



WESTERN AUSTRALIA
IT'S LIKE NO OTHER.

**Investing in our future:
Western Australia's
green energy transition**

Summer 2023/2024



WESTERN AUSTRALIA

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Western Australia It's Like No Other

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Western Australia - It's Like No Other is published by the Department of Jobs, Tourism, Science and Innovation (JTSI) on behalf of the Government of Western Australia.



ISSN: 2652-5348 (Print)
ISSN: 2652-5356 (Online)

Digital subscriptions



www.investandtrade.wa.gov.au

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Acknowledgement of Country

The Government of Western Australia acknowledges the traditional custodians throughout Western Australia and their continuing connection to the land, waters and community. We pay our respects to all members of the Aboriginal and Torres Strait Islander communities and their cultures, and to Elders past, present, and emerging.

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All currency figures in *Western Australia - It's Like No Other* are in Australian dollars unless otherwise specified.

On the cover

Kimberley Tides in Derby. Western Australia is on the precipice of a pivotal moment: our transition to renewable energy, together with our international neighbours.

Photograph by

Tourism Western Australia

Statement of Accessibility

Western Australia - It's Like No Other is published online. Visit the Western Australian Government's Invest and Trade WA portal www.investandtrade.wa.gov.au or access a PDF through the Department of Jobs, Tourism, Science and Innovation agency page on the www.wa.gov.au/jtsi web portal. Alternative formats are available on request for persons with accessibility requirements.

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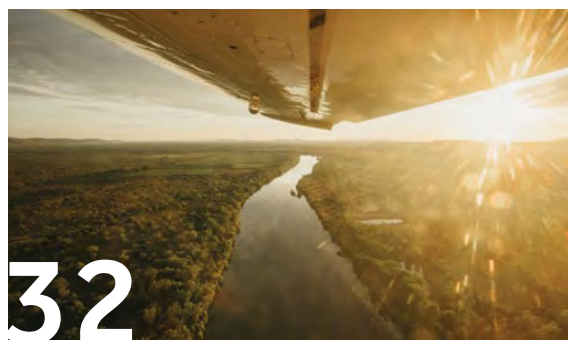
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Premier's Foreword:

Towards net zero together

Welcome to the Summer 2023/2024 edition of 'Western Australia: It's Like No Other' magazine.

Western Australia is on the verge of a pivotal moment in its history: the transition to renewable energy - here and internationally. This shift represents a once-in-a-lifetime opportunity and we have the skills and experience to develop industry on a global scale.

We are creating new jobs through diversification of the economy. And we are setting our State up to not only be powered by renewable and affordable energy, but to export these products to help our international neighbours move to a net zero regime.

Coordination is the key to optimising the pace and scale of our energy transition, and we want energy producers, mining companies, the construction industry, households and government to be in lockstep. This was the key driver for Western Australia's 2023 Energy Transition Summit.

This historical event, which took place in November, brought together key players from government and industry, including entrepreneurs and service providers, to leverage the unique opportunities that are open to us as we work towards the common goal of becoming a global renewable energy superpower.

We recognise the magnitude of the opportunities before us, as we work towards the ambitious and important target of reaching net zero. There are already many wheels in motion: the closure of all coal-fired power stations in Western Australia by 2030; big batteries being built locally; more wind farms in the pipeline; huge uptake of household rooftop solar; an expanding network of EV charging stations; and a growing ecosystem of innovators at the forefront of renewable energy technology.

Ensuring that we meet the ambitions of the Western Australian public and achieve net zero status for our economy is a priority. We must also work towards putting our great state in a position to assist our global partners with decarbonising their economies as well.

Featuring the developments, innovations and achievements across Western Australia's priority sectors, this edition of the magazine covers stories on our State's energy transition, from the role of batteries and critical minerals, to electric vehicles, hydrogen and our international partnerships.

Our shift to a renewable energy future is an exciting and challenging time, and a journey that we must all aim to take together.

Hon Roger Cook MLA

Premier; Minister for State and Industry Development, Jobs and Trade



Powering our future

“The transition to low-carbon energy will be the biggest transformation of the global economy in generations.”

- Premier Roger Cook

The 2023 Western Australian Energy Transition Summit was held in November to guide WA’s future as a global green energy superpower and help secure a strong economic future for our State.

Co-hosted by the Western Australian Government and independent thinktank the Committee for Economic Development of Australia (CEDA), the summit brought together government, industry, peak bodies and other stakeholders to examine key issues for the transition, including energy infrastructure, jobs, social licence, regulation, finance and more.

“It presents real challenges – but also enormous opportunities to position our State for the future. WA has all the ingredients to be a global green energy superpower, and the steps we take now will ensure we can take full advantage of the jobs and economic opportunity of this transition,” Premier Roger Cook said.

“Outcomes from the Energy Transition Summit will help to chart the course for WA’s future – diversifying our economy, creating quality local jobs and delivering cleaner, reliable and affordable energy for all Western Australians.”

To find out more about WA’s energy transition and opportunities, visit [Energy](#)



Merredin Collgar Wind Farm, Merredin, Western Australia.

Future State: Accelerating opportunities for WA

**“We have a vision that, by 2035,
would see us at the forefront of
a cleaner, greener and more tech
savvy economy that provides high
quality jobs for Western Australians.”**

– Premier Roger Cook

Western Australia has long been a secure and stable investment and trade partner, demonstrated through sustained economic prosperity and a vibrant export economy. Ensuring prosperity for future generations and propelling Western Australia forward is Future State: Accelerating Diversify WA.

Launched by the Western Australian Government in 2023, Future State builds on Diversify WA, the WA Government’s economic development framework, to outline the most significant opportunities to drive international investment and support our future-facing economy.

The strategy nurtures WA’s unique strengths in resources and manufacturing, while targeting diversification opportunities in industries experiencing extraordinary global growth.

Abundant with natural resources, WA is a leading energy, mining and mineral processing powerhouse.

Globally, it is the largest supplier of lithium, third largest producer of rare earths, and has a highly successful agriculture and food sector producing a variety of high-quality products for export all over the world.

Western Australia is now in a unique position to build on the success of our strong traditional export sectors with the transfer and interoperability of both skills and technology to support the growth of new and emerging industries.

Future State identifies 9 targeted opportunities to accelerate WA’s economic diversification, including:

- » renewable hydrogen production and scaling
- » advanced critical minerals processing
- » development of carbon capture, utilisation and storage projects
- » decommissioning of oil and gas infrastructure
- » high-value food and beverage production

- » naval shipbuilding, sustainment and maintenance
- » manufacture of medical products and digital health devices
- » manufacture, utilisation and maintenance of space and cross-sector technologies
- » regional tourism destination development.

Through Invest and Trade Western Australia, the WA Government is promoting opportunities highlighted in Future State through a growing network of international offices, and supporting the strategy’s implementation through initiatives such as the newly launched WA Investments website and the Investment Attraction Fund.



**Find out more
about our
economic
development
framework,
Diversify WA**

Investing in WA

A \$134 million funding boost is set to slash Western Australia's greenhouse gas emissions and drive new job opportunities in clean energy industries.

Announcing the funding package in November, the Western Australian Government is putting \$60 million on the table to drive investment into new energy projects across WA through the Investment Attraction Fund (IAF).

The \$60 million IAF New Energies Industries round offers funding for projects in battery and critical minerals processing, renewable hydrogen, advanced manufacturing in wind and solar componentry, along with carbon capture utilisation and storage projects.

The IAF has previously supported energy industry projects across WA, including a high purity alumina plant for high-tech battery cells, a renewable diesel biorefinery, an electrolyser and hydrogen refuelling station network, and an advanced solar manufacturing facility.

A further \$74 million will be delivered

into a range of initiatives to further the State's net zero ambitions as part of the WA Government's Sectoral Emissions Reduction Strategies (SERS) process, released in December 2023.

Through SERS, the WA Government will inject an extra \$11.2 million into its Clean Energy Future Fund, to support innovative projects that reduce the State's emissions and create local jobs.

A \$6.5 million boost will be delivered for the Green Energy Approvals Unit, to slash green tape and fast-track approvals for major job-creating clean energy projects.

To help WA's regional communities reach net zero, the WA Government will invest around \$31 million through Horizon Power to deliver cleaner, reliable and affordable energy across the State.

As part of efforts to support electric vehicle (EV) uptake, the WA Government will invest \$2.2 million to install almost 70 dual-bay



Pacific Energy will receive funding to expand capacity to manufacture renewable energy Stand-alone Power Systems. IMAGE: Pacific Energy

EV chargers at new METRONET stations, and has lifted the EV target in the WA Government car fleet to 50%.

The WA Government has developed SERS in consultation with all sectors to lay the foundation for transitioning to net zero by 2050. SERS includes emissions reduction opportunities for all sectors of the WA economy, including electricity, industry, transport, agriculture, land use, buildings, and waste.

"We're backing local industry to take advantage of the incredible opportunities in the energy transition - from battery assembly and manufacturing to hydrogen production and critical minerals processing," Premier Roger Cook said.

"WA has the potential to become a global renewable energy powerhouse - not only meeting our own net zero targets, but helping our neighbours to transition away from coal to cleaner energy sources."

Investment Attraction Fund

Multiple grants were administered by the Department of Jobs, Tourism, Science and Innovation in 2022-23 through the WA Government's Investment Attraction Fund (IAF)—an initiative to bring further investment and jobs to WA.

A rigorous 2-stage application and assessment process saw more than 200 applications for funding support.

The WA Government has announced 41 organisations have been selected to receive \$153.4 million in grant funding under the IAF, with more than half of the projects located in regional WA or having Statewide operations, while the remainder are located in Perth.

They include a pilot plant to produce high purity alumina for high-tech battery cells; establishing a renewable diesel biorefinery in Narrogin, in the Wheatbelt; a high-performance computing campus in Geraldton, in the Mid West; an expansion of Stanley College's capacity to take on international students; and other projects.

Premier Roger Cook announced the recipients while visiting Pacific Energy's facility in Perth, which will receive more than \$2.4 million to expand their capacity to manufacture renewable energy Stand-alone Power Systems. The expansion will support the company to double the number of Stand-alone Power Systems manufactured

each month, creating more than 40 local jobs and helping to transition regional and remote communities to a cleaner, reliable and affordable energy future.

"Through the Investment Attraction Fund, we're driving a strong and diversified economy that delivers secure, quality jobs for the future," Mr Cook said.

"We're building on WA's economic strengths, and embracing new and innovative industries - positioning our State at the forefront of the global energy transition. We're backing local companies to manufacture here in WA, to value-add, and to take on the world in developing high-tech products for the future."



WA: Destination of choice for green energy investors

Aligned with global purpose and momentum, Western Australia is leaping forward in renewable energy and as a renewable hydrogen industry world-leader.

Hydrogen and hydrogen-based fuels are considered globally as key pillars to achieving net zero targets. To achieve a global net zero emissions scenario by 2050, the International Energy Agency has forecast hydrogen-based fuel production will need to increase significantly—from 212 million tonnes per annum by 2030, to 530 million tonnes per annum by 2050, with renewable hydrogen from electrolysis-based production forecast to achieve a 60% share.

Fully committed to achieving net zero emissions by 2050, WA is also committed to working with all sectors of the local economy to make it happen. WA's Renewable Hydrogen Strategy, and more detailed Roadmap, are key parts of our low carbon energy transition focused on the State's vision as a significant producer, exporter and user of renewable hydrogen.

On a mission to develop local industry and markets, and be a major exporter of renewable

hydrogen, WA is developing domestic production capabilities and applications of renewable hydrogen, while also working to improve local hydrogen industry expertise. The State's aim is focused on contributing to global decarbonisation, in parallel with decarbonising our own economy.

An outstanding place for renewable hydrogen investment, Western Australia has:

- » solar, wind, tidal and wave resources among the world's best and a 2.5 million square kilometre landmass
- » well-established infrastructure connections, world-class ports, a highly skilled workforce experienced in expertly managing and exporting resources
- » critical minerals and rare earths required for the manufacture of electrolyzers, wind turbines, electric vehicles and decarbonised products, such as green steel and green aluminium—making WA uniquely positioned to play a key role in servicing the entire renewable hydrogen supply chain.

WA renewable hydrogen 2023 and beyond

As Western Australia moves towards diversifying and decarbonising our economy, the WA Government is committed to supporting the development of the State's renewable hydrogen sector and supporting key trading partners to meet their emissions reduction targets.

2023 has seen an acceleration in global partnerships between WA hydrogen projects and significant global investors.

In May, a partnership memorandum of understanding (MoU) was signed between Infinite Green Energy and global tech giant Samsung C&T Corporation to develop and build the Arrowsmith hydrogen plant, located 30 kilometres south of Dongara, north of Perth. The plant, powered by wind and solar, is forecast to produce up to 100,000 tonnes of green hydrogen a year for domestic and export markets.

In June, Infinite Green Energy and Samsung C&T welcomed renewable energy company Doral Energy Group as final

development and construction partner for the 10-megawatt MEG HP1 hydrogen project in Northam, which is expected to produce up to 4 tonnes per day of green hydrogen for the medium and heavy transport industry.

Also in June, Danish investment group Copenhagen Infrastructure Partners announced it had acquired a stake in renewables developer CWP Global's hydrogen and ammonia projects, with several of these located in WA.

In July, an MoU was finalised between Western Green Energy Hub, with project partners InterContinental Energy, CWP Global and Mirning Green Energy Limited, and Korea Electric Power Corporation. The MoU paved the way for the joint development of what is likely to be one of the largest proposed green hydrogen projects near Eucla, in the Goldfields–Esperance region.

The project is expected to generate around 50 gigawatts of wind and solar power, producing around 3.5 million tonnes of

green hydrogen per year, for supply to both domestic and international customers in power generation, shipping fuel, minerals processing and manufacturing.

In August, the WA Government commenced negotiations with a major South Korean renewable energy consortium, comprising Progressive Green Solutions, Samsung C&T and Korea Midland Power Co Ltd—KOMIPO—to establish a green ammonia plant at the Narngulu industrial estate in Geraldton, in WA's Mid West region.

The facility is expected to produce up to one million tonnes of green ammonia per year using renewable hydrogen and help support the decarbonisation of power generation assets in South Korea, with first shipments expected in 2027.

International partnerships are vital to the delivery of the 2030 vision under the Western Australian Renewable Hydrogen Strategy and the future opportunities that come with it.

International collaboration

Western Australia's green hydrogen and renewable energies were centre stage when the State welcomed a high-level clean energy delegation from the United Kingdom in August.

The UK Clean Energy visit was hosted by Invest and Trade WA through the Department of Jobs, Tourism, Science and Innovation (JTSI), as part of the WA Government's strategic drive to develop the State's renewable energy profile internationally.

The visit highlighted WA's commitment to collaboration with the UK and other international partners in the green hydrogen and renewable energy sectors, as well as promoting a deeper understanding of the State's journey to net zero.

Led by the UK Department for International Trade, the delegation was joined by British Consul General of Western Australia Maria Rennie, as well as Scottish Development International, comprising private clean-energy business majors including Acteon,

Hydrasun, JBA Consulting, Motive Offshore, Norco, Ocean Infinity and Venterra.

Delegates were given an in-depth look into WA's green hydrogen and renewable energy sectors, with briefings on the WA economy, future diversification, and how this relates to green hydrogen and renewable energies. Invest and Trade WA also arranged a tour of ATCO's blending and refuelling premises and bp's Kwinana Energy hub to learn more about their future energy priorities.

Leading renewable hydrogen

State of opportunity:

Western Australia has significant comparative advantages in producing, exporting and using renewable hydrogen. Our geography, industry and skilled labour force place WA at the forefront of the emerging global renewable hydrogen industry.

In the next decade, the global renewable hydrogen economy is predicted to grow rapidly to support decarbonisation. Early market development is critical for countries to benefit from global investment, which would support the development of a domestic and international industry.

The Australian Government's State of the Hydrogen Report stated Australia has around 40% of all announced global hydrogen projects, with the Australian pipeline valued from \$230 to \$300 billion. WA is well positioned to capture some of this market.

Creating one of Australia's largest green hydrogen projects in WA

Western Green Energy Hub has teamed up with Korea Electric Power Corporation in a step towards creating one of Australia's largest green hydrogen energy hubs.

The project, to be located in Western Australia's Goldfields-Esperance region on Mirning Country, will cover 15,000 square kilometres and require around 3,000 wind turbines and 25 million solar panel modules. These turbines and modules generate

energy for the electrolysis which converts water into hydrogen.

Once complete, the project will become one of the largest of such energy hubs in the world and generate 3.5 million tonnes of zero-carbon green hydrogen per year. Project construction is expected to span around 20 years and create thousands of jobs.

The WA Government welcomed a Memorandum of Understanding (MoU) signed in July between

Western Green Energy Hub and Korea Electric Power Corporation towards the development of the proposed green hydrogen hub.

"The MoU is a key step forward in the process of having this major project completed," then Hydrogen Industry Minister Bill Johnston said.

"This is an exciting project for Western Australia and will put our State on the forefront of producing green hydrogen, making it competitive on a worldwide scale."



Renewable hydrogen strategy refresh

Successfully meeting 2022 goals, Western Australia’s Renewable Hydrogen Strategy is undergoing a refresh, to maximise the benefits to WA and support long-term growth of the State’s renewable hydrogen industry.

In 2019, WA was one of the first jurisdictions globally to publish a renewable hydrogen strategy.

The strategy contained 4 strategic focus areas for the industry—export; remote application; hydrogen blending in natural gas networks; and transport.

The WA Government has committed almost \$200 million to grow and support the local industry.

Achievements from the WA Renewable Hydrogen Strategy 2022 include:

- approving a project to export renewable hydrogen
- using renewable hydrogen in one remote location
- distributing renewable hydrogen in a WA gas network
- making a refuelling facility for hydrogen vehicles available in WA.

Multiple economic, social, and environmental factors have influenced WA’s development since 2019, including industry and supply chain disruptions associated with

the COVID-19 pandemic, the State’s commitment to net zero by 2050, and skilled labour shortages.

The 2019 WA Renewable Hydrogen Strategy originally set goals for 2022 and 2040. A 2021 update moved forward the timeline on long-term goals to 2030 as the industry developed more rapidly than initially anticipated. Each of the 2022 goals were achieved with government facilitation and/or funding within the required timeframe.

Australia-wide, a hydrogen strategy has been released at the federal level, and from every state and territory (except the Australian Capital Territory) since 2019, and the Australian Government recently announced its intention to refresh the National Strategy.

