 11.10.23

 Osservatorio Blockchain & Web3

La tokenizzazione degli asset finanziari nelle esperienze estere





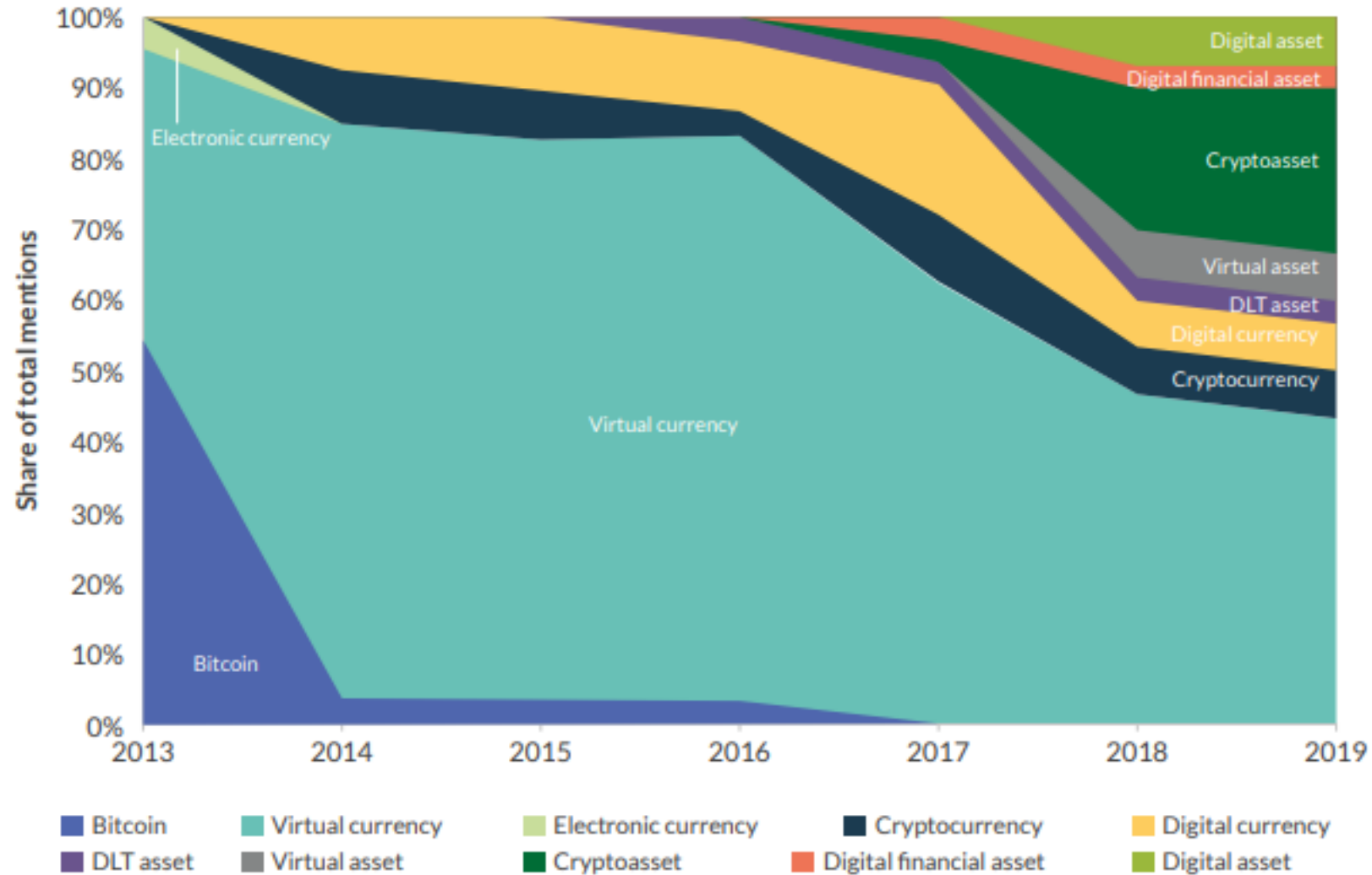
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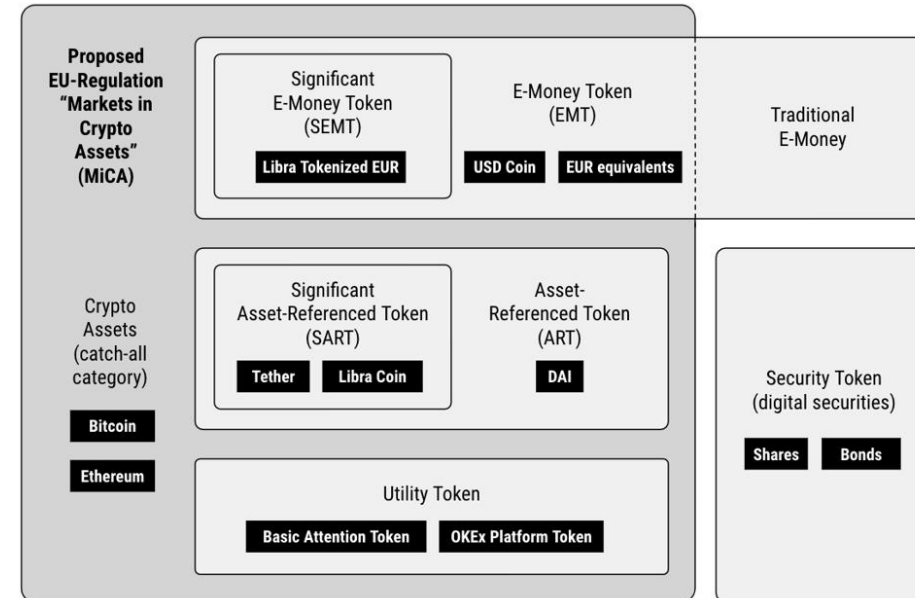
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Figure 5: Evolution of the terminology used by regulators (2013-2019)



