



GOVERNMENT OF
WESTERN AUSTRALIA

WESTERN AUSTRALIA **IT'S LIKE NO OTHER.**



Winter 2022

Western Australia It's Like No Other

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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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On the cover

Boab Tree, near Derby

Photograph by

Tourism Western Australia

Statement of Accessibility

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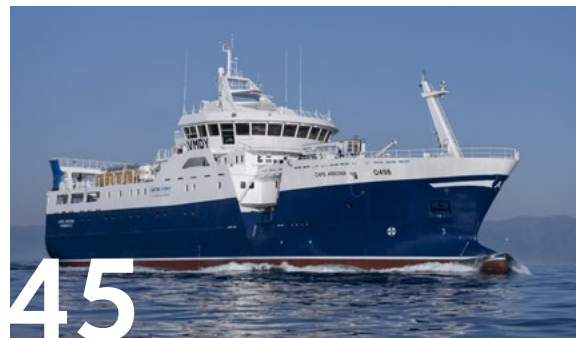
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Space exploration's new frontier



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When the Western Australian Government launched Diversify WA in 2019, our vision was clear.

The framework laid down a bold, economic development blueprint to grow and diversify the State economy – to create jobs and secure our future.

While the global landscape has shifted in the past two years, the pandemic has presented Western Australia with unique opportunities, while still underpinned by the strong framework outlined in Diversify WA.

Our State has continued to operate as normal and this continuity has established WA as a safe and reliable investment destination.

In July 2020, the Western Australian Government launched the WA Recovery Plan. The WA Recovery Plan reinforced the core principles of Diversify WA – improving business and consumer confidence, while creating employment opportunities and promoting growth.

Global supply chain disruption served to reinforce WA's commitment to the economic diversification strategy. Potential shortages of essential items such as medical supplies further highlighted the immediate need to create a diverse economy, capable of weathering global storms on a pandemic scale.

The foundations to create a more diverse economy have been laid down with the Diversify WA strategy and the pandemic provided greater urgency to drive this strategy forward.

WA is a growth State. We continue to strengthen our position as a global trade and investment destination, offering huge diversity across a wide range of industries.

Underpinned by the consistent performance of our mining and resources sector, new industries are beginning to flourish across our State.

Batteries, liquefied natural gas (LNG), health and medical science, technology and defence systems are among the many diverse sectors intrinsically linked to our economy and integral to our future.

Growth is constant and we want to strengthen ties with existing partners, at home and overseas - as well as forge new relationships with partners across emerging sectors.

WA is a safe, reliable place to do business and carry out research. Our partners know this.

The new Agent General and Investment and Trade Commissioners will strengthen existing relationships and seek new opportunities overseas.

It's an exciting time for WA. We must seize this opportunity to secure our State's economic future for generations to come.

I hope you enjoy the launch edition of our magazine.

Thank you.

Hon Roger Cook MLA

Deputy Premier; Minister for State Development, Jobs and Trade; Tourism; Commerce; Science



Western Australia is safe, stable and strong.

Our wealth of natural beauty and resources is so vast, there's always something new to be discovered.

The State's unique geography has forged an innovative mindset that has sparked countless, brilliant ideas and world-leading industries.

Sharing a time zone with more than half of the world's population makes it easy to invest in, buy from, travel to, work in and study in our great State.

Western Australia - it's like no other!

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WESTERN AUSTRALIA
IT'S LIKE NO OTHER.

Reconnecting with the world

A \$195 million Reconnect WA package is helping Western Australia safely re-engage with the world.

The comprehensive package includes a \$75m aviation fund towards re-establishing international and interstate flight routes disrupted by the pandemic, as well as targeting new routes including Germany, India, China and Vietnam. Funding for intrastate aviation is also included, to ensure tourists travelling to WA can experience our incredible regions.

A targeted \$55m marketing strategy promotes WA as safe and full of opportunity for tourists, skilled workers and international students. The 'Western Australia - It's like no other' campaign promotes the safe, stable and strong lifestyle found in WA. It also highlights WA's natural beauty and resources to encourage visitors to discover our unique attractions and opportunities.

Western Australia is utilising its successful record in safely managing the pandemic and a globally high vaccination rate to attract people safely, with 2022 campaigns tailored to specifically address skills shortages: attracting workers, such as

health staff and secondary teachers, skilled workers for key industries, and backpackers for hospitality and agriculture.

It comes on top of existing destination marketing and activities already being delivered by Tourism WA. The Reconnect WA package also includes \$15m to target the lucrative business events market to attract international conferences to Perth - an essential initiative to support CBD hotel occupancy and the hospitality industry.

Additional support boosts WA's overseas presence, through our overseas office network and the Invest and Trade WA investment attraction initiative.

"Western Australia is one of the safest places in the world, and full of opportunity for everyone," Premier and Treasurer Mark McGowan said.

"Our Reconnect WA package aims to leverage what we have achieved in managing the pandemic by offering a safe and vibrant place to visit, work or invest in.

"While the State is known for its wealth of natural beauty and resources, there's so much more to know, experience and discover about Western Australia - it really is like no other."

Diversifying Western Australia

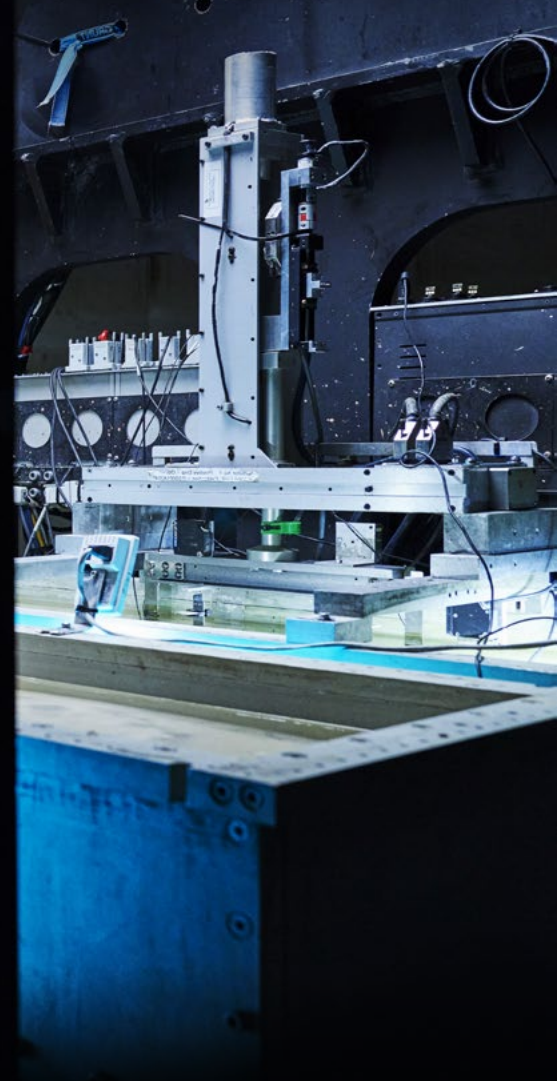
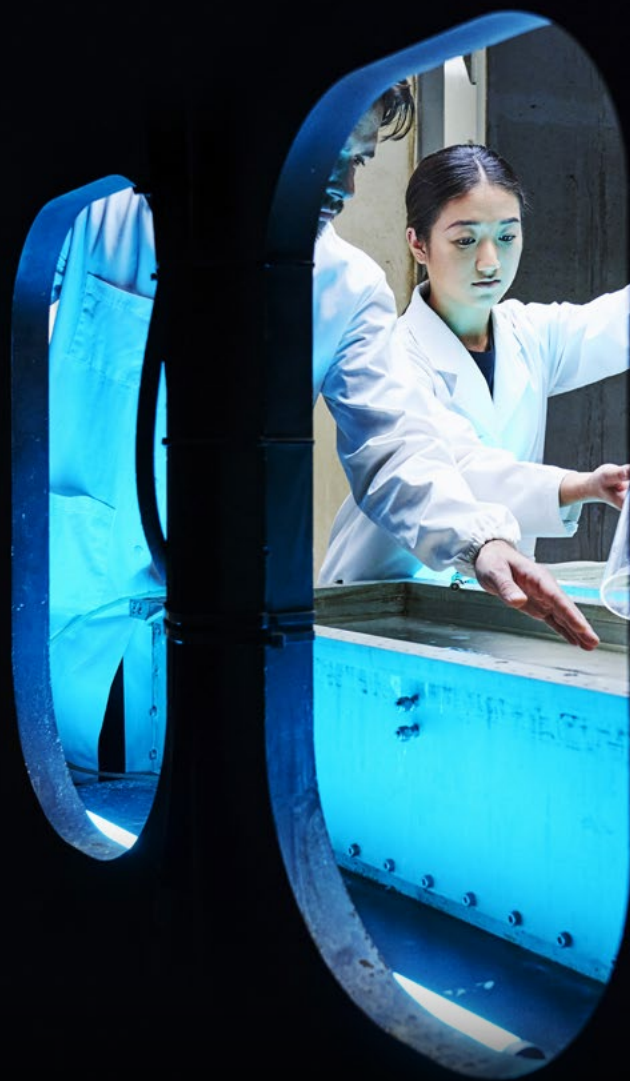
Western Australia's (WA) economy is leading the nation and a massive \$1.3 billion investment is set to further diversify and expand WA's industries, positioning the State for a strong future.

The 2022-23 State Budget supports WA's existing industries to grow; assists industries to restart; and invests in expanding WA's export markets and priority sectors – building on the \$195m Reconnect WA package and WA's Safe Transition Plan.

Premier and Treasurer Mark McGowan said the key focus was on diversifying WA's economy across a wide range of industries.

"We are ensuring that diversification plays to our strengths, but also reduces any over-reliance on one particular sector to ensure our economy remains strong into the future and generates long-term growth.

"My Government continues to broaden Western Australia's economic base by adding value to existing industries and supporting new industries."



Study

Begin, return or extend your student journey in Perth. Western Australia's world leading institutions are ready and waiting for you here.

It's like no other.

With quality programs, a great lifestyle and a wealth of employment opportunities, we're excited to welcome you to our community.

[Learn more](#)

STUDY
Perth

WESTERN AUSTRALIA
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Western Australia: Education destination

Western Australia (WA) is a leading international education destination, offering world-class learning facilities, a student-centred approach and great career opportunities. It is also a beautiful location with superb weather, a safe and clean environment, and an idyllic lifestyle that is hard to beat.

With cutting-edge technologies, innovation and expertise, WA offers exciting career opportunities. The State is a leader in many established and emerging industries - from mining and remote operations, robotics and space, engineering, renewable energy, cyber security and defence capabilities, to health and medical life sciences, tourism and agriculture. WA is recognised internationally across multiple sectors.

A network of more than 125 high-quality education providers including schools, vocational education and

training (VET), pathway providers, English language institutions, higher education and universities, make WA a study destination like no other.

In early 2020, WA international student commencements were growing faster than in any other Australian State or territory. In 2019, WA welcomed almost 50,000 students from 147 countries who were living and learning in Perth, with many making the choice to stay in WA during the pandemic.

International education is a key contributor to the WA economy. In 2019, around \$2.1 billion in export income was generated for the State and the sector supported around 12,000 full-time jobs, with one full-time job created in WA for every five international students.

Throughout the pandemic, the WA Government continued to engage with WA's international education sector and is committed to enhancing WA's reputation as a world-class international education destination – and one of the safest places in the world to visit.

A massive \$41.2 million boost to support WA's international education sector and help diversify the WA economy was announced by the Premier as part of the 2022-23 State Budget.

International education initiatives to be developed throughout 2022-23 include new scholarship programs and a \$1 million familiarisation program which will likely be targeted to offshore recruitment agents.



Priority areas for the sector, supported by the multimillion dollar investment, include building a pipeline of future onshore international education students, re-engagement of the international education agents' network and support for the sector's reconnection efforts.

The WA Government has introduced two new scholarship programs; the Premier's University Scholarships and the Premier's WA Certificate of Education Bursary. Worth a total of \$2 million over four years, the Premier's University Scholarships will provide funding for 10 one-year scholarships valued at \$50,000 each per annum to attract high-achieving international students to WA's 5 universities. Development of criteria for these programs will be undertaken by the Department of Jobs, Tourism, Science and Innovation in partnership with the universities.

A further \$4 million over four years will be provided to implement the Premier's



WA Certificate of Education Bursary, which will provide support of \$20,000 per annum to 50 offshore WACE graduates from WA's international partner schools. Development of this program is also being progressed for launch in 2022-23.

Overseas education agents who enrol international students in a WA institution will be supported through a \$10 million incentive package that will also aim to increase awareness of WA's international education sector through the agent network. Further details on how this package will rollout will be provided in 2022-23.

Other initiatives to be funded include:

- Continuation of the ELICOS Bursary and the International Student Accommodation Subsidy into Semester 2, 2022 to attract international students to WA.
- \$400,000 for the creation of a school support program to connect school students to a community and encourage international school students to continue their student journey with a WA education provider.
- \$3 million for the WA Technical and Vocational Education and Training Consortium to support the development of offshore opportunities and student pipeline creation.
- \$4.5 million to StudyPerth, which ensures international students are welcomed and supported while studying in WA.

- \$1.5 million to extend the global international education marketing campaign.
- Funding for onshore and offshore staffing to implement the new initiatives.

Welcoming students

Through the \$195 million Reconnect WA Plan and \$77 million Safe Transition Industry Support Package, a number of programs have been launched in 2022 to support international education providers and international students. These included an Industry Support Payment for international education providers; a Student Quarantine Support Program and a University Services for International Students Support Program; an Accommodation Subsidy; and English Language Intensive Courses for Overseas Students (ELICOS) Bursary. The above measures will complement the work already undertaken through the development and delivery of these initiatives.

Premier Mark McGowan said WA was pleased and proud to welcome the talent and diversity that students bring to the WA community.

"In a city of two million people, the impact of international students is substantial and they enrich our society in many different ways," he said.

"The decision to study abroad is a big one for students and their families, and we are working hard to ensure Perth becomes a destination of choice for many more young people seeking a world-class education."

A place to thrive

Western Australia's geographical isolation has encouraged innovation, adaptability and an open perspective, which has helped the State thrive.

