Home of
Blockchain
.SWISS

By Alexander E. Brunner / Author

Swiss Digital Asset Custody Report 2023

June 2023

Report Partners

Swiss Banking ASSET MANAGEMENT ASSOCIATION cmta.

Key findings

SURVEY: 57 sent surveys with 34 responses that results in a strong 59.6% return rate

TOKEN OFFERING: Whereas some traditional banks have a very narrow offering, sometimes only bitcoin and ether, other crypto native providers offer dozens of tokens from many different protocols (predominantly Ethereum with its ERC-20 tokens). Most providers offer custody services for cryptocurrencies and few started offering custody for NFTs. As a reflection of the nascent state of security or asset tokens (tokens with actual securities such as shares or debt instruments as underlying), only 20.6% of the providers offer custody services for security or asset tokens yet.

CLIENT TYPE: 20.6% of the respondents exclusively service B2C clients (either wallet providers or private banks), whereas 26.5% service only B2B clients and 50.0% service both.

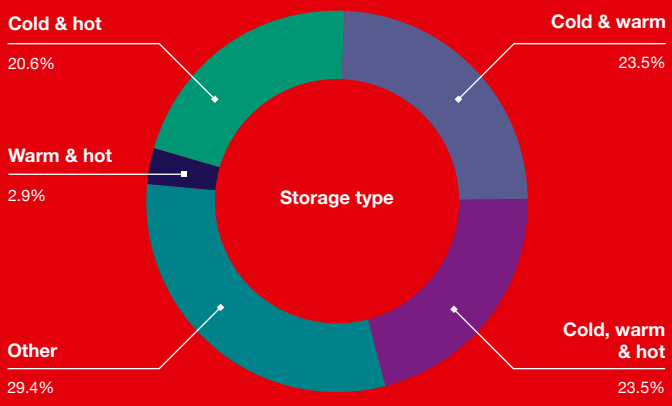
LICENSING: 79.4% of the respondents are licensed in some form such as self-regulatory organisation, asset management license, security firm license or banking license.

DEPOSIT INSURANCE OR GUARANTEE: 41.2% of the respondents offer some sort of deposit insurance or guarantee.

BANKRUPTCY REMOTE: 73.5% of respondents offer bankruptcy remote solutions whereas the remaining 26.5% either offer self-custody solutions where the client directly oversees the assets or are pure technology providers.

BANKS: 15 of the 34 respondents or 44.1% of all entities are banks.

