

Smart Contract

- A smart contract is a self-executing contract with the terms of the agreement between buyer and seller being directly written into lines of code.
- The code and the agreements contained therein exist across a distributed, decentralized [blockchain](#) network.
- The code controls the execution, and transactions are trackable and irreversible.

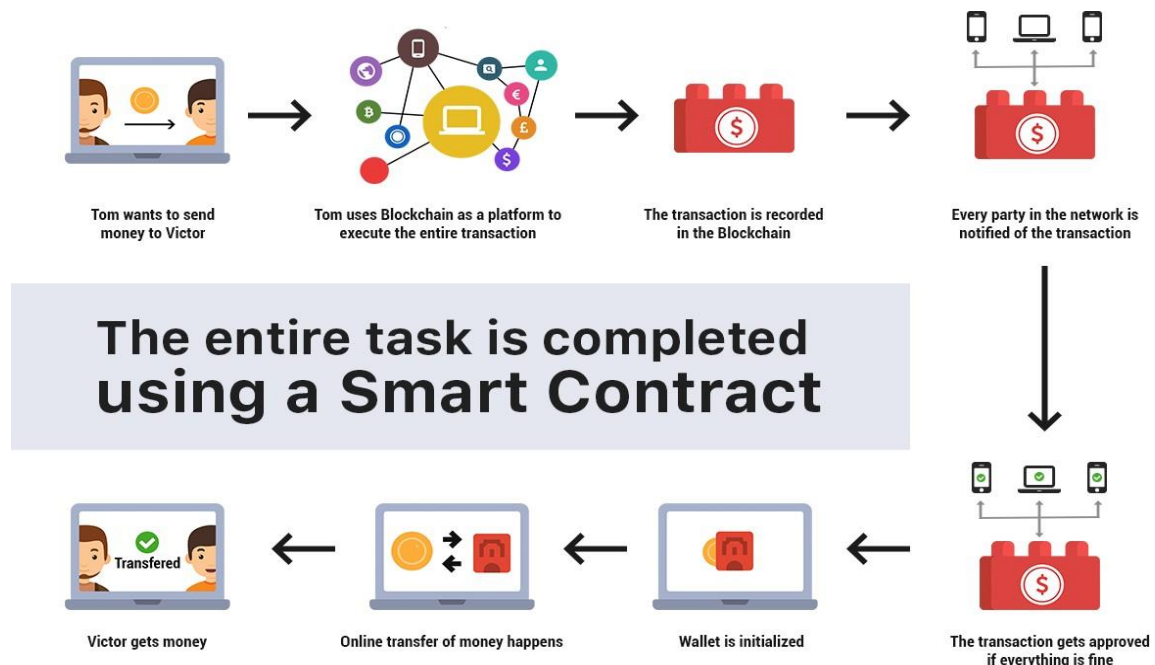


Figure 1.41 illustration of Smart contract

- Smart contracts work by following simple “if/when...then...” statements that are rewritten into code on a blockchain.
- A network of computers executes the actions when predetermined conditions have been met and verified.
- These actions could include releasing funds to the appropriate parties, registering a vehicle, sending notifications, or issuing a ticket.
- The blockchain is then updated when the transaction is completed.

- That means the transaction cannot be changed, and only parties who have been granted permission can see the results.
- Within a smart contract, there can be as many stipulations as needed to satisfy the participants that the task will be completed satisfactorily.
- Participants must determine how transactions and their data are represented on the blockchain.
- Participants agree on the “if/when...then...” rules that govern those transactions, explore all possible exceptions, and define a framework for resolving disputes.
- The smart contract can be programmed by a developer.

organizations that use blockchain for business provide templates, web interfaces, and other online tools to simplify structuring smart contracts.

Benefits of smart contracts Speed, efficiency and accuracy

Once a condition is met, the contract is executed immediately. Because smart contracts are digital and automated, there’s no paperwork to process. No time spent reconciling errors that often result from manually filling in documents.

Trust and transparency

Because there’s no third party involved, and because encrypted records of transactions are shared across participants, there’s no need to question whether information has been altered for personal benefit.

Security

Blockchain transaction records are encrypted, which makes them very hard to hack.

Moreover, because each record is connected to the previous and subsequent records on a distributed ledger, hackers would have to alter the entire chain to change a single record.

Savings

Smart contracts remove the need for intermediaries to handle transactions and, by extension, their associated time delays and fees.

Applications of smart contracts

Smart contracts can be used across industries to streamline and automate doing

businessaround the world.

Government - voting system

Management

single ledger as a source of trust, accuracy, transparency, and automated system

Supply chain

automates tasks and payment

Automobile

with the help of smart contract insurance company can be connected for claim

Real Estate

No need of Brokers, real estate agents

Healthcare