Box 1: Basic taxonomy of crypto-assets		
Payment/exchange/currency tokens	Investment tokens	Utility tokens
<p>Often referred to as VCs or crypto-currencies.</p> <p>Typically do not provide rights (as is the case for investment or utility tokens) but are used as a means of exchange (e.g. to enable the buying or selling of a good provided by someone other than the issuer of the token) or for investment purposes or for the storage of value.</p> <p>Examples include Bitcoin and Litecoin.</p> <p>'Stablecoins' are a relatively new form of payment/exchange token that is typically asset-backed (by physical collateral or crypto-assets) or is in the form of an algorithmic stablecoin (with algorithms being used as a way to stabilise volatility in the value of the token).</p>	<p>Typically provide rights (e.g. in the form of ownership rights and/or entitlements similar to dividends).</p> <p>For example, in the context of capital raising, asset tokens may be issued in the context of an ICO which allows businesses to raise capital for their projects by issuing digital tokens in exchange for fiat money or other crypto-assets.</p> <p>Examples include Bankera.</p>	<p>Typically enable access to a specific product or service often provided using a DLT platform but are not accepted as a means of payment for other products or services.</p> <p>For example, in the context of cloud services, a token may be issued to facilitate access.</p>

Report on Crypto-assets, EBA, 2019



Various Types of Crypto Assets Included in the MiCA Regulation, Forbes.com, 2020



Workshop on Digital Asset, EU Blockchain Observatory & Forum, 2019



Digital assets that can be exchanged on a Blockchain. They can be used as representations of other digital or physical goods or even a right, such as asset ownership or access to a service.

Types of Tokens



Utility Token – give the holder a right to use the network, a service or to vote on some issue



Security Token – usually derive their value from the value of an external asset



Asset Token/Tokenized Security – represent the ownership of another asset, that could be digital or physical

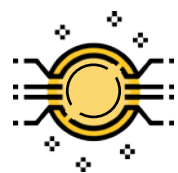
Fungible vs Non fungible



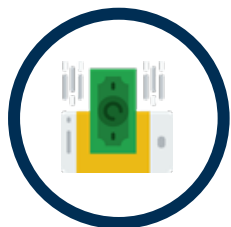
Fungible tokens - Tokens are identical to each other and divisible into sub-parts



Non fungible tokens (NFTs) - Each token has a unique identifier and is not divisible



Crypto-asset: digital asset stored and managed using Blockchain e Distributed Ledger technology



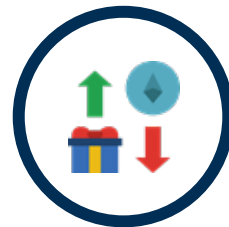
Money

They perform some functions generally associated with **money**



Value

They represent the **value of an asset**, without implying its ownership



Utility

They provide the ability to **access** a service or the right to take an **action**