In addition to strategic and policy developments at a local and international level, knowledge relating to hydrogen production and application technologies is evolving rapidly.

While WA seeks to refresh its strategy, the overarching vision and mission for the renewable hydrogen industry in WA describes the highest-level ambition for the State and remains unchanged. The refresh seeks to build on the significant progress already made in the industry and will be continuing support

outlined under the existing strategy.

The strategy refresh will consider the objectives of decarbonisation and diversification, and whether broader market measures are required and new pillars to reflect the dynamic development of the industry, and it could also consider new aspirational goals for 2030.

“Western Australia has established itself as a global leader in the emerging renewable hydrogen industry in less than four years,” then Hydrogen Industry Minister Bill Johnston said.

“We know renewable hydrogen has a lead role to play in the energy transition to new technologies, especially the decarbonisation of heavy industry. Over the next decade, the global renewable hydrogen economy is predicted to grow rapidly.

“The WA Government is seeking to build a renewable hydrogen industry which assists in diversifying and decarbonising the economy, on top of creating jobs for Western Australians.”

For more information, visit **Renewable hydrogen: strategy refresh consultation**



Streamlining

Western Australia is charging ahead as a renewable energy world leader, backed by a \$22.5 million WA Government commitment to streamlining approvals for proponents and investors.

The importance of decarbonising and diversifying the State's economy is highlighted by the WA Government's Green Energy Approvals Initiative—a new cross-government Green Energy team that began operating in

July, kick-starting a streamlined pathway for environmental assessments to reduce project approval timeframes.

Focusing on projects that will develop new green energy export opportunities, and those that will decarbonise existing industries, the initiative is driving investment in wind and solar power generators; renewable hydrogen industries; lithium mining and critical minerals processing; and manufacturing

green energy products, such as batteries, electrolysers, solar panels and wind turbines.

More than 40 green energy projects are currently being assessed or regulated by the Department of Water and Environmental Regulation, with a further 30-plus proposals expected to be referred for assessment over the next 12 months.

Renewable hydrogen proposals make up the largest number

Western Power's Yandin windfarm, one of Western Australia's largest wind power stations. CREDIT: Western Power

Partnership to deliver green hydrogen

The Western Australian Government welcomed Infinite Green Energy (IGE) announcing a Memorandum of Understanding with Samsung C&T to develop and build the Arrowsmith Hydrogen Plant.

Located 30 kilometres south of Dongara in WA's Mid West region, the wind and solar-powered plant is forecast to produce up to 300 tonnes of green hydrogen per day,

or 100,000 tonnes per year for domestic and export markets.

IGE is aiming to be Australia's first Zero Carbon commercial hydrogen producer. IGE is also progressing the Northam MEG HP1, another renewable hydrogen project, in development with Samsung C&T.

Welcoming the announcement, Premier Roger Cook said, "partnerships like these

are vital to the delivery of the 2030 vision under the Western Australian Renewable Hydrogen Strategy and future opportunities that come with it."

"With the crucial need to diversify and decarbonise here and around the world, the State Government is committed to the renewable hydrogen sector to help reduce emissions to achieve net zero greenhouse emissions."

green energy

of green energy projects in the assessment pipeline. Wind energy, lithium mining and critical minerals processing proposals also represent a significant portion with many being assisted by the Department of Jobs, Tourism, Science and Innovation (JTSI).

Premier Roger Cook said the new streamlined approvals pathway would ensure WA continues to be a destination of choice for renewable industry investors.

"The whole-of-government Green Energy Approvals Initiative will drive the green industries boom in WA, supporting local jobs and a strong economy into the future," he said.

The Green Energy Approvals Initiative aims to facilitate investment and development of green energy industries without compromising the State's unique environment.

Agencies include JTSI and the Departments of Water and Environmental Regulation; Mines, Industry Regulation and Safety; Biodiversity, Conservation and Attractions; and Planning, Lands and Heritage.

A Green Energy Major Projects Group at JTSI provides a first point of contact to help steer projects and investors through government processes in WA.

Contact the team at
Greenenergywa@jtsi.wa.gov.au

Western Australia's green energy industries include:

- » conventional renewable energy generation (wind, solar, wave)
- » renewable hydrogen producers
- » lithium mining operations
- » critical minerals processing operations
- » construction, manufacturing and recycling of renewable energy products
- » energy storage.

Keeping it green

With new assessment teams—for critical minerals processing, and hydrogen and renewable energy projects in Western Australia—helping streamline approvals for proponents and investors, the focus is on developments that will decarbonise and diversify the State's industrial landscape, while also protecting WA's unique environment.

Environment Minister Reece Whitby said delivering faster decisions on renewable energy projects needed a creative solution.

"Our vision is for Western Australia to become a world leader

in renewable energy without compromising our State's unique biodiversity. I'm proud of the unique cross-agency model we have developed," Mr Whitby said.

"Green energy projects are critical to our renewable energy transition. This is the next step to support industries in their contribution to global efforts to decarbonise our economy."

As part of the WA Government's Green Energy Approvals Initiative a Green Energy Expert Panel, comprising government and industry, will provide the independent Environmental

Protection Authority information needed to progress approvals in a timely manner.

The WA Government is committed to ensuring WA becomes a world leader in the emerging hydrogen industry.

The unique cross-agency collaborative framework has created the right environment for hydrogen and renewable energy production, which will play a significant role in bringing WA closer to a carbon neutral State.

Advancing manufacturing

Western Australia's manufacturers are in a prime position to be global industry leaders—WA has the thriving economy and talented minds required to transform our State into a prominent advanced manufacturing destination and harness our renewable energy potential.

Fostering advanced manufacturing capabilities is critical to WA achieving net zero objectives as the world transitions to a clean energy future.

Advanced manufacturing, through new processes and automation, can reduce energy inputs into the things we make. It can also facilitate new products and materials that will enable energy transition, like battery production, development of Stand-alone Power Systems, hydrogen electrolysers, steel and aluminium manufacturing and wind turbine manufacturing.

Western Australia already has a healthy manufacturing base of both Original Equipment Manufacturers and component assemblers, as well as a strong research and development ecosystem.

Our resources sector has driven significant change in the development and uptake of autonomous and remote technologies, and many other industries continue to innovate by using these technologies.

Building on the Diversify WA economic framework, the WA Government released Future State earlier this year, which focuses on the most significant opportunities to drive international investment to support WA's economy.

Future State nurtures WA's unique strengths in resources and manufacturing, while targeting diversification opportunities in industries experiencing extraordinary global growth.

Nine targeted, sector-specific diversification opportunities are identified, based on their alignment with key global trends, potential for strong economic and social benefits, synergies with existing government commitments and industry investment and capability. These include:

1. Production and scaling of renewable hydrogen
2. Advanced critical minerals processing
3. Manufacture of medical products and digital health devices
4. Decommissioning of oil and gas infrastructure
5. Naval shipbuilding, sustainment and maintenance
6. Development of regional tourism destinations
7. Manufacture, utilisation and maintenance of space and cross-sector technologies
8. Development of new carbon capture, utilisation and storage projects
9. Value-added food and beverage production.

Key advanced manufacturing opportunities exist in a number of WA's priority sectors, including: energy, defence, mining and mining equipment, technology and services (METS), space, health and medical life sciences, and primary industries.

In 2023, the WA Government announced an investment of \$153.4 million in 41 innovative, job-creating projects, including advanced manufacturing, through the State's Investment Attraction Fund.

Premier Roger Cook made the announcement at Pacific Energy's Perth facility—with Pacific Energy to receive more than \$2.4 million to expand their capacity to manufacture renewable energy Stand-alone Power Systems.

The expansion will support the company to double the number of Stand-alone Power Systems it manufactures each month, creating more than 40 local jobs and helping to transition regional and remote communities to a cleaner, reliable and affordable energy future.

"We're building on WA's economic strengths, and embracing new and innovative industries – positioning our State at the forefront of the global energy transition," Mr Cook said.

"We're backing local companies to manufacture here in WA, to value-add, and to take on the world in developing high-tech products for the future."

Learn more about WA's Investment Attraction Fund and trade and investment opportunities, including in advanced manufacturing across sectors at Invest and Trade WA Opportunities



Boosting local manufacturing



Under a 6-year deal supported through the Western Australian Government's Local Manufacturing Investment Fund, WA based manufacturer Gemco Rail will manufacture, maintain and service iron ore railcar wagons.

In a significant milestone for local railcar manufacturing, Perth-based company Gemco Rail will build 100 iron ore railcar wagons for mining giant Rio Tinto.

Gemco Rail will deliver 100 wagons in total—40 initially, and another 10 per year over the next 6 years—as well as repairing and refurbishing key wagon componentry.

The 6-year deal is supported through the WA Government's Local Manufacturing Investment Fund. The \$15 million fund supports local companies selected by project proponents to enhance their competitiveness in important market sectors.

The wagons are to be manufactured, maintained and serviced at Gemco's Forrestfield facility, located south of Perth, and at a planned new Karratha manufacturing site in WA's Pilbara region.

Premier Roger Cook said the local manufacturing of iron ore railcar wagons supported the diversification of WA's economy and also helped lower risks associated with global supply chains.

"My Government is absolutely committed to rebuilding our local manufacturing capability," he said.

"Not only will the agreement create jobs and diversify the economy, it will help revitalise and future-proof local manufacturing in WA, including in the Pilbara.

"It will also reduce WA's reliance on overseas suppliers and helps our State become more self-sufficient. It's a win for jobs, a win for the economy and another step towards a stronger manufacturing sector in WA."



Targeted transformation

Key industries announced for Global Advanced Industries Hub

Kwinana Industrial Area. IMAGE: Kwinana Industries Council

Renewable hydrogen, future facing minerals processing and ship building and sustainment are key targets for Western Australia's global advanced industries hub.

The 3 industries, as well as a cross-sector enabler, are being targeted by the Western Australian Government to transform the State's Western Trade Coast into a global advanced industries hub following a new report into the strategic and economic significance of the region.

The Western Trade Coast in Perth's southern metropolitan region includes the Australian Marine Complex in Henderson, together with the Kwinana Industrial Area, Rockingham Industry Zone and Latitude 32 Industry Zone.

Joining the 3 target industries, the cross-sector enabler

focuses on by-product utilisation and import substitution.

The WA Government has endorsed these industries for the region, which are aligned to the State's targeted diversification agenda, as outlined in the Diversify WA economic framework.

Global engineering, design and advisory services firm Arup has been appointed to deliver an infrastructure strategy to support the transformation of the Western Trade Coast into a global advanced industries hub.

The strategy will deliver a comprehensive approach to optimising the critical success factors for the transformation of the region, being available land, industrial infrastructure, utilities, workforce and leveraging the region's strengths to attract investment.

Premier Roger Cook said the report provided a contemporary profile of industry and the critical success factors that have supported the long-term growth and development of this nationally significant industrial area.

"The study highlights the enormous contribution that industries operating in the Western Trade Coast collectively make to the wealth of the State and its citizens, and the critical link of industry in global supply chains operating within Western Australia, and across the globe," Mr Cook said.

"Importantly, this study also highlights the opportunities for further economic development, diversification and decarbonisation of the Western Trade Coast, and its transformation into a global advanced industries hub."

WA home to global advanced industries

The Western Trade Coast has a 65-year history of supporting industrial activity and was one of the first heavy industrial areas established in Western Australia.

Covering 3,900 hectares between Munster and Rockingham, the Western Trade Coast includes the Kwinana Industrial Area, Rockingham Industry Zone, Australian Marine Complex and Latitude 32.

Today, the Western Trade Coast is an active industrial precinct, with diverse and unique synergies that link its 4 industrial areas.

An attractive location for industrial development, the Western Trade Coast has an integrated industrial symbiosis, where companies located in the region engage in product and biproduct exchanges and innovative collaborations.

For more information about WA's Western Trade Coast and the transformation into a global advanced industries hub, visit [Invest and Trade WA Western Trade Coast](#)



Supporting Indigenous businesses to grow and thrive

The Department of Jobs, Tourism, Science and Innovation (JTSI) hosted an exhibition booth at the Indigenous Emerging Business Forum for the first time, engaging with attendees from a range of industries during the event held in Perth.

Helping Indigenous owned and operated businesses to grow and thrive, the forum encourages and assists employment and business opportunities for Indigenous peoples.

The JTSI team highlighted opportunities in Western Australia, including the State's Local Capability Fund and involvement at the upcoming Aboriginal Business Pavilion at AOG Energy 2024, which Perth is set to host in March.

The Local Capability Fund provides WA businesses with funding support to enhance their capacity, capability and competitiveness as suppliers of products, services and works.

The Aboriginal Business Pavilion will provide an opportunity for Indigenous companies to showcase their products, technologies, innovations and services to the domestic and international energy supply chain.

Held annually in Perth for more than 40 years, AOG Energy brings the oil, gas and energy supply chain together. **Learn more about AOG Energy**



The Aboriginal Business Pavilion at AOG Energy provides Indigenous owned and operated businesses the opportunity to connect with the domestic and international energy supply chain.



Future focus

Collaborating globally in energy transition

Western Australia was on the global stage in Scotland for SPE Offshore Europe 2023—the biennial energy conference and exhibition has grown into one of the largest events of its kind in Europe, attracting visitors and exhibitors from around the world.

Celebrating its 50th year, the 4-day September event drew almost 30,000 attendees and more than 800 exhibitors to Aberdeen, supporting the global energy transition to a low-carbon future.

Western Australia's abundant natural resources, world-class infrastructure, research capabilities and skilled workforce were all on show with Invest and Trade WA and delegates attending, welcomed by Minister for Training; Water; and Youth, Simone McGurk and Agent General for WA in the United Kingdom/Europe, John Langoulant AO.

Team WA included partners from across State Government, industry, research, and the energy sector supply chain, including representatives from:

- Department of Jobs, Tourism, Science and Innovation
- Invest and Trade Western Australia Europe, UK and Israel Office
- AOG Energy 2024
- CODA - Centre of Decommissioning Australia
- Curtin University - Institute for Energy Transition
- INPEX
- Matrix Composites and Engineering
- Murdoch University - Centre for Water, Energy and Waste
- North Metropolitan TAFE
- South Metropolitan TAFE
- SICA - Subsea Innovation Cluster Australia
- The University of Western Australia - Centre for Long Subsea Tiebacks.



The WA team in Scotland, where Western Australia was on the global stage for SPE Offshore Europe 2023.

Shared opportunities

SPE Offshore Europe 2023 in Scotland was an ideal opportunity to connect with other delegates and showcase Western Australia as a preeminent destination for investment, home to major oil and gas producers, and low-carbon energy initiatives and projects.

Ms McGurk shared an overview of jobs and business opportunities in WA and what the WA Government is doing to transition to a low-carbon future economy.

Delegates also participated in a roundtable discussion focused on workforce matters relating to the global energy transition. The session provided an overview of Scotland's workforce development ecosystem, its role in their approach to the energy transition and successes and challenges. It also highlighted how both Aberdeen and WA could collaborate to meet shared workforce needs in the face of rapid change and high demand.

As a member of the World Energy City Partnership (WECP), Perth was represented at the Aberdeen-

Norway Gateway Business Lunch and hosted the WECP Partnership AGM in November.

Discussions centred on the opportunity for collaboration and knowledge exchange between Aberdeen, Stavanger (Norway) and Perth to support each other as they undergo energy transition.

Team WA toured Shell's gas plant and was provided an overview of the Acorn Carbon Capture Storage (CCS) project. Acorn CCS is one of 4 clusters in the UK progressing CCS projects contributing to economic growth opportunities during its transition to net zero emissions.

The Acorn project will capture industrial CO₂ emissions and reuse legacy oil and gas infrastructure to transport the captured CO₂ from the Scottish Cluster to permanent storage 2.5 kilometres under the North Sea.



Western Australia's vast mineral resources are a critical element in advancing the development of electric vehicles and supporting the energy transition.

Future facing with Singapore

Premier Asian investment showcase brings together world leaders in electric vehicles and critical minerals

Western Australia was centre stage at the inaugural Future Facing Commodities Conference, a premier Asian investment showcase connecting resources and technology sectors with Environmental, Social and Governance (ESG) and Sustainability themes.

Held in Singapore with Invest and Trade Western Australia participating, the conference brought together world leaders in the electric vehicle and critical minerals industries with global capital markets.

With participants ranging from end users, battery energy storage manufacturers, miners and explorers, traders, governments, and investors, the conference provided an opportunity to engage along the full spectrum of the supply chain for the minerals industry.

Invest and Trade WA's participation highlighted the Western Australian Government's commitment to supporting and showcasing the development of the State's mining and mining, equipment and technology (METS) sector.

As countries are racing to achieve net zero emissions, electric vehicles are one of the most prominent solutions to reduce dependence on fossil fuels.

The vast mineral resources available in WA remain a critical element in advancing the development of electric vehicles and supporting the energy transition.

More than 50 WA companies participated as exhibitors at the conference, including Galan Lithium Ltd., Tungsten Metals Group, Global Lithium Resources, Krakatoa Resources Ltd., and Nexus Minerals.

Northern Australia Minister for Resources, Madeleine King delivered a speech during the opening session, spoke at AustCham Singapore's Ministerial Dialogue Series and visited the Invest and Trade WA Singapore booth.

Southeast Asia has become one of the fastest growing regions in the world. With a population of more than 680 million people, it is fast becoming a global economic powerhouse.

For more information on mining and METS in Western Australia and investment and trade opportunities, visit Invest and Trade Western Australia.



Celebrating WA export success

Providing a platform to raise the profile of Western Australia's export industries, and recognise excellence in local business, the WA Export Awards celebrated 35 years in 2023.

Invest and Trade Western Australia hosted a gala dinner celebrating the finalists and announcing the winners at Optus Stadium in Perth in October.

Exports of goods and services contributed \$270.4 billion to WA's economy in 2022-23, with WA accounting for 46% of Australia's goods exports.

A record number of nominations were received for the 2023 awards, with 86 applications

submitted from 36 companies, and 13 award categories open; showcasing WA's diverse range of exports.

Perth-based business AVI took out the top award for its performance designing and manufacturing specialised communications systems for industries around the world. Other winners included Fremantle Octopus and Smartstream Technology.

"The range of sectors featured shows the breadth of WA's capability, from large-scale mining and industrial operations, to innovative start-ups, and small to medium businesses," Premier Roger Cook said.

"WA is an export State, and successful export businesses means more local jobs and a stronger State economy. Congratulations to all the winners and finalists in the awards."

