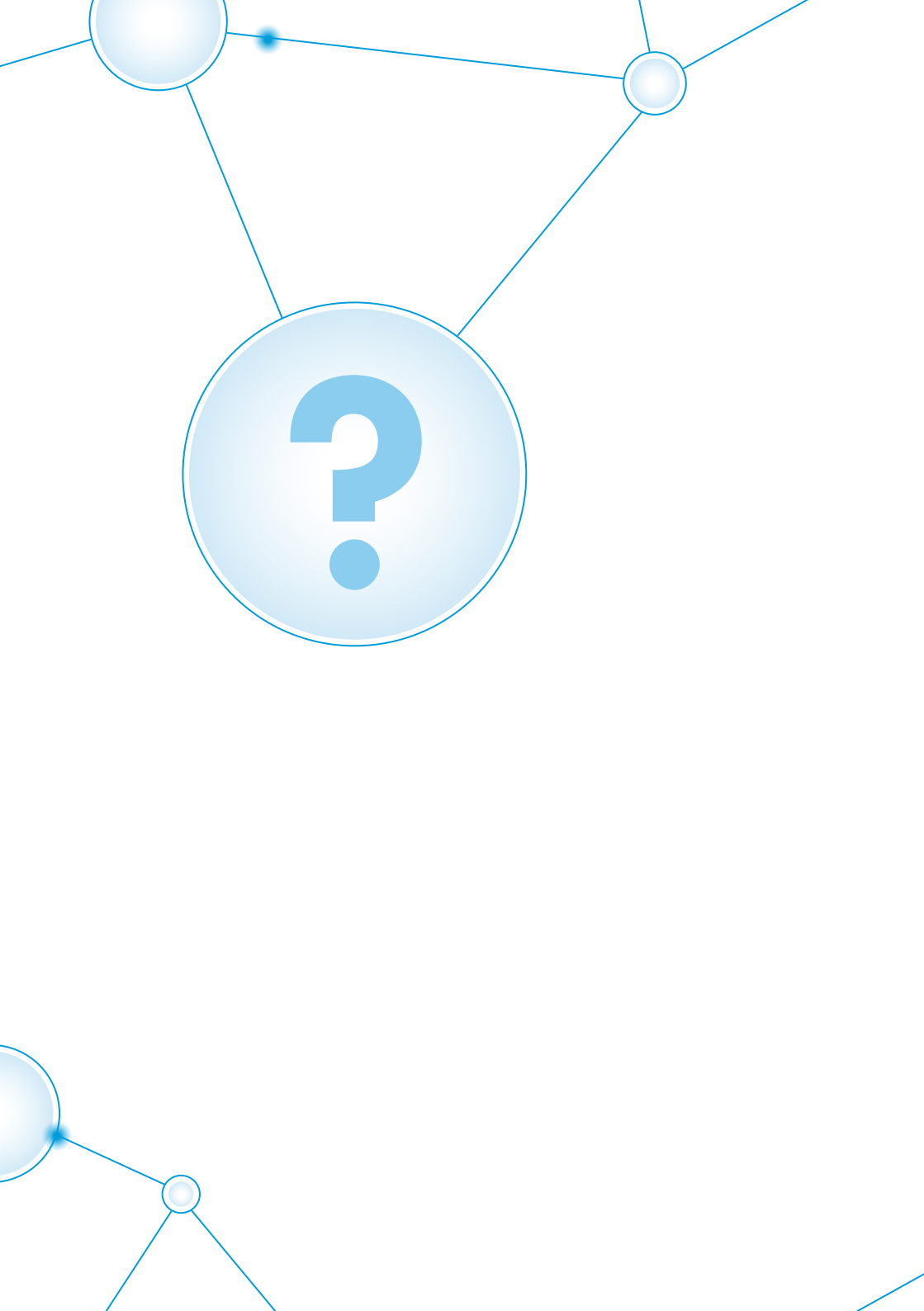




Cryptocurrencies

Everything you need to know about Bitcoin and others.



Cryptocurrencies – in plain language

The term “digital assets” generally covers any assets that can be stored, traded and used digitally. The term is most commonly used to describe assets that are based on distributed ledger technology (DLT) as well as blockchain technology. With blockchain technology, the various types of digital assets exist as a “token” on a blockchain, where they can be used to represent real or virtual assets, government or private currencies, as well as applications or rights digitally on the blockchain.

What is a cryptocurrency?

Cryptocurrency is the umbrella term for virtual currencies that can be used as a digital means of payment (also known as a “payment token”) and as an investment instrument.

