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## Smart contracts: What investors need to know

### Key takeaways

- Smart contracts are programs stored on blockchains that automatically execute the terms of an agreement when predefined conditions are met without the use of an intermediary.
- We believe that, with proper due diligence to avoid particular risks, smart contracts offer speed, efficiency, accuracy, security and transparency — features that may accelerate the adoption of digital assets for both simple and complex transactions.

Smart contracts are one of the important innovations driving the adoption of digital assets. They expand blockchain technology beyond simple payments, enabling more complex and practical applications.<sup>1</sup> For investors, understanding smart contracts is key to appreciating how digital assets are evolving and where opportunities—and risks—may lie.

### What Are smart contracts?

A smart contract is a program stored on a blockchain that automatically executes the terms of an agreement when predefined conditions are met—without an intermediary.

For example, parents could create a smart contract that releases funds to their child when they turn 18. This automation removes the need for an intermediary to manage the process.

Interestingly, the concept of smart contracts pre-dates modern digital assets. Nick Szabo, a computer scientist, coined the term “smart contracts” in the mid-1990’s; describing early smart contracts as “computerized transaction protocols that automatically execute the terms of a contract.”<sup>2</sup> It wasn’t until 2015, however, when the introduction of Ethereum popularized the use of more easily programmable and practical smart contracts on its blockchain. Today, smart contracts are being used across a wide range of digital assets and help facilitate more efficient and complex digital transactions.

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1. Blockchains are digital ledgers secured by cryptography that are used to record information, such as transactions, without the need for a central entity. For more information on blockchains, please see Wells Fargo Investment Institute’s “Blockchain technology basics” published on November 13, 2025.

2. Smart contracts, Satoshi Nakamoto Institute. 1994.

## Key benefits of smart contracts

A smart contract fulfills the same role as a traditional contract, but with benefits that can enhance the experience for all parties involved.

- **Speed and efficiency:** The automation of smart contracts removes the lags caused by third-party intervention – effectively streamlining and speeding up the process. One example can be seen in real estate transactions. Smart contracts can be coded to verify that deposits or payments have been collected, verify that necessary paperwork is completed, and ensure that all conditions of the sale are met. Once the conditions are met, the ownership is transferred to the buyer and funds are transferred to the seller – minimizing the potential for processing delays. The blockchain functions as a secure ledger, and there is no need for an intermediary, such as a bank.
- **Accuracy:** Smart contracts utilize code-based rules, reducing human error and ensure that the contract is being carried out accurately. Code-based rules simply mean the smart contract will only perform the functions coded into it, nothing more and nothing less. For example, if you purchase travelers' insurance for a trip, and your flight is delayed or cancelled, a smart contract could be used to accurately verify the flight delay or cancellation by cross-checking flight tracking data and then automatically compensate you according to your insurance policy.
- **Security and Transparency:** Smart contracts are stored on blockchains and utilize the same features that are used to secure the blockchain itself. Any payments occurring as a result of the contract also must be verified by blockchains' consensus mechanisms.<sup>3</sup> Additionally, the exact terms of the agreement are directly coded into the smart contract, making the terms visible to all parties. Essentially, once the smart contract is coded, no party can change the terms, and only when specific pre-defined conditions are met will the contract be carried out.

## Real-world uses of smart contracts

Smart contracts can be used for both simple and complex agreements. For example:

- Simple: Automatically sending money to a child on their birthday.
- Complex: Managing real estate transactions.

This technology is a big reason why digital assets are becoming more practical. Instead of just sending payments, smart contracts allow for more detailed agreements to occur automatically when predefined conditions are met.

### Example: *Paying Rent with a Smart Contract*

Imagine a landlord and tenant agree to use a smart contract for monthly rent payments. Here's how it works:

#### **Step 1: Create the Contract**

The landlord sets up a smart contract on a blockchain. It includes a rule:

"If the tenant sends \$1,500 by the first of the month, then confirm payment and update the record."

#### **Step 2: Monitor Conditions**

The smart contract checks if the payment was sent from the correct digital wallet, on time, and for the right amount.

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3. "Blockchain Technology", Wells Fargo Investment Institute. November 13, 2025.  
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### Step 3: Execute the Agreement

Once verified, the smart contract automatically transfers \$1,500 to the landlord's wallet and records the transaction on the blockchain. This creates a permanent, secure record of all rent payments.

#### Risks to keep in mind

As with many emerging technologies, smart contracts are not without risk. Here are the main concerns:

- **Coding errors:** Smart contracts are only as reliable as their code. Mistakes in the code can cause the contract to fail or behave unexpectedly.
- **Lack of flexibility:** Once deployed, contracts can be hard to change — even if laws or circumstances change.
- **Fraud risk:** A lack of coding knowledge can leave room for bad actors to embed hidden rules into the smart contract. This makes technical knowledge or trusted developers essential.

Digital asset adoption is accelerating, with the total digital asset market capitalization growing from around \$776 billion in 2020 to more than \$3.2 trillion as of November 2025.<sup>4</sup> We believe innovations, such as smart contracts, are a key driver of digital asset adoption. The ability for smart contracts to accurately process simple and complex transactions while utilizing the security and transparency of blockchains is an attractive feature for both individuals and businesses. Additionally, users benefit from the potential efficiencies of smart contracts, as they can remove the lag and fees associated with a third-party. As shown in our rent example, both parties stand to benefit from smart contracts. The landlord benefits from the automation of collecting rent and maintaining permanent records, while the tenant is assured their payment is received and recorded on time — potentially avoiding late fees or delays. As with any emerging technology, users should understand the potential risks associated with smart contracts and perform proper due diligence to ensure smart contracts perform as intended.

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4. Coingecko website, as of November 28, 2025.

### Risks Considerations

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