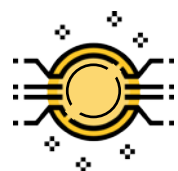
Ownership

They represent the **ownership** of an asset

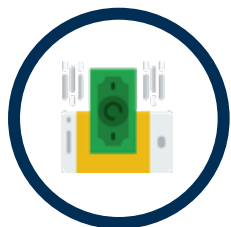


Asset

They represent some **characteristics** of an asset



Crypto-asset: digital asset stored and managed using Blockchain e Distributed Ledger technology



Money

- Payment
- Stablecoin
- CBDC
- ...



Value

- Derivatives
- ...



Utility

- Services
- Vote
- Community
- ...



Ownership

- Securities
- Physical assets
- Digital assets
- ...



Asset

- Traceability
- ...



One of the main trends of 2020 was the development and adoption of crypto-assets generally associated with the functions of money.



Payment

Created to facilitate the **exchange of value**. Although some of them have other functions.



Stablecoin

Digital assets whose **value** is **pegged** to a reference asset. Therefore, their **price is stable**.



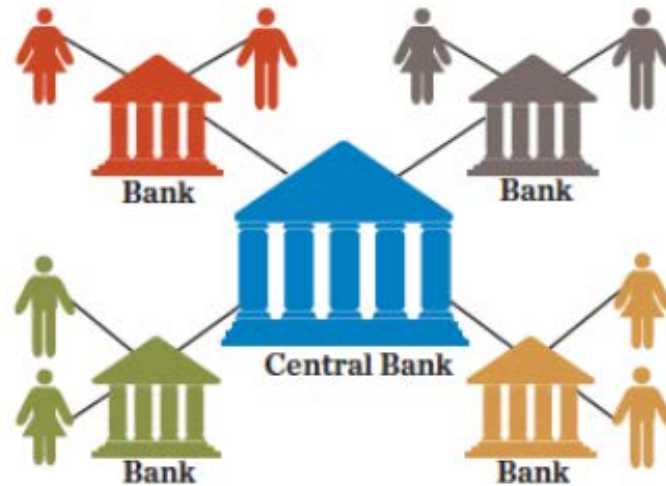
CBDC

Digital currency **issued and managed** by a sovereign institution such as the **Central Bank**.

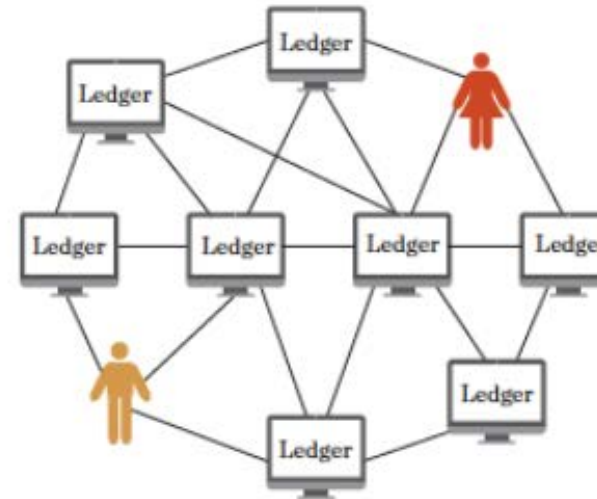


The main goal is to create a decentralized mean to exchange value, eliminating banks and other intermediaries.

Centralised payment system



Blockchain (distributed ledger) system



In traditional banking, the central bank tracks payments between clients; in blockchain banking, transactions are recorded on multiple network computers and settled by many individuals.

Source: International Monetary Fund, Finance & Development, June 2016



Depending on their use they can have different strengths and weaknesses



Decentralization



Security



Immutability



Traceability and transparency



Programmability

010001



High volatility



Difficult custody



Fragmented regulation



Limited monetary policy



Low performances





Created to minimize the problems related to the volatility of cryptocurrencies and to make payments more efficient.