Payments usually take place without the involvement of a central counterparty or bank. The transaction is made via a decentralised network whose participants manage transactions and can generate new units of the currency. This is enabled by the blockchain technology on which each cryptocurrency is based. Not all cryptocurrencies are used as a means of payment; they can also serve as a technology platform or store of value, for example.

A blockchain is often described as a “collective accounting system” that stores the encrypted information for all transactions in a specific cryptocurrency in an unalterable manner in separate data blocks. But rather than being stored and managed on a central server, the system’s data blocks are located on the computers of multiple participants.

What are the different cryptocurrencies?

2009 saw the creation of the first – and probably best-known – cryptocurrency: Bitcoin (BTC). To date, Bitcoin has the biggest market share of all virtual currencies in terms of market capitalisation, and is followed in second place by Ethereum (ETH). There are currently over 8,000¹ active cryptocurrencies.

¹ Source: coinmarketcap.com as at 18 September 2023

Bitcoin (BTC)



Bitcoin is the oldest and biggest cryptocurrency based on market capitalisation. The idea behind Bitcoin was to create a technology-based currency that is based on mathematical and cryptographical principles and serves as a store of value. Through decentralisation, Bitcoin eliminates the need for a central counterparty.

- Bitcoin was the first cryptocurrency to actually be used on a blockchain.
- Transactions are encrypted and validated by network participants.
- Users (known as “miners”) who add new transaction blocks to the blockchain are rewarded in the form of newly created (“mined”) Bitcoins.
- The total supply of mined Bitcoins is limited to 21 million Bitcoins. Compensation will be halved every four years or so, with the last Bitcoin likely to be mined in around 2140.

Advantages and opportunities

- Bitcoin is the cryptocurrency with the highest degree of recognition, and benefits from a temporary competitive advantage.
- The currency has been proving itself for over 10 years, with no interruptions or bugs.
- Transactions can be carried out at any time or location.
- Confidentiality is increased through pseudonymisation.
- Limited supply ensures scarcity.

Disadvantages and risks

- Securing and operating the network requires relatively high energy consumption.
- The originally intended function as a means of payment is made more difficult by the lack of scalability.
- Bitcoin has no intrinsic value; thanks to transaction fees, however, the network acquires a value of its own.
- Bitcoins are exposed to major fluctuations in prices.

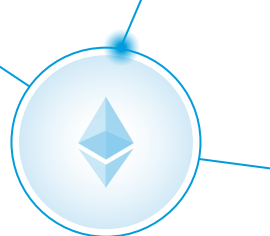
Key data

Ticker:	BTC
ZugerKB security no.:	SYG00002
ZugerKB ISIN:	ZAASYG000021
Created:	2009
Crypto market share:	Approx. 40%
Number of coins limited?	Yes
Consensus mechanism:	Proof of work (PoW)

More information is available at

<https://bitcoin.org/en/>

Ethereum (ETH)



Ethereum is currently the second largest cryptocurrency. Its aim is to become a global platform for decentralised applications (known as “dApps”) that enable its users to produce and run robust software for the platform. Ethereum is the leader in the trading of digital art, NFTs (non-fungible tokens) as well as decentralised finance (“DeFi”) applications, ahead of other tokens such as Tezos and Solana.

- Ethereum has added a number of applications to its original vision of being a decentralised payment system and now also operates as a platform for numerous other cryptocurrencies as well as the execution of decentralised software or “smart contracts”.
- Ether is the native (i.e. original) cryptocurrency of the Ethereum blockchain and is used for all transactions within the network.

Advantages and opportunities

- Some successful decentralised business concepts are already based on the Ethereum platform, with different applications combined in an efficient, compatible manner on a single platform.
- Ethereum enjoys a temporary competitive advantage in decentralised applications and smart contracts.
- The recent switch from proof-of-work to proof-of-stake reduced energy consumption by over 99%.

Disadvantages and risks

- Dependent on developer teams and in particular Ethereum founder Vitalik Buterin.
- The number of coins is currently unlimited.
- New projects by other platforms compete with Ethereum.
- Exposed to major price volatility.

Key data

Ticker:	ETH
ZugerKB security no.:	SYG00001
ZugerKB ISIN:	ZAASYG000013
Created:	2015
Crypto market share:	Approx. 15% to 20%
Number of coins limited?	No
Consensus mechanism:	Proof of stake

More information is available at

<https://ethereum.org/en/>

Ripple (XRP)



Ripple is used as a bridge currency for transactions where a direct exchange between two other currencies is not possible.