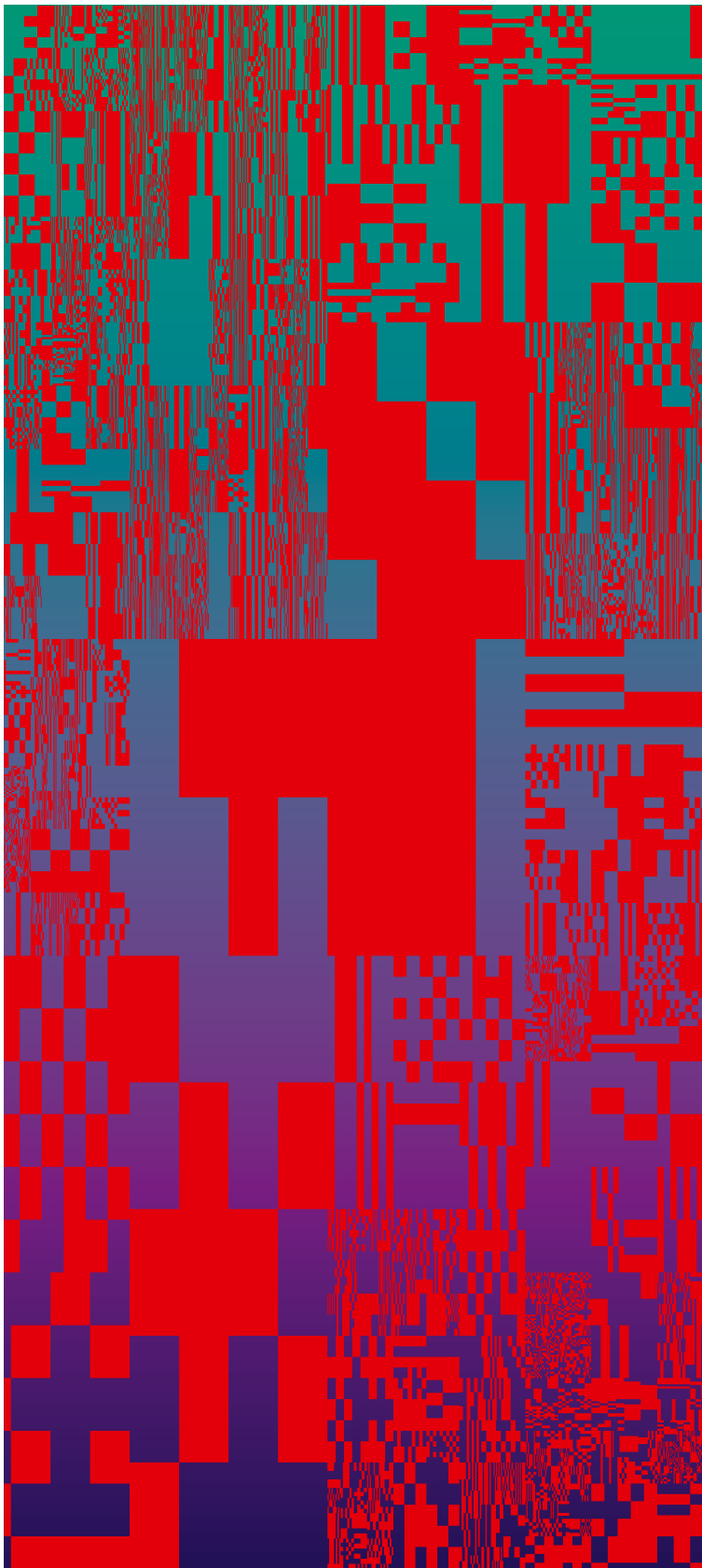
STORAGE TYPE:



Content

01

Responsible Financial Innovation



The safekeeping of financial assets is a global strength of Switzerland's banking industry. With the emergence of digital assets, from crypto to tokens and NFTs, Switzerland has become a **global leader of safekeeping such new digital assets.** With the Swiss regulator FINMA's ICO guidelines in 2018 and followed by the Swiss DLT legal framework in 2021, Switzerland has created a digital asset ecosystem that allows for **innovation and diversity within a clear regulatory framework.** We call it **"Responsible Innovation"** or the Swiss way. Digital asset custody is a **natural extension of Switzerland's private banking legacy** and is charting a path into the future of finance. This allows for professional, institutional and retail investors to access digital assets in a compliant and safe way by providing services for B2C and B2B, segregated or commingled accounts, off-balance-sheet and bankruptcy remote custody as well as deposit insurance and tax reporting. All requirements for **institutional-grade digital asset services.**

Alexander E. Brunner

What this report clearly shows is that **digital assets in their various forms have entered traditional finance and banking.** Several providers operating out of Switzerland have confirmed that they are engaging with major financial institutions and banks around the world. As opposed to the situation in the US, the Swiss ecosystem is vibrant and dynamic. **Several established banks confirmed that they are working on a digital asset offering** that will launch in the near future.

Home of Blockchain.swiss, a public-private-partnership to promote Switzerland's digital asset and blockchain ecosystem, is very proud to present this first Swiss digital asset custody report. It is based on a **survey of 57** sent surveys and **34 responses** that results in a strong **59.6% return rate.** Quite a few of the recipients declined to answer as their offering is currently being finalized.

This report highlights the **innovation and breadth of the Swiss ecosystem.** It aims to be a short primer into the fascinating world of digital assets custody. We showcase the diversity of approaches, the incredible innovation happening as well some challenges.

