

Smart Contracts

Challenges and Solutions

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A ‘smart contract’ includes a piece of software that automates some or all of the performance of a contract, often by generating transactions on a distributed ledger or blockchain. The use of smart contracts on public blockchains raises some unique challenges:

- Parties are pseudonymous;
- There is no clear jurisdiction;
- There is no clear governing law;
- Transactions are immutable; and
- There are reality mismatch errors.

A ‘reality mismatch error’ occurs when the blockchain and the physical or legal reality that it reflects are inconsistent. This might occur when an object referred to on the blockchain is lost, stolen or destroyed or when a smart contract is vitiated for mistake, illegality or duress.

These challenges – and, in particular, reality mismatch errors – can be mitigated by establishing dispute resolution mechanisms that are integrated into the blockchain at the start of any transaction. This is one of three laws of successful blockchain smart contract platforms:

- Fail safe – Ensure that the person who is able to update the blockchain is the person who has the motivation to do so.
- Baked-in dispute resolution procedures – Minimize friction between the blockchain and the real world by allowing arbitration directly integrated into the blockchain.
- Embrace trustlessness – Prefer proven consensus arrangements within an active community.

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