Established in 1988, the WA Export Awards are managed by the Department of Jobs, Tourism, Science and Innovation through Invest and Trade WA. All WA winners progress to compete in the Australian Export Awards in Canberra.



Learn about the WA Export Awards here



Western Australia's 2023 Export Award winners celebrate their success. IMAGE CREDIT: Photographer Dan Carson.

Congratulations to the 2023 Western Australian Export Awards winners:

2023 WA Exporter of the Year – AVI

Category winners:

- Advanced Technologies – AVI
- Agribusiness, Food and Beverages – Fremantle Octopus
- Creative Industries – Cizzy Bridal
- e-Commerce – ZHIVAGO
- Emerging Exporter – Premier Metals
- International Education and Training – Edith Cowan University
- International Health – Linear Clinical Research Ltd
- Manufacturing and Advanced Materials – Gelflex
- Professional Services – The Little Bar Cart
- Regional Exporter – CBH Group
- Resources and Energy – Motium
- Small Business – Clean and Pure
- Sustainability and Green Economy – Smartstream Technology.

Energised: WA and Indonesia

“Indonesia is a recognised and trusted partner and that is why it is vital we explore new ways to deepen our relationship – one that delivers investment opportunities and local jobs for Western Australians.”

- Premier Roger Cook

Historic mission on target

Western Australia shares a long and proud history with Indonesia, one of WA's closest neighbours.

Exploring new ways to deepen WA's relationship with Indonesia, and seizing mutually beneficial opportunities, were the key pursuits of a historic investment and trade mission in September, delivering major outcomes across the State's priority sectors.

More than 130 WA business and government delegates joined Premier Roger Cook as part of the Indonesia Connect Roadshow, which was Mr Cook's first trade mission as Premier.

The Roadshow proved an ideal platform to promote WA as a recognised and trusted partner, as well as an opportunity for WA businesses to engage in trade, investment and cultural exchange.

With a focus on trade and investment outcomes across 5 key sectors, including energy transition, creative industries and the digital economy, international education, primary industries and tourism, the mission's first stop was Indonesia's capital, Jakarta.

At the ASEAN Business and Investment Summit, organised by the Indonesian Chamber of Commerce and Industry (KADIN), delegates seized the chance to raise WA's profile. The event promoted collaboration in the energy sector and included the Premier speaking on a panel discussing WA's important relationship with the ASEAN region.



Premier Roger Cook in Surabaya signing the WA-East Java Sister State Agreement, witnessed by Consul General of the Republic of Indonesia in Perth, Listiana Operananta.

The Jakarta leg of the mission also included an energy roundtable with KADIN, focused on developing value-adding, resilient and sustainable critical minerals and battery supply chains in both regions. This followed a plan of action on cooperation in critical minerals that was signed during Indonesian President Joko Widodo's visit to Sydney in July.

Delegates also visited Surabaya and Denpasar during the week-long mission, with 3 WA Ministers joining Mr Cook: then Mines and Petroleum; Energy; and Hydrogen Industry Minister Bill Johnston, Culture and the Arts; Sport and Recreation; and International Education Minister David Templeman, and Agriculture and Food; Forestry; and Small Business Minister Jackie Jarvis.

Western Australian businesses participating in the mission underwent a competitive expression of interest process, and included delegates from small, medium and large businesses.

To find out more about WA's Indonesia Connect Roadshow plus investment and trade opportunities with Indonesia and other overseas markets, visit:



Seizing opportunities

Leading Western Australia's largest ever overseas investment and trade mission to Indonesia, Premier; and Minister for State and Industry Development, Jobs and Trade, Roger Cook, said the historic mission would play a central role in the State's future.

"It is important to make sure that we work with our closest trading partners to continue to drive trade and economic growth," he said.

"One of these trading partners is our closest—Indonesia. It is the fourth most populous nation in the world with 278 million people and the largest Association of Southeast Asian Nations economy. It is an important opportunity for us."

Mr Cook said the Indonesia Connect Roadshow focused on key sectors, including critical minerals, agriculture, international education, creative industries and tourism.

"A particularly important part of this trip was the Western Australian–Indonesia Energy Forum, which we held in Jakarta," he said.

"Both regions are in an enviable position in relation to energy. Indonesia has the world's largest deposits of nickel, providing 90 per cent of the world's nickel sulphate. Western Australia has the largest deposits of lithium and provides over half the world's supply.

"We are both beautifully placed to be in partnership to assist the world as part of its clean energy transition."

The Forum provided WA delegates with an ideal opportunity to liaise directly with Indonesian industry, with Mr Cook highlighting exciting plans for the future.

"For example, the opportunity for WA to support Indonesia with its ambitions to be a global leader in electrical vehicle manufacture through

midstream processing in WA or strengthening collaboration to secure future battery and critical minerals supply chains," he said.

"We also have a commitment to continued engagement with the Future Battery Industries Cooperative Research Centre located at Curtin University."

Mr Cook said these outcomes built on his meeting with President Joko Widodo earlier this year to sign a plan of action with Indonesia's Chamber of Commerce and Industry (KADIN).

"This plan of action strengthens our economic ties, trade and supply chain opportunity. It also supports the existing Memorandum of Understanding we have with KADIN signed in February this year," he said.

"We are at a critical moment in our history. The race to renewables is now well and truly underway, and Australia and Indonesia have a once-in-a-generation chance to maximise the opportunities presented by decarbonisation.

"I look forward to working with Indonesia, as our closest neighbour and long-time trading partner, to achieve more great things, and look forward to discussing how we can seize further opportunities for our respective jurisdictions."



Western Australia's largest ever overseas investment and trade mission to Indonesia focused on mutual opportunities in key sectors for both partners.

WA-Indonesia export and trade

Western Australia's relationship with Indonesia is a key economic driver for the State. In 2022:

- » Indonesia was WA's 11th largest trading partner, with \$4.6 billion of goods traded
- » WA exported \$3.8 billion of goods to Indonesia, above the annual average of \$2.3 billion over the past 10 years (WA accounted for 30% of Australia's goods exports to Indonesia)
- » WA accounted for a quarter of Australia's total trade in goods with Indonesia
- » WA's petroleum exports to Indonesia rose 16% to \$1.2 billion.



Invest and Trade Western Australia hosted several Perth-based events when high-level Chinese dignitaries visited WA during 2023.

Fostering friendship with Sichuan

Directly supporting Western Australia's Asian Engagement Strategy 2019-30: Our future with Asia, a delegation from China's Sichuan Province visited Perth in May.

Led by Sichuan Province Party Secretary His Excellency Mr Wang Xiaohui, delegates met with the WA Government to discuss collaboration opportunities. During the Party Secretary's first trip to WA, he visited WA Museum Boola Bardip, Parliament House and the Tianqi Lithium Processing Plant in Kwinana, located south of the Perth central business district.

A Memorandum of Understanding (MoU) was signed between Tourism WA and Sichuan Airlines to increase awareness of WA as a premium destination, creating the foundation to increase visitation from China and aiming to develop opportunities for new direct flights.

Sichuan Province and WA have existing commercial and people-to-people links, with Perth and Sichuan capital, Chengdu, celebrating their 10-year sister-city anniversary in 2022.

A second MoU was signed between the WA Museum, WA Museum Foundation and Tianqi Lithium, a significant investor in WA. The biggest Sichuan investment in WA is the Tianqi Lithium Processing Plant in Kwinana. Commencing production in July 2022, the refinery cost about \$1 billion to establish.

Invest and Trade WA also partnered with the WA branches of the Australia China Business Council and China Chamber of Commerce in Australia to host a business networking function for the Party Secretary and delegation at the Chinese Consulate-General in Perth.

Mutual benefits: WA and China

China has a large, diverse and dynamic economy, offering a broad range of opportunities for Western Australian businesses looking for an export market or investment partnership.

Premier Roger Cook led his first official mission to China in November, promoting mutually beneficial outcomes between WA and China and exploring new investment and trade opportunities.

Delegates visited Sichuan Province in China's southwest region. Home to over 92 million people, it has long been considered the gateway to the region and has become an increasingly important economic hub in recent years.

While WA has already attracted significant investment from Sichuan-based companies in the energy sector, the visit was a chance to explore opportunities in other sectors within this rapidly emerging market.

During the visit, the WA Government promoted future collaboration in areas such as tourism, international education and aviation, in line with Diversify WA, the State's economic development framework.

The Premier also visited Shanghai, meeting with key government and industry leaders in resources and aviation, as well as investors and leading stakeholders from the Chinese energy sector.

Meetings were held with key Chinese Government leaders to help raise WA's profile in China, build further awareness of our strengths and capabilities and deepen the bilateral relationship.

The 4-day mission was the WA Government's second to China in 2023, following a 3-year hiatus due to the COVID-19 pandemic.

"China is WA's largest trading partner and has been the State's largest market for goods exports over the past 17 years, as well as accounting for 55% of the State's goods exports in 2022-23," Mr Cook said.

"The relationship that WA has with China is mutually beneficial, and one that has created thousands of local jobs and a long investment and trade history. This mission is a fantastic opportunity to deepen the relationship we have as well as explore new avenues in which we can work together."



Western Australia has seen nation-leading growth in International Education. Pictured are attendees at the Western Australian Premier's University Scholarship Program event held in Perth.

International Education soars in Western Australia

International students have flocked back to Western Australia in record numbers, with enrolments and commencements at an all-time high, beating pre-COVID-19 figures.

As of June 2023, WA recorded 49,359 international student enrolments, 8,540 (21%) higher than the previous record of 40,819 for the year to date June 2020. The growth in enrolments has been supported by a record number of international students commencing their studies in 2023. The State had 24,591 international student commencements as of June 2023, 6,548 (36%) higher than the previous record of 18,043, back in June 2016.

Western Australia's recovery in international education has greatly exceeded all other Australian states and territories, which has seen WA's share of national enrolments rise from 5.6% in June 2020 to 7.0% in June 2023. WA's international student enrolments grew by 8,540 (21%) between June 2020 and 2023, in sharp contrast to a 20,278 (3%) decline nationally.

"Western Australia's growth in enrolments and commencements has now been much higher than our traditional competition in New South Wales and Victoria, which is a tremendous achievement by all those involved in the sector," International Education Minister David Templeman said.

The nation-leading recovery in WA has been driven through various WA Government initiatives including:

- Agent Incentive Scheme
- International Education Familiarisation Program
- International Student Accommodation Subsidy (ISAS)
- International Student ELICOS Bursary (ISEB)
- International Education Offshore Marketing Campaign.

The WA Government invested a further \$13.1 million into the international education sector through the 2023-24 State Budget, building on the success of the \$41.2 million investment in the sector as part of the 2022-23 State Budget.

In addition, the WA Government has continued to support international students through 2 scholarship programs. The WA Certificate of Education (WACE) Bursary provides up to 50, one-year \$20,000 scholarships annually to eligible offshore WACE graduates who enrol to study an undergraduate course at one of the State's 5 universities. The WA Premier's University Scholarship offers 10, one-off, \$50,000 scholarships annually for eligible international students from target and priority markets studying at one of WA's 5 universities.

Priority markets for the 2024 Premier's University Scholarship include Bangladesh, Bhutan, Brazil, China, Colombia, Hong Kong, India, Indonesia, Japan, Kenya, Malaysia, Nepal, Oman, South Korea, Saudi Arabia, Singapore, South Africa, Sri Lanka, The Philippines, Vietnam and Zimbabwe.

Find out more about International Education opportunities in WA.





WESTERN AUSTRALIA
IT'S LIKE NO OTHER.



International Education Minister David Templeman joined the celebrations at the Western Australian Premier's University Scholarship Program event.

Ideal study destination

Western Australia is an ideal destination for students, offering a world-class education and a high quality of life. Our amazing landscapes, variety of academic and social opportunities, and friendly, multicultural community offer a package that is like no other.

Perth's Regional City Status provides attractive, post-study work rights for students, giving them time to build their skills and launch a career in WA after graduating.

The State's position as a study destination of choice was on show when the 2023

International Consultants for Education Fairs Australia and New Zealand Agent (ICEF ANZA) conference came to town. As a host city, Perth welcomed education providers and recruitment agents from across the globe. The 3-day event was the largest ICEF ANZA event to date, with more than 510 participants from 340 organisations from around the world.

Western Australia's international education sector will continue to be in the global spotlight in March 2024 when Perth hosts the prestigious APAIE Conference and Exhibition for

the first time. The conference is a joint collaboration between the WA Government, StudyPerth, Curtin University, Edith Cowan University, Murdoch University, the University of Notre Dame and The University of Western Australia and Business Events Perth.

Set to attract more than 2,000 professionals and service providers, the highly anticipated event will bring together education leaders, policymakers and experts from around the world to discuss the latest trends and innovations in international education.

To discover more about international education in Western Australia – a place for students to live, learn and launch a bright future:



Showcasing WA's best to international students

The WA Government successfully delivered a familiarisation program for offshore stakeholders, showcasing the State as a study destination like no other.

The \$1 million International Education Familiarisation (famil) Program was funded through the WA Government's 2022-23 State Budget. A total of \$700,000 was awarded under the Collaborative Familiarisation Fund program, with 24 international education providers and partners receiving grants of up to \$50,000.

Famils funded through the program promote WA to key overseas stakeholders and raise awareness of international education offerings through training, site visits and tourism experiences. The funding enables cross-sector collaboration across WA education providers and partners, tourism operators and the WA Government to showcase the State as a key study destination.

Additionally, \$300,000 in funding was provided to the WA Government Education Business

Development Managers (EBDMs) located in the Invest and Trade WA overseas offices to develop and host famils to build networks with key offshore recruitment staff.

From May to June 2023, the International Education team within the Department of Jobs, Tourism, Science and Innovation (JTSI) hosted 6 famil groups from key markets, including South Korea, Japan, India-Gulf, Indonesia, the United Kingdom and Vietnam.

A total of 47 international delegates took part in the program, including 21 education agents, 17 education providers, 3 corporate education partners and 6 Invest and Trade WA EBDMs. The program helped to strengthen connections between the WA Government, the international education sector and valuable education partners from overseas.

During each famil, JTSI's International Education team highlighted WA's unique value as a study destination and promoted the WA Government's initiatives for international students.

The program delivered 27 education provider site visits, including touring university and TAFE campuses, private vocational education and training facilities, and visiting public and private schools that have valuable pathways, as well as visiting an English Language Centre.

During their visit to Perth, delegates were also involved in meetings with StudyPerth to learn about support programs and services offered, and with the Western Australian Technical, Vocational Education and Training (WA TVET) consortium. They also went sightseeing around Perth, visiting Kings Park and Botanic Garden and the Matagarup Bridge, enjoyed local produce in the Swan Valley and at Caversham Wildlife Park, and took part in student panel sessions with current international students.

Highly praised by participants, the program's success further strengthens WA's position as a study destination of choice in the global market.



Growing, educating and innovating with India

Australia's deepening connection with India is continuing to strengthen through new agreements and initiatives championed by Western Australia, as our economic relations enter a new era.

An Invest and Trade Western Australia mission, including 13 WA organisations focused on the key sectors of innovation, space, and health and medical life sciences, travelled to India earlier this year, aligning with Umagic Chennai 2023 – a 3-day global technology, entrepreneurship and skills summit.

The Western Australian Government was this year's Innovation Partner and an event State Sponsor, with Innovation and the Digital Economy Minister Stephen Dawson highlighting how the State embraces partnerships with international innovators, including those in India.

"India is home to the world's third largest startup ecosystem with more than 100 privately owned startups with a value of more than \$1 billion," Mr Dawson said.

"Western Australia has a lot to offer in the startup space, strengthening ties and promoting opportunities for collaboration through initiatives such as the Perth Landing Pad and our innovation hubs."

Over the course of the mission, several collaborative relationships were formalised, including the exchange of a letter of strategic intent between WA and the Indian state of Tamil Nadu, as well as other engagements across Andhra Pradesh and Telangana, helping to strengthen our bilateral relationship.

The letter of strategic intent followed the establishment of the Invest and Trade WA office in Chennai, Tamil Nadu's capital, first announced by then Deputy Premier Roger Cook in July 2022.

"We're committed to growing the strong relationship between India and WA, which is underpinned by common values, strong people-to-people connections, and substantial trade and investment links," Mr Dawson said.

The growing relationship between WA and Tamil Nadu will support expanded cooperation across a wide range of sectors including education and skills, energy, mining, space, innovation, defence, agriculture, creative industries and health and life sciences.

Umagic Chennai 2023 saw more than 10,000 delegates attend, with the event featuring over 250 speakers across 130 plus sessions, and more than 150 exhibitors.

Western Australian organisations participating in the business delegation included the WA Data Science and Innovation Hub, CyberWest, DNA Zoo Australia, Innovation Central Perth, WeVolt, Red Piranha, Space Angel, LatConnect 60, QL Space, Hola Health, Has Holdings, Adarsh Australia and TATA Consultancy Services.

The mission was supported by the Invest and Trade WA India-Gulf offices, led by Investment and Trade Commissioner for India-Gulf, Nashid Chowdhury. WA is the first Australian state to establish a presence in Tamil Nadu, India's second largest economy.



Innovation and Digital Economy Minister Stephen Dawson, at the WA Government's Chennai office while visiting India for UImagine Chennai 2023.

Sector focus: International Education

Two high-level Western Australian delegations visited India in 2023 to strengthen bilateral relationships across Bangladesh, Tamil Nadu, Karnataka, Maharashtra and Bhutan, with a focus on the international education sector.

A Western Australian Parliamentary delegation was led by Speaker of the House Michelle Roberts, and an international education delegation was led by The University of Western Australia (UWA) Vice Chancellor Professor Amit Chakma.

Helping to support high school students looking at careers in key industries, WA's international education initiatives in India and Bangladesh are expected to expand following the Western Australian Curriculum being granted equivalence approval in May.

This process determined whether the Western Australian Certificate of Education (WACE) is equivalent to India's senior secondary certificate of education. This allows students who complete a WACE accredited course in India to be treated the same as those who complete India's senior secondary certificate of education, while also having a seamless application process for applying to WA's university and training providers.

During the delegation, the Department of Jobs, Tourism, Science and Innovation in partnership with UWA, supported TATA & Son's philanthropic venture, Avasara Academy, to support 2 full scholarships and living expenses. Avasara Academy is a first-of-its-kind non-profit residential secondary school for girls in Pune that focuses on girls from low-income backgrounds who show high potential.

"WA has always maintained a strong relationship with India and growing the reputation of our education programs in school communities can support the growth of those people and cultural ties," International Education Minister David Templeman said.