Perth is home to world-class centres of excellence and innovation hubs, and WA has a proud history of cutting-edge research, innovation and technological advances. WA's world-leading capacity is recognised across multiple sectors, including resources, technology, research, science, advanced manufacturing, defence, clean energy, primary industries, medtech and agritech.

WA's leading science and innovation sectors, coupled with our strong manufacturing sector, established supply chains, abundant resources and agrifood production create plenty of possibilities for future jobs and opportunities.

WA is well positioned to provide international students with the knowledge, skills, support and connections they require to enter the increasingly-competitive global job market. WA's response to the COVID-19 pandemic has seen the stabilisation of economic conditions and the achievement of employment levels that have exceeded those reached pre-pandemic.

Perth has a range of renowned education providers and the city itself has been ranked in global surveys as among the world's most liveable cities, and one of the friendliest to visit.

Globally connected

Western Australia's cultural diversity, proven track record of export success and location near Asia's largest economies provides the State with unparalleled international connectivity. WA enjoys trusted relationships with communities around the world.



The new state-of-the-art Edith Cowan University (ECU) City Campus is set to attract 9,200 students and staff by 2025. CREDIT: Edith Cowan University

Strategically positioned to do business with our Asian neighbours, WA shares a proud history of partnering with other economies in the region, and has a global network of overseas investment and trade offices representing the State internationally. Perth is a short, five hour flight from the major economic and trade hubs of Singapore, Kuala Lumpur and Jakarta, and shares a time zone with 60 per cent of the world's population.

Beginning, returning or extending your student journey in WA is easy – visit [likenoother.wa.gov.au](https://www.wa.gov.au) to discover more.

StudyPerth's International Student Ambassadors

Funded by the WA Government, StudyPerth is Western Australia's peak international education body. The organisation seeks to raise the profile of WA as a world-class study destination and provides support and unique life experiences to international students while studying in Perth.

StudyPerth's International Student Ambassadors share their experience of living and studying in Perth and some of the benefits of international education in WA.

"During my search for a university and the perfect city, I stumbled upon Perth, a city in perfect harmony with its surroundings. My journey over the years has been adventurous, the first being my arrival in Perth a few hours before I commenced my semester back in July 2019.

"I chose to study civil engineering. I aspire to lead my civil consultancy firm after my graduation, which will focus on delivering a sustainable and environmentally friendly service to clients. Apart from that, I want to provide opportunities for the disadvantaged and underprivileged people in society."

Abu Hanif Faisal is from Chittagong, Bangladesh and is studying a Bachelor's Degree in Civil Engineering at WA's Edith Cowan University.

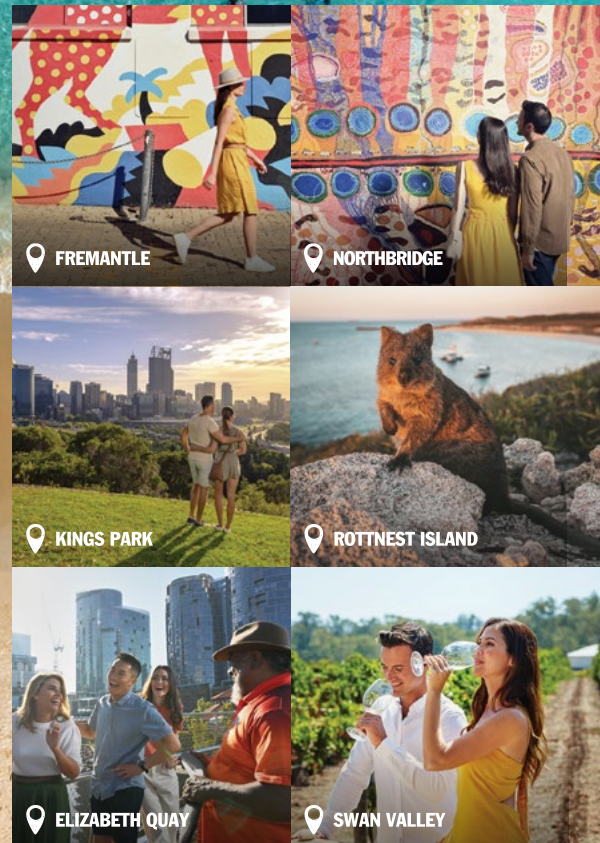
PERTH IS NATURALLY

ADVENTUROUS

With weather as welcoming as its friendly locals, Australia's sunniest capital city of Perth offers adventures for everyone. Framed by the Swan River and literally nestled in nature, cosmopolitan Perth boasts 19 pristine beaches, Indian Ocean sunsets and one of the world's largest inner-city parks.

Perth offers a range of effortless day trips, all within an hour of the city. Explore Perth's quirky port city of Fremantle or visit the Swan Valley, Australia's second oldest wine region. Swim with playful wild dolphins in Rockingham or cruise to Rottneest Island to meet plenty of quokkas, the world's happiest animal.

Add a thriving metropolis of curated cultural experiences, luxury hotels, shopping precincts, rooftop bars and waterfront dining at Elizabeth Quay on the beautiful Swan River, and it's easy to see why Perth is such a relaxed and naturally adventurous capital city.




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ADVENTURE
AWAITS
WESTERN AUSTRALIA





The WA-y forward for the State's Tourism Industry

The State Government's tourism strategy has been gathering momentum very quickly this year.

We have been spreading the message around Australia and the world that Western Australia is once again open for business and open for tourism.

The McGowan Government's 2022-23 State Budget includes the largest ever funding allocation to WA tourism to take the industry to the next level.

It will deliver more opportunities for the State to secure blockbuster events, more investment in taking our message to international markets, and more money to develop new tourism products.

Securing large-scale, blockbuster sporting events is a key part of the McGowan Government's

tourism strategy, as they are a major drawcard for visitation to WA, attracting competitors and spectators from all over the world and injecting millions of dollars into the economy.

We have been successful in our bids to host the NRL State of Origin, Wallabies v England Rugby Union test match, and four English Premier League teams playing two unmissable matches. It's going to be an epic winter of sport in WA, and there are more exciting event announcements to come.

This huge funding boost will also be used to position WA as a globally desirable holiday destination and grow leisure visitation to the State, through targeted marketing efforts.

These campaigns will be implemented across the east

coast of Australia and the 11 priority international markets.

In support of these strategic aims, Tourism WA will also soon launch a new brand to grow awareness of WA's unique offerings and to compete with other destinations around the world.

Our goal is to deliver a tourism strategy that backs investment in local businesses and helps to generate jobs in a thriving visitor economy.

Western Australia is a truly remarkable holiday destination and we want the world to know about it, but most importantly, to come and experience WA for themselves.

Hon Roger Cook MLA
Minister for Tourism



See you in Rome

Direct flights to Italy among Western Australia's plans to reconnect with the world

International tourists have been handed a direct route to Western Australia (WA) on new flights from Perth to Rome as part of the State's Reconnect WA Plan.

Supported by the Western Australian Government and beginning in June, Qantas will operate the new seasonal route with three flights per week to the Italian capital.

This new route provides a direct link to one of Western Australia's key international markets and offers seamless connection across continental Europe.

The new direct Boeing 787 Dreamliner service will be the only non-stop link between Australia and continental Europe, with the inaugural flight to depart from Perth to Rome on Saturday June 25 this year. Two days later, the first Rome-Perth flight will touch down at Perth Airport.

Onwards from Rome, connecting flights will be

available to 16 European destinations, including Amsterdam, Athens, Barcelona, Frankfurt, Madrid and Paris, as well as a further 15 destinations in Italy such as Milan and Venice.

"Direct flights connecting Perth with Rome is a game-changer for WA's economy as Western Australia safely re-engages with the world," Premier Mark McGowan said.

"These new flights, together with our Reconnect WA Plan, will help diversify our economy and help support new jobs in our tourism and hospitality sector. Many Western Australians have family links with Italy and it will now be easier to safely reunite after so long apart.

"The new route will also open up our tourism industry to overseas visitors, who will see Perth and WA as an appealing and safe destination with unique attractions that can't

be experienced anywhere else. The new direct route will also help to drive interstate visitation to Perth, with travellers from the eastern states who wish to stopover in the city on their way to, or from Rome.

"The WA Government will work closely with Qantas to make the most of the many benefits the new Perth to Rome direct flights bring to our economy and our community."

Fares start from \$1,620 return, with the service operating until October 6, 2022.

In 2019, an estimated 11,100 visitors from Italy came to WA, injecting an estimated \$29 million into the economy. The new direct Perth to Rome flights will complement the reintroduction of the highly popular direct Perth-London flights that resumed on May 23 – re-engaging one of Australia's key tourism markets.



A plan to develop Aboriginal Tourism

Western Australia is well progressed in its plan to become Australia's premier destination for Aboriginal tourism.

Through the implementation of the Jina: Western Australian Aboriginal Tourism Action Plan (the Jina Plan), this strategy is guiding the delivery of a range of exciting initiatives.

'Jina' is recognised across multiple Aboriginal languages, meaning: 'discoveries by foot - discovery of our future, our pathways and our potential.'

The Jina Plan is a whole-of-government approach to grow economic, employment and social outcomes for Aboriginal people and communities through tourism.

Backed by the \$20 million Aboriginal Tourism Fund announced in 2021, the four year plan supports a range of initiatives including:

- Developing Aboriginal tourism.
- Encouraging more Aboriginal people to work in tourism.
- Development of administration and booking systems to support Aboriginal tourism businesses.
- Up to three new Camping with Custodians campgrounds.
- Increase the number and quality of tourism experiences on the Dampier Peninsula.

The Jina Plan was developed by Tourism Western Australia and other government agencies, with close engagement with the Western Australian Indigenous Tourism Operators Council.

"Aboriginal cultural tourism must be the beating heart of WA's tourism industry. It is the foundation from which everything else should be built upon," Tourism Minister Roger Cook said.

Research has shown there is incredible demand for Aboriginal experiences, and implementation of the Jina Plan will allow visitors to access more of this while travelling around our beautiful State.

Regional airfares to reconnect Western Australia's north-west

Exploring Western Australia's (WA) regions is becoming more affordable through a discount airfares program.

Tourism businesses in the Exmouth, Broome and Kununurra regions will benefit from the extension of Tourism WA's Affordable Airfare program throughout 2022.

Nearly \$10 million in visitor spend is expected to be injected into the regions through the program, which is delivered in partnership with Virgin Australia and Qantas.

More than 40,000 discount fares are available, with

Qantas offering more than 17,000 discounted airfares between Perth and Exmouth between November 2021 and December 2022. The tickets are priced from \$159 (low season) and \$169 (high season) on flights from Friday to Monday each week.

Virgin Australia offered more than 12,000 discounted one-way fares available from \$249 between March and September 2022. There will also be more than 11,000 discounted Virgin Australia airfares between Perth and Broome on offer, priced from \$199 one-way on flights between March and October 2022.

Tourism WA Managing Director Carolyn Turnbull said the extension of the program was an important example of how Tourism WA was working to support regional businesses.

"The Affordable Airfare Program can help turn holiday dreams into reality, by putting the cost of airfares to some of our State's most popular holiday destinations within the reach of more people," she said.

"Discount airfares are a great incentive for visitors to book ahead and wander out yonder to experience these amazing locations."

Meet the team attracting new investment and trade opportunities for Western Australia

As the world emerges from the global pandemic, Western Australia (WA) is ready to seize the opportunities created by a shifting business landscape across new markets.

Our new Agent General and Investment and Trade Commissioners are key to the Western Australian Government's international strategy to attract investment and increase trade for WA. A hub and spoke model is helping establish our presence in new markets, making WA more competitive, especially in emerging industries such as renewable energy.

In August 2021, John Langoulant AO was appointed Agent General for Western Australia in the United Kingdom and Europe, following a range of executive and non-executive roles across the public, private and not-for-profit sectors.

Premier Mark McGowan welcomed our new Agent General: "John Langoulant AO is an outstanding choice as the new Agent General for WA in the United Kingdom and Europe region.

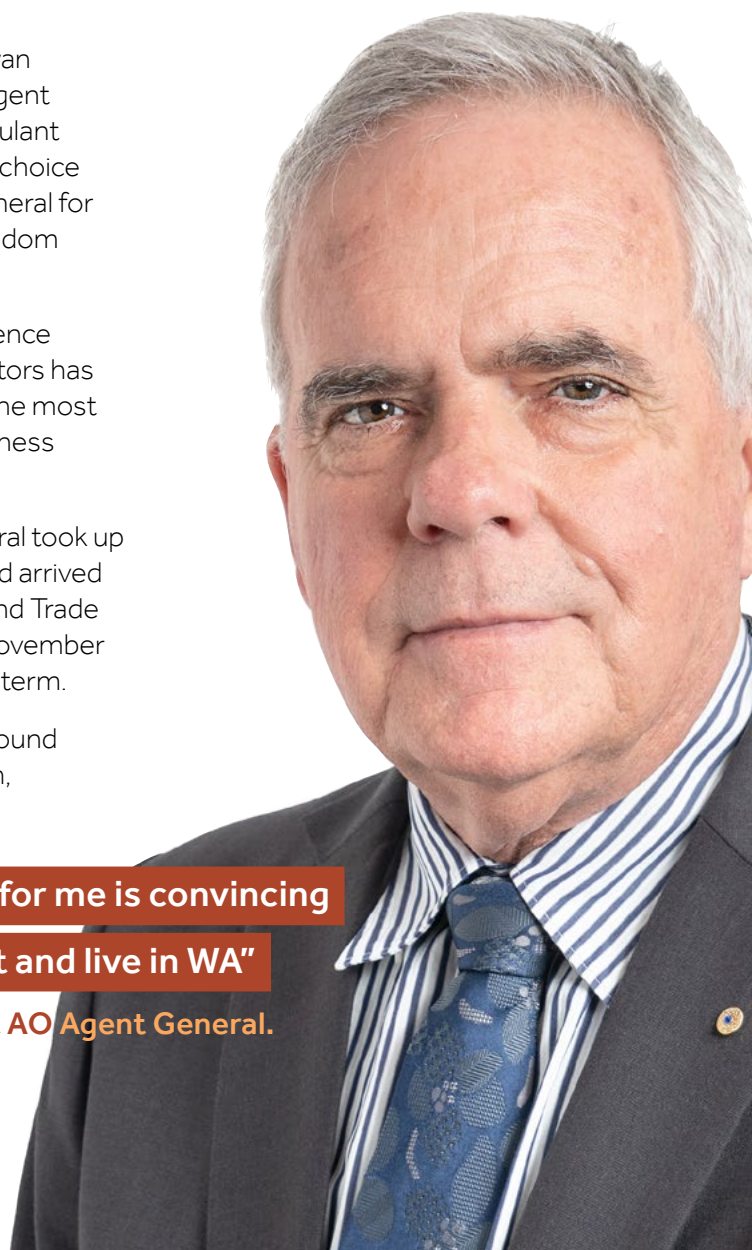
"His extensive experience across a range of sectors has led him to be one of the most highly respected business leaders in the State."