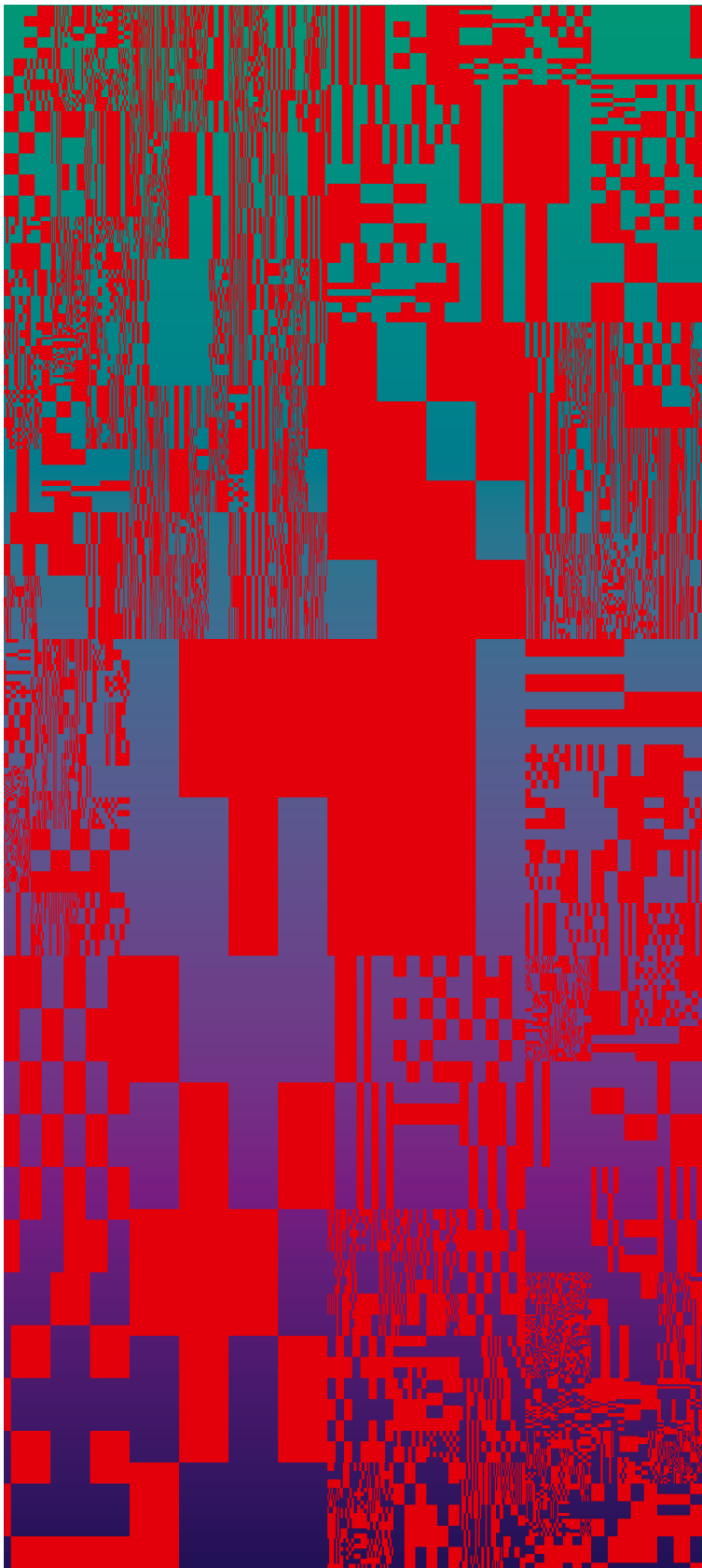
This report would not have been possible without our **amazing report partners** the Swiss Bankers Association, the Asset Management Association Switzerland and the Capital Markets and Technology Association. A big thank you to all of them for supporting the digital financial future of Switzerland and beyond!

Alexander E. Brunner

Author

02

Blockchain-based assets



Potential advantages of blockchain-based digital assets are efficiency gains through atomic swaps (instant settlement), algorithm-based functionalities enabled by smart contracts (e.g. interest payments), transparency, better risk management and enforcement of governance. According to a study by the consultancy Bain the greatest potential for digital assets are in **private markets** that are not already transacted on traditional exchanges (for example digital bonds).[1] By making financial assets such as shares of smaller enterprises or credit instruments such as bonds transactable on the blockchain, smaller corporations can get **access to the large global capital markets.**

At **the beginning of this digital asset journey is the safekeeping,** or custody, of these new assets. In contrast to traditional custody, custody of digital assets is about securing the private key. This presents new challenges from repeated hacks to a lack of segregation and regulatory risks.

