

Blockchain and crypto assets innovation

An Australian perspective on current trends, developments and challenges

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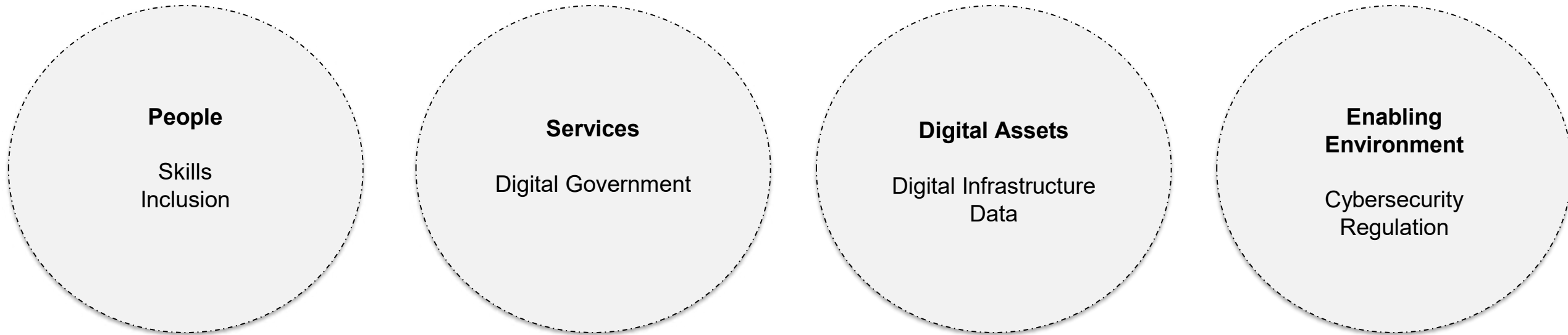
Agenda

- Australia and digital economy.
- Australia's activities and approach to Blockchain technology and crypto-assets.
- National Blockchain Roadmap.
- Current developments.
- Regulatory provisions.
- Future outlook and points of consideration.