"This collaboration positions WA significantly in the international education market and has the potential to support growth in the number of international students pursuing further studies in WA."

Managed through invitation by the Association of Indian Universities, the initiative supports students pursuing tertiary or training opportunities in WA post-Year 12.



Visit Invest and Trade WA for more information on trade and investment opportunities with India.



Japan's Organization for Metals and Energy Security (JOGMEC) visited Perth to exchange updates on energy plans and strategies.

Building our relationship with Japan

Western Australia continues to build a strong relationship with Japan, an important market for the State.

Japan is WA's second largest trading partner, with \$39.7 billion of goods traded in 2022.

This year, for the first time, a high-level delegation from the Japan Organization for Metals and Energy Security (JOGMEC) visited Perth to exchange updates on energy plans and strategies.

This follows the signing of a Memorandum of Understanding between JOGMEC and the Western Australian Government to cooperate on new and renewable energies.

In return, the delegation from JOGMEC, led by Japan's Energy Business Unit Vice President Koji Yamamoto, provided an update on the Japanese Government's strategies and policies toward carbon neutrality.

Representatives from Mitsui E&P Australia, Marubeni and Woodside Energy attended the briefings to provide updates on their respective low-carbon projects and initiatives.

The JOGMEC delegation attended the AOG Energy International Delegate Briefing hosted by Invest and Trade Western Australia. The event gave them the opportunity to network with 80 attendees, including international delegations in Perth for the AOG Energy Conference.



Western Australia's hydrogen energy projects were on display in Tokyo at Smart Energy Week - FC Expo 2023 Spring. Then Energy and Hydrogen Industry Minister Bill Johnston is pictured with the WA team at the event.

Energy expos in Tokyo

Western Australia's hydrogen energy projects were on display in Tokyo at Smart Energy Week – FC (Fuel Cell) Expo 2023 Spring.

The event combined world-leading exhibitions Smart Energy Week, a renewable energy exposition, and FC Expo, which focuses on hydrogen and fuel cells.

Western Australia's expo stand was part of an Australian pavilion set up by Austrade Japan.

Western Australia's iconic Ningaloo whale shark entices visitors on a billboard in Tokyo's Shinjuku district.

Living the dream



Japanese travellers were invited to Walk On A Dream in Western Australia, when WA's new global tourism brand rolled out in Japan.

As part of a week-long campaign, 3D animations of Ningaloo's iconic whale sharks swam above commuters in Tokyo's world-famous Shinjuku and Harajuku districts.

These were supported by outdoor advertising in other prominent Tokyo locations, and marketing partnerships with travel agencies in Japan, selling WA holiday packages.

The media blitz was part of the global rollout of Walking On A Dream, which is funded by the WA Government's \$195 million Reconnect WA package.

The campaign followed the announcement that the Tokyo-Perth direct flight route would resume in late October, with a flight by All Nippon Airways 3 times per week.

Japan is a key visitor market for WA, with nearly 39,000 visitors from Japan spending an estimated \$71 million annually in the State before the pandemic.

Premier Roger Cook said the WA Government and its partners had worked hard to bring back direct flights to reinforce WA as an ideal destination for travel, business and study.

Tourism Minister Rita Safiotti said promoting the new global tourism brand just as direct flight tickets went on sale would help drive more visitors to WA.

"The WA Government is proud to launch Walking On A Dream in Japan and showcase the unique and authentic natural assets that make WA a wondrous place to visit," Minister Safiotti said.

The WA booth drew more than 40 visitors, with inquiries about investment in WA and WA's hydrogen projects. Brochures in Japanese promoted WA's hydrogen projects and investment opportunities. As a result of an Invest and Trade WA call for expressions of interest, Woodside Energy also provided

a company outline brochure.

Two WA companies also participated in other co-exhibitions that ran alongside Smart Energy Week. Alpha Solar Tech, a WA company producing integrated photovoltaic systems with architectural finishes, attended the Decarbonisation

Expo. And WA company Altech Chemicals participated in the Battery Japan event.

On a mission to Japan at the time, then Energy and Hydrogen Industry Minister Bill Johnston, visited the companies' stands and the WA booth.

Direct flights connect WA to the world

Australia's Western Gateway: Perth, Rome, Tokyo, Jakarta, Bali

Perth's position as the Western Gateway to Australia has been firmly established this year with direct flights to major destinations around the world.

As part of the Western Australian Government's Aviation Recovery Fund, announced in December 2021, new and reinstated direct flights are on offer to a growing list of international destinations.

The hugely popular direct flight between Rome and Perth resumed service in mid-June, in time for the 2023 European summer tourism season. As the only direct flight between Australia and Continental Europe, the route ran 3 days per week for a 4-month period. The success of the seasonal route has seen direct flights renewed for a third season, with tickets for flights in 2024 going on sale in July.

The route has boosted WA's presence and connection in Italy, with the country ranked as WA's 11th biggest international market for visitors in 2022, up from 23rd in 2019.

"The launch of the first Rome to Perth direct flight last year was a momentous occasion for our tourism industry, and to have Qantas commit to a third

season in 2024 is a massive win for Western Australia," Deputy Premier and Minister for Tourism Rita Saffoti said.

Reinforcing WA's role as the nation's Western Gateway, the resumption of flights between Tokyo and Perth coincides with the traditional peak demand period from Japanese visitors.

All Nippon Airways (ANA) will operate 3 direct flights per week and will recommence as a seasonal service until late-March 2024, and resume in October 2024 with the intention of ramping up to a year-round service.

In 2019, Japan was WA's eighth largest international market by number of visitors, sitting at 61% of pre-pandemic figures in March 2023. That number is expected to increase through the resumption of ANA's direct flights, with Japanese visitors, students and business travellers able to more easily travel to WA.

Further flights were also secured between Indonesia and WA, with airline Citilink announcing the resumption of services in July. In a major boost for aviation links between the 2 destinations, these include the return of direct flights

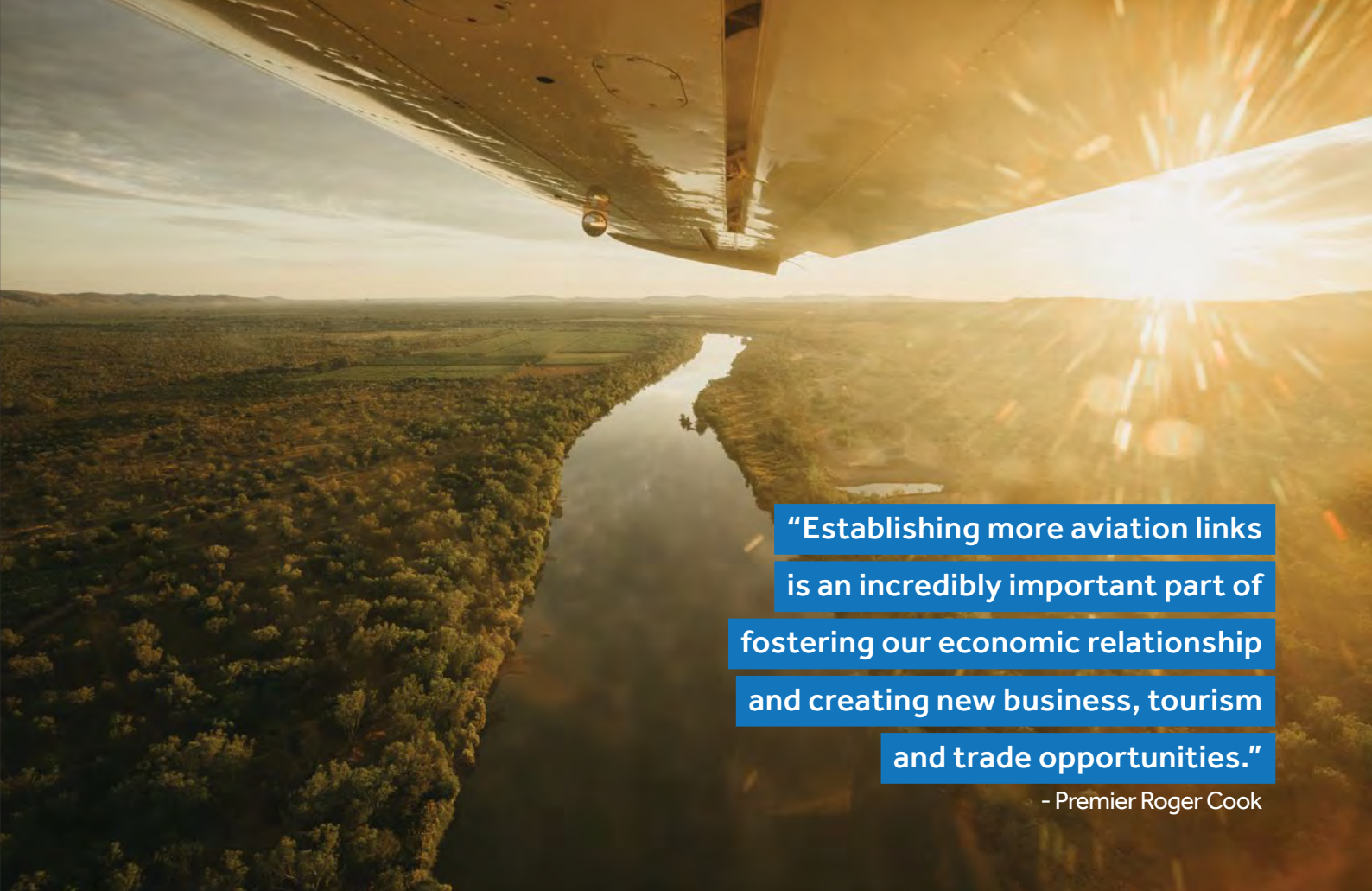
between Bali and Perth and for the first time, a direct Citilink service between Jakarta and Perth.

The new flights will add thousands of additional seats into Perth from Jakarta and Bali each week, estimated to bring in more than 28,000 inbound passengers per year.

The announcement followed a series of official engagements between WA and Indonesia, including a meeting between Indonesian President Joko Widodo and Premier Roger Cook, where a Plan of Action was signed with Indonesia's Chamber of Commerce and Industry.

The agreement will further strengthen WA's economic ties, trade, and supply chain opportunities with Indonesia, which was the State's seventh largest market by visitor numbers in 2019.

"Establishing more aviation links is an incredibly important part of fostering our economic relationship and creating new business, tourism and trade opportunities," Mr Cook said.



**“Establishing more aviation links
is an incredibly important part of
fostering our economic relationship
and creating new business, tourism
and trade opportunities.”**

- Premier Roger Cook

Bonjour! Paris-Perth

New Qantas direct flights from Paris to Perth are set to launch in July 2024.

The near 17-hour flights will operate 4 days per week during the European summer and the Paris Olympics on Qantas' Boeing 787 Dreamliner aircraft, with services moving to 3 times per week from mid-August 2024.

It will be the second direct connection between Perth and Continental Europe secured by the Western Australian Government, in addition to Qantas' existing Rome to Perth service.

Reaffirming WA's status as the Western Gateway to Australia, Perth is the only city in Australia with direct air connections from Continental Europe.

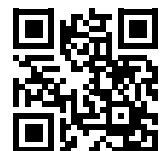
The new non-stop link will add more than 75,000 additional seats from and to Europe each year – including around 37,500 inbound passengers to WA per year – and will cut more than 3 hours off the current fastest travel time between Paris and Perth.

The route will also provide seamless connections for more than 70 destinations across the region, including Athens, Barcelona and Frankfurt, boosting tourism opportunities from across the continent.

“This new direct flight will add an important 75,000 additional seats to and from Europe each year and significantly improve opportunity and access for tourists to travel to our great State and explore everything we have to offer,” Premier Roger Cook said.

“Securing new direct aviation services like these are absolutely vital to drive travellers to Western Australia, inject visitor spend into our economy and create jobs in the tourism and hospitality industries.”

Discover more about Western Australia's key international markets



Opportunities open: WA and Vietnam

New direct flights

First-ever service on Vietnam Airlines to establish Western Australia's links with South East Asia

A new, direct Vietnam Airlines flight between Ho Chi Minh City and Perth is launching this December, opening up a brand new tourism market.

The direct service will bring nearly 43,000 visitors each year to Perth and further strengthen Western Australia's air links with South East Asia.

The announcement follows the Western Australian Government's mission to Vietnam earlier this year to meet with representatives from a number of Vietnamese airlines to discuss direct flights to WA.

The carrier's first ever service to Perth, supported by the WA Government in partnership with Perth Airport, further strengthens WA's connections with Vietnam,

following the opening of a new Invest and Trade WA office in Ho Chi Minh City in March.

Vietnam is WA's 14th largest trading partner, with total trade of \$2.4 billion in 2022-23. The country is also an emerging visitor market, with 10,000 visitors travelling to WA for the year ending March 2023, and many coming to holiday or visit friends and family.

"Securing this new direct flight between Vietnam and Perth opens up an abundance of opportunities between the two destinations and represents a whole new inbound visitor market for Western Australia's industry, tourism and hospitality sectors – supporting jobs and boosting the economy," Premier Roger Cook said.

"Direct aviation links like these benefit our State, producers and businesses as they present additional avenues to expand trade opportunities for fresh produce exports and other goods to be efficiently transported.

"We have a growing Western Australian-Vietnamese community in our State, which has contributed to our social, economic and cultural development and this announcement will provide better direct connections for the community whether it be for leisure, business or studying opportunities."

Visit Vietnam Airlines website for information on these new flights



"We're very excited to announce this new service and showcase everything our State has to offer to more visitors from Vietnam."

"Vietnam is becoming an emerging tourism market for Western Australia."

I'm sure this route will be very popular, and helps affirm our status as the Western Gateway to Australia."

- Tourism Minister Rita Saffioti

Premier Roger Cook led a WA delegation to Vietnam, where the WA Government opened a new investment and trade office in Ho Chi Minh City, joining WA's Hanoi office.



Ho Chi Minh City Invest and Trade WA office opens

Opportunities are on the rise between Vietnam and Western Australia, with both partners committed to harnessing new prospects and growing what is already a highly successful and strong relationship.

Expanding the State's international investment and trade network, the Western Australian Government opened a new Invest and Trade WA office in Ho Chi Minh City in 2023.

Ho Chi Minh is Vietnam's most populous city, with about 9.3 million people in 2023. The WA Government also has an office in Vietnam's capital city, Hanoi, where a WA International Education Business Development Manager has been based since 2019.

The new office was officially opened at an event in Ho Chi Minh City held as part of the WA Government's 4-day investment, trade and tourism in March.

During the mission, Mr Cook met with representatives from a number of Vietnamese airlines to continue discussions on securing direct flights to WA – with the Premier announcing in September the new direct route launching this December.

Mr Cook also met with the People's Committee of Ho Chi Minh City, the Ho Chi Minh City branch of the Vietnam Chamber of Commerce and Industry, and local proponents to discuss hydrogen opportunities, and delivered a keynote speech promoting WA as a destination of

choice for international students.

Mission delegates then travelled to Ba Ria-Vung Tau Province, where Mr Cook met with Ba Ria-Vung Tau People's Committee Chairman, Nguyen Van Tho, to discuss opportunities to strengthen economic and cultural ties.

"With 2023 marking the 50th anniversary of diplomatic relations between Australia and Vietnam, it is the perfect time for WA to open a new office in Vietnam," Mr Cook said.

"The new Ho Chi Minh City office provides future opportunities for Western Australian companies to do business in Vietnam and attract investment into the State."

Growth sectors: Tourism, Education, Energy and more

Western Australia continues to strengthen its relationship with Vietnam, building on a Memorandum of Understanding the WA Government signed in September 2020 with Ba Ria-Vung Tau Province, a key economic zone in Vietnam.

Fostering mutual economic development, the MoU has a particular focus on tourism, education and vocational training, culture and the arts.

While in Ba Ria-Vung Tau, Mr Cook attended a number of events to strengthen cooperation under the MoU, including speaking at a tourism conference and visiting a local school to identify opportunities for further education collaboration.

More than 18,000 Vietnamese-born people live in WA, and Vietnamese is the third most commonly reported language other than English spoken in WA homes.

"We are committed to growing the strong relationship between WA and Vietnam, which is underpinned by strong people-to-people connections, and substantial trade and investment links," Premier Roger Cook said.

"There is an important opportunity to explore energy co-operation between Vietnam and WA, working in partnership to balance our desire for sustainability and security in the region as part of the global energy transition.

"WA has a highly skilled workforce,

underpinned by a world-class education and training sector which provides an opportunity to partner with Vietnam on skills development to foster economic growth."

In Ba Ria-Vung Tau Province, the WA delegation visited Australian-based global ship building company and defence prime contractor Austal's operations, a key WA investor in Vietnam.

Western Australia accounted for 14% of Australia's goods exports to Vietnam in 2022, exporting \$1.9 billion of goods—above the annual average of \$1.3 billion over the past 10 years. Iron ore made up 63% of WA's goods exports to Vietnam, followed by wheat (10%) and barley (6%).



Invest and Trade WA visited the United States to promote Western Australia's diverse sectors.

Strengthening ties with the US

Invest and Trade Western Australia visited the United States in 2023 to promote WA as an ideal location to visit, study, trade and invest.

Aiming to strengthen WA-US relationships, delegates met with industry partners and investors to promote collaboration in WA's priority sectors of mining and METS, energy, space and health and medical life sciences.

Highlights included a business networking event in Austin, as well as

showcasing WA's health and medical life sciences capabilities at BIO 2023 in Boston, and WA's high-quality critical minerals resources, robust supply chains and skilled workforce at the Battery Gigafactories USA 2023 Conference in Washington DC.

Led by Department of Jobs, Tourism, Science and Innovation Deputy Director General Strategy and International Engagement, Simone Spencer, the mission was an ideal occasion to introduce WA's recently appointed Investment

and Trade Commissioner for the Americas, Natasha Monks.

The WA team also met with American Australian Association President, John Berry and Australia's Consul-General in New York, Heather Ridout AO.

With total trade of about \$8.7 billion, the US was WA's 6th largest trading partner in 2022. The US is a major investor in WA's resources sector, particularly across energy projects.

Unforgettable US exchange

Smart ports—ports that use technology to operate more efficiently than traditional ports—were a highlight of an unforgettable US exchange experience for Department of Jobs, Tourism, Science and Innovation Executive Director Marzia Zamir.

Ms Zamir was one of 17 international participants from 13 countries to undertake the International Visitor Leadership Program in the US.