Collateralization

- Fiat-backed
- Crypto-backed
- Commodity-backed
- Non-collateralized

Technology

- Own Blockchain
- Permissionless Blockchain
- Other

Issuer

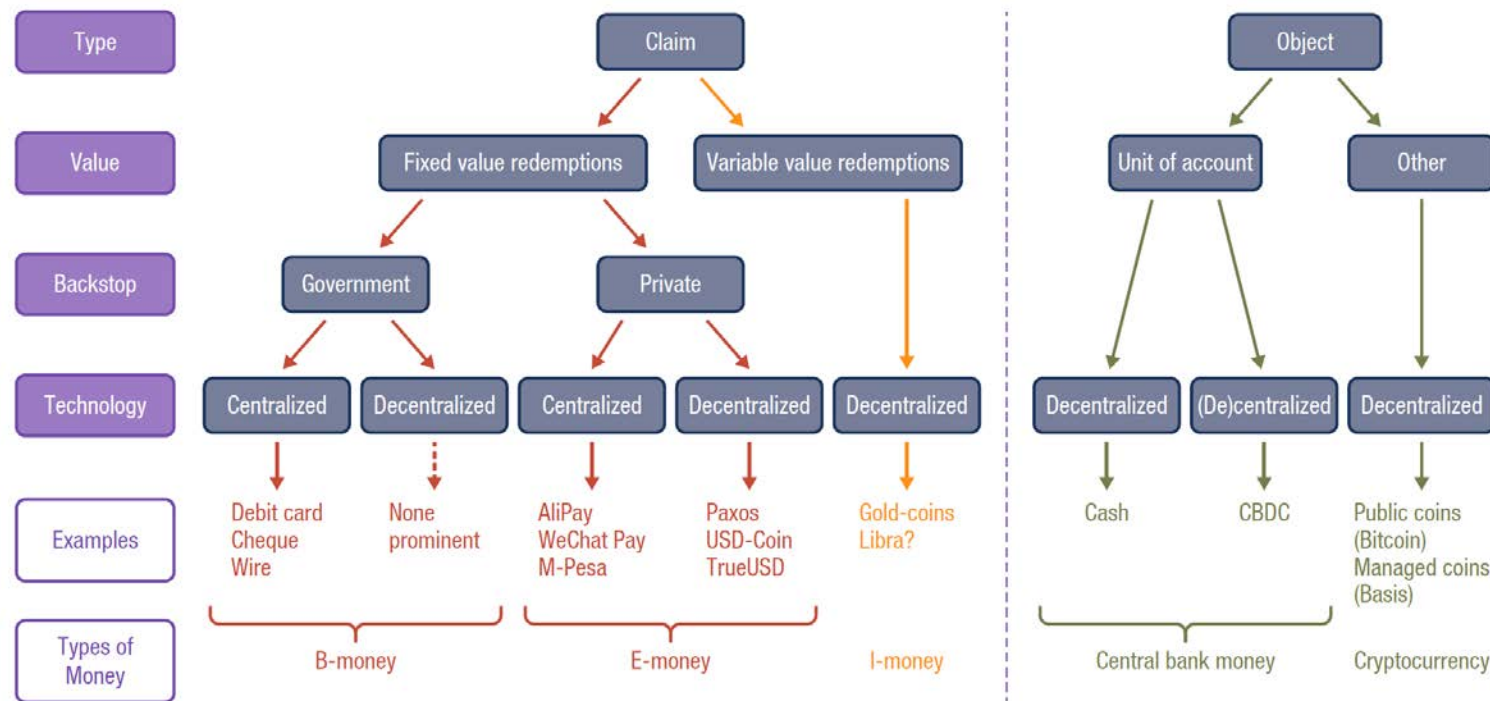
- Unregulated entity
- Regulated entity



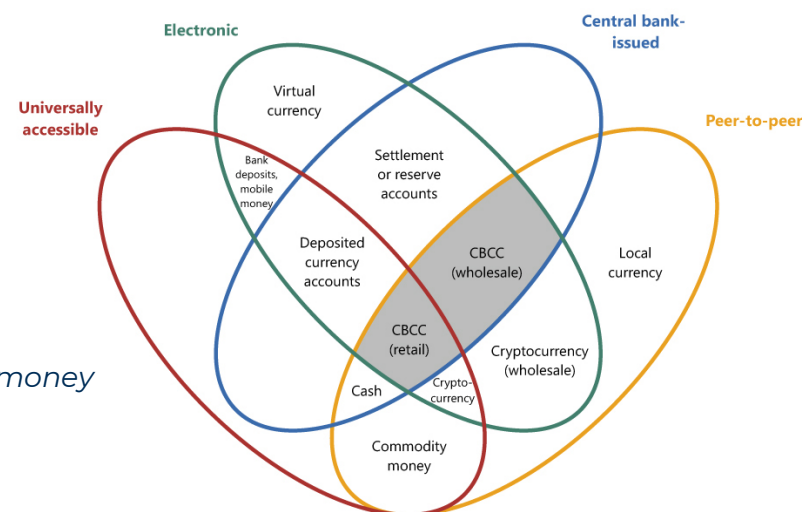
A CBDC is a digital form of existing fiat money issued and managed by a sovereign institution such as the Central Bank. That is a central bank liability, denominated in an existing unit of account, which serves both as a medium of exchange and a store of value.