Australia as a technology and finance hub

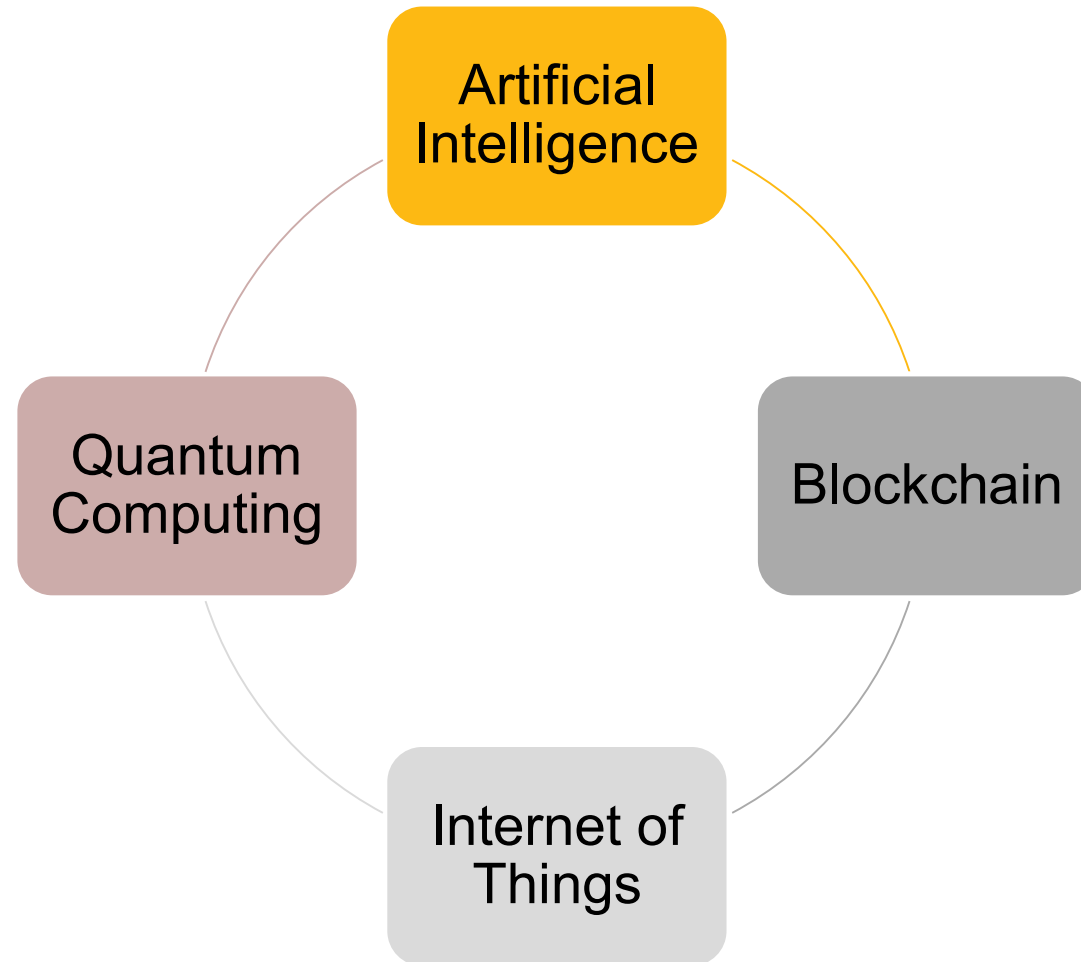
Participating in the digital economy

Digital Economy Strategy: Australia's Tech Future



Sets clear outcomes, identifies opportunities and areas that need further focus and outlines government focus

Digital Economy Strategy: Key Technologies





Blockchain activity in Australia

Australian perspective

- Increase since 2010.
- 50% undertaken by Blockchain firms and startups or larger companies being active in Blockchain projects and/or trials. Collaborative projects grounded on consortia are also present.
- Industry potential is estimated to be USD175 billion annually within five years and USD3 trillion by 2030.
- Single application product (50.7%), greater productization (18.1%), provision of Blockchain-related services (31.2%).
- Most activities are in capital cities (Sydney and Melbourne) vs regional.
- Leading industry is financial and insurance services.

Source: Bratanova, A., Devaraj, D., Horton, J., Naughtin, C., Kloester, B., Trinh, K., Weber, I., Dawson, D. (2019) Blockchain 2030: A Look at the Future of Blockchain in Australia. CSIRO Data61: Brisbane, Australia.



Strategic value: Australia's perspective

The future is technology by Blockchain

- “It may well be the solution to one-touch government with international transactions in real-time. It will eliminate our time zone problem, which has been a problem for Australia over the long run ... Blockchain technology can streamline regulatory processes, reduce fraud and reduce costs to regulatory compliance and administration [...] it can help Australia rebuild confidence and trust in financial services in a post-Hayne Royal Commission world”.



Senator Andrew Bragg
Chair, Senate Select
Committee on Financial
Technology and
Regulatory Technology



PARLIAMENT of AUSTRALIA

Source: [Australian FinTech](#)

The future is technology by Blockchain

- Changed the name to the ‘Select Committee on Australia as a Technology and Financial Centre’.
- “The work of the Committee so far has clearly shown Australia is well poised for rapid growth in the sector to attract investment and create jobs [...] This is the ideal time to widen our scope and explore new opportunities for Australia as a technology and finance centre arising from the COVID-19 pandemic [...] it is critical to use this opportunity to consider opportunities in: a) cryptocurrency and digital assets, b) neobanking and c) Instances of corporate law holding back investment”.



Senator Andrew Bragg
Chair, Senate Select
Committee on Financial
Technology and
Regulatory Technology



PARLIAMENT of AUSTRALIA

Source: [Andrew Bragg](#)

Select Committee on Australia as a Technology and Financial Centre

Blockchain and crypto recommendations

- Establish a market licensing regime for Digital Currency Exchanges, including capital adequacy, auditing and responsible person tests under the Treasury portfolio.
- Establish a custody or depository regime for digital assets with minimum standards under the Treasury portfolio.
- Conduct, through Treasury and with input from other relevant regulators and experts, a token mapping exercise to determine the best way to characterise the various types of digital asset tokens in Australia.
- Establish a new Decentralised Autonomous Organisation company structure.
- The Anti-Money Laundering and Counter-Terrorism Financing regulations be clarified to ensure they are fit for purpose, do not undermine innovation and give consideration to the driver of the Financial Action Task Force ‘travel rule’.

Select Committee on Australia as a Technology and Financial Centre

Blockchain and crypto recommendations (cont.)