Our new Agent General took up his role in October and arrived at WA's Investment and Trade Office in London in November to begin a three-year term.

"The real activity is around investment attraction, but it's also about

"Part of the job for me is convincing people to invest and live in WA"

– John Langoulant AO Agent General.



market diversification," Mr Langoulant said.

"It's a diverse remit. What new markets can we find for new industries, both here in WA and offshore, to develop the State?"

"The UK has been the source of significant investment throughout our State's history and has been so important to Western Australia and Australia.

"How do we develop what we already have in WA, bringing partners out of the UK and Europe? That is my focus."

Mr Langoulant aims to increase WA's attraction as an investment destination and optimise trade opportunities for WA businesses.

"WA has such a strong resource base that provides foundations for sustained economic growth - not only in resources, but in increasing diversification across our economy," he said.

"In the past 100 years, economic growth has defined our economy. It provides opportunities for new jobs. Part of my role is convincing people to invest in WA and also live here, as new opportunities emerge from population growth."



PICTURED: John Langoulant AO, Agent General for Western Australia in the United Kingdom and Europe; Nicole Fasana, Investment and Trade Commissioner for North East Asia; Roger Cook, Deputy Premier and Minister for State Development, Jobs and Trade, and Krista Dunstan, Investment and Trade Commissioner for ASEAN

What does our new Agent General hope to achieve in the next three years?

"I am an incessant engager, I enjoy meeting new people and I'm hungry for success," he said.

"When my term ends, no one in WA or Europe who wanted to do business in these two markets will say they missed an opportunity to work with me or say hello. That's my first criteria, to get out and be known so people know there's a door open for engagement."

And what will he miss most about living in WA?

"I have three children and seven grandchildren and I'll really miss them. WA is a magnificent place

to live. I'll miss the seasonal differences, the fresh air and the beaches," he said.

"I'm looking forward to seeing London in full swing. Also getting into Europe and seeing the big cities, the economic drivers and social diversification. I'll see you in London!"

- **Western Australia's Agent General is WA's representative in the United Kingdom and Europe and is based in London**
- **The Agent General and Investment and Trade Commissioners attract investment and grow trade for WA**
- **A new hub and spoke model will develop trade opportunities in developing markets.**

www.investandtrade.wa.gov.au



Krista Dunstan

Western Australia's Investment and Trade Commissioner for ASEAN

Corporate commercial lawyer Krista Dunstan arrived in the role with a wealth of experience in both the private and public sectors.

"I began my career working with organisations including Chevron and Inpex, specialising in oil, gas and construction infrastructure, supporting foreign investment into Western Australia," Ms Dunstan said.

"I moved into public service, working in state policy development, looking at the regions and how we achieve economic stability across WA, seeing the broad offering the State has."

Appointed in February 2021, Ms Dunstan entered the market in November.

"I think it's a really exciting time," she said.

"We've looked at the entire region and the opportunities that exist. We're among some really fast developing nations with huge economies, growing populations, a growing middle-class and an impressive level of sophistication and technological development.

"We have an opportunity to become partners in this growth, to become a strong regional player and to utilise what WA has for the benefit of the region.

"There are very different opportunities in Malaysia than there are in Vietnam, Indonesia and Singapore.

"Malaysia, Thailand, Vietnam and the Philippines are countries we will explore opportunities to further develop relationships with."



Nicole Fasana

Western Australia's Investment and Trade Commissioner for North East Asia

A true child of the Asian Century, Nicole Fasana seems destined for the role of Investment and Trade Commissioner for North East Asia. Born in Hokkaido, Japan, she grew up in Hong Kong and Shanghai, China, before arriving in Western Australia as a teenager.

Graduating from The University of Western Australia with majors in Economics, Asian Business and Communication Studies, Ms Fasana is fluent in Japanese and has language skills in Mandarin and Italian. She is now living in the country of her birth for the first time.

"For the last 10 years, I've worked in international trade and investment promotion," Ms Fasana said.

"When I heard of the Investment and Trade Commissioner role, it seemed a wonderful opportunity for me to use my Asian background and connection and apply that to such meaningful work.

"To work in a role that allows me to connect my Japanese heritage together with Western Australia – my home for the last 20 years - is really exciting.

"I feel humbled to serve the Western Australian community and develop strong relationships with the North East Asian region."

Appointed in February 2021, the pandemic delayed Ms Fasana's arrival in Tokyo until November.

"There is a huge amount of opportunity for Western Australian businesses in industries such as renewable energy, critical minerals and battery development, technology, international education, agrifood, defence and space within the North East Asia region."



Juan Lu

Western Australia's Investment and Trade Commissioner for Greater China

The first time Juan Lu heard of Western Australia, she was a university student working at an iron and steel company in China for her final year engineering study placement. Ms Lu was watching iron ore being fed into blast furnaces when the company's CEO told her the minerals were from a place called Western Australia.

Our Investment and Trade Commissioner for Greater China, Ms Lu, was born in Inner Mongolia, China, and immigrated to Australia as an international student 20 years ago. She believes in fate, and said settling in WA was meant to happen from the moment she saw WA iron ore being fed into the blast furnaces.

"I'd already seen the downstream process before I came to Australia. Then I landed in WA and saw the origin of the final product," she said.

A qualified engineer, Ms Lu had planned to study a Masters in Engineering at the Royal Melbourne Institute of Technology (RMIT) but had a last-minute change of heart to stay in Perth and complete a Masters of Accounting instead. From there, she pursued a career with the Western Australian Government, working in various roles covering project facilitation, international engagement and investment and trade.

"I really want to promote WA, including our tourism and education," she said.

"We are a very safe State, and not just in relation to COVID. Safety is the priority for those parents thinking about sending their children overseas for further education."



Nashid Chowdhury

Western Australia's Investment and Trade Commissioner for India-Gulf Region

Nashid Chowdhury was appointed Investment and Trade Commissioner for India-Gulf in February 2022.

Ms Chowdhury has almost two decades of investment, trade and economic development experience across state, Commonwealth and local government, enabling her to develop strong networks within South Asia and the Gulf region.

"Western Australia has one of the longest State-based relationships with South Asia and the Gulf region, with the Government establishing an official presence in Mumbai in 1996 and Dubai in 2002," Ms Chowdhury said.

"India-Gulf is an important investment and trade region, with strong people-to-people and business connections established through tourism, international education, skilled migration, primary industries and mining.

"Leveraging these long-term ties, the State's focus for the region will be to continue building economic prosperity through trade and investment, increasing connectivity and positioning WA as a desirable destination for tourists, students, talent, events, business and investment.

"Aligned to Diversify WA, there are opportunities to grow our engagement and position WA as a trusted partner in energy, critical minerals and defence. I look forward to leveraging my experience to support WA businesses to succeed in the region and facilitate strategic investment to enhance WA's economic prosperity."

www.investandtrade.wa.gov.au

Partnering with India

Business success in India is built on finding the right partners and taking time to cultivate genuine relationships. That was the clear message when Western Australia (WA) and India gathered for international trade talks.

The Western Australian Government invited business and industry leaders to discuss investment and trade opportunities between WA and India.

Deputy Premier and Minister for State Development, Jobs and Trade Roger Cook welcomed guests to India Connect 2021.

Minister Cook spoke of the strong relationship between WA and India, and how both partners can use this platform to create new trade opportunities.

"India Connect 2021 is an important demonstration of the Western Australian Government's strong commitment to increasing engagement, cooperation and collaboration with India," Mr Cook said.

"This event provided an important and timely platform

for Western Australian and Indian businesses to exchange ideas on new trade and investment opportunities that can support economic development and job creation in both jurisdictions."

The hybrid event was hosted by Invest and Trade WA, on behalf of the WA Government, in collaboration with the Consulate General of India in Perth, Australian India Business Council, Chamber of Commerce and Industry WA and Perth USAsia Centre, Confederation of Indian Industry and Indo-Australian Chamber of Commerce. Around 300 in-person and virtual delegates from India and Australia attended the event.

Designed to deepen WA-India relations, India Connect provided an effective platform for meaningful discussion on investment and trade opportunities and complementary capabilities between the two regions.

Four targeted 'Sector Connect' sessions, featuring a moderated panel of industry and government representatives, were held

to deep dive into areas of strategic economic importance between WA and India.

These sessions covered key industries including:

- Batteries, Critical Minerals, Mining and Mining Equipment, Technology and Services (METS)
- Primary Industries
- International Education and Tourism
- Advanced Manufacturing.

India and WA maintain a significant trading partnership, with total trade in goods valued at \$1.92 billion in 2020. In the past two years, India has been WA's largest market for international students.

Western Australia has a long history of providing education to Indian students, dating back to the 1950s through the Colombo Plan.

Western Australia's Indian community is an important part of the culturally diverse fabric of WA, with more than 49,000 residents born in India and almost 80,000 claiming Indian heritage. WA was



Western Australia and India connect on Primary Industries

The Department of Primary Industries and Regional Development (DPIRD) helped shape and host the Primary Industries Connect Session at India Connect.

Panellists from across WA industry included Australian Export Grains Innovation Centre and WA Farm Direct, along with speakers from overseas.

DPIRD's Acting Executive Director, Agribusiness Food and Trade, Susan Hall, said the session highlighted ample opportunities to deepen WA's agriculture exports with India.

Exporters were advised to invest time and effort in finding partners and developing business relationships in this important and incredibly large market.

"India's rising middle class and the growing appetite for premium foods provides many opportunities for WA to export products including apples, oranges, grapes, oats, pulses, malting barley and lamb," Ms Hall said.

Ms Hall said e-commerce in India is expected to grow 21 per cent to reach US\$200 billion per annum by 2026, with the potential to surpass the United States and become the second largest in the world by 2034, after China.

the first Australian State to establish an official, permanent presence in India, setting up a trade and investment office in Mumbai in 1996.

Minister Cook visited India, including a visit to WA's Sister-State, Andhra Pradesh, in 2017.

"Our Sister-State agreement with Andhra Pradesh, signed in 2016, seeks to create opportunities for collaboration between our two regions," he said.

"These include mining and mining services, energy production and distribution, higher and vocational education and training, agriculture and fisheries systems."

Western Australia welcomes new trade deal with India

In April 2022, Western Australia welcomed a new trade agreement between Australia and India, opening trade and investment opportunities for local businesses and WA exporters across multiple sectors.

The Australia-India Economic Cooperation and Trade Agreement brought a high-profile business delegation to WA, with around 170 delegates welcomed at a special business event – 'India and Western Australia: Economic Cooperation

Lunch', held in Perth and hosted by Invest and Trade WA on behalf of the WA Government.

Deputy Premier Roger Cook said the new agreement, a major milestone in the Australia-India relationship, would build on WA's historically significant relationship with India and drive an even more prosperous future together.

"As Deputy Premier for Western Australia, I appreciate the Agreement's significance and the opportunity it presents to both enhance and diversify our mutual investment and trade aspirations," Mr Cook said.

"This Agreement will unlock further opportunities for both Western Australia and India, from which we can leverage our respective strengths to drive economic growth and diversification."

For WA and India, these include:

- Supporting respective energy transition endeavours, through future batteries and critical minerals
- Mining mining equipment, technology and services (METS)
- Primary industries
- International Education and Tourism
- Advanced manufacturing and technology

Western Australia's future in our hands

Professor Peter Klinken AC, Chief Scientist of Western Australia, says it's time to seize the moment

'Never let a good crisis go to waste,' - one of the most famous quotes in history, from Winston Churchill during World War II.

The pandemic affected the world in ways we could only previously comprehend from history, with the most recent reference point being the Spanish Flu 100 years ago.

The human toll is evident and scientists will still study these events for many years.

Compared to the rest of the world, Western Australia (WA) is unique.

Our minerals and resources sectors are booming. WA recently returned a projected \$5.7 billion budget surplus.

Most Western Australians would agree we're fortunate to live in a State where our lives remain almost unchanged. Life is very good in WA.

WA stands at a crossroads. We've never had a greater opportunity to shape the future of our economy.

Australia is blessed with abundant minerals and resources. This industry has been the bedrock of our economy since the 19th century.

Despite this strength, WA is emerging as much more than a mining State.

Mineral processing, renewable energy transition, education, health and life sciences, defence, technology, lifestyle, culture and tourism – there is a long list of growing opportunities. WA is maturing into a destination State, strategically aligned with key Asian markets.

We have demonstrated our ability to innovate, adapt and continue operating uninterrupted.

The WA Government's Diversify WA strategy has been tested by the pandemic, providing the optimum environment to seize the opportunities before us. Now we can shape a more diverse and sustainable economy.

New industries attract investment. They create jobs and attract skills and expertise. A diverse economy reduces our dependence on a single sector.

We must harness this opportunity. Government and industry must work together with academia and the community to optimise the incredible suite of options available to us.