The original principle of crypto and digital assets is self-custody through the means of a so-called **private wallet.** Proponents of self-custody call this the "Not your private key, not your coin" principle. However, this mantra is not without risk as it is not user-friendly and creates challenges about key-management. Furthermore, for institutional investors with fiduciary duties, this is not a viable option as we explain later.

According to the Swiss SEBA Bank, digital asset custody consists of: "...services [which] entail the secure storage and management of digital assets. However, the nature of storage is different from traditional assets' custody. In the case of digital assets, the **underlying technology** is the critical focus. Digital assets are created and transferred among users within a decentralized **blockchain network.** Digital assets are acquired via transactions executed on the underlying blockchain, and every transaction is recorded on the distributed ledger. These transaction entries are sometimes the only proof of the existence of users' assets, and to prove ownership of these, a private key is provided. **If these keys are lost or stolen, assets may not be recoverable.** Custody providers, therefore, offer to store and **protect these private keys** on behalf of the owner [...]." [2]

In contrast to traditional finance, transactions on the blockchain are immediate and in theory irreversible. Mistakes cannot be corrected. The only thing required for a transaction is the **private key,** making it a highly valuable asset that requires safekeeping (an explanation of the private key will follow later). To **safely store the private key while still making transactions user-friendly is one of the biggest challenges** in digital asset custody.

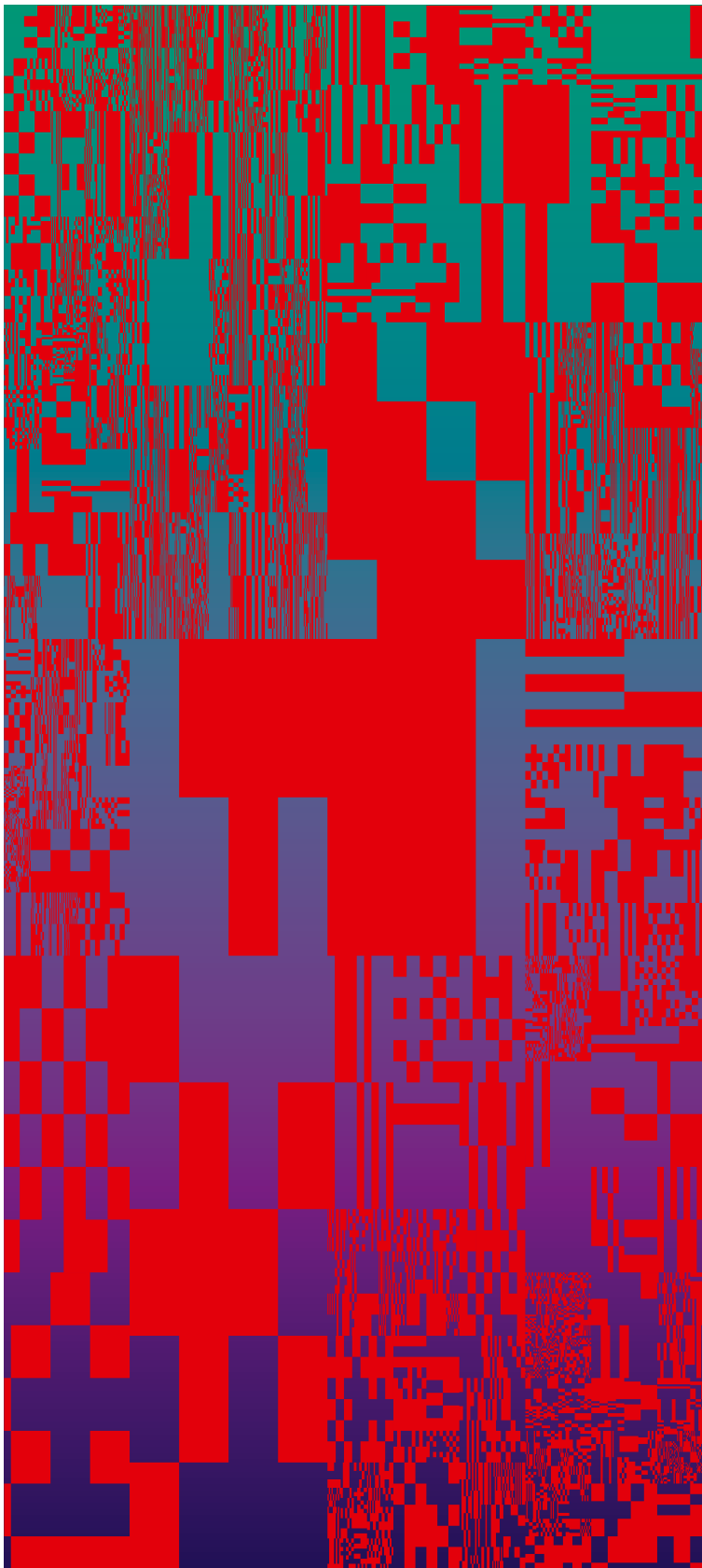
Digital assets, from crypto currencies to tokens, are ideally built on and transacted on an open source, decentralized and globally visible platform called the blockchain. Due to its different IT architecture, it is fundamentally different from the traditional financial industry and presents new challenges. This also results in **new and unknown risks** from cyber risks and privacy risks to money-laundering and sanction-circumvention. The collapse of the crypto exchange FTX in November 2022 led to a greater focus on the safekeeping of digital assets. The safekeeping of financial assets is at the core of the **Swiss financial industry** and Swiss private banking. **Switzerland therefore has excellent prerequisites for becoming a leading hub for the safe custody of digital assets worldwide.**