	Decentralization		High volatility
	Security		Difficult custody
	Immutability		Fragmented regulation
	Traceability and transparency		Limited monetary policy
	Programmability		Low performances



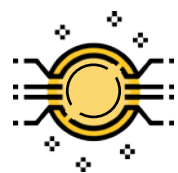
Source: IMF Staff.
Note: CBDC = central bank digital currency.



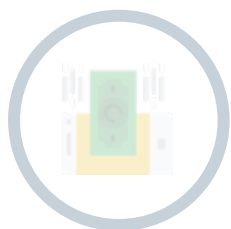
Picture 1: The money flower: a taxonomy of money

A CBDC can be used in two different types of scenarios:

- 1. Retail:** digital extension of cash, which citizens and companies can use in their daily transactions
- 2. Wholesale:** intended to be used only by authorized institutions. It is utilized as an asset for settlement in the interbank market.



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Asset

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Ownership: they represent the **ownership** of an asset

Financial securities

Token for financial securities represent the **ownership** on a **financial asset**



The **SIX Swiss Exchange** with **SDX** is creating a **regulated secondary market** for the issuance and management of **tokenized financial assets**.

Physical assets

Tokens for physical assets represent the **property** of a **physical good**



RealT is an American startup that sells **fractional property rights** of real estate. The tokens represent the ownership share of the property and can also be exchanged on secondary market through Uniswap (decentralized exchange on Blockchain).

Digital assets

Tokens for digital assets represent the **property** of a **digital good**

SuperRare

SuperRare is a social network for artists and collectionists where **digital artworks** can be **exchanged through tokens**. Every time an artwork is sold, its creator automatically receives a share of the sale price.

Financial securities: tokens used to represent a financial security



Businesses that develop solutions involving the tokenization of securities or the tokenization of existing asset to let them be used as securities

Number of use cases

39/180

22% out of the total of tokenization projects

Reasons why:

- Transparency
- Fractionalization
- Process automation (e.g. dividends/yields distribution)

Example of use cases:

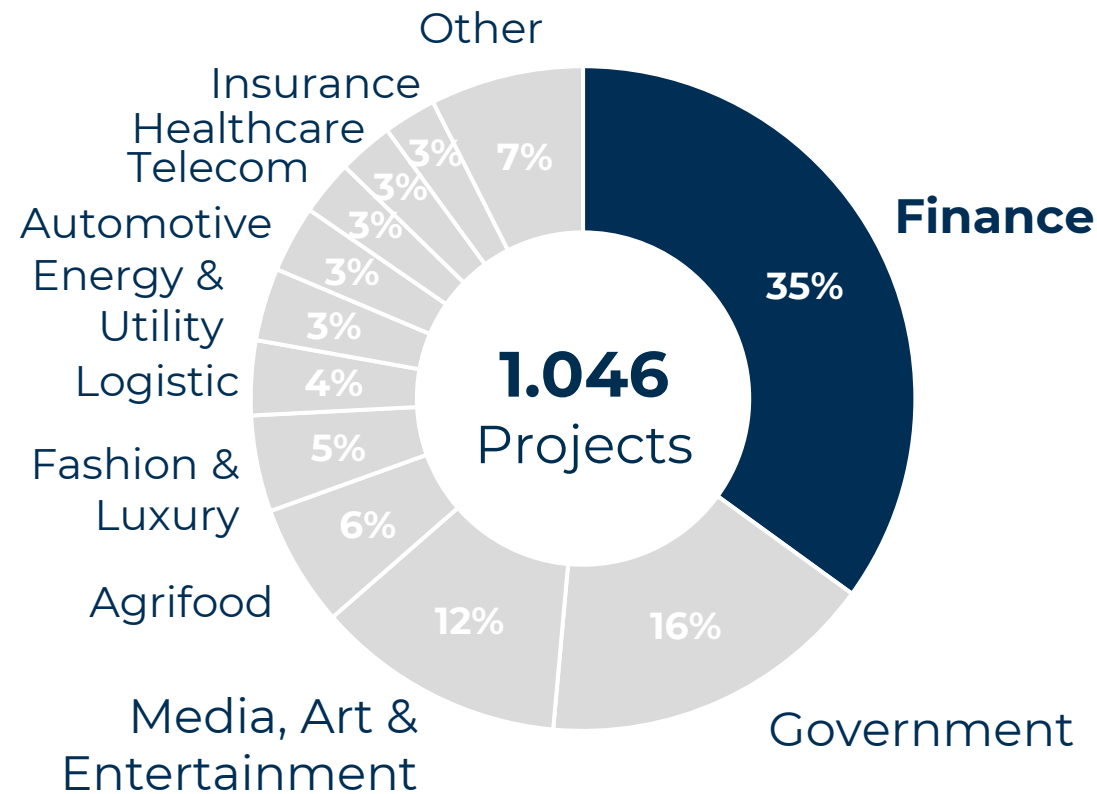
Finhaven, a Canadian trading firm, securitized and fractionalized an **award winning music video, Stardust**. The Stardust **fractionalized NFT** includes 90% royalty stream from the Stardust Music Video and merchandise revenue share.