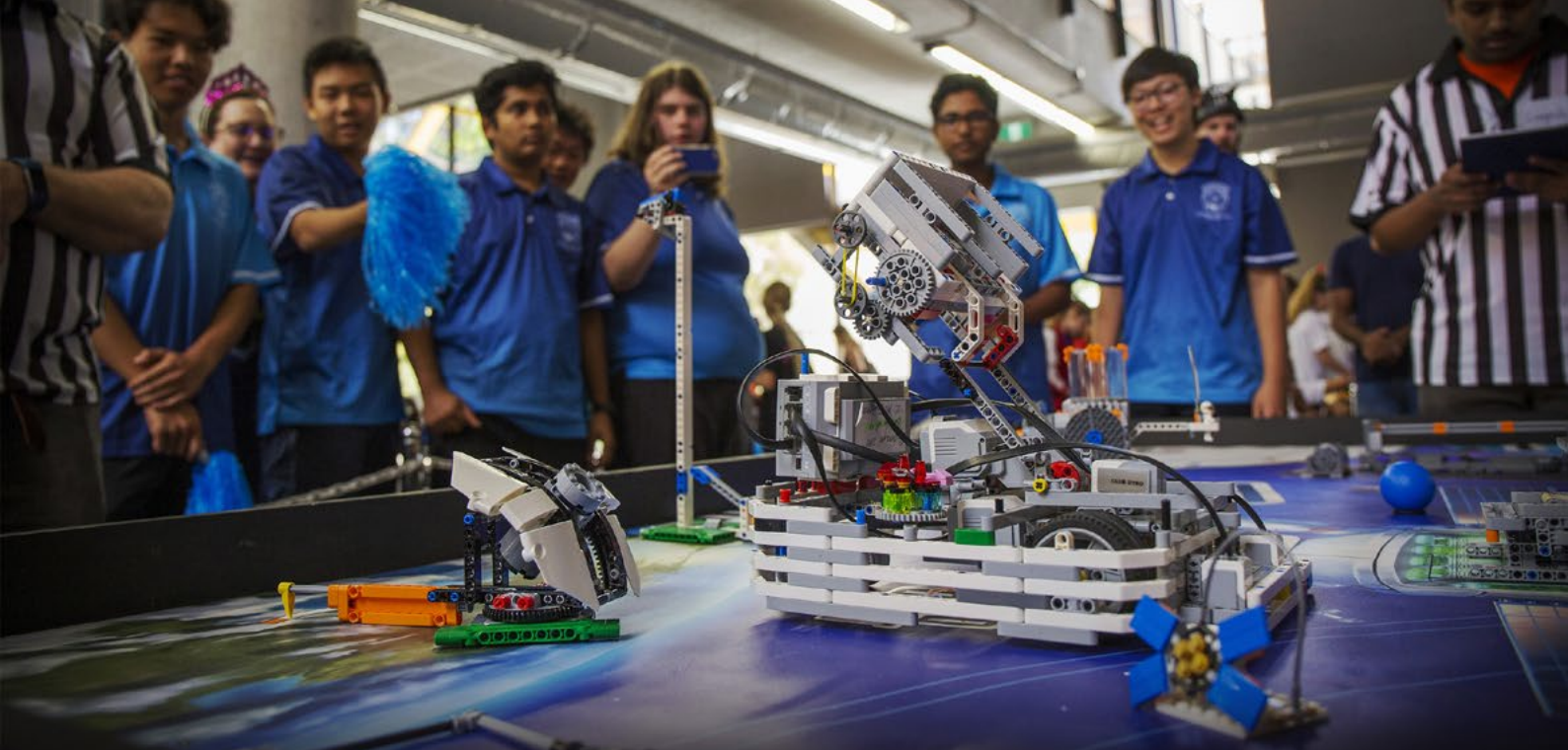
As well as offering a stable operational environment for investors, our State has a rich Indigenous culture and is rated among the best places in the world to live.

We have a narrow window to capitalise on our competitive advantages, to create a fertile environment in which to nurture and grow our many emerging industries.

I am passionate about WA. The time is now for us to prosper. Looking through the rear view mirror isn't an option.

Let us be bold and not waste this opportunity!





ABOVE: School students participating in the FIRST LEGO League WA, an award-winning Curtin University STEM project.

Meet the State's scientific trailblazers

Western Australia's (WA) finest science, technology, engineering and mathematics (STEM) researchers, students and communicators were recognised at the 2021 Premier's Science Awards.

Minister for Science Roger Cook welcomed finalists and guests to the annual awards ceremony, held at the WA Museum Boola Bardip.

The University of Western Australia's Professor Eric May was awarded the prestigious Scientist of the Year Award, along with the \$50,000 prize.

Professor May is an internationally recognised leader in the areas of fluid science, thermodynamics, and natural gas engineering. His work produced explanations for long-standing

scientific mysteries and helped improve industrial processes.

"Although winners of the 2021 Premier's Science Awards come from a diverse range of fields, they all share one thing in common – they are using their STEM skills to solve real-world problems and improve people's lives," Premier Mark McGowan said.

"Our Future jobs, future skills strategy outlines the Western Australian Government's commitment to building a globally competitive and innovative workforce with the capability to drive the State's STEM future and create new jobs."

Receiving a \$10,000 prize for each category, awards were presented to:

- Associate Professor Edward Litton (The University of Western Australia (UWA) and Fiona Stanley Hospital) and Dr Arman Siahvashi (UWA) - joint winners of the Woodside Early Career Scientist of the Year
- Liam Scarlett (Curtin University) and Niamh Troy (UWA and Telethon Kids Institute) - ExxonMobil Student Scientist of the Year
- Daniel Curran (Curtin University) – Shell Aboriginal STEM Student of the Year
- FIRST LEGO League WA (Curtin University) - Chevron Science Engagement Initiative of the Year.



Western Australia's Scientist of the Year

University of Western Australia researcher, Professor Eric May, receives the prestigious award for his work on sustainable energy production

Professor Eric May has been named Scientist of the Year in the 2021 Premier's Science Awards.

The researcher, based at the University of Western Australia (UWA), is world renowned for his work on sustainable energy production.

He is highly revered as a leader in fluid science, thermodynamics, metrology and natural gas engineering.

"Awards like WA Scientist of the Year are important because they inspire young people at the beginning of their careers to pathways that will help them reach their full potential," Professor May said.

"Getting that new talent into the pipeline builds on the work we are doing and will help us reach the targets we're aiming for."

As well as the prestigious award, Professor May received a \$50,000 prize at the awards ceremony held in the WA Museum Boola Bardip.

His development and use of measurement technology has produced explanations for longstanding scientific mysteries, revealed unexpected physical phenomena and helped improve industrial processes.

Real-world outcomes of his research include reducing the cost and environmental impact of liquefied natural gas (LNG) production, decreasing greenhouse gas emissions from coal mines and optimising air conditioning cycles based on new, environmentally-friendly refrigerants.

Professor May's work has also mitigated uneconomic offshore gas reserves and advanced carbon capture and storage operations.

He is now leading the new Future Energy Exports Cooperative Research Centre, a national collaboration of 28 industry, government and research partners that will research and launch programs for the export of LNG and hydrogen.

Since its launch in 2001, more than 100 scientists, researchers and students have received Premier's Science Awards.

Professor Richard Hobbs, from UWA, became the sixteenth person to be inducted into the WA Science Hall of Fame.

A leader in his field, Professor Hobbs was recognised for his contribution over the past 37 years to the development and application of ecology - locally, nationally and internationally.

There were 22 finalists across five different categories from a diverse range of fields including ecology, geology, physics, artificial intelligence and medicine.

The awards were sponsored by Chevron, ExxonMobil, Shell and Woodside and supported by Curtin University, Edith Cowan University, Murdoch University, The University of Western Australia, CSIRO, the Western Australian Museum and the Telethon Kids Institute.

"From challenging teams of 9 to 16-year-olds to use LEGO to solve STEM problems to improving the outcomes of critically ill patients in intensive care, this year's winners reflect the breadth of the exceptional contributions made by Western Australians to science," Mr Cook said.

Applications for Western Australia's 2022 Premier's Science Awards and WA Science Hall of Fame closed in April and the winners will be announced during National Science Week in August.

WA Science Hall of Fame

Western Australia's science and research sectors are diverse and feature local expertise and knowledge across all fields of science, including natural, medical, applied and technological science, engineering and mathematics.

The WA Science Hall of Fame was established in 2007 to recognise lifelong contributions to science, technology, engineering and mathematics (STEM).

Professor Richard Hobbs, from The University of Western Australia, was announced



2021 WA Science Hall of Fame inductee Professor Richard Hobbs, The University of Western Australia

as the 2021 WA Science Hall of Fame inductee.

Professor Hobbs was recognised for his contribution over the past 37 years.

He is recognised as a thought leader in the applied fields of conservation biology and restoration ecology, laying

foundations for the development of these fields, particularly in the face of ongoing environmental and climate changes. His leading work in exploring and developing the concept of novel ecosystems and the idea of systemic ecosystem interventions has led to major new research efforts in these areas.

20th Premier's Science Awards

Since 2001, more than 100 awards have been given to Western Australia's (WA) brightest researchers, students and communicators. The 2021 recipients include:

Shell Aboriginal STEM Student of the Year

Daniel Curran (Curtin University)

Daniel Curran (pictured) is an outstanding Aboriginal medical student committed to Closing the Gap. He completed the Indigenous pre-medicine enabling course through the Centre for Aboriginal Studies as the top achiever and is now in his third year of a Bachelor of



Medicine, Bachelor of Surgery at Curtin University. He is the first Aboriginal tutor in the Indigenous Tutorial Assistance Scheme and is a role model for aspiring Aboriginal medical doctors and healthcare professionals. He has acted on the Australian Indigenous Doctors' Association Student Representative Committee and is the First Nations representative for Curtin's Health Sciences Student Consultative Committee.

Woodside Early Career Scientist of the Year - Joint Winners

Associate Professor Edward Litton (UWA and Fiona Stanley Hospital) and Dr Arman Siahvashi (UWA)

ExxonMobil Student Scientist of the Year - Joint Winners

Liam Scarlett (Curtin University) and Niamh Troy (UWA and Telethon Kids Institute)

Shell Aboriginal STEM Student of the Year

Daniel Curran (Curtin University)

Chevron Science Engagement Initiative of the Year

FIRST LEGO League WA (Curtin University)

Western Australia's bold role in global space exploration

Western Australia (WA) has played a vital role in the global space industry for 60 years.

Thanks to our clear skies, wide open spaces, dry climate and radio quiet zones, WA has provided the perfect base for a broad range of space operations.

Our ground stations played key roles in NASA's Mercury, Gemini and Apollo lunar missions from 1961 to 1975.

Today, WA is involved in a range of space activities and services – from building the world's largest radio telescope to explore the universe, to supporting upcoming NASA and private sector moon missions.

Western Australia hosts significant space infrastructure for both civil and defence applications.

Our capabilities include ground-based satellite and deep space communications; data processing and analysis; laser communications; satellite design, manufacture and operation; robotics and world-leading remote operations.

The establishment of the Murchison Widefield Array between 2007 and 2012 in WA, has supported the State in co-hosting the \$3 billion Square Kilometre Array (SKA) radio astronomy project.

"Growing our space sector will attract new companies and leverage national and international investment to the State,"

– Roger Cook, Minister for Science

The SKA project will conduct transformational science, breaking new ground in astronomical observations and support the development of new communication, computation and data analytics and technologies.

WA is home to two key space research centres – Curtin University's Space Science and Technology Centre and The University of Western Australia's (UWA's) International Space Centre.

Tertiary organisations train a pipeline of skilled workers in space and space-related fields required for the more than 100 space companies in WA.

In 2020, Joseph Banks Secondary College, south of Perth, received funding from the WA Government to create a dedicated Space Science Education Centre.

WA companies have strong collaborations with prime space agencies including NASA, the European Space Agency, Swedish Space Corporation and Japan Aerospace Exploration Agency.

Facts

- In 2024, half of the European Space Agency's deep space antennas will be located at their New Norcia Deep Space Ground Station in Western Australia.
- The world's largest telescope, with 130,000 individual radio antennas, will be constructed in the Murchison region of Western Australia.
- Curtin University has developed space hardware that is currently on the surface of Mars and Titan.
- The University of Western Australia hosts Australia's only space optical ground station and is undertaking ground-breaking research into free-space optical laser communications.
- From 2022, Western Australian deep space monitoring ground stations will be key communications platforms for at least four commercial lunar lander missions due to arrive on the Moon by the end of 2023.

To read more about WA's space program, visit www.wa.gov.au/jtsi-space

Australia's first Moon mission great news for Western Australia

An Australian-made rover designed to collect oxygen-rich lunar soil is set to be launched to the Moon under NASA and the ASA's Moon to Mars mission in 2026.

Part of an agreement between the Australian Government and the US space agency, the announcement is welcome news for WA's space, technology and resource sector with our State well-positioned to lead the development and operation of the Moon rover.

Perth-based Australian Remote Operations for Space and Earth (AROSE) consortium has already received \$200,000 to develop a lunar rover concept as part of the Australian Government's Moon to Mars Demonstrator Feasibility Grants program. The WA Government has also provided \$150,000 to support the development of the rover concept, as well

as committing \$5.5 million to support AROSE head office operations from 2020 to 2026.

The WA Government also invested \$3.5 million to support the setup of SpAARC, a world-class facility that trains, tests and controls remote and autonomous operations in space.

WA's significant space communication and situational awareness activities demonstrate how our State is leading the country in growing the space sector.

Along with the State's world-leading terrestrial and marine autonomous and remote operations capabilities, WA is ideally placed to take advantage of the announcement of Australia's first moon mission.

For more information on everything space, visit www.wa.gov.au/jtsi-space

The WA Government has allocated more than \$16 million to support the growth of WA's space industry in order to deliver jobs growth, economic diversification, and innovation, and science, technology, engineering, and maths (STEM) education and promotion.

Key investments include the Australian Remote Operations for Space and Earth (AROSE) consortium, the Australian Space Data Analysis Facility, Curtin University's Binar CubeSat Space Program and the Space Automation, AI and Robotics Control Complex (SpAARC).

Investments also target translation of space tech to terrestrial systems to benefit the energy, resources, defence, agriculture and health sectors.

What does the future hold?

Western Australia has a number of space projects in the pipeline.

In June 2021, AROSE, Curtin University and UWA were awarded Australian Space Agency (ASA) Moon to Mars Demonstrator Feasibility Grants. The funding will help progress projects to develop a lunar construction rover, conduct a lunar satellite mission and develop space laser communication systems. These feasibility projects are scheduled for completion in 2022.

Department of Jobs, Tourism, Science and Innovation Director of Space, James Yuen; AROSE Co-founder Russell Potapinski; and Science Minister Roger Cook. Credit: Michael Goh.