Nominated for the prestigious leadership program by the US Consulate in Perth for her continued

efforts in helping secure new and emerging industries to Western Australia, Ms Zamir visited Washington DC, Philadelphia, Los Angeles and Charleston during the 3-week exchange.

"I had the opportunity to witness firsthand the critical role that US ports play in global trade and investment," she said.

"More than this, I was also able to see how investments in areas such as real-time information sharing led to productivity at ports as well as their broader industrial supply chains.

"I was also impressed at the leadership and collaboration between the ports and the private sector towards initiatives that help exporters grow and diversify their markets, and initiatives that reduce the environmental impact of port operations.

"It was an unforgettable experience."

Ms Zamir will bring her new knowledge to her role in the department's Resources and Project Facilitation Group.



Meet WA's new Americas Commissioner



Western Australia's new Investment and Trade Commissioner for the Americas, Natasha Monks.

When Western Australia's new investment and trade office opens in Austin, Texas in 2024, new Investment and Trade Commissioner for the Americas, Natasha Monks, and her team will work to facilitate opportunities for WA and the US.

"In the vast landscape of global opportunities, Western Australia's strengths, capabilities, and unique advantages have remained somewhat obscured, particularly in the US," Ms Monks said.

"By having a presence in this geographically distant region, the Americas Hub presents an opportunity to showcase the myriad advantages our State boasts, from its strategically situated geopolitical location and proximity to thriving Asian markets,

to its highly skilled workforce and bountiful natural resources.

"Our aspirations extend to boosting trade outcomes, powered by the robust networks and relationships we will cultivate. Through a designed strategy, we aim to identify opportunities tailored to the unique needs and ambitions of WA businesses.

"Ultimately, success in this role transcends mere statistics; it entails a transformation of mindset. Our aspiration is nothing short of establishing WA as a prominent consideration across the key sectors aligned with the Americas.

"The aim is to instil a palpable sense of gravitas—one that beckons businesses, individuals, and seekers of opportunity to do business, live, work, and study within the vibrant tapestry of WA."

Ms Monks brings more than 18 years of experience in commercial diplomacy, strategic management, economic development, project facilitation, and marketing communications to the role.

Western Australia's Investment and Trade Commissioner for the Americas, Natasha Monks, outlines promising key sectors for WA's new Americas Hub:

- Critical minerals and energy transition - "Our State plays a pivotal role in producing critical minerals and is a leader in the

energy transition movement. We intend to leverage these strengths to facilitate strategic partnerships that promote the sustainable supply of critical minerals and the advancement of renewable energy technologies."

- Health and medical life sciences - "This sector in WA holds great promise. We aim to foster cooperation and knowledge exchange, driving innovation and best practice that benefits both regions."
- Defence and space industries - "WA has a robust defence and space industry sector, and we seek to build and strengthen cooperation in these fields. These collaborations are vital, not only for economic prosperity, but also for bolstering national security."
- Advanced and digital technology - "This sector in WA is marked by innovation and growth potential. We aspire to strengthen ties in technology and cybersecurity, facilitating the flow of ideas and solutions to address the evolving challenges of the digital age."
- Skills, education, culture and knowledge exchange - "The Americas Hub will serve as a platform to promote talent, skills, and knowledge transfer. This exchange will spur innovation and advancements across the renewable energy, defence, space, health, and technology sectors, among others."



Department of Jobs, Tourism, Science and Innovation Executive Director, Marzia Zamir in the US.

A masterclass in nuclear powered submarines

On 15 September 2021, Australia, the United Kingdom and the United States announced their intention to develop a new trilateral security partnership, called AUKUS, for the Indo-Pacific region.

The first pillar of the AUKUS agreement enables Australia to acquire a nuclear-powered, conventionally-armed submarine capability from the United States and the United Kingdom.

The most significant single defence procurement program in Australian history, the acquisition of a nuclear submarine capability for the Royal Australian Navy would provide a leap forward for the Australian Defence Force (ADF) and defence industry, not seen for generations.

In March 2023, the 3 countries unveiled the Optimal Pathway for how Australia would obtain nuclear submarines—a pathway that placed Western Australia at the forefront, owing to its role as the home of Australia's current submarine fleet.

Since the announcement of the Optimal Pathway, WA has been busy identifying the many implications, challenges and opportunities that the acquisition of nuclear-powered, conventionally-armed submarines will present.

In August this year, The University of Western Australia's Defence

and Security Institute delivered the AUKUS Masterclass for professionals interested in gaining a better understanding of nuclear-powered submarines and their impacts on WA and beyond.

The 2-day masterclass was designed for the ADF and employees of defence and related industry, all 3 tiers of government, and education and training institutions, to gather and learn from leading Australian and international policymakers, experts and practitioners. The course explored the role of government and industry in creating and supporting the national nuclear-powered submarine ecosystem, including workforce development needs and plans.

The AUKUS Masterclass featured a keynote speech from WA Minister for Defence Industry; and Veterans Issues, Paul Papalia, an address from WA Defence Advocate RADM Phil Spedding DSC AM RAN (Rtd), along with panel discussions facilitated by Defence West within the Department of Jobs, Tourism, Science and Innovation.

At the event, Mr Papalia met with representatives of WA companies who, along with the Minister, attended the Defence and Security Equipment International, the largest defence conference in the United Kingdom, in mid-September.

The Defence West team hosted an industry networking event during the masterclass program. The event provided Mr Papalia with the opportunity to announce the partnership between WA and the AMDA Foundation to deliver the 2024 Indian Ocean Defence & Security Conference (IODSC).

The AMDA Foundation is the main organiser of Australia's largest defence industry conferences and events, including the Avalon Air Show, Land Forces and the Indo-Pacific International Maritime Exposition.

Partnering with AMDA will allow the WA Government to expand the 2024 IODSC to a more international audience, in line with WA's growing international importance as a strategically significant defence and defence industry jurisdiction.

"Next year's IODSC is set to be one of the biggest, with a major focus on what WA can offer in defence and security," Mr Papalia said.

"The partnership between the WA Government and AMDA Foundation will provide great benefits to the Indian Ocean Defence and Security Conference.

"WA's role in the nation's defence and security space has grown significantly following the AUKUS announcement, the release of the Federal Government's Defence Strategic Review and the maturing conversations of the Quad."



Western Australia's defence industry was on show at Indo Pacific 2023, with Defence West hosting the largest ever outbound WA defence industry delegation.

Western Australia's renewable future

Western Australia's Chief Scientist, Professor Peter Klinken AC highlights WA's world-leading potential in energy transition.

Western Australia is the best location in the world to successfully transition to a renewable future.

We have all the elements necessary—solar, wind, potential for geothermal energy, wave power and tidal power down the track.

We also have the elements to make lithium-ion and vanadium ion batteries, and that is quite a remarkable suite.

The State has both the land and ocean needed for solar panels, wind turbines and wave energy. It is an ideal location to do this transition and test new technologies when you have all the elements in place like we have.



This is a great place to experiment, see what works best and understand the timelines required to achieve this. Western Australia is an ideal place to carry out research and development in the clean energy area.

In 2023, the Department of Jobs, Tourism, Science and Innovation published *Diversify WA: Future State*.

Future State outlines targeted sector-specific diversification opportunities including:

- production and scaling of renewable hydrogen
- advanced critical minerals processing
- development of new carbon capture utilisation and storage projects
- decommissioning of oil and gas infrastructure.

The energy transition is probably the most important thing that we as a State must get right, and opportunities like these will be critical.

As we have seen over the past 18 months, energy security is critical to every facet of our lives. If you get energy security right, all sorts of other things fall into place underneath it.

For example, in Western Australia, water security sits under energy security because we have energy-intensive desalination plants and need energy to pump water out of aquifers. Without energy security, we do not have water security.

This is crucial. If we can produce more green, clean, cheap, reliable energy, then we should become a global destination for energy-intensive industries, such as making green iron or green steel, or hosting data centres.

Western Australia has all the elements in place to make this happen.

I think of this as Western Australia's new North West Shelf moment. There are lots of new technologies coming together, but it is such a key moment where we can actually set ourselves up for the next 50 to 100 years.

Professor Peter Klinken AC

Chief Scientist of Western Australia

Pathway to success

A new 10 Year Science and Technology Plan for the State is set to boost WA's science and research ambitions for the next decade and beyond.

WA plan as science and tech world-leader

Positioning Western Australia as a world leader in science and technology, a new 10 Year Science and Technology Plan for the State is set to boost WA's science and research ambitions for the next decade and beyond.

The new plan for WA will focus on key strengths—from remote, autonomous and cybersecurity technologies, radio astronomy and space operations, to marine science, medical technology and food security—and define pathways to capitalise on these unique and comparative advantages, while also attracting investment and talent to WA.

The plan will further unlock solutions to current and future challenges, such as decarbonising the economy, improving

productivity and growing local industrial capabilities to improve the quality of life of Western Australians.

Indigenous Australians' knowledge, understanding and contributions to scientific discovery and advantages will be embraced in the plan, with a strong focus on facilitating greater opportunities for Indigenous peoples and communities.

"Building the State's science and technology capability for the next decade is essential for the future," Innovation and the Digital Economy; and Science Minister Stephen Dawson said.

"These industries will help diversify and decarbonise the WA economy, create exciting jobs and

help us to solve challenges faced by communities around the world.

"The 10 Year Science and Technology Plan will elevate Western Australia as an exciting global hub of science and technology development.

"It will acknowledge our huge capabilities and expertise in areas such as emerging tech, food security, energy transition and security, the circular economy, First Nations knowledge and more."

Broad consultation with stakeholders, including industry, research institutions, Aboriginal groups, government agencies and universities, commenced in September.

Research, development, commercialisation, deployment

Western Australia's new 10 Year Science and Technology Plan aims to set-up WA as a global hub for leading and inclusive science and technology research, development, commercialisation and deployment.

It will complement current strategies, including WA's Innovation Strategy, which articulates a 10-year vision to make WA a renowned global hub of invention, investment, innovation, and impact.

Opportunities for sustainable living and energy transition, preparedness for AUKUS Pillar II critical technologies and advanced manufacturing will be outlined, with broad

outcomes for WA across the State's priority economic sectors, including defence.

Western Australia is set to be at the forefront of Australia's AUKUS Pillar 1 nuclear-powered submarine optimal pathway, for example, with WA strategically positioned on the Indian Ocean rim.

This presents a unique opportunity for WA companies to contribute to sustainment of visiting and rotational Allied submarines commencing in 2024 and 2027, respectively, and ultimately Australia's own Virginia class from the 2030s.

Western Australia's 10 Year Science and Technology

Plan will also look at ways to build the State's nuclear propulsion knowledge and capability to sustain nuclear-powered submarines.

The Department of Jobs, Tourism, Science and Innovation (JTSI) is leading development of the plan, with publication expected by mid-2024.

To register your interest in being involved, email sciencetechplan@jtsi.wa.gov.au





Demand for Western Australia's critical minerals has increased in recent years, driven by uptake of electric vehicles (EVs) around the world.

Fully charged

Western Australia is shaping up as a key player in global critical mineral supply chains

Western Australia has a unique opportunity to be a key player in global critical mineral supply chains—due to an abundance of resources and a world-leading resources sector, stable operating environment, and a commitment to upholding the highest environmental, social and governance standards.

Demand for WA's critical minerals has increased in recent years, largely driven by uptake of electric vehicles (EV) across the globe.

In 2022, global EV sales increased by more than 50 per cent to 10.2 million, a growth rate that led to a total of 26 million EVs on the road. This rapid shift toward electrified transport is expected to continue, with the International

Energy Agency's Stated Policy Scenario projecting a total of 226 million EVs on the road by 2030.

Several critical minerals are required to manufacture EVs, and in particular, the batteries that power them. These include lithium, nickel, cobalt and rare earth elements. Batteries now represent a much larger share of global demand for lithium (up from 15% in 2017 to 60% in 2022), cobalt (up from 10% to 30%) and nickel (up from 2% to 10%).

Western Australia is in an enviable position as a significant supplier of all 4 minerals as the largest lithium supplier in the world, fourth largest for cobalt, fifth largest for nickel, and is set to become one of the few jurisdictions outside of China exporting

processed rare earth elements.

The opportunity WA presents for mining and midstream processing of critical minerals has seen more than \$9 billion in investment across the battery and critical minerals sector, not only in the State's traditional strengths of mining, but also in refining capacity. This includes the development of major projects involving international partners such as Albemarle, Tianqi and SQM, in collaboration with local companies.

Ongoing investment in WA's critical minerals sector and global demand has seen the value of WA's battery and critical minerals sales increase four-fold in 2 years, from \$7.1 billion in 2020-21 to \$29.2 billion in 2022-23.



L-R Wyloo CEO Luca Giacobazzi, Then Energy Minister Bill Johnston, Premier Roger Cook and IGO Acting CEO Matt Dusci at the proposed integrated battery material facility location in Kwinana. CREDIT: IGO Limited

WA's midstream critical minerals industry

In less than a decade, Western Australia has successfully established a multi-billion dollar battery and critical minerals processing industry.

This includes construction and commissioning of large-scale battery chemical facilities, as well as major investments in rare earth element refineries.

These projects are not only a first for Australia but are among a select few to be built outside of China.

Processing lithium spodumene concentrate to lithium hydroxide more than doubles the value of the product sold. WA started producing lithium hydroxide in 2022, with production ramping up in 2023.

The Kwinana and Kemerton processing plants (located south of Perth), respectively have capacity of around 25,000 and 50,000 tonnes of lithium hydroxide per year, supplied by

lithium concentrate from WA's Greenbushes and Mt Marion mines.

In 2023, Albemarle announced its plans to invest a further \$2 billion to double the capacity of its Kemerton operations.

Western Australia's third lithium hydroxide plant is under construction at Kwinana as part of the Mt Holland project, due for completion in 2025. The plant will have the capacity to produce 50,000 tonnes per year of lithium hydroxide.

Complementing WA's lithium hydroxide production, Nickel West produces battery grade nickel sulphate to be used as an input for EV batteries.

Further investment in advanced critical mineral processing is in the pipeline, including separate plans by IGO with JV partner Wyloo, and AustVolt to build the first two Australian precursor

cathode active material (PCAM) facilities in Kwinana. PCAM is a highly refined battery chemical used in the manufacturing of lithium ion batteries.

With potential to produce all the other battery chemicals required for lithium-ion batteries, it's not surprising that there is significant interest in progressing proposals to produce battery chemicals further along the value chain.

"Western Australia is already firmly established as a global leader in the supply of critical minerals and rare earths, with lithium hydroxide and other critical minerals processing quickly becoming established in our State," Premier Roger Cook said.

"We're committed to growing the State's participation in global battery and critical mineral supply chains, with a view to further developing our value-adding and manufacturing industries."

Western Australia's batteries by numbers

WA currently accounts for 100% of Australia's lithium, nickel and cobalt production.

Lithium

- » WA is the largest lithium supplier in the world, accounting for around half of global supply in 2022.
- » The value of WA's lithium sales increased from \$8 billion in 2021-22 to \$20.9 billion in 2022-23.
- » WA has started producing lithium hydroxide and will export it in greater volumes in coming years. The Kwinana and Kemerton processing plants (located south of Perth), respectively have capacity of around 25,000 and 50,000 tonnes of lithium hydroxide per year, supplied by lithium concentrate from WA's Greenbushes and Mt Marion mines. Additional trains are being built at these plants that will double their production capacities.
- » WA's third lithium hydroxide plant is under construction at Kwinana as part of the Mt Holland project, due for completion in 2025. The plant will have the capacity to produce 50,000 tonnes a year of lithium hydroxide.

Nickel

- » WA has large nickel reserves, accounting for 18% of the world's nickel reserves in 2022.
- » High grade nickel that is well suited to battery manufacturing is mainly found in nickel sulphide deposits, which are in abundance in WA.
- » Nickel produced in WA is mainly exported to global battery material suppliers. More than 85% of Nickel West's nickel production is sold to battery material suppliers.

Cobalt

- » Cobalt is mainly used in rechargeable battery electrodes, as well as superalloys to make gas turbine blades and aircraft engines. More than 80% of the world's consumption of cobalt is for manufacturing rechargeable batteries.
- » WA has large cobalt reserves, accounting for 12% of the world's cobalt reserves in 2022. In WA, cobalt is a coproduct of nickel extraction.

Rare earth elements

- » WA is the 3rd largest rare earths supplier in the world, accounting for 6% of global supply in 2022.
- » The majority of WA's rare earth production comes from the Mt Weld mine.
- » In 2022, Iluka Resources received a \$1.25 billion loan from Export Finance Australia to develop their integrated rare earth refinery in Eneabba.

Western Australia's battery and critical minerals are mainly exported to China and other Asian markets (Japan, South Korea, Philippines, Taiwan), Europe (Netherlands, Germany, Finland, Belgium, Norway, Spain), the United States and Canada.

New investment in battery and critical minerals processing is expected to result in WA moving further down the value chain and exporting more minerals specifically for battery manufacturing.

The WA Government is committed to the development of Western Australia's battery and critical minerals industries, working across government and with industry towards its vision for the State to host a world-leading, value-adding industry by 2025.

Visit Invest and Trade Western Australia for more information including investment opportunities in Western Australia's battery and critical minerals industry.



Global green steel opportunity

Western Australia could play a key role in decarbonising the world's steelmaking industry. Not only does WA provide 38% of global supply of iron ore, the State has abundant renewable energy resources, which could help provide new technologies in steelmaking.

In recognition of this potential, the Western Australian Government has delivered a report: 'Western Australia's Green Steel Opportunity'.

Led by the Minerals Research Institute of Western Australia (MRIWA), the report lists 5 ways WA iron ore could be used to reduce emissions from steelmaking. The 5 potential options are:

1. Exporting hematite and magnetite concentrate from WA, using renewable energy.
2. Producing and exporting green pellets using renewable hydrogen (green pellets are small pellets made from iron ore using renewable energy).
3. Producing hot briquetted iron (HBI) from green pellets, using renewable hydrogen to produce the pellets and a natural gas-based production process to produce the HBI.

4. Producing HBI from green pellets, using renewable hydrogen to produce both.

5. Producing green steel domestically, with full renewable energy solutions.

These opportunities across the steelmaking value chain could attract investment to WA, helping to diversify the economy and create jobs.

Then Mines and Petroleum; and Energy Minister Bill Johnston said the steel industry was showing increasing interest in WA.

"The transition option of using natural gas has the potential to reduce emissions from iron-making by 65 per cent and is technically feasible today," Mr Johnston added.