1 - https://www.bain.com/insights/for-digital-assets-private-markets-offer-the-greatest-opportunities/

2 - https://www.seba.swiss/research/digital-custody?utm_source=newsletter&utm_medium=email&utm_campaign=the-bridge&utm_content=the-bridge-23March2023

03

Introduction to digital asset custody



Token definitions in the Swiss context

Digital assets such as cryptocurrencies or tokens are nascent and come in a mind-boggling array and terminology. Terms such as cryptocurrency, coin, security token, digital asset or virtual asset are used in various situations. However, the correct classification is essential for custody as different regulatory and legal requirements apply based on the underlying. Some industry participants only classify security tokens, tokens based on an underlying security such as a bond or share, as digital assets. However, internationally different classifications are used to the bewilderment of everyone.

The Swiss regulator FINMA was the first regulator to issue a categorization of blockchain-based tokens in 2018 in their ICO guidelines. It categorizes tokens into three types (hybrid forms are also possible): “In assessing ICOs, FINMA will focus on the economic function and purpose of the tokens (i.e. the blockchain-based units) issued by the ICO organizer. The key factors are the underlying purpose of the tokens and whether they are already tradeable or transferable.

1. Payment tokens are synonymous with cryptocurrencies and have no further functions or links to other development projects. Tokens may in some cases only develop the necessary functionality and become accepted as a means of payment over a period of time.

2. Utility tokens are tokens which are intended to provide digital access to an application or service.

3. Asset tokens represent assets such as participations in real physical underlyings, companies, or earnings streams, or an entitlement to dividends or interest payments. In terms of their economic function, the tokens are analogous to equities, bonds or derivatives.” [3]

The **correct categorization is crucial for custody:** Asset tokens based on securities for example have higher regulatory demands on custody than purely artistic NFTs of fan tokens. Therefore, a clear framework by the regulator is essential for the custody ecosystem. As mentioned before, Switzerland is a pioneer in this.

3 - FINMA ICO guidelines

Of cryptography, keys and wallets

Blockchain technology uses so-called wallets that let individuals and institutions manage their digital assets: **"Wallets don't store your assets; they act as an intermediary."** [4] From a technological point, wallets use cryptographic keys to secure and transact digital assets. It is worthwhile to understand their importance: "Before delving into the types of custody solutions, let us understand a basic but essential aspect of custody – cryptographic keys. It represents the claim to your digital assets. But what exactly are these keys, and how are they generated? Which key can be used publicly, and which must be kept confidential? These are questions that one faces when entering the world of crypto." [5] Here is a very short introduction to keys and wallets courtesy of *SEBA Bank:*