ABOVE: Curtin University's Binar-1 deployed from the International Space Station. CREDIT: JAXA/Space BD

In September 2021, the International Space Station released WA's first satellite, which is currently orbiting Earth. Curtin University's Binar-1 (meaning 'fireball' in Indigenous Noongar language) CubeSat is the first of seven that will be launched into orbit over the next 18 months, forming Australia's first satellite constellation.

Director of Space at the Department of Jobs, Tourism, Science and Innovation James Yuen said: "It is fantastic to see strategic investment in our State underpinning growth in capabilities, services and activities in the space sector.

"WA is well placed to expand our space capabilities and activities to play an even greater role in the rapidly growing space sector."

In October 2021, the Australian Government announced that NASA would include a small Australian-made 'foundation services rover' in a 2026 mission. The AROSE consortium has already developed the feasibility plan for this rover and is in prime position to be selected by ASA to complete this mission under their Moon to Mars Trailblazer Program.

Also in October 2021, US company LeoLabs announced construction of a space radar site near Bunbury, south of Perth,

for monitoring launches, orbiting satellites and space debris.

From 2022, WA-located ground stations will be key communications platforms for at least four commercial lunar lander missions due to arrive on the moon by the end of 2023.

"Growing our space sector will attract new companies and leverage national and international investment to the State," Science Minister Roger Cook said.

"At the same time, it supports existing and emerging priority sectors, such as resources, energy, agriculture, health and defence, through science, innovation and technology spill over."

The technology revolutionising global air defences



Western Australia continues to strengthen its position as a global leader in air defence technology.

Designed and built for the State's most extreme environments, Western Australian companies are adapting drone technology for the defence sector.

"Companies have become experts at developing technologies and logistics to mobilise people and equipment

Facts

- Australia's defence spending over the next decade will be an estimated \$270 billion
- Western Australia's 2020 Defence Strategy identified the State as a sector leader in air defence technology
- Technology developed and tested in WA for the mining and resources sector can be adapted for the defence industry
- Western Australia maintains strong relationships across key Asian export markets

across vast distances with no external support," Defence Industry Minister Paul Papalia said.

The journey to this point is a prime example of the Western Australian Government's Diversify WA strategy. Technology developed for mining and resources is so advanced that it can easily be adapted and applied in the defence sector and beyond, including emergency services.

Innovation and adaptability have established Western Australia as a global development and test ground. Chosen by some of the world's largest defence companies in the research, development and testing of the latest air systems and equipment, WA has emerged as a global leader in the development of air systems.

WA's prime position on the Indian Ocean provides the perfect regional platform to bring new technologies and products to market, further strengthening long term ties across Asia. These mature relationships have yielded myriad benefits for WA and

Australia in defence, as well as many other sectors including business, education, tourism and resources.

Mining, oil and gas industries have created a fertile environment for the development of new technologies. The range of technologies developed in WA is vast.

As a global hub for developing offshore oil and gas technologies, WA has honed developments across these sectors that can now be readily applied to defence. The mining and METS sector has obvious links to WA's ability to lead undersea warfare, maritime mine warfare and amphibious operations, which mirror mining operations in our remote regions.

Local company Chironix is well-known for their work developing autonomous robotic systems for complex environments. Chironix recently secured a contract with the US Navy to build on this work and deliver a new technology solution which autonomously moves supplies from A to B. This includes safely evacuating casualties from battlefields and disaster zones.



WA's 2020 Defence Strategy Series identified priorities where the State's industry already has natural strengths and competitive advantages. These include precision-guided munitions, hypersonic weapons, integrated air and missile defence systems and space capabilities among the specialist businesses based and operating in WA.

Unmanned aerial vehicles (UAV), related technologies, and a rapid, solutions-focused culture – honed in remote and challenging environments – provide obvious benefits to defence forces. The challenging environment in which these new technologies are developed, tested and proven presents a significant competitive advantage for WA.

"Western Australia is a global hub for the development of technologies that lead the world in mining, oil, gas and defence systems," Mr Papalia said.

"The State comprises a third of the continent's land mass and companies have become experts at developing technologies and logistics to mobilise people and equipment across vast distances with no external support."

Australia's defence spending over the next decade will be an estimated \$270 billion.

The COVID-19 pandemic has brought into sharp focus the importance of international relations. WA has established strong relationships with key Asian export markets, with a quarter of Australian trade with ASEAN's ten nations originating in WA.

Education and research play an important role in this growth.



Company Profile: Orbital UAV

Locations: Perth, Western Australia – Hood River, USA

Based in Western Australia, Orbital UAV is a world-leader in the design and manufacture of engine systems for military drones. With a second base in Oregon, USA, the company has developed industry-leading, advanced, heavy-fuel injection technology.

WA's universities collaborate on defence matters under the banner of Team WA. They are supported by the Defence Science Centre, whose responsibility is to tap into defence-related research at the highest levels. The Binar-1 CubeSat program at Curtin University demonstrates the State's ability to leverage commodity manufacturing to create innovative, cost-effective, sovereign capabilities for Australian universities, industry and defence.

"Our unique position, in both our capabilities and location, is recognised by the companies, governments and international trade partners who choose WA as a business destination and partner," Minister Papalia said.

Western Australia's resilience and adaptability provide a solid foundation for the State's economy to adapt, diversify and grow across many sectors throughout the decade ahead – and beyond.



Company Profile: Innovaero

Headquarters: Kardinya, Western Australia

Innovaero has established a global reputation for the development and manufacture of unmanned aerial systems, specialising in imaging and surveys.

These capabilities can be applied to many sectors including the Australian Defence Force and emergency services.

Growing Western Australia's health and medical life sciences

With increasing world-wide demand for new health and medical technologies, pharmaceuticals, and medical products and services, Western Australia (WA) is well-placed to lead industry growth. WA has launched its first ever Health and Medical Life Sciences

Industry Strategy, building on government initiatives to stimulate and strengthen the industry, investing \$8.7 million over the next four years.

The strategy signals the Western Australian Government's commitment to supporting the digital health, medical

technology, biotechnology, pharmaceuticals and health and wellness sectors. It aims to contribute to the diversification of the WA economy, create highly skilled jobs and improve patient outcomes.

Western Australia has a world-class research base,

WA to host 2022 AusBiotech Conference for the first time in 15 years

- This year, WA will host the 2022 AusBiotech Conference for the first time in 15 years – Australia's biggest week in biotech.
- Also in 2022, and for the first time ever, the AusBiotech Invest and Partnering Program will leave Melbourne and be held in Perth, bringing big pharmaceutical executives to WA to discover firsthand WA's thriving life sciences ecosystem.
- Western Australia has a thriving, internationally recognised medical research

ecosystem to commercialise practical solutions to often complex health needs.

- Tendons and ligaments for export to the United States and Europe are manufactured in WA. We also lead the way in the development of pharmaceuticals, new gene technologies, phenomics, medical technology and digital health solutions.
- The WA Government is committed to growing the health and medical life sciences industry as a priority



sector for the State, launching the State's first industry strategy; establishing the Future Health Research and Innovation Fund (providing a secure and stable source of funds for health and medical research, innovation and commercialisation); and the landmark \$100 million Investment Attraction Fund.



entrepreneurial talent and commercialisation track record in the health and medical life sciences. The State's strategy highlights the industry's growth potential and builds on WA's existing comparative advantages.

"There is increasing demand worldwide for new health and medical technologies, pharmaceuticals, and medical products and services that provide practical solutions to our expanding and often complex health needs," Deputy Premier Roger Cook said.

WA's health and medical sector uses world-leading remote operation capabilities developed in the State's resources sector.

"This strategy will enable turning the State's many comparative advantages in the life sciences into high quality jobs, greater investment and broad community benefits," Chief Scientist Professor Peter Klinken AC said.

COVID-19 and Western Australia's health and medical supply chains

The Diversify WA: Supply Chain Development Plan identifies key actions to target the growth of industries in the health and medical life sciences sector. In particular, in the development and commercialisation of innovative medical products and services and opportunities for local manufacture.

During the beginning of the COVID-19 pandemic in Western Australia, and with support from government, a number of companies across a variety of industries rapidly adapted their services to produce hand sanitisers, personal protective equipment, testing regimes and drugs to be used in the treatment of disease.

This rapid transition to COVID-19-specific collaboration has been expanded across a broader suite of health and medical goods and services beyond the pandemic.

COVID-19 has impacted supply chains and highlighted the importance of reducing

dependence on imports and building resilience and sovereign capability to secure local health and medical supplies.

Successfully securing supply chains will be reliant on industry's capacity and capability to access the relevant capital and infrastructure, technical expertise and certification for prototyping and manufacturing. This will enable collaboration and cross-sector engagement to establish effective business-government relationships.



Massive boost for resources exploration in WA

A \$7-million-dollar expansion to one of Australia's largest drillcore libraries will further support explorers looking for the next big resource discovery in Western Australia (WA).

The Joe Lord Core Library in Kalgoorlie, north of Perth, was expanded in November 2021 after continued interest in WA's resource-rich regions resulted in the facility being close to capacity.

The library stores drillcore samples that contain valuable geoscientific information for exploration companies and others seeking new resource discoveries. Researchers

and explorers can inspect the core samples and review results to reduce the technical and financial risk of exploration activities.

The Joe Lord extension will provide better access, more space and improved amenities to view and analyse the drillcores.

Mines and Petroleum Minister, Bill Johnston said the wealth of information available at Joe Lord could potentially save mining companies millions of dollars.

"The core library expansion highlights the WA Government's ongoing support of the

exploration industry in Western Australia," Mr Johnston said.

"Measures to reduce exploration risk and attract investment will ensure the resources sector continues to be the bedrock of WA's economy."

Mineral exploration hit \$2.1 billion in the 2020-21 financial year, an increase of 21 per cent from \$1.7 billion in 2019-20.

Much of the drillcore stored at Joe Lord comes from the WA Government's Exploration Incentive Scheme (EIS), a \$10-million-dollar per year program that aims to stimulate private sector resource exploration in WA.



Joe Lord Core Library covers 2,100 square metres, has 9,520 storage bays, can display three kilometres of drill core.

Around 45,000 metres of drillcore is viewed by geologists and other scientists each year.

Western Australia has two purpose-built drillcore libraries: Joe Lord and one in Perth.

EIS success stories include the discovery of the Nova nickel mine, Bellevue Gold project, Tropicana gold mine and the Yeneena copper-cobalt project.

Staff inspect drillcore samples at WA's expanded drillcore library – one of Australia's largest. CREDIT: Melissa Drummond @dmirs



Our global role in the battery industry

Western Australia (WA) continues to strengthen our increasingly significant role in the global battery industry.

The only region in the world with natural reserves of all the minerals required to manufacture batteries, WA has diversified its role in the supply chain beyond simply shipping raw materials overseas.

Major investment in minerals processing facilities by

international companies including Tianqi Lithium and BHP have added an extra dimension to our role in a global industry that's become a critical element of the shift towards clean energy.

In June 2021, an independent report prepared by Accenture for the Future Battery Industries Cooperative Research Centre, predicted the industry will contribute \$7.4 billion per year to Australia's economy and create 34,700 jobs by 2030.

The report, **Future Charge: Building Australia's Battery Industries**, estimated demand for batteries in electric vehicles and energy storage systems will increase 10 times over the next 10 years. According to the report, Australia can compete in several segments of the global battery industry, including refining, active materials manufacturing and battery manufacturing.

The Western Australian Government's Future Battery Industry Strategy recognises the potential our State has to become a world-leader in the export of future battery minerals and materials,"

– Mines and Petroleum Minister Bill Johnston

Nickel sulphate, a key chemical used in EV batteries. CREDIT: BHP Nickel West

Climate change and a shift towards electric vehicles has positioned WA as a global leader across the entire battery supply chain.

Western Australia is ready to lead Australia's battery industry. It is the only State to have a clear strategy to support the development of the industry, with the launch of the Future Battery and Critical Minerals plan in 2020.

Companies such as Tianqi, Albemarle, IGO and BHP Nickel West are positioning WA as a significant global producer and exporter of lithium hydroxide and nickel sulphate.

"The Western Australian Government's Future Battery Industry Strategy recognises the potential our State has to become a world-leader in the export of future battery minerals and materials," Mines and Petroleum Minister Bill Johnston said.

The WA Government's Future Battery Industry Strategy demonstrates the State's clear vision of diversifying our economy, creating more jobs and attracting international investment that establishes us a key player in a growth sector

Find out more at www.wa.gov.au/FutureBatteryIndustryStrategy

Facts

- Western Australia is the only region in the world with reserves of all minerals required for battery production
- The battery industry could be worth \$7.4 billion to the Australian economy by 2030, creating up to 35,000 jobs
- Global demand for electric vehicles is expected to increase 10 times within the decade
- Companies such as Tianqi and BHP establishing WA as a major global producer in the battery manufacturing supply chain
- The Future Battery and Critical Minerals Industries Strategy is part of the WA Government's Diversify WA policy



Tianqi Lithium

Once fully operational, Tianqi Lithium's two-stage plant will be the largest in the world.

The Kwinana facility is the first of its kind and will produce 48,000 tonnes of battery grade lithium hydroxide per year.

It is expected to generate around \$800 million per year and employ 175 permanent staff.

Covalent Lithium

In September 2021, Covalent Lithium announced plans to build a lithium refinery in the Kwinana Strategic Industrial Area (SIA).

The Covalent Lithium refinery is now one of three lithium refineries under construction in WA that will pave the way for further value-adding activities,

including pre-cursor cathode manufacturing which is a key priority of the WA Government's Future Battery Industry Strategy.

Once complete, the Kwinana refinery will have the capacity to support the production of batteries for up to one million electric vehicles each year.

BHP Nickel West

Australia's first nickel sulphate plant opened in Kwinana in October 2021.

Nickel sulphate is a key material in the lithium-ion batteries that power electric vehicles.

The new facility has the potential to exceed 100,000 tonnes of nickel sulphate per year at almost 100 per cent purity, which is enough to make 700,000 batteries for electronic vehicles.

WA is the world's fourth largest nickel producer, with more than \$3.3 billion in sales in 2020.

ALCOA and FYI Resources

In October 2021, ALCOA and FYI Resources agreed a high purity alumina (HPA) joint venture.