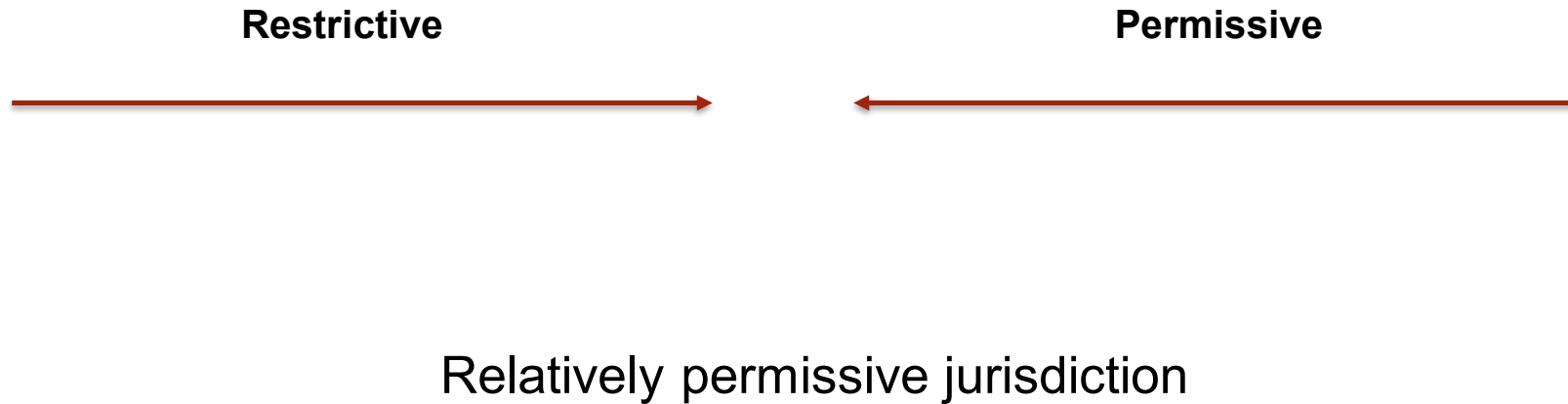
- The Capital Gains Tax (CGT) regime to be amended so that digital asset transactions only create a CGT event when they genuinely result in a clearly definable capital gain or loss.
- Amend relevant legislation so that businesses undertaking digital asset ‘mining’ and related activities in Australia receive a company tax discount of 10 per cent if they source their own renewable energy for these activities.
- The Treasury lead a policy review of the viability of a retail Central Bank Digital Currency in Australia.
- Enact, through the Council of Financial Regulators, the recommendation from the 2019 ACCC inquiry into the supply of foreign currency conversion services in Australia that a scheme to address the due diligence requirements of banks be put in place, and that this occur by June 2022.

Select Committee on Australia as a Technology and Financial Centre

Blockchain and crypto recommendations (cont.)

- Develop a clear process for businesses that have been de-banked so as to increase certainty and transparency around de-banking. This should be anchored around the Australian Financial Complaints Authority which services licensed entities.
- Common access requirements for the New Payments Platform should be developed by the Reserve Bank of Australia, in order to reduce the reliance of payments businesses on the major banks for the provision of banking services.
- Establish a Global Markets Incentive to replace the Offshore Banking Unit regime by the end of 2022.

Developing a strategy for Australia





National Blockchain Roadmap

Background and aims

- February 7th 2020.
- Australian Government, Department of Industry, Science, Energy and Resources.
- Developed in conjunction with industry, universities and government representatives to explore potential benefits of Blockchain technology.
- Definition on the ways Blockchain technology can benefit the Australian economy within the next five (5) years.
- Creation of new economic growth and improvement of productivity.
- Consultation document and not obligatory as a regulatory framework.

Blockchain Australia

- “The promise of the Blockchain industry is extraordinarily expansive. Before we build out that capability we need a renewed focus on establishing confidence. Confidence in our vision, confidence in the regulatory frameworks that underpin this emergent technology and confidence in the people and organizations that will drive the uptake in this space.”



Steve Vallas
Chief Executive Officer



Source: [BraveNewCoin](#)

Key sectors

Agriculture

Inventory tracking,
automated payments,
provenance
traceability

Education

Credentialing,
management and
sharing, recording
and referencing

Financial Services

KYC procedures,
sharing KYC
information securely
and at speed

Steering committee

- Steering Committee.
- Responsible for overseeing the implementation of the roadmap.
- Representatives and experts from government, academia and industry.

Establish a collaborative model comprising working groups of industry, the research sector and government to progress analysis on the next use cases.