Tokai Tokyo Financial Holdings and real estate development firm **Tosei** have partnered to offer financial securities backed by **the rental income of office buildings** in Japan.



The first sector in which Blockchain technology has been adopted by traditional companies is the financial one, representing **35% of international use cases**. Traditional financial players are indeed discovering many applications of this technology.





?

How are financial institutions adopting blockchain in tokenization use cases?

J.P.Morgan

Objective:

To create a stablecoin for cross-border wholesale payments

Year: 2019

Payments & Crypto assets



Description:

JPM Coin is a stablecoin on Blockchain created by US bank JPMorgan Chase to streamline interbank payments between the bank's customers.

The process of cross-border payments relies on a complex network of banks and intermediaries that often shows inefficiencies or flaws in information.

The issuance of the JPM Coin digital token for this kind of payment aims to reduce these inefficiencies and, consequently, also the operating costs of the system.





Objective:

To create a regulated secondary market to issue and manage tokenized digital assets

Year: 2018

Capital markets



Description:

Swiss stock exchange SIX and SDX are building a fully integrated issuance, trading, settlement and custody infrastructure for digital assets, named SIX Digital Exchange (SDX). The full launch was expected in 2020.

SDX will allow to carry out Initial Digital Offering (IDO) and to tokenized existing assets.



Tokenization



Objective:

Tokenization of a \$6 million loan portfolio

Year: 2021

Capital markets



Description:

European asset manager Azimut has issued a blockchain-based digital security linked to a portfolio of €5 million (\$6m) in loans to SMEs. The Azimut tokens were issued via Desygnate, the digital asset issuance platform from Swiss bank Sygnum.

The asset manager cited the benefits of digital securities as greater liquidity owing to ease of transfer, the ability to fractionalize ownership, increased transparency, and a reduction in costs.

Azimut sees tokenization as the “democratization” of investing because fractionalization means assets not usually available to private clients can now be purchased. Apart from private clients, the tokens will be sold to alternate credit funds.





Objective:

Tokenization of investment fund units

Year: 2023

Capital markets



Description:

The Mediobanca Group announced it issued tokenized investment fund units. The issuance is operating within a Ministry for the Economy and Finance sandbox.

The tokens mirror the conventional process for issuing and redeeming units in its “Mediobanca Global Multimanager 35” UCITS fund. While transactions are logged using blockchain, the conventional transaction records are what’s valid from a legal perspective. Nonetheless these are important steps in the path to tokenization.

The tokens were issued to a select group of clients in May, and earlier this month it was extended to certain clients of CheBanca!, the bank’s wealth management brand. A wallet was provided to store the tokens.





Objective:

To to issue the tokenized notes

Year: 2023

Capital markets



Description:

BOCI, an investment arm of the Bank of China, issued tokenized notes in Hong Kong, marking the first time that a financial institution in China has issued a digital note in the region.

UBS partnered with BOCI to issue the notes, which were tokenized on the Ethereum blockchain.