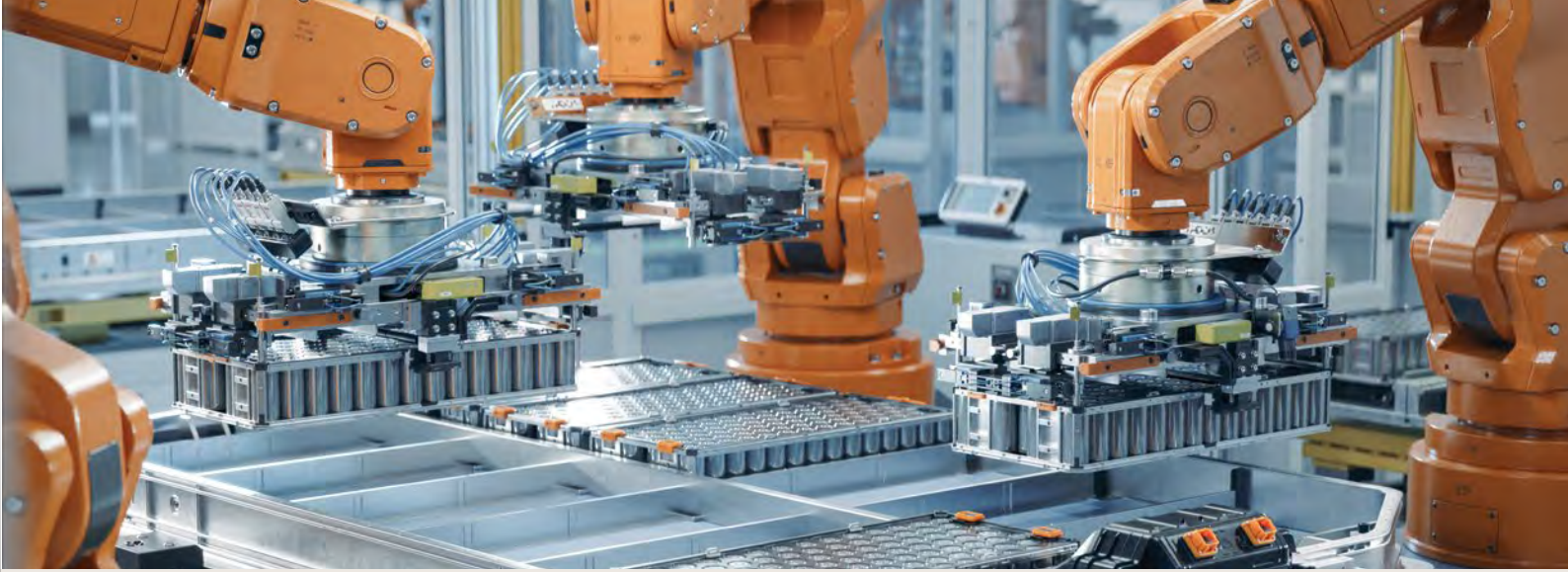
"This information can be used to support investment attraction into Western Australia."

Mr Johnston provided an example from the report, modelled on a small scale 4.8 million tonne per annum vertically integrated magnetite HBI plant in WA's Pilbara region. He said it would generate taxation benefits of almost \$32 billion to Australians during construction and operations through to 2050, and create 1,700 full-time jobs.

The report is available via the MRIWA at:



Gold Fields Granny Smith solar farm. CREDIT: Gold Fields



Western Australia is positioning as a leader in the global supply chain for battery manufacturing.

A global battery materials manufacturing hub

Western Australia has hit another milestone on the path to becoming a global battery materials manufacturing hub, with a new research and development laboratory facility opening in August.

The Western Australian Government has allocated \$3 million through the State's Investment Attraction Fund to local company AustVolt, which is working towards developing and producing battery precursor cathode active material (PCAM).

PCAM is a vital component for manufacturing lithium battery cells, which have a range of uses including in electric vehicles.

The laboratory facility, located in the Perth suburb of Bentley, will allow AustVolt to produce samples of its PCAM product, which can be used in battery manufacturing trials with the electric vehicle industry.

It is an important step towards AustVolt's full-scale manufacturing plant which, when built, will be able to produce 40,000 tonnes of PCAM per year – enough to develop hundreds of thousands of lithium-ion electric vehicle batteries.

AustVolt has been granted an 8.8 hectare land allocation in the Rockingham-Kwinana Strategic Industrial Area for its full-scale plant, with works expected to begin next year. At full capacity, the project is expected to create hundreds of local jobs.

Premier and Minister for State and Industry Development, Jobs and Trade Roger Cook said the opening of the AustVolt PCAM laboratory was another step towards WA becoming a major player in lithium battery manufacturing.

"WA is positioning as a leader in the global supply chain for battery manufacturing and with this

latest investment in AustVolt, we are making sure WA is in the box seat as the world shifts to a low-carbon future," Mr Cook said.

"The Investment Attraction Fund continues to drive a strong, diversified economy that will secure a strong future for all Western Australians."

The Investment Attraction Fund was established to encourage new investment in WA, create local jobs and diversify the WA economy, with more than \$153.4 million allocated to 41 job-creating projects across the State to date.

For more about the Investment Attraction Fund visit:





Setting up the TeraNet Mobile Optical Ground Station at The University of Western Australia. L-R: David Gozzard, Skevos Karapathis and Shane Walsh from ICRAR/UWA.

WA the place for space

“WA’s geography and climate make it a prime location to host ground stations and initiatives like these will see the State become a world leader in commercial laser satellite communications and supporting space missions.”

- Innovation and the Digital Economy; and Science Minister Stephen Dawson

Western Australia is set to establish world-leading technology to support space missions and commercial satellite communications.

With financial assistance from the Western Australian Government and industry support, The University of Western Australia (UWA) has been successful in its bid to advance its cutting-edge space communication technology for commercial application.

As part of its Moon to Mars Demonstrator Mission program, the Australian Space Agency (ASA) will contribute \$4.4 million towards UWA’s \$6.5 million TeraNet Project, which will see a commercial optical communications ground station network established in WA.

Using super-fast lasers to talk to satellites and spacecraft, the initiative is set to revolutionise data transfer to and from Earth. The new technology is 1,000 times faster and more secure than the radio communications currently used and will bolster critical defence capability by delivering secure, jam-proof GPS systems.

As the first of its kind in Australia, the network will have 2 fixed ground stations—located at UWA’s Crawley campus in Perth

and a second in Mingenev, in WA’s Mid West region—and a third mobile station, initially deployed at the European Space Agency’s New Norcia Deep Space Ground Station, located about 130 kilometres north-east of Perth.

The University of Western Australia will collaborate with Thales Australia and Goonhilly Australia to deliver the TeraNet project.

The global satellite communications market size is projected to reach US\$159.6 billion by 2030. UWA’s TeraNet Project positions WA to capture a share of this market, helping diversify the State’s economy and create new highly skilled jobs.

Western Australian company Transparent Earth Geophysics, as part of Advanced Navigation’s Laser measurement Unit for Navigational Aid (LUNA) proposal, was also successful in receiving grant funding under the ASA Moon to Mars Demonstrator Mission program.

The consortium, led by Advanced Navigation, was awarded \$5.3 million to develop lunar navigation and guidance technology and demonstrate its operation on the Moon. Transparent Earth Geophysics will test the technology in a series of terrestrial airborne trials.

Perth headquartered DUG Technology is also a supporting partner on Fleet Space Technologies’ led lunar seismic exploration and research proposal. This project was awarded \$3.9 million under the ASA Moon to Mars Demonstrator Mission program.

Innovation and the Digital Economy; and Science Minister Stephen Dawson said the WA Government was committed to propelling the State’s space sector, which will also lead to advancements in other industries.

“This will help to diversify the WA economy and lead to more highly skilled jobs,” Mr Dawson said.

“I am thrilled the State Government’s co-investment has led to this exciting project being delivered by WA.

“WA’s geography and climate make it a prime location to host ground stations and initiatives like these will see the State become a world-leader in commercial laser satellite communications and supporting space missions.”

Discover more about Western Australia’s space sector at Space



WA tech sector lifts off at Indo-Pacific Space and Earth Conference

Global leaders touched down in Perth to attend the inaugural Indo-Pacific Space and Earth Conference in October.

Around 500 representatives from industry, government and research organisations across sectors, including space, resources, energy, agriculture, defence, advanced manufacturing, robotics and education, attended the 2-day event.

The conference promoted Western Australia's space sector and showcased world-leading space technologies that are used in a variety of terrestrial industries on Earth.

Advanced technologies, like AI, machine learning, quantum, autonomous systems, remote sensing, robotics and next generation communications were on show.

Increased adoption of space technology and space data will help to diversify WA's economy and support decarbonisation and sustainability across the resources, energy and agricultural sectors.

Premier Roger Cook said it was a major opportunity for WA to show off our State as a competitive location for thriving hi-tech industries.

"Space technology provides huge potential to drive economic benefit across the whole economy—

providing insights for farmers, supporting emergency services, enhancing decarbonisation, sustainability, food production and connecting regional communities," Mr Cook said.

Innovation and the Digital Economy; and Science Minister Stephen Dawson said hosting the Indo-Pacific Space and Earth Conference was a real coup for WA.

"It's a chance to show off our growing space industry to the world and build WA's reputation as a centre of innovation," Mr Dawson said.

Department of Jobs, Tourism, Science and Innovation Deputy Director General, Industry, Science and Innovation, Linda Dawson was a speaker at the conference and said the unique event had a strong international focus.

"This was a great opportunity to bring together space and terrestrial companies, discussing the downstream benefits of space applications on Earth in sectors like mining and agriculture," Ms Dawson said.

To find out more about Western Australia's space industries, visit Invest and Trade WA: Space Industries





Earth observation imagery captured by LatConnect 60/Surrey Satellite Technology Limited/Airbus's Vision S1-4 satellite.

Investing in crucial Earth observation capability

The Western Australian Government has invested \$800,000 to advance the State's Earth observation (EO) capabilities through the collection, processing, analysis and application of high-resolution satellite data.

LatConnect 60 is a WA technology company that generates vital insights from EO data and is the only privately owned company in Australia with capacity ownership and direct access to an EO satellite.

After successfully applying for and being granted funding from the WA Government's Investment Attraction Fund, LatConnect 60 will capture EO data and create a digital platform (EONet60) to provide broad access to EO data in WA and ensure that local industries and community share in the benefits.

Through EONet60, the WA Government will receive 900,000 square kilometres of high-resolution optical data captured from the SSTL S1-4 EO satellite by LatConnect 60.

Use of EO data can aid in the remote monitoring of farms to improve crop yield, provide insights into environmental outcomes over time and enhance emergency monitoring and response.

The Investment Attraction Fund (IAF) was established to encourage new investment in WA, create local jobs and diversify the State's economy.

Innovation and the Digital Economy; and Science Minister, Stephen Dawson said Earth observation data was a fantastic investment in WA's future and had been made possible through the WA Government's Investment Attraction Fund.

"Having access to 900,000km² worth of high-resolution Earth observation imagery will prove invaluable and allow the WA Government to have insights which weren't available to us before," Mr Dawson said.

"EONet60 will position WA as a national leader in end-to-end Earth observation services, and ensure that the State directly benefits from the growth of the sector and increasing demand for EO data."

Supporting early-stage ventures

Western Australia now has 3 early-stage venture capital funds to boost funding for local startups and scale-ups, through the Western Australian Venture Support (WAVES) 2022-2025 pilot program.

Early-stage funding helps innovators turn their ideas into commercial reality, supporting local businesses and diversifying WA's economy.

The new venture capital funds will each receive \$100,000 in matched annual funding from the Western Australian Government for 3 years, through WAVES, to assist with operational expenditure.

The successful applicants, Purpose Ventures Fund, FundWA and Quokka Capital, have committed to investing most of their funding in WA startups.

Innovation and the Digital Economy Minister Stephen Dawson said the WA Government was looking forward to working with the successful applicants to grow the venture capital available to WA startups and scale-ups.

The new capital venture funds, which are headed by some of the State's most notable venture capital leaders, are already raising funds, and have announced their first deals.

Purpose Ventures Fund has provided funding to PlanCare, a WA-based startup that blends human interaction with technology to provide a healthcare-at-home platform and service where older adults can self-manage the supports they need. It has also funded Paperly, which provides an online platform to help schools reduce their critical administration load.

FundWA made its first investment in WA-based Hola Health, a 24-hour on-demand telehealth provider.

The WA Government is aiming to drive venture capital investment to ensure a valuable, viable and sustainable local innovation sector into the future. WAVES was set up following the release of the Western Australian Innovation Strategy, which highlighted a gap in access to capital for early-stage innovators.

The WAVES program is aimed at encouraging the formation of new early-stage venture funds, and is expected to attract up to \$75 million of new investment into WA-based innovative companies over three to five years. WAVES aligns with the WA Government's Diversify WA economic development framework, which highlights science, innovation and technology as a cross-sector activity improving value and productivity across the State's economy.



Minister for Innovation and the Digital Economy, Stephen Dawson (centre), at the launch of the Purpose Ventures Fund.



WA's 2023 Premier's Science Award winners and WA Science Hall of Fame inductee with Science Minister Stephen Dawson. IMAGE: Matt Jelonek

Outstanding science

A world-renowned botanist has been honoured as Western Australia's Scientist of the Year at this year's Premier's Science Awards ceremony.

Hackett Professor Kadambot Siddique AM CitWA FTSE, The University of Western Australia's Institute of Agriculture Director, has dedicated his 35-year career to research, training, technology exchange and industry development. His research and novel agricultural techniques have an important impact on WA cereal and grain legume production in our increasingly arid dryland environments and in addressing world food security.

As part of the ceremony, Emeritus Professor Donna Cross OAM was inducted into the Western Australian Science Hall of Fame. Across a 40-year career, her research has been instrumental in shaping all major school bullying prevention programs in Australia, as well as many school wellbeing policies and curricula.

Each award recipient will share in the total prize pool of \$100,000,

including \$50,000 for the Scientist of the Year, chosen from finalists from all fields of science.

The Premier's Science Awards recognises and celebrates outstanding scientific research across multiple fields including natural, medical, applied and technological science, engineering and mathematics. Since 2002, more than 110 awards have been given to the State's best and brightest researchers, students and communicators.

Congratulating the winners, Premier Roger Cook said science was fundamental to our health and quality of life, our environment and our current and future economy.

"A huge congratulations to all the winners at the Premier's Science Awards, including Scientist of the Year Professor Kadambot Siddique for his world class agricultural research," he said.

"Each year the WA Science Hall of Fame sees a new addition and I am delighted to see Professor Donna Cross recognised for her impactful outcomes for children.

"I know each award recipient will go on to be amazing ambassadors for STEM in Western Australia and no doubt encourage many to follow in their footsteps."

The Premier's Science Awards are proudly sponsored by gold sponsors, Shell and Woodside; silver sponsor, DUG; and bronze sponsors, CSIRO and the Pawsey Supercomputing Research Centre.

The awards are also supported by sector sponsor Telethon Kids Institute; community partners Scitech and the Western Australian Museum; media partner The West Australian; and Western Australia's 5 universities, Curtin University, Edith Cowan University, Murdoch University, The University of Notre Dame and The University of Western Australia.

For more information, visit Premier's Science Awards



Congratulations to our 2023 Premier's Science Award winners, WA Scientist of the Year, and WA Science Hall of Fame inductee:

- 2023 Scientist of the Year Hackett Professor Kadambot Siddique AM CitWA FTSE, Institute of Agriculture Director, The University of Western Australia (UWA)
- Mid-Career Scientist of the Year (Joint Winners) Professor Britta Regli-von Ungern-Sternberg, Telethon Kids Institute (TKI) and UWA; and Professor Hongqi Sun, UWA
- Early Career Scientist of the Year Dr David Gozzard, UWA
- Student Scientist of the Year Denby Evans, TKI and Curtin University
- Aboriginal STEM Student of the Year Rebecca Famlonga, Murdoch University and TKI
- Science Engagement Initiative of the Year MissionsConnect, Curtin University
- WA Science Hall of Fame inductee Emeritus Professor Donna Cross OAM.

Boosting life sciences

Western Australia's rapidly growing life sciences sector will receive a boost, with its peak body receiving funding of almost \$500,000 to shape growth and amplify a voice for the industry.

Growing this sector will help to create high-value jobs in WA and diversify the economy. To help achieve this, the WA Government is providing Life Sciences WA Inc (LSWA) with \$245,000 in sponsorship each year for the next 2 years.

The life science industry encompasses research, development and commercialisation activities across biotechnology, pharmaceuticals, medical technology, digital health, agritech, and aquatech.

As the State's life science industry association, LSWA aims to attract investment and talent to WA's life sciences businesses, and to shape the direction and growth of the sector in WA. LSWA is a collaboration of stakeholders from backgrounds

including research institutes, universities and industry.

The sponsorship is part of the WA Government's \$8.65 million commitment to deliver on actions outlined in the State's Health and Medical Life Sciences Industry Strategy.

"Life sciences covers a wide range of research and development from health to agriculture, so this is an exciting opportunity to help foster success across these varied fields," Science Minister Stephen Dawson said.

Health and medical applications

Western Australia is fast becoming a global hub for health and medical life sciences. The State can provide a highly-skilled, collaborative health and medical life sciences workforce, outstanding research and clinical trials infrastructure and highly-regarded medical research institutes.

There are opportunities to build on WA's established expertise and facilities, and the WA Government is providing support to achieve this.

For example, 7 small and medium-sized enterprises in WA have received grants of \$20,000 from the WA

Government's Local Capability Fund. The funding is supporting them to gain internationally recognised third-party quality standards from the International Organization for Standardization (ISO).

The standards include ISO 13485:2016, which is specific to the management of medical devices. Accreditation is often required to supply products to Australian and international markets.

Recipients include:

9bit concept Pty Ltd – offers product strategy consulting and software development services to customers in

finance, engineering, lifestyle and the medical industry.

Customa Pty Ltd – is commercialising a patient matched medical device aimed at improving the quality of life of patients living with an ostomy system.

Inspiring Holdings Pty Ltd – is developing a novel spacer device, to improve the way in which inhaled drugs are delivered to the lungs of patients with respiratory diseases.

Resonance Health Analysis Services Pty Ltd – specialises in developing and delivering non-invasive medical

Continued next page...

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imaging analysis devices and services, focusing on chronic liver disease.

St Francis Pharmaceuticals Pty Ltd – has a history of supporting research and innovation in WA, including product development and manufacture of scientifically proven healthcare, therapeutic and nutraceutical products.