Four working groups

- Supporting the committee to a) explore the current state of identified use cases and economic opportunities they present and b) identify technical, regulatory or other barriers to adopting Blockchain.
- Observed by various government agencies and by Standards Australia to ensure that cross-cutting issues are reported back to relevant forums.

Four working groups (cont.)

Working Group	Aim and Objective
Supply chains	<ul style="list-style-type: none">• Established in August 2020.• Investigate the potential of Blockchain technology to support trusted supply chains.• Initial focus on the agriculture sector.
Credentialing	<ul style="list-style-type: none">• Established in August 2020.• Investigate the potential of Blockchain technology to support credentialing in the education sector.
Cybersecurity	<ul style="list-style-type: none">• Established in October 2020.• Investigate the potential of Blockchain technology to bolster cybersecurity.
RegTech	<ul style="list-style-type: none">• Established in October 2020.• Investigate the potential of Blockchain technology to aid businesses in meeting their regulatory compliance obligations in more secure and efficient ways.

Australian Public Sector (APS) Blockchain Network

- Community of practice.
- Building capacity in Blockchain within the government.
- Open to public servants interested in Blockchain technology at any level in the Australian Government.



Current developments

Governmental support

- The Federal Government has set aside approximately A\$800 million to invest in digital technologies.
- This investment is part of Australia's COVID-19 recovery plan.
- Blockchain technology has been specifically mentioned under a A\$6.9 million initiative for two industry-led pilot programs aiming at reducing regulatory compliance costs and supporting broader usage by Australian businesses.

Governmental Support

- “A strong FinTech ecosystem means a more competitive financial market landscape-one that is consumer-driven, efficient and among the world’s leaders. As a mature, diverse and internationally connected ecosystem, Australia is an attractive destination for FinTech investment globally. The Morrison government is seizing this valuable opportunity to grow the sector even further”.



Senator Jane Hume
Assistant Minister for
Superannuation,
Financial Services
and Financial
Technology



Australian Government

Source: [Finextra](#)

Central Bank Digital Currency

- The Reserve Bank of Australia has partnered with Commonwealth Bank, National Australia Bank, Perpetual and ConsenSys Software (November 1st 2020).
- Collaborative project on the exploration of the possible use and the effects of a wholesale form of CBDC by means of distributed ledger technology.
- Development of a Proof-of-Concept for the issuance of the tokenized form of CBDC.
- The form can be issued for funding, settlement and repayment of a tokenized syndicated loan on an Ethereum-based DLT platform dedicated to wholesale participants.
- Exploring the implications of “atomic” delivery vs payment settlement.
- Explore potential programmability and automation features of tokenized CBDC and financial assets.

Reserve Bank of Australia and CBDCs

- “With this project we are aiming to explore the implications of a CBDC for efficiency, risk management and innovation in wholesale financial markets transactions [...] While the case for the use of a CBDC in these markets remains an open question, we are pleased to be collaborating with industry partners to explore if there is a future role for a wholesale CBDC in the Australian payments system”.



Michele Bullock
Assistant Governor
(Financial System)



Source: [ITWire](#)

Reserve Bank of Australia and CBDCs

Project Dunbar: international settlements using multi-CBDCs

- Test the use of central bank digital currencies (CBDCs) for international settlements.
- The project will also explore the development of technical prototypes using distributed ledger technologies of Corda and Quorum.
- Improving cross-border payments with multiple-CBDCs.
- Transacting on a multi-CBDC shared platform (design and development).
- Challenges: governance, access, regulations and jurisdictional boundaries.



RESERVE BANK
OF AUSTRALIA



BANK NEGARA MALAYSIA
CENTRAL BANK OF MALAYSIA



Monetary Authority
of Singapore



South African Reserve Bank

Source: [Bank for International Settlements](#)

ASIC Approval of cryptocurrency-backed ETF

- On October 29th, 2021, ASIC have approved cryptocurrency backed exchange traded funds or ETFs to be traded on local market operators such as the ASX and Chi-X.
- However, only ETFs backed by Bitcoin and Ethereum are allowed for now.
- Some conditions for issuing crypto-backed products includes:
 - The appointment of a crypto expert custodian and put in at least \$10 million in net tangible assets.
 - Compensate investor for assets lost and clearly disclose risks of crypto assets investing like cybercrime, market looses, environmental impact of mining and holdings of crypto-coins.



