



UNSW
SYDNEY



Blockchain for Nuclear Materials Accounting

Developing distributed ledger (blockchain) tools to facilitate efficiency and trust in international nuclear materials accountancy stakeholder networks

Competitive advantage

- World-first demonstration of blockchain technology for nuclear materials accounting
- Unique integration of proficiency in global regulatory regimes (nuclear safeguards & nuclear security) and geopolitical understanding, with computer science and engineering
- Combining scale and agility to execute significant and novel projects
- Achieving the right balance of confidentiality and participation in stakeholder networks characterised by a widely varying degree of trust

Impact

- Nuclear materials accountancy is the core of the International Nuclear Safeguards regime—the accounting, audit systems and legal frameworks used by the International Atomic Energy Agency to verify that nuclear materials are used for exclusively peaceful purposes. Nuclear Safeguards are the obligations of signatories to the Treaty on the Non-proliferation of Nuclear Weapons.

Successful applications

- Demonstration of the Blockchain in Safeguards app for International Atomic Energy Agency's International Safeguards Symposium, September 2018
- UNSW Blockchain in Safeguards workshop Selected for the United States Office of Non-proliferation and Arms Control's 'Evaluating Blockchain for Safeguards' strategy meeting in Vienna, June 2019
- Ongoing international clients among nations' nuclear regulators

Capabilities and resources

- Nuclear engineering staff and researchers
- Computer science and engineering staff and researchers

Our partners

- Finnish Radiation and Nuclear Safety Authority (STUK), Helsinki
- Stimson Centre, Washington DC

More Information

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