- 100 billion XRP were issued at the outset of development and new issues are prohibited under the rules of the protocol. Unlike most other cryptocurrencies, the coins are therefore pre-mined. Only a portion of the maximum number of units is currently in circulation.
- XRP exists only within the Ripple system, which is operated as a payment network by the Ripple company.
- XRP operates a decentralised open-source blockchain known as the XRP Ledger (XRPL). Transactions are enabled via the Ripple Transaction Protocol (RTXP).

Advantages and opportunities

- XRP and its network are fast and reliable, as well as cost and energy-efficient.
- XRP has numerous partnerships with financial institutions worldwide.

Disadvantages and risks

- Circulation approval for larger XRP volumes may impact on the valuation.
- XRP is less decentralised than other cryptocurrencies.
- Limited number of pre-defined transaction checkers.
- Exposed to major price volatility.

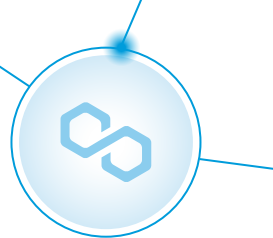
Key data

Ticker:	XRP
ZugerKB security no.:	SYG00003
ZugerKB ISIN:	ZAASYG000039
Created:	2012
Crypto market share:	Approx. 3% to 5%
Number of coins limited?	Yes
Consensus mechanism:	XRP Ledger

More information is available at

<https://ripple.com>

Polygon (MATIC)



Polygon was originally known by the name “Matic Network”. The Polygon network is a scaling solution for Ethereum.

- Polygon enables faster, lower-cost Ethereum transactions through blockchains that run in parallel with the main Ethereum chain. This enables the Ethereum token to be paid into a Polygon smart contract, where it can be used and later assigned to the main Ethereum chain again.
- MATIC tokens are used to settle transaction fees within the network and for participation in the proof-of-stake consensus mechanism.

Advantages and opportunities

- Very fast transaction processing through use of a consensus mechanism that handles the transaction confirmation process within a single block of a blockchain.
- This enables transaction fees on the Polygon platform to be kept low.
- Over time, Polygon has attracted a large number of projects from the DeFi and NFT areas.

Disadvantages and risks

- Polygon is not based on an independent blockchain and instead builds on the Ethereum platform. The value of Polygon therefore depends on the existence and reliability of the Ethereum platform.
- The potential uses are confined to managing and securing the Polygon platform as well as paying platform fees. In contrast with other cryptocurrencies, MATIC is rarely used as a means of payment in the context of purchase transaction processes.
- Exposed to major price volatility.

Key data

Ticker:	MATIC
ZugerKB security no.:	SYG00022
ZugerKB ISIN:	ZAASYG000229
Created:	2020
Crypto market share:	Approx. 1%
Number of coins limited?	Yes, with monthly adjustment in circulation volume
Consensus mechanism:	Proof of stake

More information is available at

<https://polygon.technology/>

Litecoin (LTC)



Litecoin is a Bitcoin-inspired cryptocurrency and open-source project. The project aims to address Bitcoin's deficiencies and limitations by offering a faster, more-efficient platform for transactions.

- The principal idea behind LTC is to create a faster, more cost-effective alternative to Bitcoin.
- Litecoin was developed as a Bitcoin fork in order to address specific Bitcoin problems and limitations.
- Litecoin has a maximum number of 84 million coins, while Bitcoin is limited to 21 million.

Advantages and opportunities

- Due to rapid processing and the network's low transaction costs, LTC is also suitable for the processing of smaller transactions.
- Solid infrastructure and high market liquidity.
- Acceptance as a means of payment for goods and services.

Disadvantages and risks

- Compared with other cryptocurrency projects, development is proceeding slowly and the primary use case is limited to payments.
- Exposed to major price volatility.

Key data

Ticker:	LTC
ZugerKB security no.:	SYG00007
ZugerKB ISIN:	ZAASYG000070
Created:	2011
Crypto market share:	< 1%
Number of coins limited?	Yes
Consensus mechanism:	Proof of work

More information is available at

<https://litecoin.org/>

Uniswap (UNI)



Uniswap is one of the biggest decentralised cryptocurrency exchanges and known first and foremost for its Automated Market Maker (AMM), which ensures that liquidity is available for trading irrespective of order size or the existence of a business partner.

