financial Technology program is designed to provide students with a comprehensive understanding of the financial technology industry and its impact on the global economy. The Graduate Certificate in Financial Technology is a short course focused on cutting-edge developments in Financial Technology, helping students develop a strong understanding of how technology is being applied in a range of domains such as banking and insurance.

UOW is ranked as one of the top 200 universities in the world for computer science and information technology. The Graduate Certificate in Computing provides a postgraduate introduction to computing for students without prior knowledge. It will allow graduates and professionals from non-information technology backgrounds to add to their current knowledge and skill set with a recognised qualification in computing. The Master of Computing (Data Analytics) program is designed to bridge computing and data analytics expertise, catering to diverse graduates, while mastering technical and ethical dimensions of the field.

Growing education partnerships: UOW India has developed several partnerships and collaborations, with more in progress:

- IBM for curriculum collaboration, guest lecturing, research projects, and internships and placements.
- HSBC for student placements and internships.
- India Federal Bank for student placements and internships, campus selection and placements, sponsoring or nominating its employees for UOW's Graduate Certificate Program and Masters program in Financial Technology, guest lecturing by senior executives of the Federal Bank, and exploring potential in-house certification programs and corporate workshops.

UOW is also in discussions with local government organisations to place UOW India as their preferred and strategic education partners. These partnerships will increase student placements, internships, capstone projects, and joint research and publications.

Enhancing vocational education: India faces significant shortages in providing adequate opportunities for vocational education and training (VET). Despite various initiatives, the country continues to grapple with a demand that far exceeds the supply. There is limited access to high quality vocational training programs, inadequate infrastructure, and a shortage of industry-relevant courses. Many vocational programs are not aligned with the current job market demands, leading to a skills gap that affects employability. UOW can play a pivotal role in addressing these challenges by leveraging our existing links with TAFE NSW, where we currently involved in collaborating on education and research projects. These include the UOW Energy Futures Skills Centre and the Cyber Academy. The Energy Futures Skills Centre focuses on developing courses in clean energy and clean manufacturing, providing state-of-the-art training facilities and collaborating with industry partners to ensure that the workforce is equipped with the necessary skills for a sustainable future. Meanwhile, the Cyber Academy offers a unique blend of vocational and higher education, combining nationally recognised qualifications with paid, on-the-job training in the fast-growing cyber security sector. These initiatives not only enhance vocational education and training but also ensure that students and workers are prepared for the evolving demands of the job market.

Boosting participation of women in FinTech: UOW India has launched the Women Leaders in FinTech Scholarship to support female participation in the rapidly growing financial technology industry in India. The scholarship offers a 50% fee waiver for the Master of Financial Technology (FinTech) or Master of Financial Technology (Extension) courses, starting in November 2024, to three outstanding candidates based on merit. This initiative aligns with UOW's commitment to promoting gender diversity and empowering women to excel in technology-driven sectors.

Empowering future leaders: The VC Leadership Scholarship-India aims to cultivate a dynamic cohort of young, talented leaders from India, equipping them with the expertise, capabilities, and global perspectives essential for shaping the future of the strategic partnership between India and Australia. Offering substantial financial aid, including a full tuition fee waiver, along with leadership training, personalised academic guidance, networking opportunities, and international mobility options, this scholarship recognises individuals based on their academic excellence and leadership aptitude.

ENERGY AND RESOURCES

UOW is at the forefront of pioneering research and development in clean energy and clean steel, which holds significant potential for both skilling India's workforce and fostering economic opportunities between India and Australia. UOW's initiatives, such as the Energy Futures Skills Centre, are designed to equip students and workers with the necessary skills to thrive in the evolving clean energy sector. These programs focus on cutting-edge technologies like microgrids, renewable energy systems, and sustainable manufacturing processes.

By collaborating with Indian educational institutions and industries, UOW can help bridge the skills gap in India's workforce. This collaboration can involve developing tailored training programs, sharing best practices, and providing hands-on experience with advanced clean energy technologies.

Such initiatives will not only enhance the employability of Indian workers but also contribute to the country's transition towards a more sustainable energy future.

