QUT Capability Statement Blockchain

QUT, the university for the real world, welcomes you to join us at the cutting edge of the technologies that define the future for our society, economy and ultimately each of us.

About Blockchain

Blockchain is an incorruptible digital ledger of transactions. By distributing, rather than centralising, information, it decentralises trust and reduces risk. Best known as the technology behind Bitcoin, it is being exploited in areas such as supply chain management, energy markets or government services (e.g., property records). Blockchain is developing rapidly across multiple sectors around the globe, fuelling entrepreneurial ventures as much as corporate innovation and leads to issues such as security, computational models and business model innovation.

QUT Capability

QUT's research portfolio explores blockchain potential in sectors such as government, auditing, supply chain management and the publishing industry, its impact on new business models, related implications for accounting and regulation as well as technical challenges. Blockchain is taught across faculties, is the core of short courses run through QUT EX and is the subject of regular public presentations to corporate and other clients. Our expertise spans the law, science, business and creative disciplines.

https://research.qut.edu.au/blockchain
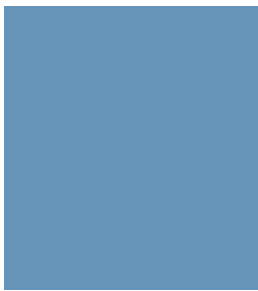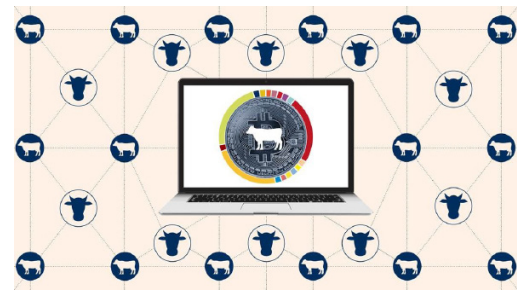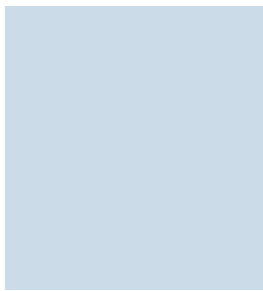
Case Study 1: Beefing up Exports

The Beefledger project researches how to create a trusted, valuable and sustainable supply chain for Australian beef products by replacing the documentation at each stage with an accurate digital register. This would deliver efficiency and improve trust in an industry which exports 70% of its product. The project explores all aspects of a scalable export smart contract including system design, how it would be used and the legal opportunities and challenges to securely store accurate information, which meets regulatory requirements. Beefledger also tests how to improve engagement and correct use of the technology to optimise its effectiveness.

Investigators: Marcus Foth, Uwe Dulleck, Felicity Deane

Case Study 2: Rights for Writers

Rapid changes in book publishing encourage new relationships between publishers, authors and audiences in this key Australian copyright industry. Blockchain presents the opportunity to decentralise and open up production processes in ways that could radically enhance access to culture while creating new commercial pathways. This project examines the efficacy of this by engaging book publishers and authors in an experiment to create a collection of short stories underpinned by smart contracts that encode rights management, distribution incentives and author royalties.

Investigators: Mark Ryan, Nicolas Suzor, Kylie Pappalardo, Arthur ter Hofstede, Suriadi Suriadi, Michael Adams

QUT's Blockchain Portfolio

Our researchers are exploring the many capacities of blockchain and welcome opportunities to apply their work to the real world issues of our society and economy.

- Adjustment of the accounting industry and its tasks (including audit) to blockchain
- Redesigned administrative practices to aid policy and governing bodies leverage blockchain
- Blockchain adoption by the public sector
- Use of blockchain for rights management in commercial publishing and other media sectors
- The effectiveness of blockchain in food security
- Use of blockchain in fundraising (i.e. equity and debt), particularly in areas such as infrastructure

Technical, computational and integration issues

- The computational and communication complexity in blockchain
- Efficient consensus mechanism exploiting advances in cryptography
- Integration of blockchain for seamless process execution across multiple parties

User- and customer-centric adoption studies

- Determine how trust and understanding impacts consumers' use of blockchain
- Best means to use blockchain to improve the ability of Australians at risk of digital exclusion
- Develop understanding of legally acceptable smart contracts that satisfy end users

Business, managerial and governance issues

- Appropriate multi-stakeholder governance of blockchain
- Use of decision rights through blockchain in the corporation
- New opportunities through blockchain to balance economic and social goals
- Use of blockchain for business model innovation, particularly in sharing economies or crowdsourcing

The QUT Blockchain Team

Blockchain Capability Leader: Marcus Foth

- **Xavier Boyen**, Associate Professor, School of Electrical Engineering and Computer Science, Science and Engineering Faculty
- **Sherrena Buckby**, Senior Lecturer, School of Accountancy, Business School
- **Felicity Deane**, Senior Lecturer, Faculty of Law
- **Kevin Desouza**, Professor, School of Management, Business School
- **Uwe Dulleck**, Professor, Economics and Finance School, Business School
- **Erwin Fielt**, Senior Lecturer, Information Systems School, Science and Engineering Faculty

- **Marcus Foth**, Professor of Urban Informatics, QUT Design Lab, Creative Industries Faculty
- **Gavin Nicholson**, Associate Professor, School of Accountancy, Business School
- **Mark Ryan**, Senior Lecturer, School of Creative Practice, Film, Screen and Animation, Creative Industries Faculty
- **Suriadi Suriadi**, Senior Lecturer, Information Systems School, Science and Engineering Faculty
- **Rui Torres de Oliveira**, Lecturer, Business School
- **Ogan Yigitbasioglu**, Senior Lecturer, School of Accountancy, Business School

How to engage with QUT

Access our experience and expertise to capitalise on your blockchain opportunities by engaging:

- our students to work on your blockchain initiatives
- our educators to help your organisation develop blockchain capability and skills

- our researchers to rigorously assess and develop your blockchain opportunities
- our innovation facilitators to rapidly ideate, prototype and test your blockchain potential

Contact

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