HPA is a processed alumina product of almost 100 per cent purity used to manufacture LEDs, mobile phones, television screens and battery and power storage components.

The agreement sets out a pathway to develop a demonstration plant and a primary production facility to produce and supply HPA to meet the rapidly-growing global demand.

WA becoming a global renewable energy powerhouse

Outstanding natural energy resources and established infrastructure make Western Australia (WA) one of the best places in the world for renewable energy. At 2.5 million square kilometres, WA is vast – about the size of the whole of Western Europe. The State's coastline is the longest in Australia, with world-class ports and established infrastructure spanning its breadth.

In WA's regional areas, when the wind blows, the wind power capacity factors are some of the highest in the world. Along with vast areas of land and wind resources, WA boasts outstanding solar resources – in the Pilbara region in the State's North West, solar irradiance is 2350 kilowatt hours per square metre per annum – making WA solar among the highest irradiance in the world.

What propels WA forward as a global renewable energy leader, and an emerging renewable hydrogen industry leader, is local

expertise. A long and successful history partnering with other economies to provide energy and mineral resources; a highly skilled, capable workforce with technical expertise coupled with world-class research institutions; established relationships with export partners and close proximity to Asian economies; established industries – all combine to power WA forward as a leader in the world's clean energy future.

The Western Australian Government is working together with leading industry partners to harness WA's renewable energy potential.

Accelerating growth

The global market for renewable hydrogen is expected to grow significantly over the coming decades as the world shifts to a cleaner energy future. Countries such as Japan and South Korea – established trade partners with WA – have signalled their intention to import low-emissions hydrogen for energy and transport purposes.

Current global demand for hydrogen is estimated at more than 70 million tonnes a year and the value of Australia's low-emissions hydrogen exports could reach \$2.2 billion by 2030 and \$5.7 billion by 2040.

The Western Australian Government is committed to establishing WA as a global clean energy powerhouse, guided by the State's Renewable Hydrogen Strategy and Roadmap.

The strategy builds on WA's renewables potential, technical expertise and global reputation, supporting industry efforts to grow the renewables sector through four strategic focus areas: export; remote applications; hydrogen blending in natural gas networks; and transport.

To accelerate industry efforts, the WA Government strategy includes a Renewable Hydrogen Fund to facilitate private sector investment and leverage financial support to WA's industry.

A centrepiece of the strategy to drive industry development and cater for the export market is the WA Government's \$117.5 million commitment for the establishment of renewable hydrogen hubs in the Pilbara and Mid West regions of WA, and support for the hydrogen hub in Kwinana.

WA's Pilbara region has been identified as the nation's most prospective centre for hydrogen demand to 2050. Estimates for hydrogen production and exports in the region range from 3 to over 10 million tonnes per annum by 2050. The region is a natural industrial hub, with strong activity across the resources, oil and gas and energy sectors.

The green-field Oakajee Strategic Industrial Area (SIA) in the Mid West, conveniently located in close proximity to the regional City of Geraldton, boasts an excellent combination of wind and solar resources and potential for low cost energy to unlock the region's mineral resources, including iron magnetite, vanadium, aluminium, and heavy mineral sands.

The State is actively seeking opportunities for co-location of hydrogen producers, users and exporters to the Oakajee site. In late 2020, a global Expression of Interest initiative ran for the development of the Oakajee SIA, which attracted more

"As the world moves to a decarbonised future, a key challenge is to ensure the resilience of our State and its industries by transitioning and diversifying our resources sector towards a cleaner future."

- Hon Alannah MacTiernan, Minister for Hydrogen

than 65 national, international and multi-national submissions. This strong interest allowed WA to build a business case to activate the Oakajee SIA with early head works commencing in 2022.

WA has a long and reputable history of delivering energy and resources to the world. The State has an established and reliable liquefied natural gas (LNG) export industry, with 2019 marking 30 years since the State commenced exporting LNG from the North West Shelf. WA now accounts for 12 per cent of global LNG exports, with onshore LNG trains in the Pilbara Region. WA's current total LNG export capacity is 50 million tonnes a year with sales reaching 44.3 million tonnes in 2021.

Recent multibillion dollar hydrogen projects announcements in WA also signal global confidence in WA's renewable energy credentials. Projects include Woodside's H2Perth hydrogen and ammonia production facility in Kwinana;

the 50GW Western Green Energy Hub proposed for the south coast; and the massive Asian Renewable Energy Hub planned for the Pilbara.

"Global economies are hungry for clean, renewable energy, and we have the perfect mix of wind and solar potential that is the envy of the world right here in WA," Minister for Hydrogen Industry Alannah MacTiernan said.

"The Western Australian Government has invested heavily into renewable hydrogen, which is seen internationally as a leading fuel of the future.

"Renewable hydrogen presents a big opportunity for industries right across WA to reduce their emissions and embrace a cleaner future."

Visit Invest and Trade WA for more information on Western Australia's renewable hydrogen industry. www.investandtrade.wa.gov.au/our-industries/energy/western-australian-renewable-hydrogen-industry

Driving Western Australia's renewable hydrogen future

Western Australia's (WA) first Minister for Hydrogen Industry, Alannah MacTiernan, shared the WA Government's vision about the role of transport in the State's Renewable Hydrogen Strategy at a hybrid event attended by about 300 industry participants, held in Perth in November. Transport is a key strategic focus area of the WA Government's strategy.

"Many stakeholders from industry and the local government authorities have announced ambitious net-zero emission goals and we are going to help them reach those with technologies such as hydrogen," Minister MacTiernan said.

"A large number of renewable hydrogen projects are in various stages of development in WA.

"We are on track to deliver on our 2022 goal to have a refuelling facility for hydrogen vehicles available in WA. One of our 2030 goals is that renewable hydrogen is a significant fuel used for transportation."

Around \$90 million has been directly invested to building WA's renewable hydrogen industry and

the WA Government is actively supporting studies and projects to demonstrate the viability of using hydrogen. Two rounds of the government's Renewable Hydrogen Fund to support feasibility studies and projects for the hydrogen industry have already been undertaken.

Supporting industry

Western Australia's excellent renewable energy potential, with vast wind and solar PV resources, can be used for hydrogen production. With this in mind, the WA Government is supporting the Asian Renewable Energy Hub and the Western Green Energy Hub. Significant hydrogen production in WA is expected to come online from 2023 with projects like ATCO's Clean Energy Innovation Park (CEIP), Yara's Yuri Project, and Province Resources' HyEnergy Project.

The focus on transport in the WA Government's renewable hydrogen strategy is based on three key drivers:

1. Renewable hydrogen will be cost competitive in the near future

2. We can produce hydrogen right here in WA
3. Heavy transport needs a pathway to net zero emissions.

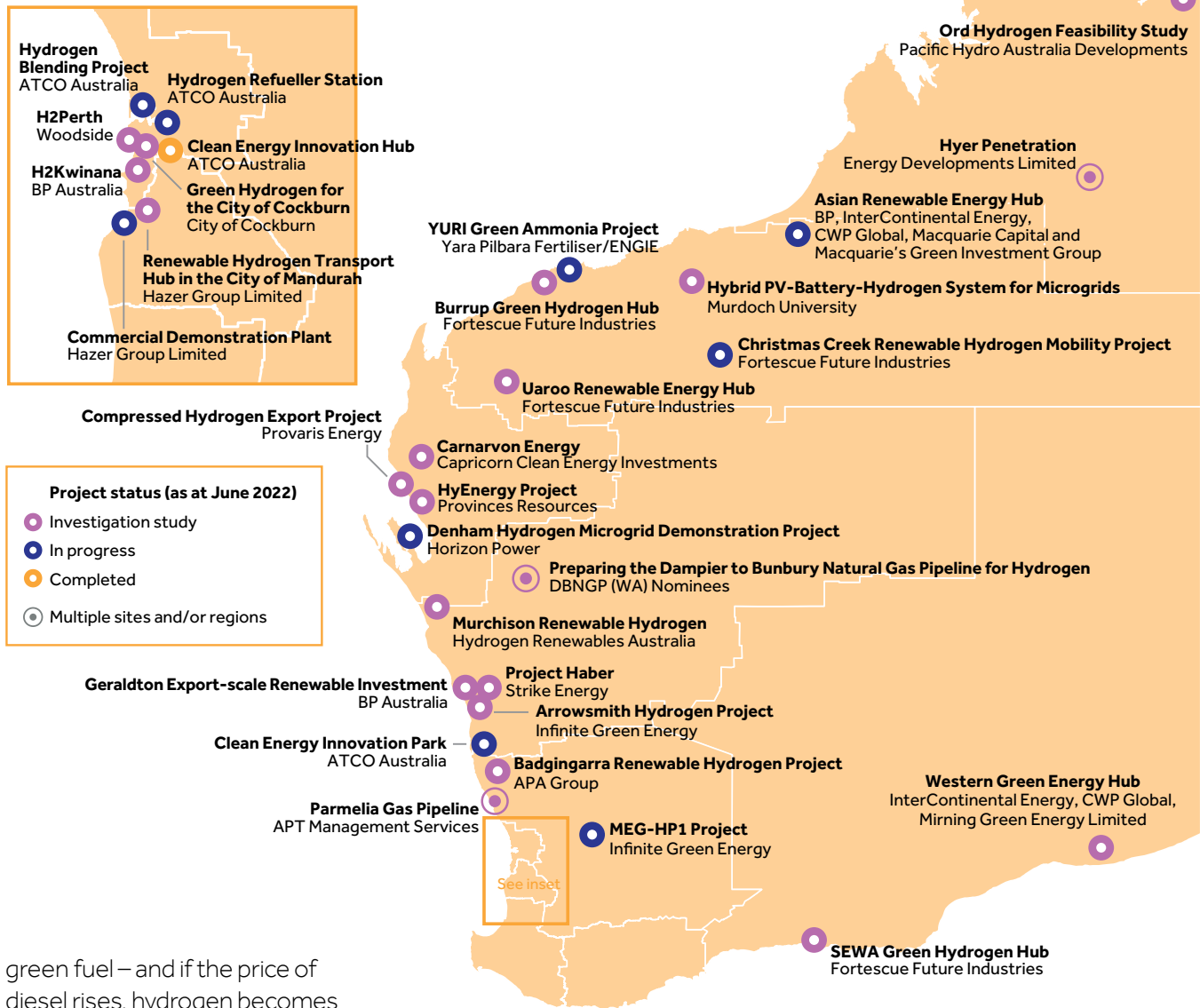
Deloitte Australia reported that if Australia were to secure the same global market share for hydrogen as liquefied natural gas (LNG), then the hydrogen sector could increase Australia's GDP by up to \$26 billion and create 17,000 jobs by 2050.

The McKinsey 'Hydrogen Insights Report' stated that hydrogen will be cost competitive with diesel for heavy-vehicle long duty transport by 2028, or, by the time hydrogen hits US\$4.5. In WA, the estimated price for hydrogen that will be produced by ATCO at the CEIP is \$11 per kilogram.

"To put that in real terms, it takes 7 kilograms of hydrogen to run a 130 tonne truck 100 kilometres, at a cost of \$77. It would take 40 litres of diesel to run the same truck the same distance – that's \$68 if we assume diesel is \$1.70 a litre," Ms MacTiernan said at the November event.

"That means there's only a small price premium for clean,

Western Australia's hydrogen projects



green fuel – and if the price of diesel rises, hydrogen becomes more competitive. And that’s the price that will be available to the WA market in the next two years. Australia’s goal is to bring the cost of renewable hydrogen down from \$11 per kilogram to below \$2 per kilogram.

“Paving a way for heavy transport to meet net zero emissions targets through renewable hydrogen is backed by Grattan Institute reporting that hydrogen fuelled trucks will dominate long range trucking as opposed to electric trucks.

“Battery powered vehicles are not the solution for heavy transport. Hydrogen offers significant advantages such as fast refuelling

times; lower dead weight; and longer travel distances,” Minister MacTiernan said.

Powering projects

The WA Government is encouraging transport operators, original equipment manufacturers and hydrogen producers to team up and submit an expression of interest (EOI) in its Hydrogen Fuelled Transport program. Financial support will be offered to projects that include the procurement and operation of hydrogen or green ammonia fuelled transport and the installation of one or more refuelling stations. Successful

applicants from the EOI process will be announced later in 2022.

“We know there is growing interest from the industry in converting traditional diesel transportation such as buses, trucks and even rail and marine to hydrogen,” Minister MacTiernan said.

“Rather than importing diesel and sending money overseas, we can produce and consume our own, clean, hydrogen fuel.

“Hydrogen refuelling infrastructure will need to be developed across the State to meet the future needs of the WA transport market.”

Collie: investment destination

Western Australia's (WA) Collie region in the State's south west is located in the picturesque Collie River Valley. It is a stunning landscape where two rivers meet, dramatic hills rise around majestic lakes, and jarrah forests soar. Traditionally known as an industrial, mining and energy generation hub – the region provided much of WA's electricity generation and significantly contributed to the State's economy for more than 100 years – Collie is transforming, offering a dynamic future brimming with opportunity.

Collie's transformation is supported by the Western Australian Government, with millions of dollars invested into the region and government working together with local businesses, industry and the community to promote Collie to investors in Australia and around the world.

"Collie is a vibrant and connected community with a proud history of powering Western Australia, and I look forward to seeing the benefits of a diversified economy as the State government continues to invest in projects and services," Premier Mark McGowan said.

Vibrant, connected community

Collie presents an attractive investment destination for a range of new projects already emerging in tourism, energy, mineral processing, manufacturing and agribusiness. The region is an established industrial hub, with a highly skilled workforce, a range of industrial land and an engaged, supportive community.

An economic hub for Western Australia's South West region, Collie's exports are valued at \$4.165 billion, contributing 33.9

per cent of the South West region's total exports of \$12.279 billion (REMPPLAN/DPIRD).

Collie is located around 200 kilometres south of Perth, with direct road access in two-hours along the State's major highways. The City of Bunbury and the deep-water Port of Bunbury are 50 kilometres from Collie, and the Busselton Margaret River Airport, which recently upgraded to cater for large commercial aircraft and interstate services, is accessible within an hour.