Moreover, UOW's work in clean steel, particularly through partnerships with industry leaders like BlueScope Steel, aims to decarbonise the steelmaking process and develop low-emission technologies. This expertise can be shared with Indian steel manufacturers to help reduce their carbon footprint and improve efficiency. The economic opportunities arising from this collaboration are substantial, as it can lead to the development of new markets, job creation, and increased trade between India and Australia.

UOW's energy-related research includes renewable energy systems and integration, power systems, sustainability (including building design), power quality and reliability, battery energy storage and management systems, distributed energy generation, microgrids, infrastructure modelling and economics, and R&D leading to a more hydrogen-intensive economy.

UOW sees our work in clean energy and clean steel as a strategic advantage that aligns with Indian Prime Minister Narendra Modi's vision for a sustainable and technologically advanced India. During Prime Minister Modi's visit to Sydney in May 2023, Australia and India agreed on Terms of Reference for the Australia-India Green Hydrogen Taskforce.

Water research: UOW is a founding partner of the Australia India Water Centre (AIWC), a consortium of nine Australian and 15 Indian universities and institutes. The AIWC aims to develop longer-term collaborations in water research, capacity building and knowledge and technology transfer, particularly focusing on water and food security, safe drinking water supplies, river health, water-energy-food-climate change nexus, water for liveable cities and other related aspects of mutual benefits to Australia and India. Researchers from UOW are also working with local experts in India to investigate coastal reservoirs as a sustainable strategy for water security through the Scheme for Promotion of Academic and Research Collaboration (SPARC).

TECHNOLOGY AND RESEARCH

UOW's technology and research collaborations with India encompass diverse fields such as 3D bioprinting, transportation, advanced medicine, multi-functional materials, coastal reservoirs, molecular and life sciences, software development, railway engineering, and mining technologies.

Cybersecurity, AI and ICT research and education: The Indian government has recognised the urgent need for more cybersecurity experts. In the Union Budget 2024, significant funding was allocated to enhance cybersecurity infrastructure and capabilities, reflecting the government's commitment to addressing the growing cyber threats. This government push aligns with UOW's expertise and initiatives in cybersecurity. UOW has been a leader in cyber security and cryptology for more than 30 years. Our expertise, facilities and networks position UOW as an ideal partner to develop advanced solutions in information communications and technology that will help shape the future of computing and foster skills in the cyber security and AI specialist workforce. UOW's Institute of Cybersecurity and Cryptology (iC^2) is an internationally recognised research leader in post-quantum cryptography and cyber security and is a and is a premier research collaborator with India. As an example, UOW and the Indian Institute of Technology (IIT) Kanpur have recently received an Australia-India Cyber and Critical Technology Partnership grant to improve cloud computing privacy. This project aims to develop privacy-enhancing cryptographic techniques and address standardisation issues in cloud computing security, leveraging expertise from both institutions and industry partners like Amazon, Google and Microsoft. The Cyber Academy, a partnership between UOW, Deloitte, TAFE NSW, and Swinburne University of Technology, is fast-tracking students' careers in the cybersecurity sector. UOW has links with major players in India's IT industry including Infosys, Mindtree and Tata Consulting. UOW also has an existing agreement with WIPRO Infotech for academic research and partnership in IT services. UOW is also partnering with large corporates such as IBM India to extend the relationship from UOW Dubai to UOW India. This will enable us to enrich our curriculum through industry engagement.

Biomedical research: In 2019, UOW expanded our biomedical ties with India, signing a strategic collaboration with Andhra Pradesh Medtech Zone (AMTZ), which has brought our expertise in 3D bioprinting to India's first integrated medical devices manufacturing zone. Several research and training initiatives primarily focused on 3D biofabrication are being established under the MoU. One of the key collaborative research initiatives being pursued by AMTZ and UOW is a project to develop a scan-and-print package to produce 3D-printed ears. The project will be coupled with innovative programs to support widespread deployment of the technology in both India and Australia. UOW also collaborates with Chandigarh University for joint research and teaching programs within our Science, Medicine and Health Faculty. UOW sees this collaboration as a strategic advantage for economic engagement with India, fostering innovation and strengthening bilateral ties in the biomedical sector.