- Uniswap is a token that uses the Ethereum blockchain as its basis.
- With the aim of creating more liquid markets, Uniswap – via smart contracts – uses defined liquidity pools rather than an order book.
- As with other governance tokens, owners can be given the right to participate in the development of the platform.

Advantages and opportunities

- Optimally positioned in order to benefit from the development of Decentralised Finance (DeFi).
- Right to have a say in development of Uniswap platform.
- The provision of liquidity is a key design aspect.

Disadvantages and risks

- Impact of future regulatory measures on DeFi is difficult to assess.
- Exposed to major price volatility.

Key data

Ticker:	UNI
ZugerKB security no.:	SYG00012
ZugerKB ISIN:	ZAASYG000120
Created:	2018
Crypto market share:	< 1%
Number of coins limited?	Yes, with regular adjustment of circulation volume
Consensus mechanism:	Proof of stake

More information is available at

<https://uniswap.org/>

How can I invest in cryptocurrencies with Zuger Kantonalbank?

Through its partnership with Sygnum Bank AG, Zuger Kantonalbank enables you to participate in the cryptocurrency market. This is done via an omnibus wallet, meaning you don't need any additional accounts or a segregated wallet. The segregation of your assets is carried out by Zuger Kantonalbank. Digital assets held with Zuger Kantonalbank are deemed custody assets.

You can buy and sell the cryptocurrencies highlighted in this brochure via your existing custody account. Execution is undertaken in cooperation with Sygnum Bank AG, which stores the digital assets.

The digital assets can be bought and sold at the processing times specified on page 12 via a standard trading order. However, cryptocurrencies cannot be delivered to the custody account or to a private wallet. Consequently, nor can the money held in digital assets be used for payment transactions. The purpose of the cryptocurrencies you hold in your custody account is therefore limited to your participation in their performance. Zuger Kantonalbank recommends a USD account for processing purposes.

Zuger Kantonalbank clients can view cryptocurrency prices at www.yourmoney.ch.

Risks related to investments in cryptocurrencies

The value of a cryptocurrency is based on trust and acceptance. Unlike established currencies such as the Swiss franc, euro and US dollar, which are overseen and backed by central banks and governments, a cryptocurrency is merely based on a technical system in which anyone can participate and in which the stability of the currency does not play a direct role.

Cryptocurrencies are highly volatile and prices can change quickly. If you are able to accept double-digit price changes on a daily basis, an investment in cryptocurrencies may be an attractive addition to traditional investments in your portfolio. There is no guarantee that cryptocurrencies can be exchanged for established (fiat) currencies at any time and on an unlimited basis.

You can find further information on investing in cryptocurrencies in the Swiss Banking Association's brochure "Risks Involved in Trading Financial Instruments" (available at www.zugerkb.ch/en/brochures)



By taking up our cryptocurrency offering, you are confirming that you have read and accepted the risk disclosure on digital assets.

Key points

Placing orders

Possible at any time via e-banking and mobile banking or during service hours (Monday to Friday, from 8.00 a.m. to 5.45 p.m.) via your advisor.

Execution

Trading orders for cryptocurrencies can be executed from Monday to Friday (trading days) from 1.30 a.m. to 10.00 p.m. (trading hours). Orders not submitted on a trading day or submitted outside these times will be executed during trading hours or on the following trading day.

Orders with a transaction value equivalent to over CHF 500,000 and foreign exchange transactions of over CHF 50,000

For security reasons, orders with a transaction value equivalent to over CHF 500,000 and foreign exchange transactions of over CHF 50,000 will be stopped automatically and not executed straight away so that they can first be verified. Outside these service hours, this may mean that the transaction is not forwarded for execution until the next official business day.

Tradable cryptocurrencies

Payment token	ZugerKB sec. no.	ZugerKB ISIN
Bitcoin (BTC)	SYG00002	ZAASYG000021
Ethereum (ETH)	SYG00001	ZAASYG000013
Ripple (XRP)	SYG00003	ZAASYG000039
Polygon (MATIC)	SYG00022	ZAASYG000229
Litecoin (LTC)	SYG00007	ZAASYG000070
Uniswap (UNI)	SYG00012	ZAASYG000120

One security unit corresponds to one coin. It is possible to buy and sell fractions.

The selection of cryptocurrencies tradable through Zuger Kantonalbank may be changed by the bank at any time and without prior notice.