At the heart of the region is a highly liveable town. Collie features a range of community, sporting and education services, including early education, five primary schools, a secondary school and a tertiary trade school. Local health care facilities include medical centres, physiotherapy, dentists and a hospital. The \$13.4 million Koolinup Emergency Services Centre was officially opened in Collie by the WA government in October 2021. The multi-purpose facility will serve as an incident control centre to manage major emergencies in the South West region.

"Collie is already home to a number of projects in job-rich industry sectors, and new opportunities are emerging all the time,"

– Deputy Premier Roger Cook



Home to two world-famous walk trails – the Munda Biddi Trail and the Bibbulmun Track – as well as the world's biggest dam art mural at Wellington Dam, Collie offers many wonderful tourism experiences, from the relaxing and sublime to adrenaline-pumping thrills. Wellington National Park, Lake Kepwari, Arklow mountain bike trails, scenic camping options and a recently revitalised historic town site have seen Collie tourism grow in leaps and bounds in recent years and continue to call visitors to this energetic region. CREDIT: Roxanne Taylor Media

Collie is around 45 minutes from the South West's largest Strategic Industrial Area, Kemerton. Available industrial land includes light industrial lots in town, and general and heavy industrial options are also available. There are opportunities in primary industries, including food processing, as well as opportunities in hemp and animal-based health products and protected cropping.

Manufacturing capability in the Collie region is strong and growing, with broad scope across multiple industries – from manufacturing water filtration units and emergency services vehicles, to processing graphite. The town's workforce capability includes civil construction, engineering, fabrication, electrical services and welding. Coupled with highly skilled workers with transferrable skills, including process and plant operators, fabrication, sheet-metal workers, welders, mechanical fitters, electrical engineering

and more, Collie's skilled resident workforce is equipped to support new projects.

"Collie's skilled resident workforce and excellent community, transport and energy infrastructure make it an ideal investment destination," Regional Development Minister Alannah MacTiernan said.

Green Collie

With land, nearby resources and existing network infrastructure, Collie has a number of competitive advantages to support new industries.

The region is at the heart of WA's major energy transmission network, the South West Interconnected System.

Existing mining capability, available serviced industrial land and solid links to transport and freight, coupled with WA's globally significant battery minerals reserves, create opportunity to establish Collie as a hub for downstream battery industry. The Collie region has the capacity to support

battery industry development opportunities, particularly emerging downstream activities such as battery manufacturing and assembly, integration, maintenance and recycling.

The region also offers opportunities for energy-intensive industries looking to explore the downstream processing opportunities of WA's minerals resources.

As WA and other economies around the world move to minimise greenhouse gas emissions, Collie is well-placed for future clean-energy developments, including storage or renewable hydrogen.

The WA Government is committed to supporting investment into Collie and broadening the region's industries. A detailed investment prospectus outlining the wealth of opportunity Collie offers is available at www.wa.gov.au/government/publications/collie-investment-prospectus



CREDIT: CBH Grain

Celebrating our export excellence

Congratulations to co-operative CBH Grain, named 2021 Western Australian Exporter of the Year.

CBH Grain was recognised for the strength and leadership it has shown during a year of challenges, pivoting and expanding its markets.

Its sales represented a significant victory in the diversification of Western Australian (WA) grain growers' export markets and the ability to find new global opportunities.

CBH Grain also won the award in the agribusiness, food and beverages category.

"This year's Western Australian Export Awards recognised the extraordinary impact the COVID-19 pandemic has had on local businesses and their ability

to continue trading," Deputy Premier and Minister for State Development, Jobs and Trade Minister, Roger Cook said.

"All the 2021 winners are examples of the strength shown by Western Australian exporters during these unprecedented times."

Western Australia's exports were worth \$187 billion in 2020 - representing around 51 per cent of Australia's total merchandise exports.

An awards ceremony was held on 6 October 2021 at Government House, hosted by Governor of Western Australia, The Honourable Kim Beazley AC.

Minister for Mines and Petroleum, Bill Johnston, presented awards to winners in 13 categories.

The winners in each category represented WA at the Austrade Australian Export Awards, held in November.

The WA awards are coordinated by Invest and Trade Western Australia, in partnership with the Export Council of Australia.



WA Governor, Kim Beazley, with CBH Group A/CEO, Ben Macnamara, and Mines and Petroleum Minister Bill Johnston.

Showcasing WA's export strength

Western Australia's local businesses showed remarkable resilience in 2021, adapting and thriving despite impacts of the global pandemic. The 2021 Western Australian Export Awards provided an opportunity to recognise WA's export strengths.

"We continue to see businesses demonstrate great resilience and ingenuity, and developing

new international relationships to continue exporting goods and services to the world."

"From minerals and energy related services, to small businesses and emerging exporters, the Western Australian Export Awards reflect the business diversity and growth our State has achieved as a global trading partner.

"The income that Western Australian businesses generate through exports is vital, not only to our State but also to the nation's economy."

"All the 2021 winners are examples of the strength shown by WA exporters during these unprecedented times."

– Deputy Premier and Minister for State Development, Jobs and Trade Minister, Roger Cook

Western Australia's Export Awards 2021 winners

Category	Winner
Advanced technologies	AVI
Agribusiness, food and beverages	CBH Grain
Creative industries	Ormsby Guitars
E-commerce	Clean & Pure
Emerging exporter	Red Piranha
International education and training	Engineering Institute of Technology
International health	Epichem
Manufacturing and advanced materials	Austal Ships
Minerals, energy and related services	Westernex Supply
Professional services	Orway IQ
Regional exporter	Derby Industries
Small business	Dutjahn Sandalwood Oils
Sustainability	MetroCount
2021 Western Australian Exporter of the Year	CBH Grain

Western Australian exporter wins environmental award

Western Australian (WA) exporter Austral Fisheries was the winner of the Environment Award at the 2021 WA Seafood Industry Awards.

Austral Fisheries became the first seafood business in the world to achieve carbon neutral certification in 2016; offsetting the emissions created during their operations by planting over 220,000 trees every year in the Yarra Yarra Biodiversity Corridor, four hours north of Perth, in rural Western Australia.

Austral launched its new multi-purpose, carbon neutral fishing vessel, Cape Arkona, in 2020. The vessel utilises electric-hybrid battery technology and a sophisticated system of power-sharing to optimise performance and lower its emissions.

In 2020, Austral launched the Seafood for Good accelerator program to support sustainability-based innovators, and has been a long-time supporter of the Marine Stewardship Council (MSC), with its Commonwealth-managed fisheries certified as sustainable and well managed by the MSC.

Austral Fisheries Chief Executive Officer, David Carter, said his decision to take Austral carbon neutral was made while on a trip to the East Antarctic with 110 others in early 2015.

"It was spending a week with these folk in this incredible place that I was, I confess, transformed," Mr Carter said in his 2020 TEDxPerth presentation.

"For the first time I felt I had permission to talk about climate change and the motivation to do something about it. The



CREDIT: Austral Fisheries

question was, what could I do to make a difference in my position as Austral's CEO – what might a fishing business be able to do about climate?"

Mr Carter said there was no real roadmap for going carbon neutral, but he knew that the numbers had to stack up. He managed to get board approval on 9 December 2015, three days before the signing of the Paris Agreement, an international treaty on climate change.

"On 11 March 2016, with the support of Australia's then Foreign Minister Julie Bishop, who had led the Australian delegation to Paris, we declared to the world that we had been carbon neutral since the beginning of 2016. From the deck of a boat in the Antarctic to that day was 402 days," Mr Carter said.

"I formed the view that business had a chance. Progressive business, with well-informed consumers, could offer hope and make a difference."

Mr Carter continues to urge more businesses to undertake sustainable practices, regardless of their industry.



CREDIT: Tourism Western Australia

Investment in Western Australia's aquaculture

Western Australia (WA) is highly regarded internationally for our safe, premium high-quality agrifood and seafood products.

Extensive pristine coastlines, clean oceans and its unique geographical location make WA attractive for sustainable aquaculture investment and production, and the tropical to cool temperate climate is well suited to a range of fish species.

The most significant growth is anticipated in the sectors culturing marine finfish and shellfish, such as yellowtail kingfish, barramundi, abalone and edible oysters. Emerging and improved technology and new high-value industries such as seaweed, coral and freshwater crustaceans will further diversify the industry in WA.

The WA Government supports the development of sustainable aquaculture operations and is investing in critical infrastructure needed to ensure our industry becomes and remains internationally competitive.

The State has invested in supportive infrastructure initiatives which include:

- Albany Shellfish Hatchery
- Fremantle Marine Finfish Hatchery
- Geraldton Marine Finfish Nursery (planning stages)
- Hillarys Shellfish Research Facility
- Kimberley and Mid West Finfish Aquaculture Development Zones
- South Coast Shellfish Aquaculture Development Zone.

There is opportunity for involvement in early stages of development to plan and capitalise on the future growth of aquaculture in WA.

More information is available through the Department of Primary Industries and Regional Development. Visit www.agric.wa.gov.au/investment/investing-western-australias-aquaculture

World-leading innovation and technology

Western Australia's (WA) most successful and innovative companies were recognised at the annual WA Innovator of the Year awards.

The 2021 awards were presented by then Innovation and ICT Minister Don Punch, who announced the New Industries Fund (NIF) will receive an additional \$16.7 million over four years.

Established in 2017, the NIF will continue to support and accelerate new and emerging businesses, with the aim of diversifying the WA economy and creating new jobs.

Forming part of the Western Australian Government's larger \$180 million Investment Attraction and New Industries Fund, the \$16.7 million NIF will be used to fund successful

programs such as the Innovator of the Year awards over the next four years.

First launched in 2006, the WA Innovator of the Year awards showcase WA's brightest innovators and entrepreneurs, helping them realise the full potential of their innovation.

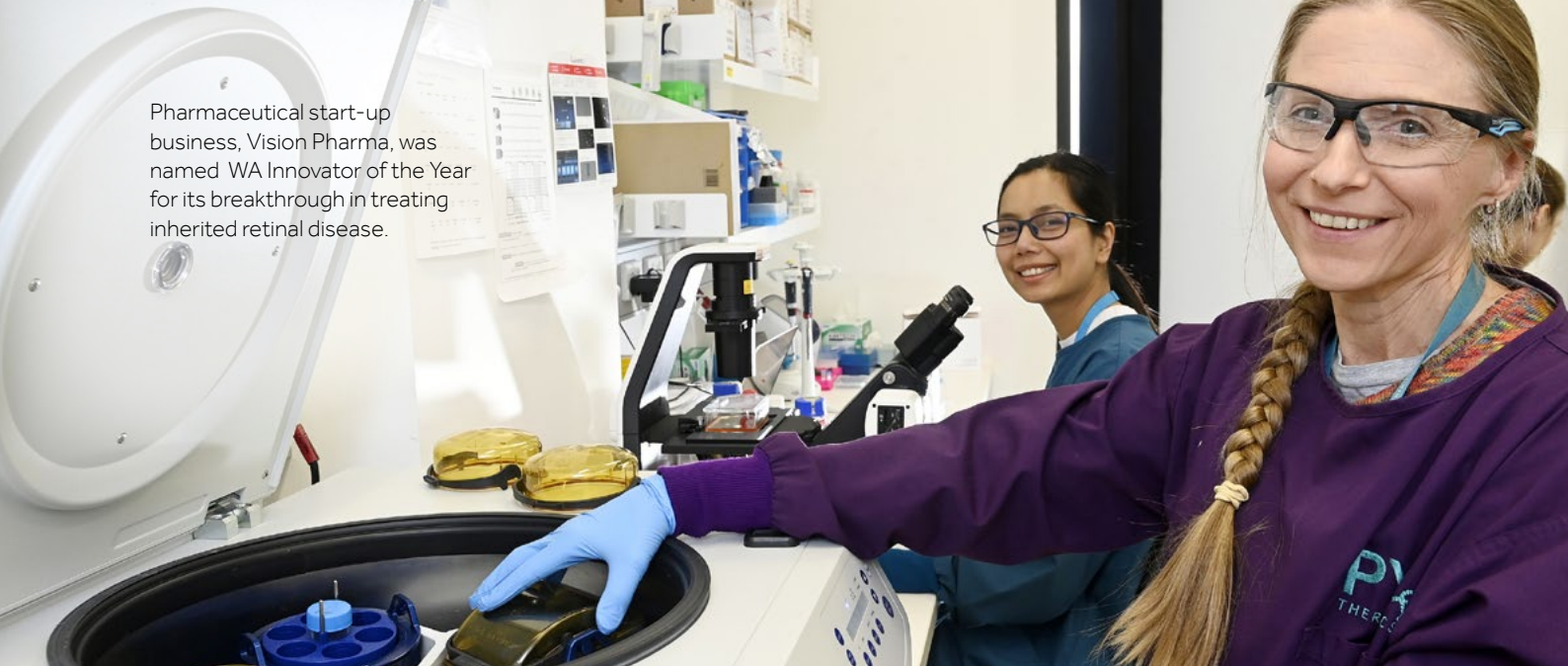
Vision Pharma was named WA Innovator of the Year 2021 and awarded \$70,000. The RNA therapeutics start-up received the award for developing the world's first precision medicine to treat the blinding eye disease Retinitis Pigmentosa type 11.

Winners were named in five other categories and shared \$70,000 in prizes.

"Through initiatives like the Innovator of the Year program, the WA Government is helping the State's emerging businesses commercialise their technologies," Minister Punch said.



Then Innovation and ICT Minister Don Punch with Innovator of the Year winners Vision Pharma.



Pharmaceutical start-up business, Vision Pharma, was named WA Innovator of the Year for its breakthrough in treating inherited retinal disease.

Cutting-edge Western Australian innovators awarded

WA Innovator of the Year 2021 - Vision Pharma

Vision Pharma Pty Ltd received the award for developing the world's first precision medicine to treat the blinding eye disease of childhood Retinitis Pigmentosa (RP) type 11. RP is an inherited eye disease that causes cells in the retina to die, affecting one in every 3,000–4,000 people worldwide. There is currently no treatment available for the condition. VP - 001 is a precision medicine

designed to prevent the progressive loss of vision seen in patients with RP11 and is now set to enter clinical trials in WA.

Winners were named in five other categories and shared in prizes totalling \$70,000:

Rio Tinto Growth Category - Roofus Tools Pty Ltd for their multi-purpose angle square.

Rio Tinto Emerging Category - Navier Medical for their advanced coronary artery assessment project.