Maritime security collaboration: UOW's Australian National Centre for Ocean Resources and Security (ANCORS) was awarded one of the inaugural Maitri Fellowships by the Centre for Australia-India Relations within DFAT. This fellowship, granted to Rear Admiral Sudarshan Shrikhande (retd), focuses on enhancing the Australia-India bilateral trade and maritime security relationship. His research will explore threats to maritime trade and the impacts of trade contestation and conflict in the region.

Engineering and technology collaborations: UOW engages in diverse engineering and technology initiatives, including joint PhD programs with IIT Kharagpur, collaborative research with IIT Bombay on engineering power systems and renewables integration, robotic welding research with IIT Chennai, and partnerships in computer, telecommunication, and electrical engineering with IIT Madras.

SUMMARY

UOW is committed to fostering economic engagement and collaborative growth between Australia and India. Our initiatives across various domains highlight the strategic advantages we bring to this bilateral relationship. Key points of UOW's work included in this submission that we see as strategic advantages are:

- UOW's campus in India offers a unique platform for economic engagement, enhancing educational and research partnerships, strengthening direct links, and driving mutual growth and innovation. This strategic positioning benefits both Australia and India by facilitating deeper connections and fostering collaborative development.

- UOW's research, innovation and education in clean energy are crucial for skilling India's workforce and creating economic opportunities. These initiatives promote sustainable growth and align with both countries' commitments to transitioning to net zero, enhancing employability and contributing to global sustainability goals.

- Demonstrating strong links with TAFE NSW, UOW aims to enhance vocational education in India. By addressing skills gaps and improving access to quality training programs, this effort builds a skilled workforce capable of driving economic growth and strengthening business relationships between Australia and India.

- UOW's collaboration in biomedical research within the Andhra Pradesh Medtech Zone (AMTZ) is a strategic advantage for fostering innovation and strengthening economic engagement in the biomedical sector. This partnership supports the development of advanced medical technologies, benefiting the healthcare industries in both countries.

- UOW's expertise in cybersecurity enhances educational and research ties between Australia and India. This fosters innovation and ensures robust digital infrastructure, enabling both nations to protect their digital assets and promote secure economic growth.

- By helping Australian researchers and businesses access India's talent pool and market opportunities, UOW facilitates the exchange of knowledge, drives innovation, and strengthens economic and trade relationships between the two countries. This support helps leverage India's vast potential, creating mutual benefits for both nations.

FURTHER INFORMATION

UOW would welcome further opportunities to elaborate upon, or further clarify, the matters raised within this submission. To do so, please do not hesitate to contact the UOW Director, Government and Community Relations (Mr Canio Fierravanti) on 0411 244 491 or via email at caniof@uow.edu.au

ATTACHMENT 1

UOW's linkages and partnerships across India

Amrita University	Credit Transfer Agreement
Andhra Pradesh Medtech Zone Limited	Memorandum of Understanding
Bankura University	Memorandum of Understanding, Study Abroad Agreement
Bharath Institute of Higher Education and Research (BIHER)	Memorandum of Understanding, Twinning Agreement
Chandigarh University	Memorandum of Understanding
Dedicated Freight Corridor Corporation of India Ltd (DFCCIL)	Memorandum of Understanding
Galgotias University	Memorandum of Understanding
Gujarat Technological University	Memorandum of Understanding
India Institute of Science	Joint PhD, Student Exchange Agreement
Indian Institute of Information Technology Vadodara (IIIT-V)	Memorandum of Understanding
Indian Institute of Management Kozhikode	Memorandum of Understanding, Student Exchange Agreement
Indian Institute of Management Shillong	Memorandum of Understanding, Study Abroad and Student Exchange
Indian Institute of Technology, Bombay	Memorandum of Understanding, Study Abroad and Student Exchange
Indian Institute of Technology, Dhanbad	Memorandum of Understanding
Indian Institute of Technology, Kharagpur	Memorandum of Understanding, Student Exchange Agreement
Mahatma Gandhi University	Memorandum of Understanding
Manipal Academy of Higher Education	Student Exchange Agreement
Nitte University	Memorandum of Understanding, Student Exchange Agreement
NMIMS Mumbai	Memorandum of Understanding
Rajagiri Business School	Memorandum of Understanding
SVKM's NMIMS	Memorandum of Understanding
University of Delhi	Memorandum of Understanding