Transfers from/to personal wallets

Not possible at present

Pricing and settlement in fiat currency

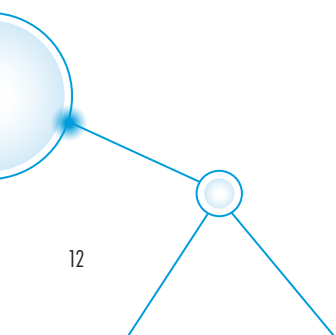
USD

Minimum transaction size

Equivalent of USD 200 per order (buy or sell).

Maximum transaction size per order

Payment token	Maximum trading coins per order
Bitcoin (BTC)	100
Ethereum (ETH)	2,000
Ripple (XRP)	2,000,000
Polygon (MATIC)	500,000
Litecoin (LTC)	6,000
Uniswap (UNI)	25,000



Maximum purchase per day

Unlimited

Maximum sale per day

Unlimited

Fees

See the "Terms and Conditions for Investment Activities" brochure (available at www.zugerkb.ch/en/brochures)

Government guarantee

See fact sheet "Zuger Kantonalbank government guarantee" (available at www.zugerkb.ch/en/brochures). Digital assets held with Zuger Kantonalbank are deemed custody assets.

Glossary

Blockchain

The blockchain is like a digital ledger that consists of a chronologically sequenced chain of entries (blocks). Each block contains information that is verified and validated by users. Once a block has been verified, it can no longer be altered – thus making it safe. Blockchain technology enables users to execute transactions directly on a bilateral basis without requiring a third party as a broker. This creates a high degree of transparency and trust in data and transactions.

Coins

Digital units of a cryptocurrency. Example: 5 Bitcoins, 8 Ether

Digital assets

Assets that can be created, transferred and stored digitally. They are a type of asset that is based on a blockchain or other distributed ledger system and secured using cryptographical processes. The best-known digital assets include cryptocurrencies such as Bitcoin, Ether and Litecoin, but also digital tokens that can be used to represent assets such as real estate, equities and works of art.

Distributed Ledger Technology (DLT)

A ledger is a database for documenting various transactions. Unlike central databases, distributed ledgers use a decentralised computer network with duplicates of the database, which manage the distributed ledger. Each new data entry is propagated across the ledgers of the distributed network, with the result that all databases have the same dataset.

The distributed network reaches agreement on the status of the ledger through a consensus algorithm. As distributed ledgers do not have a central authority to oversee and verify them, the entire database network must agree the status of the ledger through an algorithm. All instances of the decentralised network – that is, all duplicates of the database – reach agreement on what transaction data is stored in the databases. There are two established consensus mechanisms: proof of work and proof of stake. In summary, proof of work ensures consensus through the consumption of energy-intensive processing power and proof of stake through depositing assets as security.

Fiat currencies

Traditional currencies that are recognised by governments as a legal means of payment and have no intrinsic value. The value of a fiat currency is determined through trust in the issuing authority, as well as supply and demand on the foreign exchange market. Examples of fiat currencies are the US dollar, euro, Swiss franc and many other currencies that are used worldwide.

Gas

A unit that measures the processing power necessary for executing certain operations within the Ethereum network. As each Ethereum transaction requires processing resources for execution, a fee is required for each transaction.

Cryptocurrencies

Digital currencies that are created and managed on a blockchain or other distributed ledger system using cryptographic processes. Unlike traditional currencies, the vast majority of cryptocurrencies are not issued by governments or financial institutions but validated and managed by a decentralised network of users. The best-known cryptocurrencies are Bitcoin and Ethereum, although there are many other cryptocurrencies with different properties and use cases.

Miners

Persons who make the processing power of their computer available for transaction validation in a proof-of-work protocol-based network of a cryptocurrency.

Omnibus wallet

Wallet for cryptocurrencies used by a financial institution for multiple accounts.

Segregated wallet

Wallet for cryptocurrencies that only contains the cryptocurrencies of a single account holder.

Tokenisation

The process of converting ownership and rights to specific assets into digital form. Through tokenisation, for example, indivisible assets can be converted into digital tokens. These can be shared and stored in a blockchain, as a result of which they represent a physical value.

Wallet

Software or physical device that is used to store cryptocurrencies. It consists of a public key and a private key that enable users to receive, send and manage cryptocurrencies.

Connection between digital assets, cryptocurrencies and blockchain

Cryptocurrencies like Bitcoin and Ether are examples of digital assets that are created and managed on a blockchain or other distributed ledger system. Cryptocurrencies can be considered a type of digital asset that is based on the blockchain technology.

In addition to cryptocurrencies, however, other types of digital assets can be created on a blockchain. Digital tokens, for example, can represent real estate, equities or works of art.

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 **Zuger Kantonalbank**