"Public keys work like **traditional bank account numbers.** You need them to transfer assets to someone else once you have their public key. Therefore, you would also be required to share it with a sender to receive assets. It is the address to your deposit wallet that you need if you are to make any transaction. **Private keys,** on the other hand, are analogous to traditional bank accounts' personal identification numbers (PIN). Private keys must be kept confidential, and one needs them to **digitally sign a transaction,** otherwise the transaction cannot get approved. It must always be kept private because it can be used to transfer funds from the wallet." [6]

SEBA Bank continues by explaining the different types of wallets: "After reading how one does not own the asset, instead just the **keys representing a claim to these assets,** you may wonder how exactly you can transact and move your assets around using just your keys. This is where your **wallet** comes into the picture. Although the term "wallet" does not paint a perfect picture, **it only acts as an intermediary between you and your assets on the blockchain.** A public and private key is generated when a wallet is created, and as mentioned above, these keys seem similar but have distinct functions. Let us now get into the different types of wallets:

Hot wallet: A hot wallet is a crypto wallet that is connected to the internet. It does not require human involvement; rather, everything happens automatically. Hot wallets offer a **seamless user experience,** so most of the wallets out there are of this type. It provides instant accessibility to assets. But convenience comes at the **cost of security.** This is because the wallet is always connected to the internet, making it vulnerable to attacks. It is recommended not to keep large amounts of crypto in your hot wallet. Examples of hot wallets include mobile wallets, exchange wallets and desktop wallets.

Warm wallet: Like hot wallets, warm wallets are always connected to the internet. However, the **wallet owner must sign every transaction** before sending it to the blockchain. So, everything happens automatically here as well, except for the human involvement required to sign transactions.

Cold wallet: A cold wallet is the opposite of a hot wallet. Any crypto wallet **offline or not connected to the internet is a cold wallet.** Since one can connect to a blockchain only via the internet, this type of wallet is highly secure and is impenetrable to hackers. Being able to use a cold wallet requires technical knowledge. Mostly, people with experience or large amounts of assets use cold wallets. Hardware wallets and Paper wallets fall under the category of cold wallets. Hardware wallets can be as small as a pen drive or as big as a vault inside a bank.

4 - https://www.seba.swiss/research/digital-custody?utm_source=newsletter&utm_medium=email&utm_campaign=the-bridge&utm_content=the-bridge-23March2023

5 - https://www.coinbase.com/de/learn/crypto-basics/what-is-a-private-key

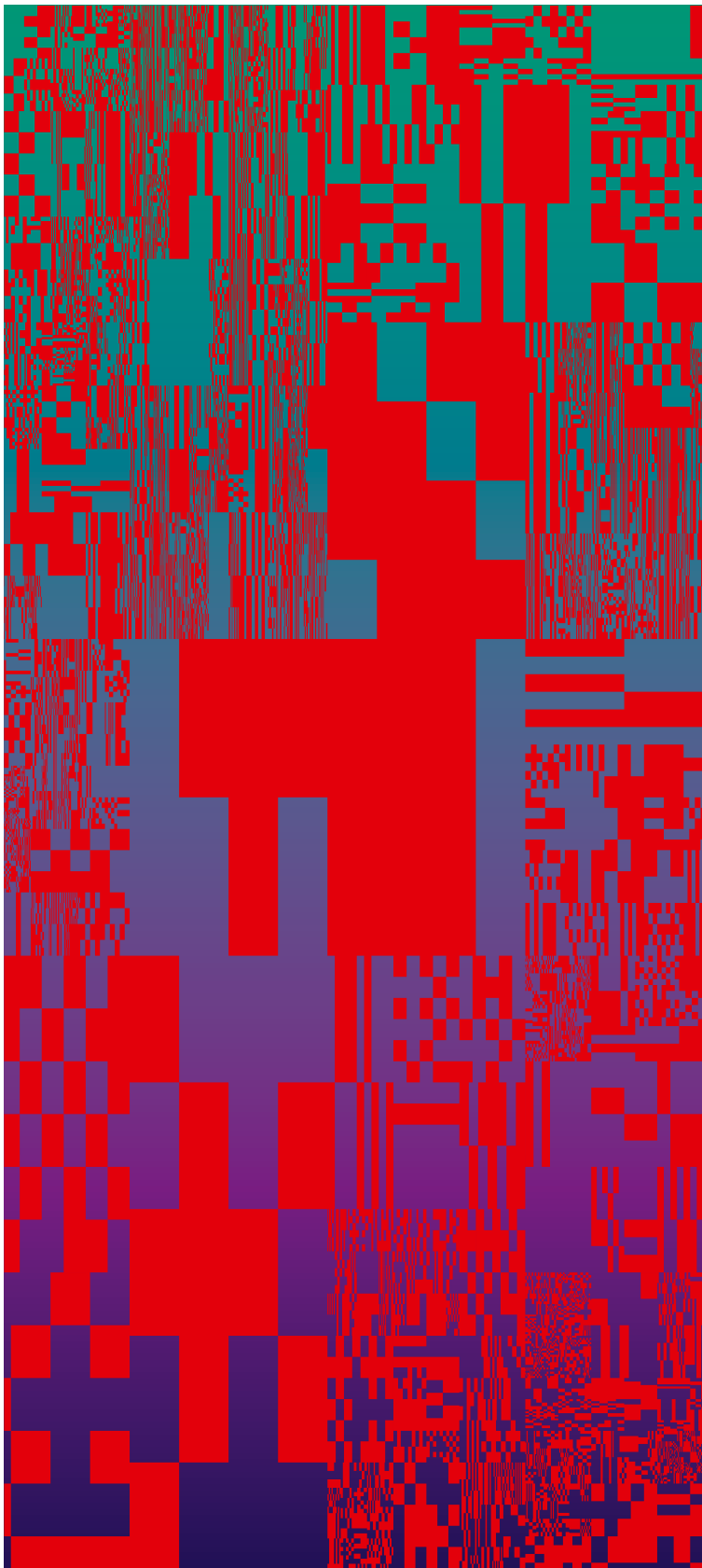
6 - https://www.seba.swiss/research/digital-custody?utm_source=newsletter&utm_medium=email&utm_campaign=the-bridge&utm_content=the-bridge-23March2023