TriPhasic Cardiac Pump Pty Ltd – is developing a novel positive displacement pump for use in cardiac surgery to improve patient outcomes.

VeinTech Pty Ltd – is aiming to reduce the failure rate associated with cannulation with VeinWise, a handheld unit designed to assist with visualising veins to cannulate.

With our unique set of strengths and capabilities, WA is a smart, secure place to do business. To find out more, please read the prospectus 'Western Australia: A Centre for Health and Medical Solutions'.

Other WA Government grants to the life sciences sector in 2023:

- Market Access Grant Scheme funding of up to \$5,000 for 17 companies, to attend industry events.
- Innovation Booster Grants of up to \$40,000 for 6 start-ups and small businesses to turn ideas into commercial reality, through Health and Medical Life Sciences funding.
- Funding of \$20 million through the Investment Attraction Fund to support 6 businesses to undertake health and medical life science manufacturing.

Sound, light and fire: Celebrating Aboriginal culture at EverNow

"This exciting new homegrown event will draw visitors to experience the transcendent beauty of Western Australia. Grounded on Noongar Boodjar, this event is a fitting celebration of the wonders of Kambarang and presents intimate and lasting moments that reconnect visitors to country."

- Tourism Minister Rita Saffoti

Boorna Waanginy: The Trees Speak at Kings Park and Botanical Garden. IMAGE: Toni Wilkinson



Kings Park and Botanic Garden in Perth transformed with a display of light and sound for the EverNow festival.
IMAGE: Andrew Beveridge

A new homegrown event celebrating Western Australia's rich culture and breathtaking natural attractions has put the State on the map nationally and internationally.

EverNow, a multi-sensory festival, draws inspiration from WA's rich biodiversity and creativity and our Aboriginal peoples' enduring connection to the land.

EverNow is sponsored by the Western Australian Government through Tourism Western Australia and produced by Perth Festival's out-of-season Special Projects arm, guided by Perth Festival's Noongar Advisory Circle.

Following the first event in October, the WA Government announced EverNow: a Festival during Kambarang will run for an initial 2 years, with the intention for the event to become an annual staple on WA's major events calendar, and drive significant tourism in the long-term.

October falls within the Noongar season of Kambarang, which is at the height of WA's wildflower season, when an abundance of colours and flowers explode across the land.

EverNow was held across several

iconic locations to celebrate WA's Indigenous culture and heritage, with mass audiences welcomed to unique, free events at Perth's Supreme Court Gardens, Government House Gardens and Kings Park and Botanic Garden.

Kings Park became home to the bold reimagining of Boorna Waanginy: The Trees Speak, which attracted 300,000 people when it opened Perth Festival in 2017 and 2019. Boorna Waanginy: The Trees Speak transformed Kings Park with a display of light, sound and projections - telling the stories of Noongar culture and the beauty and biodiversity of Australia's South West.

The Supreme Court Gardens hosted Song Circle, a live performance and celebration of Noongar song and dance set in a future-focused immersive wonderland.

Government House Gardens also opened to the public as it was transformed into Fire Gardens, a dreamscape of leaping flames, shadow and wonder.

"This brand new, homegrown event will put Western Australia on the map, not only nationally, but internationally, as EverNow grows year on year," Premier Roger Cook said.

"The festival program has been carefully crafted to engage the senses and celebrate our State's rich Aboriginal culture and breathtaking nature, while attracting visitors from far and wide.

"EverNow will help to strengthen Western Australia's reputation as a leading events destination in the South East Asia region."

"We want to make sure there is a reason to visit Western Australia every month and every season, and that means building a strong calendar of events that offer something for everyone," Minister for Tourism Rita Saffioti said.

"EverNow will add a new dimension to our major events calendar, showcasing the unique attributes of our State and celebrating our rich Indigenous culture and heritage.

"Having major events that are unique to WA helps create a key selling point for visitors to come to our state, explore beyond the city limits and experience all of our tourism attractions."

Find out more at:



Western Australian honey producer Australian Rare has launched in the UK in Harrod's luxury honey section.

Buzzing with opportunity

As one of the world's top honey producers, Western Australia is currently a hive of activity growing our local multi-million dollar bee industry to meet increasing global demand.

Globally, honey is big business. In 2019, worldwide annual honey production was 1.8 million tonnes, worth US\$5.8 billion. Of this, 628,000 tonnes crossed borders with a value of US\$2 billion.

Global expenditure on honey has grown at 7% per annum over the past 20 years, driving up demand for imported honey and growing trade value through solid price increases.

Already a large and successful honey producing region, WA honey exports were valued at \$5 million in 2022-23. WA is home to an estimated 41,000 beehives and accounts for about 10 to 12% of total Australian honey production.

As one of the world's top 50 honey producers, WA typically produces between 3,000 and 4,500 tonnes of honey every year.

Western Australian honey exports are mainly destined for Japan, Mauritius, China and Singapore, with emerging growth in the Middle East and Europe.

WA's world-class honey

Of significant advantage for Western Australia, is that our State is free from many of the world's worst bee pests and diseases, providing a unique production and marketing advantage for WA's honey producers.

This valuable status is protected by the Western Australian and Australian Governments through strict biosecurity laws and surveillance programs that work to prevent the intrusion of exotic pests and diseases at ports, airports, border crossings and major freight centres.

The WA Government also delivers a biosecurity engagement program to local beekeepers to maintain hive hygiene and biosecurity measures.

In July this year, the WA Government announced a new strategic plan to grow and forge new export markets and deliver WA honey, bee and pollination businesses a clear path for a strong future.



Agriculture and Food Minister Jackie Jarvis attended July's WA Beekeeping Community Conference and launch of the Beekeeping Industry Strategic Plan. Developed with co-funding from the WA Government, the plan provides the State's bee industry with direction on how to capitalise on emerging opportunities.

As well as world-wide demand for everyday honey, there is also growing awareness of, and demand for, premium and super-premium monofloral honey, particularly those with unique functional properties.

Western Australian honey varieties have some of the highest antibacterial and antimicrobial properties ever found in honey, with WA Jarrah and Marri honey having some of the world's highest antioxidant levels. These varieties are sourced from pristine native hardwood forests found only in the State's southwest, with each honey having a unique taste and texture profile.

Western Australia's Jarrah honey, with its significant antibacterial properties and dark, caramel-like flavour, is generating increasing interest globally, particularly from Asian customers.

Honey has numerous well-recognised medicinal properties, such as improving metabolic function, maintaining blood pressure levels, reducing the risk of diabetes, and healing burn wounds. Honey is also widely used in many applications besides food and beverages, including cosmetics and pharmaceuticals.

With the functional benefits of premium honey products becoming more widely understood and accepted, further applications for honey and bee products are expected. Value-added products leveraging off WA's premium functional honey create opportunities for investment in the State's bee industry.

"It is positive to see Western Australia's bee industry launch their new strategic plan to optimise the potential for bee and honey production, pollination, processing and manufacturing," Ms Jarvis said.

"Government is working hand-in-hand with this diverse industry across production, biosecurity and trade as it matures and develops for the future."

"I'm excited to watch the industry grow as it makes the most of WA's unique biosecurity status and environmental assets."



WA honey launches in Harrods

In an Australian first, Western Australia's very own Australian Rare has launched its exclusive honey collection within the luxury honey section at Harrods in the United Kingdom.

Sourced from one of the world's most biodiverse regions, the South West corner of WA, the quality is truly exceptional. The honey boasts qualities including being 100% raw, chemical free, ethically sourced and sommelier selected.

Agent General for WA in the United Kingdom/Europe John Langoulant AO attended the launch of Australian Rare at Harrods in August and heard more from founders Natalie Bussau and Rick Bains on their unique products, with the WA produce showcased in the iconic UK department store an outstanding achievement.

Australian Rare is reaping the benefits of improved trading conditions, including eliminated tariffs, with the recent entry into force of the Australia-UK Free Trade Agreement.



ABOVE: Western Australia's multi-billion dollar bee industry is a hive of activity. IMAGE: Christine Spycher

RIGHT: Western Australia is one of the world's top honey producers. IMAGE: Pemberton Honey/Craig Kinder



To learn more about trade and investment opportunities in Western Australia, visit www.investandtrade.wa.gov.au

Dream State

Western Australia continues to be a national hub of blockbuster sport, with Perth playing host to multiple major international sporting events.

Perth scores for FIFA fans!

The eyes of the world were on Western Australia mid-year when a global audience of up to 2 billion people, plus thousands of out-of-state visitors and local fans, watched Perth host 5 matches of the spectacular FIFA Women's World Cup Australia & New Zealand 2023™.

As one of 9 host cities in Australia and Aotearoa New Zealand—joint host nations for the prestigious event—WA welcomed more than 85,000 spectators across the 5 Perth-based matches, which were secured with the support of the Western Australian Government, through Tourism WA.

Millions of global viewers tuned in to see some of the world's best footballers from Canada, Colombia, Denmark, Haiti, Jamaica, Morocco, Panama, Republic of Ireland and the People's Republic of China battle it out at Perth Rectangular Stadium.

A month-long Perth FIFA Fan Festival hub in the heart of the city at Forrest Place provided a free dedicated fan zone and allowed visitors to enjoy live broadcasts of the World Cup matches, live music and performances, football activations, and local food and beverages.

A viewing site at HBF Park was open for football fans to witness the Matildas' semi-final match on the big screen. Nearly 41,000 visitors attended the Forrest Place FIFA Fan Festival and HBF Park viewing sites.

Preceding the event, the official FIFA Women's World Cup Trophy™ went on tour to 4 tourism destinations across WA, starting in Perth and followed by Busselton, Kununurra and Broome.

A total of \$70.5 million in State and Commonwealth Government funding was invested in Dorrien Gardens, Kingsway Reserve, Perth

Rectangular Stadium and the State Football Centre for upgrades to support the tournament, with 3 of the 5 Perth matches at the stadium sold out completely.

The FIFA Women's World Cup 2023™ was the highest-attended women's sporting event in history, and the Matildas' semi-final against England was the most viewed television program in Australian history, with 11.5 million spectators tuning in at the peak of the match.

"WA is the centre of the sports universe right now and this benefits our tourism and hospitality sectors, as well as the local WA sporting communities," Premier Roger Cook said.

Discover more about WA's blockbuster events calendar here:



The Perth FIFA Fan Festival Hub - Perth hosted 5 matches of the spectacular FIFA Women's World Cup Australia & New Zealand 2023™.



The FIFA Women's World Cup 2023™—proudly supported by the WA Government, through Tourism WA—was a runaway success story for WA, Australia and New Zealand, shining a global spotlight on Perth as a host city. Image: Republic of Ireland vs Canada in Perth.

State of Origin to return to WA

Western Australia is on track to become the fastest growing events destination in the South East Asia region, after securing 2 more NRL State of Origin games in 2025 and 2028.

State of Origin is one of Australia's biggest sporting events and will deliver thousands of visitors to WA while injecting millions into the local economy.

A significant number of people are likely to travel to WA for the NRL spectacular. The 2019 and 2022 State of Origin games saw a combined total of nearly 20,000 out-of-state visitors coming to WA for the matches, while nearly 3 million tuned in to watch the Blues versus Maroons in 2022.

Hosting such major events in WA is part of the WA Government and Tourism WA's vision to

make Perth and WA the fastest growing events destination in the South East Asia region.

"Being able to host two more State of Origin clashes is another great win for tourism and sport within WA, plus a valuable opportunity to showcase our State across Australia," Tourism Minister Rita Saffioti said.

"State of Origin is one of the country's greatest sporting rivalries and bringing it back to WA is a big win for local and visiting NRL fans and those who want to experience the electric atmosphere.

"The WA Government continues to bring major sporting and tourism events to our shores with the award-winning Optus Stadium once again taking centre stage."

Western Australia – It's Like No Other magazine is produced by the Department of Jobs, Tourism, Science and Innovation (JTSI) on behalf of the Western Australian Government. Showcasing the many business, tourism, investment and education opportunities available in Western Australia, the magazine is available in print and online. Register for digital editions at Invest and Trade Western Australia.

www.investandtrade.wa.gov.au



Western Australia Project Spotlight

The WA Project Spotlight provides a snapshot of major projects under development or planned in Western Australia. Information is drawn from public statements made by the Western Australian Government and project proponents.

Energy

Mount Holland – Covalent Lithium Pty Ltd

\$2.4 billion to \$2.6 billion
– Under construction
1,000 construction jobs
350 operational jobs

Covalent Lithium – a joint venture between subsidiaries of Wesfarmers and Chilean company SQM – has entered into a long term lease for a 40 hectare site in the Kwinana Strategic Industrial Area, where it is constructing a lithium refinery. The project comprises a mine and concentrator at Mt Holland, and a refinery at Kwinana.

The Mt Holland Lithium Project will produce spodumene concentrate from the mine and concentrator, which will be transported to the refinery and processed to produce around 50,000 tonnes a year of battery grade lithium hydroxide. The project is due for completion in 2025.

Kemerton Lithium Hydroxide Processing Plant – Albemarle Corporation (Expansion)

\$2 billion – Under construction
900 construction jobs
200 operational jobs

Construction of the largest lithium hydroxide processing plant outside of China started in 2019 at the Kemerton Strategic Industrial Area, 17 kilometres north of Bunbury.

The first 2 lithium processing trains were completed in early 2022, with first battery-grade lithium hydroxide produced in May 2022. Albemarle is expanding the plant to 4 trains, which will double its processing capacity to 100,000 tonnes a year, an output that will support the production of 2.4 million electric vehicles a year. Kemerton processes high quality spodumene from the Greenbushes mine.

Lithium Hydroxide Plant – Tianqi Lithium Energy Australia

\$1 billion – Under construction
900 construction jobs
100 operational jobs

Tianqi Lithium Kwinana (TLK), 25 kilometres south of Perth, was the first lithium refinery in Australia. The refinery was the first in Australia to produce battery grade lithium in May 2022, Paving the way for a local and sustainable lithium chemical industry. One tonne of battery grade lithium can power approximately 22 electric vehicles. Each production train has the capacity to produce 24,000 tonnes of battery grade lithium per year, enough to power over 520,000 electric vehicles every year for the life of the refinery. A second train is being built and there are plans in the pipeline for trains 3 and 4. All of these trains will process spodumene mined and concentrated in Western Australia.

Pluto Train 2 and Scarborough Gas Field – Woodside Petroleum Ltd and Global Infrastructure Partners

\$16 billion – Under construction
3,200 construction jobs
600 operational jobs

Pluto is currently a single train liquefied natural gas (LNG) project located within the Burrup Strategic Industrial Area in Western Australia's Pilbara region. The Pluto project exported its first LNG cargo in May 2012 and currently processes gas from 2 offshore fields – Pluto and Xena. Woodside announced a final investment decision for Pluto Train 2 and the Scarborough Gas Field in November 2021.

The construction of a second gas processing train is within the existing footprint of the Pluto LNG plant, which will support the export of around 8 million tonnes of LNG per annum. The first cargo is targeted for 2026. The project will also deliver around 1,400 petajoules of gas to the Western Australian market, through a new domestic gas production facility to be built within the existing Pluto site.

Yuri Renewable Hydrogen to Ammonia – Yara, ENGIE and Mitsui

\$87 million – Under construction

ENGIE and Mitsui are developing one of the world's first industrial scale renewable hydrogen projects to provide feedstock into Yara Pilbara Fertilisers' (Yara) existing ammonia operations near Karratha.

Scheduled for completion in late 2024, the first phase of the Yuri project will produce up

to 640 tonnes of renewable hydrogen a year, as a zero carbon feedstock for Yara's ammonia production facility. This project is receiving funding from ARENA and the Western Australian Renewable Hydrogen Fund as part of the Western Australian Government's Renewable Hydrogen Strategy.

The project will include a 10 megawatt (MW) electrolyser powered by 18 MW of solar PV and supported by an 8 MW battery energy storage system, generating renewable hydrogen for use in Yara's ammonia facility.

Kwinana Energy Hub (H2Kwinana) – bp Australia

\$1 billion – Proposed

bp is proposing to transform the site of its Kwinana oil refinery, which it closed in March 2021, to an integrated energy hub that produces and distributes hydrogen and renewable fuels. These fuels will help to decarbonise the energy intensive mining, minerals processing and heavy transport industries in Western Australia and across the Asia Pacific.

In April 2022, bp received Commonwealth Government funding of up to \$70 million for its H2Kwinana green hydrogen project. In 2023, bp began leveraging its site infrastructure and repurposing some redundant processing units to advance its bio-refinery project.

bp completed its concept development phase study in 2023, which identified 2 potential base case scenarios, with the production of the energy hub being either 44 tonnes per day or 143 tonnes per day of green hydrogen. The potential growth target of 429 tonnes per day was selected as the third and final case. With

the study complete, bp is closer to a final investment decision for the H2Kwinana project.

H2Perth – Woodside Energy Ltd

\$1 billion - Proposed
2,000 construction jobs
200 operational jobs

The proposed H2Perth project is a large scale hydrogen and ammonia production facility that would be constructed on approximately 130 hectares of vacant industrial land to be leased from the Western Australian Government in the Kwinana Strategic Industrial Area and Rockingham Industry Zone. The project is planned as a phased development.

Electrolysis technologies and natural gas reforming would both be used to produce hydrogen, with 100% of carbon emissions abated or offset. Initial capacity of the electrolysis component is at 250 megawatts while the initial phase of the steam methane reformer will consume 40 terajoules per day of natural gas.

At full capacity, the project would be able to target hydrogen production of up to 1,500 tonnes per day, with the potential for electrolyser capacity to scale up to 3 gigawatts, depending on customer demand and renewable energy growth.

Mining and Mining Equipment, Technology and Services (METS)

Greenbushes Lithium Mine – Talison Lithium (Expansion)

\$1.4 billion – Under

construction

400 operational jobs

Talison Lithium Greenbushes Lithium mine and processing operation is the world's highest grade hard rock deposit of the lithium mineral spodumene and has a 1.34 million tonnes per annum production capacity of lithium concentrates.

Construction of mine infrastructure associated with the expansion project commenced in 2022. The mine and production facilities expansion will enable Talison Lithium to supply the expanding downstream processing industry established in Western Australia by Tianqi Lithium Corporation/IGO Limited JV and Albemarle Corporation.