BOCI issued 200 million Chinese yuan worth of notes, which translates to roughly \$28 million.



Tokenization

J.P.Morgan

Objective:

To create blockchain-based deposit tokens for cross-border payments

Year: 2023

Deposit tokens



Description:

JP Morgan is exploring a blockchain-based **deposit token** for cross-border payments.

While stablecoin reserves involve ringfenced assets and are pseudonymous, deposit tokens are simply digital versions of bank deposits, which always require KYC.

The key benefit of deposit tokens for cross border payments is the speed of cross border settlement and their 24/7 nature. Nowadays SWIFT payments are fast, but they often involve intermediaries and SWIFT only sends messages. So the recipient bank has to be open to make the actual payment, which is challenging across timezones.

In contrast, with digital tokens there is no separation of the message and the money, and the transaction can happen irrespective of opening hours.



SwissBanking

Objective:

To introduce a tokenized Swiss Franc

Year: 2023

Deposit tokens



Description:

The Swiss Banking Association (SBA) is coordinating a tokenized deposit project with a dozen banks aiming to introduce a tokenized Swiss Franc.

The banks are BCV, Credit Suisse, Entris Banking, Hypothekarbank Lenzburg, InCore Bank, Julius Baer, PostFinance, Sygnum, UBS, Vontobel, VZ Depotbank and Zürcher Kantonalbank.

The SBA emphasized the solution will be compliant and scalable. Hence it is engaging with regulators as well as other blockchain initiatives in Switzerland.



Tokenization



Objective:

To issue an end-to-end blockchain bond

Year: 2019

Bond Emission



Description:

Banco Santander announced that it has issued the first end-to-end Blockchain bond. The bank issued the bond directly onto Ethereum Blockchain and the bond will also continue to exist only on the Blockchain.

Banco Santander is itself the issuer of the \$20 million bond, while one of the Group's units purchased the bond at market price. The bond carries a quarterly coupon of 1,98%.

Santander Securities Services is acting as tokenization agent and custodian of the cryptographic keys.



Tokenization



TEL-AVIV STOCK EXCHANGE

Objective:

To trial blockchain government bond

Year: 2023

Bond Emission



Description:

Tel Aviv Stock Exchange (TASE) and the Israeli Ministry of Finance announced that their proof of concept Project Eden for issuing a blockchain government bond was successfully executed on May 31, 2023. It included five Israeli banks – Bank Discount, Bank HaPoalim, Bank Leumi, Bank Mizrahi and First International Bank – as well as five globally systemically important banks – Barclays, BNP Paribas, Deutsche Bank, Goldman Sachs and JP Morgan – and Merrill Lynch.

The stock exchange said the trial showcased the risk reduction, efficiencies and transparency enabled by the combination of DLT, smart contracts and tokenization.

The dummy government bond was issued as a security token on a private blockchain, and a shekel payment token was used for settlement. The banks were involved as primary dealers and transferred the funds to settle the transactions atomically. The solution supports a variety of digital currencies, including CBDCs.

A dedicated TASE Bond Management smart contract acted as the intermediary between the government issuer and the investors, ensuring the validity of the tokens transferred.





Objective:

To trial tokenized
SME bond

Year: 2023

Bond Emission



Description:

The tokenized bond solution is led by technology provider BlockInvest which is backed by Crédit Agricole. It will involve a consortium of Crédit Agricole Italy, its wealth management subsidiary Indosuez, neobank Illimity, and Deloitte.

The aim is to empower individuals to invest in the SME debt instruments. While the offering will be accessible on public blockchain (BlockInvest uses Ethereum and Polygon), only accredited investors will be able to buy the tokens.

This tokenized bond project was one of fourteen DLT initiatives that the Bank of Italy selected for its trials within the Fintech Milano Hub.





Objective:

To create a strong community of wealth management clients.

Year: 2023

Customer relationship




Description:

In a first for the world of private banking, Indosuez — the global wealth management arm of leading French bank, Crédit Agricole — has launched Le Clu3, a private NFT-driven membership club for its high-end clientele.

Le Clu3 was created by SiaXperience, the digital design agency of Sia Partners, alongside French Web3 platform METAV.RS.

The offering comprises a genesis soulbound NFT for members, allowing token-gated access to secret sections of the Indosuez website. A soulbound token cannot be sold or transferred once minted, meaning it's locked to that wallet. The aim is to create a strong community of next-generation clients for wealth management.



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