ASIC
Australian Securities &
Investments Commission

Source: The [Australian Financial Review](#)

Australian Securities Exchange



- A really critical piece of Australia's financial market infrastructure.
- Utilization of Blockchain in order to clear and settle trades in Australian equities.
- Replacement of the 25-year old Clearing House Electronic Subregister System (CHES) with a permissioned DLT infrastructure.
- Positioning Australia at the forefront of digital innovation in financial markets.
- Enabler of innovation for business, customers, issuers and investors.
- Project has been pushed back due to concerns raised by stakeholders, along with, the foreseen impact of COVID-19. Revised target date is April 2023.
- Technical, operational and regulatory information still blurry.
- Lack of a solid governance framework.

Sources: [The Financial Times](#), [The Australian Financial Review](#), [The Trade News](#) and [Ledger Insights](#)



Australian Securities Exchange (cont.)

- The project has sparked a lot of political pressure and frictions.
- Fears of monopoly suggesting the creation of an independent governance structure and appoint an outside expert to review it,.
- A diverse range of views amongst key stakeholders regarding the status of the project.

Sources: [The Financial Times](#), [The Australian Financial Review](#), [The Trade News](#) and [Ledger Insights](#)

Australian Securities Exchange (cont.)

- “Replacing CHES is an important and innovative project, with significant long-term benefits for Australia’s financial market users. It is ASX’s responsibility to deliver it in a **safe and timely manner**, and to consider the feedback from all our stakeholders [...] COVID-19 continues to impact some participants in the industry. This includes the effect on collaboration and productivity, the importance of digitising processes and the desire to further reduce cut-over risk for the new system”.
- A really critical piece of Australia’s financial market infrastructure.



Dominic Stevens
Chief Executive Officer



Sources: [The Financial Times](#), [The Australian Financial Review](#), [The Trade News](#) and [Ledger Insights](#)

Australian Securities Exchange and Cryptocurrency ETFs

- Local Investors are significantly exposed to the wild swing of the cryptocurrency market.
- ASX launched Australia's first cryptocurrency ETFs called the "BetaShare Crypto Innovators ETF" under the ticker CRYP.
- Debut on the 4th of November 2021, selling at \$11.23 per unit.
- Within 15 minutes of launched attracted \$8 million worth of trades.
- Closed the day with net buys of \$39.7 million.
- The fund gives investors access to cryptocurrencies volatility in a regulated manner.



Sources: The [Australian Financial Review](#)

Australian Securities Exchange and Cryptocurrency ETFs

“This is a welcome development for those [Australian] investors and financial advisors who are seeking crypto exposure but are uncomfortable with buying and selling cryptocurrencies on unregulated exchanges. In many ways, the inherent benefits of a regulated ETF – convenience, transparency and cost effectiveness – are additive for many investors seeking exposure to cryptocurrencies”.



Alex Vynokur
Chief Executive Officer



Sources: [StockHead](#)



Commonwealth Bank

To offer crypto services to customers

- Australia's first bank to offer customers the ability to buy, sell and hold crypto assets, directly through the CommBank app.
- Gemini: one of the world's largest regulated crypto exchanges and custodians.
- Chainalysis: leading Blockchain analysis firm.
- Progressively rollout more features to more customers in 2022.
- Access to up to ten selected crypto assets including Bitcoin, Ethereum, Bitcoin Cash and Litecoin.

Sources: [Commonwealth Bank](#)

Commonwealth Bank

To offer crypto services to customers (cont.)

- “The emergence and growing demand for digital currencies from customers creates both challenges and opportunities for the financial services sector, which has seen a significant number of new players and business models innovating in this area. We believe we can play an important role in crypto to address what’s clearly a growing customer need and provide capability, security and confidence in a crypto trading platform”.