Business News 'Great for the State' - VeinTech for their VeinWave project.

Wesfarmers Wellbeing - VitalTrace Pty Ltd for their novel device for monitoring babies during childbirth.

Woodside Oil & Gas - Sapien Cyber Ltd for their building management systems cyber security project.

For more information on the successful recipients, visit www.wa.gov.au/NIF

Search begins for WA's brightest innovators

Applications for the 2022 WA Innovator of the Year program opened in May, with a total prize pool of \$140,000 to be shared across six awards.

The program provides a platform for the State's brightest technology minds to transform an idea into a real business.

"Finalists receive professional support to help commercialise a product, service or

technology that can benefit WA by creating jobs and helping diversify our economy," Minister for Innovation and ICT, Stephen Dawson said.

"This is an exciting opportunity that can help nurture innovation across WA. The WA Government is committed to supporting home-grown innovators to ensure world-leading innovation is created in WA and shared and celebrated across the globe."

The 2022 WA Innovator of the Year program is funded through the \$16.7 million New Industries Fund and supported by primary sponsor Rio Tinto. Program sponsors include Woodside, Wesfarmers, Business News, Wrays, Griffith Hack, Biodesign Australia, CERI, Moore Australia, Murfett Legal and PwC.

For more information visit wa.gov.au/IOTY

WA Project Spotlight

The WA Project Spotlight provides a snapshot of some of the major projects that are either planned, under development or recently completed in Western Australia. Information is drawn from the WA Government's and companies' public statements.

Energy

Lithium Refinery and Concentrator at Mount Holland – Covalent Lithium Pty Ltd

\$1.9 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 has commenced construction of 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.

Kemerton Lithium Hydroxide Processing Plant – Albemarle Corporation

\$1.0 billion – Under construction

500 construction jobs, 500 operational jobs

In January 2019, Albemarle commenced earthworks for its Kemerton Lithium Plant within the Kemerton Strategic Industrial Area, 17 kilometres north-east of Bunbury.

The Albemarle Kemerton Plant will process spodumene ore concentrate to produce lithium hydroxide. The initial capacity will be 50,000 tonnes a year with potential to expand to 100,000 tonnes a year over time.

Lithium Hydroxide Plant – Tianqi Lithium Corporation

Energy – Lithium

\$988 million – Operating and under construction

900 construction jobs, 175 operational jobs

Tianqi Lithium is constructing a lithium hydroxide plant in the Kwinana Industrial Area, south of Perth in Western Australia, to meet rapidly growing demand for rechargeable batteries driven primarily by the electric vehicle and energy storage system industries.

Once fully operational, the two-stage plant will produce 48,000 tonnes of battery grade lithium hydroxide a year.

Asian Renewable Energy Hub – Consortium

\$48 billion – Under consideration
5,000 construction jobs, 3,000 operational jobs

The Asian Renewable Energy Hub will be a green hydrogen and ammonia production facility. The project includes a 26 gigawatt hybrid wind and solar power plant that will produce at export scale, as well as supply industries in the Pilbara and Broome regions, creating new jobs and supporting economic growth over the next 50 years.

The companies have also proposed a \$90 billion project on the Nullarbor – the Western Green Energy Hub – which would produce 50 gigawatts of wind and solar power to make 3.5 million tonnes a year of green hydrogen for the export of 20 million tonnes of green ammonia.

Pluto Train 2 and Scarborough Gas Field – Woodside Petroleum Ltd

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

Pluto is currently a single train 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 two offshore fields – Pluto and Xena.

Woodside announced a final investment decision for Pluto Train 2 and the Scarborough Gas Field in November 2021. The first cargo is targeted for 2026.

The expansion includes the construction of a second gas processing train. Pluto Train 2 will process gas from the Scarborough gas resource and have the capacity to produce around 5 million tonnes of LNG a year.

The final investment decision includes modifications to Pluto Train 1 to allow for processing of up to 3 million tonnes per annum of Scarborough gas, and installation of domestic gas infrastructure with capacity of around 225 terajoules per day.

Mining and Mining Equipment, Technology and Services (METS)

Nickel Sulphate Plant – BHP Nickel West

\$63 million – Operating
200 construction and 80 operational jobs

The nickel sulphate plant is co-located at BHP's nickel refinery south of Perth in Kwinana. The plant will be one of the world's largest of its kind, initially producing 100,000 tonnes of nickel sulphate a year for the electric vehicle market.

BHP is considering plans for an expansion of the nickel sulphate plant and investigating the possibility of building a plant capable of producing cathode precursors.

Iron Bridge – Stage 2 – Fortescue Metals Group

\$5 billion – Under construction
3,000 construction and 900 operational jobs

Iron Bridge is a \$5.0 billion magnetite concentrate project comprising the North Star and nearby Glacier Valley deposits, 145 kilometres south of Port Hedland.

The proposal follows the completed Stage 1 of the project: a \$500 million development of a large scale pilot plant that validated the key equipment and magnetite production processes for the full scale Stage 2 ore processing facility.

The magnetite concentrate product will be transported through a slurry pipeline between Iron Bridge and Port Hedland.

Gudai-Darri – Rio Tinto

\$3.6 billion
3,000 construction and 600 operational jobs

Gudai-Darri is an open pit iron ore mine located in the Pilbara. The first phase of Gudai-Darri will incorporate a processing plant, associated infrastructure and a 166 kilometre rail line. The project is expected to ramp up production during 2022, with production reaching 43 million tonnes in 2023.

Gudai-Darri will be a technologically advanced mine, having an increased level of automation and digitisation and using autonomous trucks, trains and drills.

Rio Tinto is building a 34 megawatt solar farm consisting of 83,000 solar panels that will power one-third of Gudai-Darri's electricity needs, with completion expected in 2022.

Space Industries

Square Kilometre Array – SKA Observatory

\$387 million – Committed
350 construction and 230 operational jobs

The Square Kilometre Array (SKA) project will build the world's largest and most capable radio telescope. The SKA will expand the understanding of the universe and drive technological developments worldwide.

Australia's Murchison Radio-astronomy Observatory (MRO) will host the low frequency telescope, SKA Low. The SKA-Low site is located 800 kilometres north of Perth in the Australian Radio Quiet Zone, to protect the telescope from radio interference from electronic devices.

The Commonwealth Scientific and Industrial Research Organisation (CSIRO) operates the MRO. SKA Low will consist of 131,072 antennas (512 arrays – each comprising 256 antennas) spread across 65 kilometres.

Procurement of the SKA has begun and works on the ground are expected to begin in early 2022.

The Wajarri Yamaji have played an important role in enabling Australia to co-host the SKA.

The Australian SKA Office and CSIRO are working with the Wajarri Yamaji to negotiate a land use agreement to access the site and realise the SKA project on Wajarri Yamaji country.

West Australian Space Radar (WASR) – LeoLabs

Under construction

In October 2021, LeoLabs announced the construction of its sixth radar site near Bunbury in Western Australia.

LeoLabs provides a commercial 'mapping platform for space' through its global network of space radars and cloud-based data solutions, which enable safe, secure, and sustainable space operations.

Placement of the WASR near Bunbury will significantly expand LeoLabs' coverage of Low Earth Orbit (LEO) in the southern hemisphere. It also adds critical coverage in the Indo Pacific region that addresses an important early orbit corridor for LEO from Asia, while maintaining additional coverage of polar and sun-synchronous orbits in the Indo Pacific region.

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 Commonwealth Government,

WA 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 moving the Edith Cowan University law and business schools 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, thousands of students and staff will be brought into the Perth CBD.

Other elements of the Perth City Deal are:

- 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 Robotics, Automation and AI Command Control Complex.
- Funding towards a WA Indigenous Business and Employment Hub in partnership with the Wirrpanda Foundation.

Total Solar Eclipse

\$21 million – Committed

Exmouth has been identified as the best land-based town in the world to view the Total Solar Eclipse, which will occur on 20 April 2023 across the North West Cape. Much of Western Australia will experience a partial solar eclipse as the Moon tracks in front of the Sun.

Thousands of tourists are expected to visit the Ningaloo coast with particular concentrations at Carnarvon, Coral Bay, Exmouth and Onslow – all either directly under or near the eclipse's 'path of totality'.

The WA Government has committed \$21 million to prepare for the Total Solar Eclipse. Funding will be used for upgrades in road and community infrastructure, improvements to telecommunications across the region, and event and waste management costs.

The eclipse will generate opportunities for tourism operators and other local businesses, with thousands of international and domestic visitors expected to travel to the Coral Coast region.

Primary Industries

Karratha Urea Plant – Perdaman Industries

**\$4.5 billion – Proposed
2,000 construction and
200 operational jobs**

The Perdaman Group is proposing to build a urea plant in the Burrup Strategic Industrial area with the capacity to produce 2 million tonnes a year of urea. The plant would 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 Fertilizers Pty Ltd, to supply up to 2.3 million tonnes a year of granular urea fertilizer from the proposed urea plant.

Pardoo Beef – Pardoo Beef Corporation

**\$200 million – Operating
750 jobs**

Pardoo Beef Corporation is leading a shared investment of \$200 million in the Pilbara region to develop a world class Western Australian Wagyu beef industry.

Pardoo Beef Corporation plans to establish a regional breeding herd of more than 100,000 Wagyu animals by 2031, and is working with its pastoral partners and relevant government agencies to develop 6,000 hectares of irrigated crops using groundwater from regional water resources. This will allow Pardoo

Beef Corporation and partners to drought-proof operations, develop and background weaners year round, and increase the fecundity of breeding heifers through increased nutrition.

Pardoo Beef Corporation works closely with the Ngarla people, the Traditional Owners of Pardoo Station, the Wanparta Aboriginal Corporation and Mowanjum Aboriginal Corporation to ensure shared community benefits are achieved.

Defence Industries

Australian Marine Complex upgrade

**\$87.6 million –
Under construction
600 construction jobs**

The WA Government is funding upgrades to the state's major industrial hub, Henderson's Australian Marine Complex (AMC). The upgrades include a wharf extension, vessel transfer path, three road intersections upgrades and construction of a new ship building fabrication hall.

The upgrades will see the existing Berth 1 extended by approximately 153 metres and include the upgrade of existing services on AMC wharves 1, 2 and 3. Additional berth capacity for all Royal Australian Navy vessels, including Anzac class frigates and the future Hunter class frigates will be created. The project will also include the design of a new 200 metre Finger Wharf to create Berths 7 and 8, to increase future capability to support larger naval vessels.



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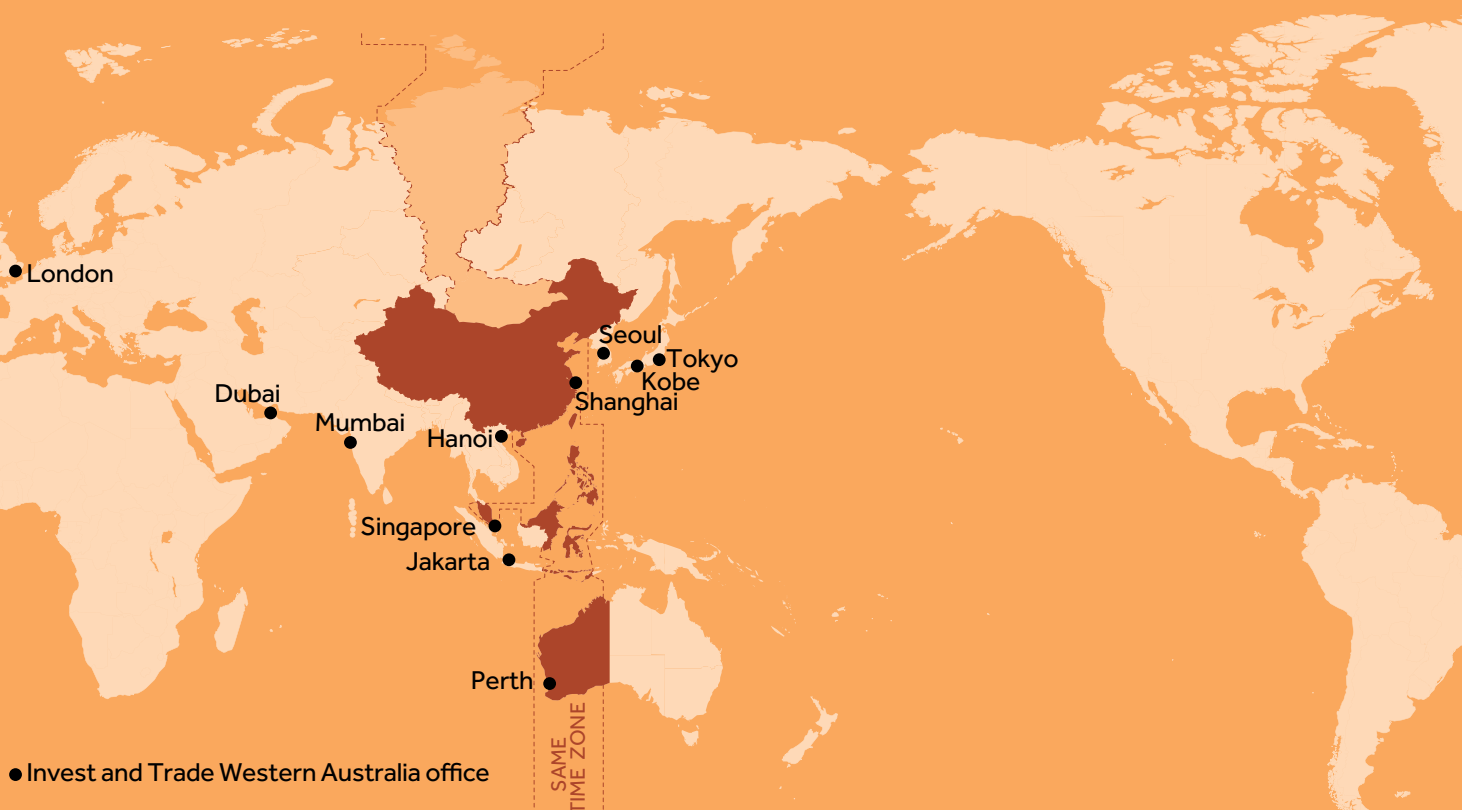
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