Nickel Sulphate Plant – BHP Nickel West

80 direct operational jobs

The nickel sulphate plant is co-located at BHP's nickel refinery south of Perth in Kwinana and commenced operations in October 2021. The plant is one of the world's largest of its kind and a first for Australia, with an initial production capacity of 100,000 tonnes of nickel sulphate a year, intended for the electric vehicle market. BHP is planning to double the plant's production capacity in coming years. The nickel sulphate plant adds to BHP Nickel West's suite of refined end products – Nickel Briquette, Nickel Powder and now Nickel Sulphate.

BHP Nickel West is a core partner of The Future Battery Industries Cooperative Research Centre (FBICRC) and is supporting its flagship project – the Cathode Precursor Production Pilot Plant – another first for Australia that will help establish the

technology and capabilities for Australia to design and build cathode precursor manufacturing facilities on a commercial and industrial scale. BHP Nickel West provided equipment for the precursor facility, repurposed from its nickel sulphate pilot plant.

Integrated Battery Material Facility – IGO Limited and Wyloo Metals

\$600 million to \$1 billion – Proposed

1,200 construction jobs

250 operational jobs

IGO Limited, in conjunction with Wyloo Metals is exploring a project to produce cathode precursor for the lithium-ion battery industry. The proposed project involves combining a downstream nickel refinery with a plant producing a nickel-rich cathode active material (PCAM).

IGO and Wyloo are currently advancing discussions with a global chemical manufacturer to partner in the project that will enable the integration of the IGO's nickel refining technology (the IGO Process™) with PCAM manufacturing expertise to produce nickel rich cathode material for lithium-ion batteries.

The Western Australian Government recently allocated approximately 30 hectares in the Kwinana-Rockingham Strategic Industrial Area for IGO and Wyloo's facility. IGO and Wyloo are currently completing a feasibility study on the facility, which is scheduled to conclude in the second half of 2024.

Western Range – Rio Tinto and China Baowu Steel Group

Approximately \$3 billion

– Under construction

1,600 construction jobs

800 ongoing operational roles, which are expected to be filled by existing workers transitioning from other sites in the Paraburdoo mining hub

Rio Tinto and China Baowu Steel Group have agreed to form a joint venture to develop a new iron ore mine in the Pilbara. The project will include construction of a primary crusher and an 18 kilometre conveyor system linking it to the existing Paraburdoo processing plant. Subject to approvals and construction, first production of iron ore is planned for 2025, ramping up to an annual production capacity of approximately 25 million tonnes.

Rio Tinto and China Baowu Steel Group will continue to work together to improve environmental performance across the steel-making value chain. Rio Tinto has worked closely with the Traditional Owners on whose country Western Range is situated, the Yinhawangka People, to jointly develop a Social, Cultural and Heritage Management Plan for the Western Range project. The co designed management plan is intended to ensure the protection of significant social and cultural heritage values at Western Range.

Onslow Iron – Mineral Resources Limited

\$3 billion – Under construction

2,100 construction jobs

1,200 operational jobs

Onslow Iron is being developed by MinRes, in a joint venture partnership with Red Hill Iron Joint Venture (RHIJV) partners Baowu, AMCI and POSCO. The Onslow Iron project is one of the largest iron ore

projects under development in Australia. Located in the west Pilbara region, it will unlock billions of tonnes of stranded iron ore deposits.

The project will have the shortest pit to port distance in the industry, with iron ore transported 150 kilometres from the mine site to the port. In a world first, the product will be transported by jumbo autonomous road trains via a dedicated fenced and sealed haulage road. Once the product reaches the Port of Ashburton, it will be shipped via fully enclosed transhippers to Capesize vessels anchored 40 kilometres off the coast.

Project construction began in August 2022 and iron ore shipments are expected to start in June 2024. The project is forecast to ship around 35 million tonnes of iron ore per year, with an expected mine life of 30 plus years.

Kalgoorlie Rare Earths Processing Facility – Lynas Rare Earths Ltd

\$730 million – Under construction

450 construction jobs

Up to 128 operational jobs

Lynas Rare Earths is constructing a Rare Earths Processing Facility in Kalgoorlie (Kalgoorlie Facility). The Kalgoorlie Facility will process rare earth concentrate from the Mt Weld mine, one of the highest grade rare earth deposits in the world, located near Laverton. Concentrate produced at Mt Weld contains highly sought after rare earths required in the production of permanent magnet motors and used in the manufacture of a number of products including electric vehicles

and wind turbines. Mixed rare earth carbonate produced at the Kalgoorlie Facility will be exported for further processing at Lynas' advanced materials plant in Malaysia and, once operational, to Lynas' U.S. Rare Earths Processing Facility project in Texas, United States. A contribution by the U.S. Government of approximately US\$258 million is currently allocated to the Heavy Rare Earths component of the U.S. Facility, which is targeted to be operational in the 2025-26 financial year.

In June 2023, Lynas was awarded a \$20 million grant under the Australian Government's Modern Manufacturing Initiative – Manufacturing Integration Stream in partnership with the Australian Nuclear Science and Technology Organisation. The grant is contributing to the development of a new capability to process appetite-rich ores from the Mt Weld ore bore through a newly developed process containing 2 circuits for the removal of apatite.

Lynas has completed major construction activities for the Kalgoorlie Facility and full plant commissioning has commenced.

As part of its 2025 growth plan, Lynas has made an additional investment of approximately \$500 million to increase the capacity of its Mt Weld mine and concentration plant to meet accelerating demand for its rare earth materials.

Yangibana Project – Hastings Technology Metals

\$470 million – Stage 1 (under development)
400 construction jobs
200 operational jobs

The Yangibana project, which comprises operations at both the Yangibana site and the Ashburton North Strategic Industrial Area (ANSIA) near Onslow, will expand Western Australia's capability in downstream processing of rare earths minerals.

Hastings Technology Metals, is on track to become Australia's second rare earth's producer, following Lynas' Kalgoorlie Rare Earths Processing Facility Project. The Yangibana Project is being developed in two stages, with stage 1 (Yangibana mine and beneficiation plant) set to produce up to 37,000 tonnes per annum of rare earth concentrate in early 2025, and stage 2 (hydrometallurgical plant) to have a production capacity of up to 15,000 tonnes per annum of mixed rare earth carbonate (MREC), containing 3,400 tonnes of neodymium and praseodymium.

Coolgardie Cathode Active Material Refinery Hub – Pure Battery Technologies

\$500 million+ – Proposed
350 construction jobs
325 operational jobs

Pure Battery Technologies is seeking to establish a \$500 million+ precursor cathode active material (p-CAM) manufacturing facility called the WA p-CAM Hub (the Project) in the Kalgoorlie region of Western Australia.

The Refinery Hub will provide easier access for the green processing of locally mined nickel products. The project will initially produce 50,000 tonnes of precursor cathode active material a year, expandable to 100,000 tonnes of precursor cathode active material a year within 5 years.

Pure Battery Technologies are undertaking a feasibility study, feedstock characterisation, product evaluation and optimising infrastructure access.

Cathode Precursor Material Manufacturing Plant – Austvolt

\$300 – \$400 million – Proposed
150 construction jobs
72 operational jobs

Austvolt has been granted a 9 hectare land allocation for the cathode precursor material manufacturing plant in the Rockingham-Kwinana Strategic Industrial Area by the Western Australian Government. Construction works are expected to begin in 2024.

The plant will have the capacity to produce 40,000 tonnes per annum of pCAM.

In August 2023, Austvolt opened its pCAM pilot plant in Bentley, which will allow Austvolt to produce samples for validation by offtake partners.

Eneabba Fully Integrated Rare Earths Processing Facility – Iluka Resources

\$1 billion – Committed
300 construction jobs
270 operational jobs

Iluka Resources has commenced groundworks for another Australian first, following its final investment decision in April 2022 to develop a fully integrated rare earths refinery at Eneabba. First production is scheduled for 2025.

The \$1 billion refinery will be fed by Iluka's unique rare earths stockpile at Eneabba and other feedstock from within the company's portfolio. It has also been designed specifically with the capacity

and capability to process feed supplied from potential third party sources. The refinery will produce separated light and heavy rare earth oxides.

Space Industries

SKA-Low telescope – SKA Observatory

The SKA Observatory (SKAO) is building the world's largest and most capable radio telescopes. The SKA telescopes will revolutionise our understanding of the Universe and drive technological developments worldwide.

Western Australia is hosting the SKAO's low-frequency (SKA-Low) telescope at Inyarrimanha Ilgari Bundara, the CSIRO Murchison Radio-astronomy Observatory on Wajarri Yamaji Country, 800 kilometres north of Perth.

SKAO is collaborating with CSIRO, Australia's national science agency, to support the construction and operation of the SKA-Low telescope. SKA-Low will consist of 131,072 antennas spread across 74 kilometres end-to-end.

The Wajarri Yamaji, as the Traditional Owners and native title holders of the land where the telescope is being built, have played a critical role in enabling Australia to co-host the SKA-Low telescope. An Indigenous Land Use Agreement was signed by the Wajarri, the Australian Government and CSIRO to enable construction and ensure the Wajarri Yamaji will benefit through community development, infrastructure, training and education.

Deep Space Antenna (New Norcia) – European

Space Agency (ESA)

\$70 million – Under construction

In June 2022, European Space Agency (ESA) representatives met with representatives from the Western Australian and Australian Governments to celebrate the active construction of a new deep space antenna in New Norcia. This will be the second 35 metre diameter deep space antenna at the site (50 per cent of ESA's deep space antennas globally). This fourth antenna is being constructed in order to meet the rising demand for communication bandwidth as ESA launches a new generation of deep space missions. The new antenna is due to be operational in 2025.

International Education and Tourism, Events and Creative Industries

Perth City Deal

\$1.7 billion – Committed 10,000 jobs

The Perth City Deal is a partnership between the Australian Government, Western Australian Government and City of Perth, which will unlock economic benefits and opportunities for the Perth CBD.

The Perth City Deal will provide funding to enhance the presence of universities in the Perth CBD. This includes the relocation of Edith Cowan University's School of Business and Law, School of Arts and Humanities, some disciplines of the School of Science, and the Western Australian Academy of Performing Arts into the Perth CBD, and Curtin University

building a CBD knowledge and innovation precinct. Under this plan, more than 25,000 students and staff will be brought into the Perth CBD.

Other elements of the Perth City Deal are as follows.

Funding for the Perth Greater CBD Transport Plan to upgrade cycling and walking infrastructure, bus stop accessibility upgrades and enhance Roe Street. The centrepiece of this plan is the new Swan River Causeway Bridge.

Investment in cultural infrastructure, including the Perth Cultural Centre Precinct, the Perth Concert Hall, development of the WACA cricket ground, upgrades to the East Perth Power Station and funding to undertake a pre feasibility study for an Aboriginal Cultural Centre to be located in Perth on the traditional lands of the Whadjuk Noongar people.

Funding to provide facilities, safety improvements and services for homeless people in the city.

The creation of an Australian Space Automation, AI and Robotics Control Complex (SpAARC).

Funding towards a WA Indigenous Business and Employment Hub in partnership with the Wirrpanda Foundation.

Perth Surf Park – Aventuur

\$100 million – Proposed 260 construction jobs 65 operational jobs

Aventuur is leading the development of the Perth Surf Park on a 5.8 hectare site in Cockburn, adjacent to the Kwinana Freeway and the

Cockburn Central train station. The park is set to feature a next generation Wavegarden 'Cove' surfing lagoon, which will be the largest in the Southern Hemisphere. The park will also include amenities such as accommodation, a health and wellness centre, a coworking lounge, functions and event spaces, a high performance surf academy, a beach club and restaurants. Early engagement with cultural advisers has identified opportunities for public artwork of local indigenous artists, and the ability to reflect the stories and culture of the local Beeliar Whadjuk Noongar people through the park's landscape design.

Aventuur has entered into a long term lease with the Western Australian Government for the site in Cockburn. The project obtained planning approval for the development in early 2023. Subject to all requirements being met, Aventuur is aiming to commence construction in late 2023 and open to the public in late 2025.

Primary Industries

Karratha Urea Plant – Perdaman Industries

\$6 billion – Under construction
2,500 construction jobs
200 operational jobs

The Perdaman Group is building a urea plant in the Burrup Strategic Industrial Area with the capacity to produce 2.1 million tonnes a year of urea. The plant will be Australia's first world scale urea plant.

The Perdaman Group has signed a 20 year gas sale and purchase agreement with Woodside for an offtake of around 125 terajoules a day, which would provide a

supply of gas for conversion to urea. Perdaman has also signed a 20 year offtake agreement with Incitec Fertilisers Pty Ltd, to supply up to 2.3 million tonnes a year of granular urea fertiliser from the proposed urea plant. The plant is scheduled to start production in 2027.

Kwinana Renewable Fuels – bp Australia

\$250 million – Proposed

The Kwinana Renewable Fuels project is part of the global multi-billion dollar investment by bp to produce around 50 thousand barrels of sustainable aviation fuel and renewable diesel per day by 2030. The project will see existing refining infrastructure at Kwinana repurposed to produce bio-fuel products that have the ability to support the decarbonisation of aviation and heavy industry over time, subject to regulatory and State government approvals.

The bio-refinery is planned to produce sustainable aviation fuel and bio-diesel from bio-feedstock by 2026. It will also integrate with the site's existing import terminal operations and planned green hydrogen production as part of the H2Kwinana project, which is currently being assessed in a feasibility study.

Defence Industries

Australian Marine Complex – New Dry Dock – Australian Government

\$4.3 billion – Committed
500 construction jobs
2,000 operational jobs

The Australian Marine Complex (AMC) is Western Australia's world-class shipbuilding

and sustainment industrial precinct, supporting the manufacturing, fabrication, assembly and maintenance needs of the marine, defence, energy and resource industries. Located 23 kilometres south of the city, the AMC is one of only 2 naval shipbuilding locations in Australia.

The new dry dock will expand the capacity of the AMC to build and sustain larger naval vessels for the Australian Navy and larger commercial vessels (over 20,000 tonnes), which will enhance the capacity and capability of the State's advanced manufacturing sector. Construction is planned to start in 2023 or 2024, with operations starting in 2028, and ramping up to full capacity by 2030.

Health and Medical Life Sciences

OncoRes Medical and Adarsh Australia

\$9 million – Committed

OncoRes Medical, a Western Australian medical device company, is collaborating with Adarsh Australia, an Australian manufacturer and fabricator, to develop high value, WA based manufacturing facilities to support development and commercialisation of medical products.

This project will support critical manufacturing and commercialisation activities of advanced cancer imaging tools for surgeons, to be carried out in Western Australia. This will enable OncoRes Medical to transition from technology proof-of-concept through to TGA registration, Australian commercialisation, and a U.S. pivotal clinical trial for FDA approval.

Western Australia's infrastructure

- Strategic Industrial Areas
- ⚓ Port Authority ports
- Main roads



Western Australia offers the world a unique set of strengths and capabilities.

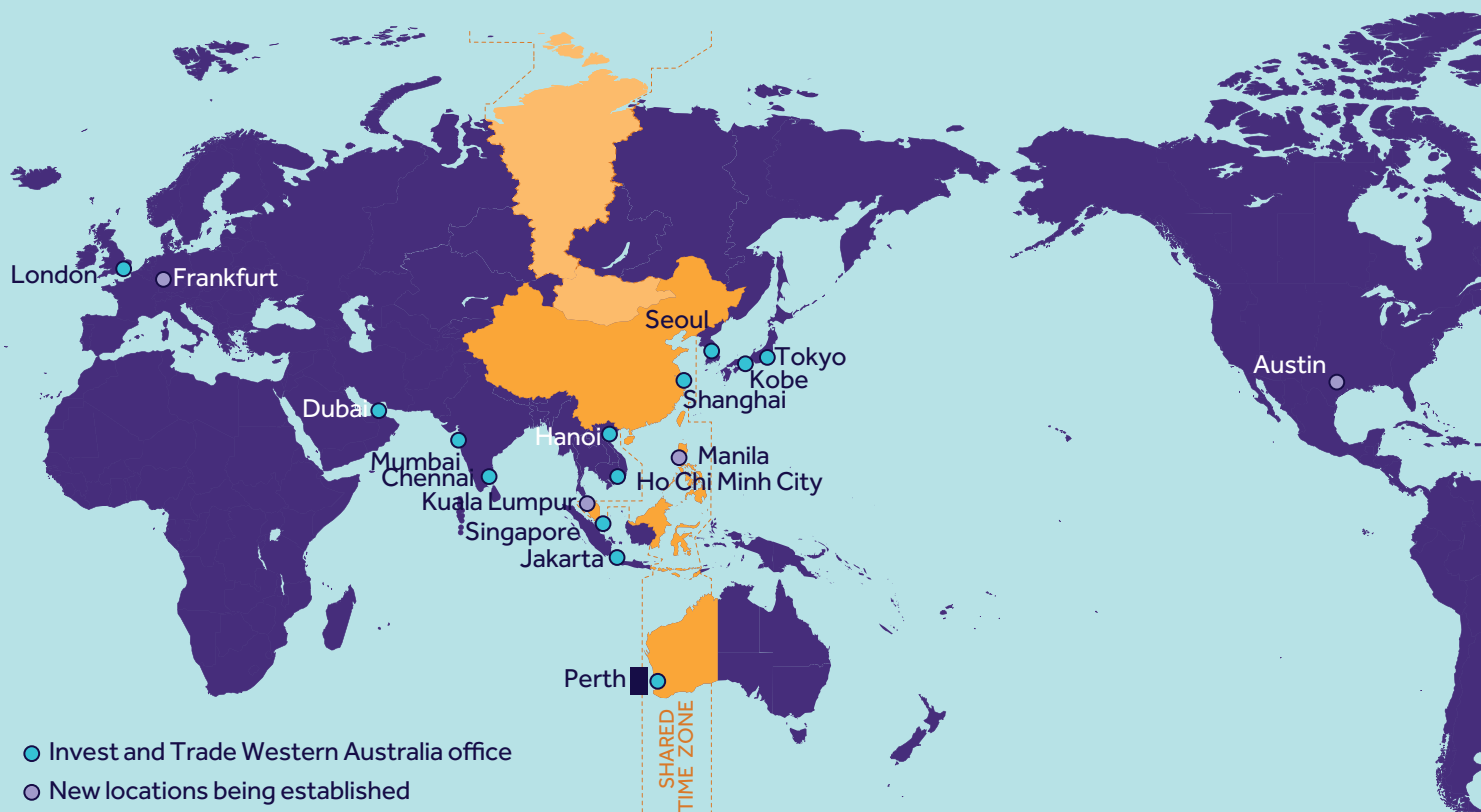
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