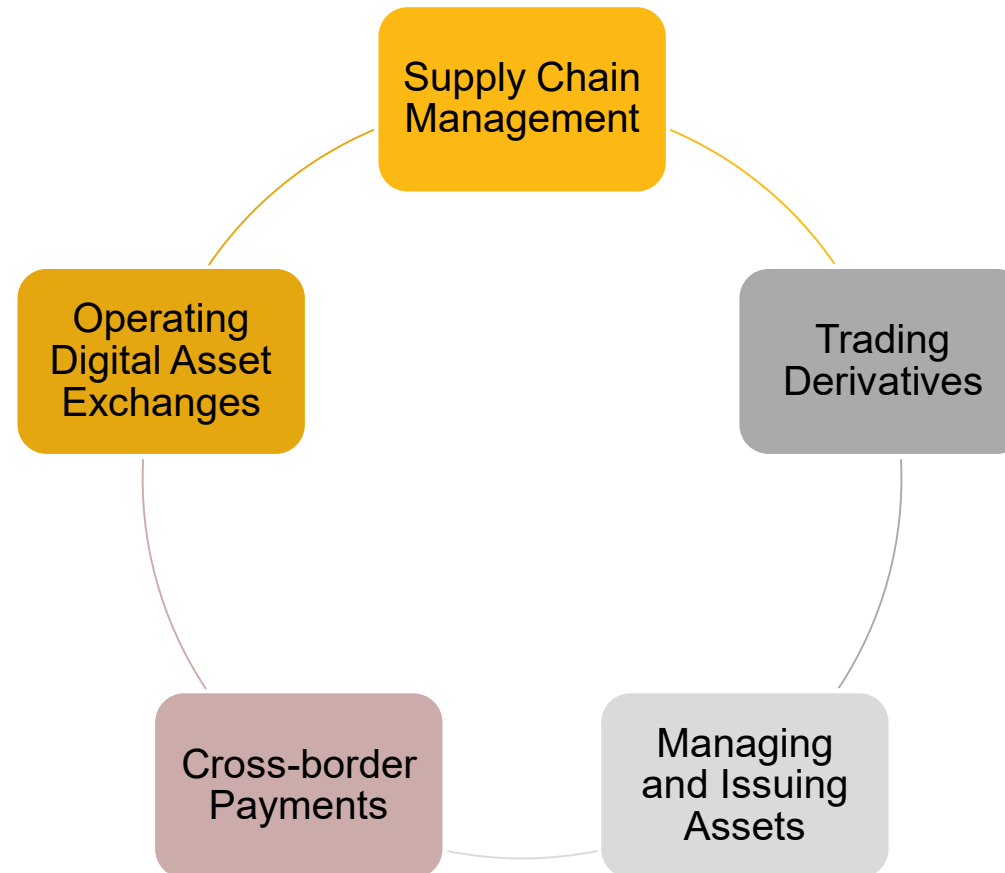


Matt Comyn
Chief Executive Officer



Blockchain technology

Enterprise adoption: main areas of focus



Public sector

Projects of interest

- Australian Taxation Office (ATO): validating the dealer history of cars in a hackathon around Luxury Car Tax compliance.
- National Disability Insurance Scheme (Blockchain and the New Payments Platform): creation of “smart money” that has the capability of managing insurance pay-outs, budgeting and trust management (Commonwealth Bank of Australia and CSIRO’s Data61).

Blockchain and cross-border trading



- Australian Border Force (ABF).
- Singapore Customs and the Singapore Infocomm Media Development Authority (IMDA).
- Blockchain trail on testing digital-verification systems.
- United Nations Centre for Trade Facilitation and Electronic Business.
- Blockchain for inter-government document exchange (Intergovernmental Ledger).
- Paperless trading, secure digital exchange of trade information.
- Intergovernmental Ledger (IGL) by ABF and TradeTrust by IMDA.
- Australia-Singapore Digital Economy Agreement.

Blockchain and cross-border trading (cont.)

- “This leads to the importing regulator to rely upon physical documents-supported by signatures and wet stamps-to validate the claim or information on that document, rather than being able to use digitised data. Moving these paper documents adds costs and delays to the international trade process [...] The IGL aims to assess the viability of replacing paper documents with high-integrity digital processes. IGL involves a Blockchain solution that will help streamline the process, reduce costs and reduce compliance issues at the border by creating a ledger of electronically verifiable digital documents, suitable for all trading partners” (p. 28).



National Blockchain
Roadmap

Australian Dairy Farmers

- Blockchain and Federal's Government Traceability Framework.
- Real-time dairy payment system and supply chain information sharing capacity.
- Data structure, which holds transactional records.
- Phase 1: Education.
- Phase 2: Field trial aiming at quantifying benefits and setting up for a more digitalized future.
- Incentives: competitiveness of prices, trading practices, supply chain optimization.
- Perceived benefits: optimal information management, new forms of contractual relationships, trust building, transparency and efficiency.
- GS1 Australia, Data61|CSIRO and the dairy industry.

Australian Dairy Farmers

- “All sides know they are all looking at the same records and the history of their business relationship [...] open, transparent and trustworthy systems are important for long-term sustainability and global competitiveness [...] building on standards already used in transport and logistics, warehousing, distribution, retailing and eCommerce ensures Australian producers and processors can participate efficiently and effectively in global markets”.



David Littleproud
Minister for Agriculture, Drought and
Emergency Management



Australian Government
**Department of Agriculture,
Water and the Environment**

Source: [Technology Decisions](#)

Blockchain-based livestock traceability



- A world-first livestock traceability platform for the Australian beef.
- Trial-tracked beef from a New South Wales farm via Brisbane to Shanghai China.
- Tracking of frozen beef products to ensure that they were kept under safe conditions.
- Internet-of-Things devices to record temperature and location data.
- Data recorded to a private version of Ethereum.
- Platform uses an electronic National Vendor Declaration (eNVD) app.
- App is able to integrate farm accreditation and management data into one system.
- A “product-to-plate” solution within future expansion plans.

Blockchain technology

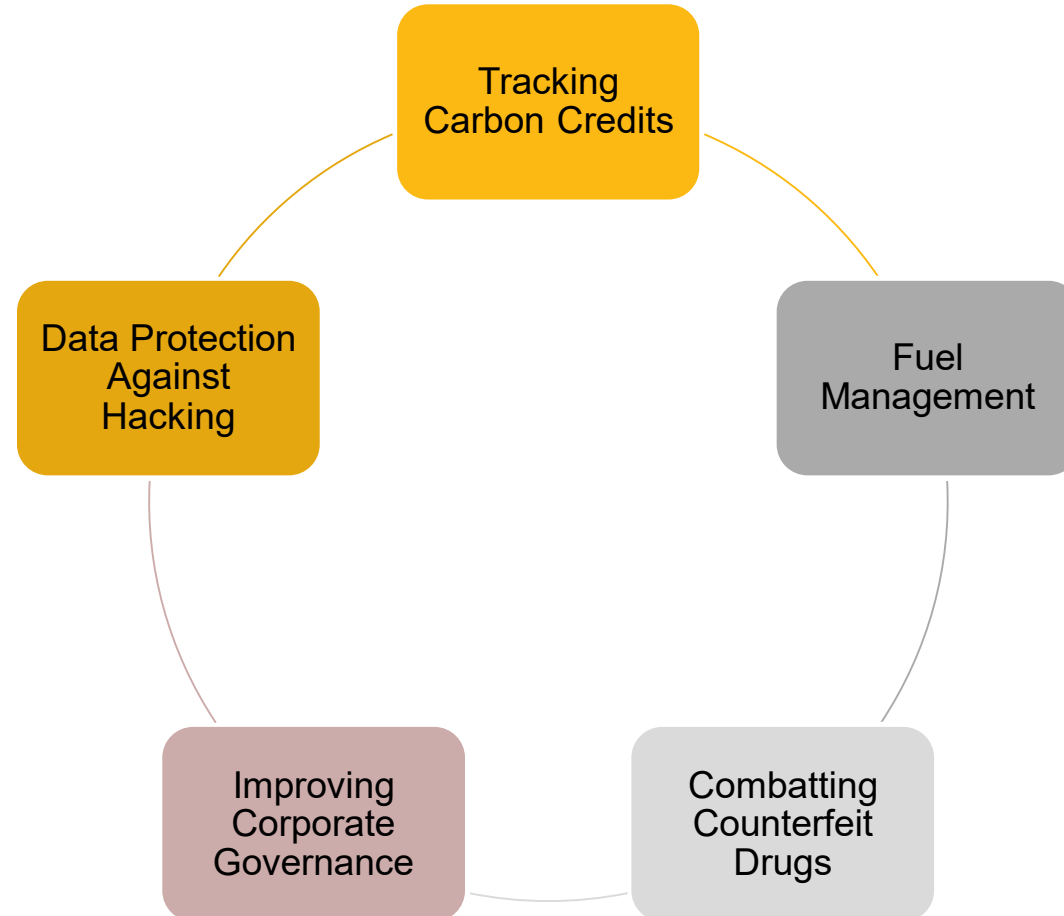
Other interesting use-cases/applications

- World Wildlife Foundation Australia and the Pacific Islands' tuna industry: Blockchain technology for verifying the sources of tuna sold to fish markets in order to ensure they haven't been sourced from illegal, unreported and unregulated fishing sources.
- Power Ledger: secure Blockchain-based marketplaces for renewable energy. Buying and selling renewable energy and facilitating fractional ownership of renewable power plants such as solar farms and community battery systems.



Blockchain technology

Improving ESG outcomes





Regulatory provisions

Regulatory Sandbox

- Treasury Laws Amendment (2018 Measures No. 2) Bill 2019: will establish the framework to allow testing of financial products without holding a financial services or credit licence in Australia (enhanced regulatory sandbox).
- Australia's regulatory sandbox framework is comprised of **three broad options** for testing a new product or service without a licence. Those options are:
 - relying on existing statutory exemptions or flexibility in the law-such as by acting on behalf of an existing licensee.
 - relying on Australian Securities and Investments Commission (ASIC)'s 'FinTech licensing exemption' for the testing of certain specified products and services; and.
 - for other services, relying on individual relief from ASIC.

Cryptocurrency regulation

- 2020.
- Council of Financial Regulators.
- Recommendations to the Treasurer.
- A new regulatory model “**stored-value facilities**” that would regulate funds held in digital wallets, which are not bank deposits.
- Calibra, Facebook's suggested wallet for Diem (f.k.a. Libra), and other large digital wallets would be regulated by the Australian Prudential Regulation Authority (APRA), and smaller players regulated by ASIC.

Source: [The Australian Financial Review](#)

Cryptocurrency regulation

- 2019.
- Australian Taxation Office.
- **Guidance framework** on the taxation on cryptocurrencies.
- Bitcoin and other cryptocurrencies are defined as **forms of property** that are **taxable**.

Source: [Global Legal Insights](#)

Cryptocurrency regulation (cont.)

- April 2018.
- Regulation of cryptocurrencies in the context of digital asset trading.
- Australian Transaction Reports and Analysis Centre [Agency for tax evasion, money laundering and forms of financial crime]
- Regulations for digital currency exchange operators (DCEs) in Australia.

Australia is among the first countries globally to introduce AML/CFT regulation

DCEs are required to **register with the authorities** and maintain a **compliant AML/KYC** policy

Improving trust in the cryptocurrencies space

Source: [Global Legal Insights](#)

Cryptocurrency regulation (cont.)

- 2018.
- Initial Coin Offerings and cryptoassets.
- Regulated by the Australian Securities and Investments Commission.
- Oversees them under the Corporations Act 2001 and the Australian Securities and Investment Commissions Act 2001.
- Cryptocurrency with similar features to existing financial products or securities **will trigger the relevant regulatory obligations.**
- 2019 Treasury consultation.
- Relevant regulatory frameworks to be determined.

Source: [Global Legal Insights](#)

Cryptocurrency regulation (cont.)

- July 2017.
- Department of Treasury.
- Removing the **double taxation** of good and services tax on digital currencies.

Prior cryptocurrency users had to pay GST twice a) when purchasing digital currency and b) when purchasing goods and services subject to the GST

Source: [Global Legal Insights](#)

Cryptocurrency regulation (cont.)

- 2017.
- Australian government.
- Anti-Money Laundering and Counter-Terrorism Financing Amendment Act.

Cryptocurrencies and tokens fall under the scope of Australia's **anti-money laundering regime**.

Source: [Global Legal Insights](#)



Future outlook and points of consideration

Positioning Blockchain within the Australian economy

- Large companies are taking a very close look at Blockchain.
- Main reasons include the gradual maturity of the space and the emergence of problems that could be tackled by Blockchain, especially in light of the COVID-19 pandemic.
- Supply chain safety, digital identity, and distributed computing are considered as the most promising areas of exploring the application of Blockchain.

Insights and vibes from the ecosystem

- Transformative potential of Blockchain innovation.
- Long-term implications are not yet fully understood.
- Clear standards and expectations.
- Continuous evolution of applications.
- Governance mechanisms.
- Regulatory clarity and harmonisation.
- Greater inclusivity and technology resilience.
- Cybersecurity issues and privacy concerns.

My opinion

- Interconnectivity with other technologies (AI/ML, IoT, Cloud).
- Geopolitical opportunities and competition - global reach and international competitiveness as a FinTech hub.
- Cross-collaboration across industry domains, disciplines and sectors.
- Increased demand for talent and Blockchain-related skills (not only technical). Currently a lack is observed that could impact future developments.
- Responsibility of key ecosystem players.
- Pragmatic entrepreneurship and innovation.
- Ecosystem orchestration and coordination.
- Philosophical conundrum.



Thank you very much for your kind
attention!