Vaults can be customized according to the client's requirement for asset accessibility. Security features depend on the service provider. It could be based either on multiparty computation (MPC), multi-signature, or a hardware security module (HSM)."

This short overview emphasizes that who owns the private key is essential. In this context often the terms "custodial" (not in possession of the private key) or "non-custodial" (in possession of the private key) wallets are used. They create different custodial challenges.

04

Custody challenges



An optimization problem

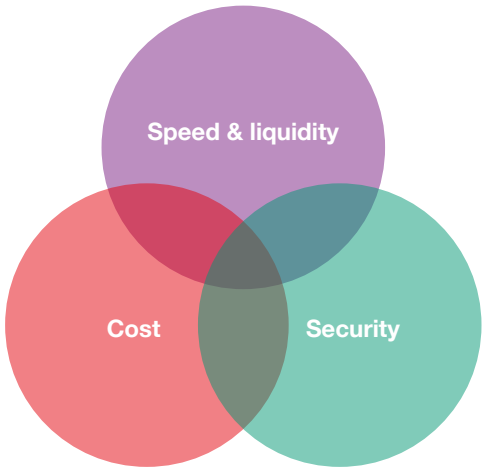
As mentioned before, digital assets present some **unique challenges from speed and through-put to privacy and security.** One example are events termed “forks” such as *Ethereum’s* recent “Shanghai” or “Capella” forks. Each fork in effect creates another blockchain (or copy of the original program) that needs to be supported by custodian providers. Jan Brzezek, co-founder and CEO of *Crypto Finance,* highlighted in a lecture the specific challenge involved: Each time a fork happens his team has to carefully evaluate if they support the new and/or old blockchain. [7]

Due to their distributed structure, different blockchains can be slow and struggle with higher transaction volumes. In essence, a **decentralized system** is always slower than a central one (think credit cards or any large online retailer). In recent years, therefore, many **digital asset service providers** like exchanges or lenders stepped into the void and started to offer **centrally controlled services** as centralized intermediaries.

This has led to vulnerabilities, as the collapse of the crypto exchange *FTX* in late 2022 deftly showed. In addition, exchanges got hacked and private keys were stolen from investors. Once a key gets stolen, retrieving it is very challenging. In that sense, digital assets act similar to cash: **whoever possesses the private key can authorize transactions.** As a result, the owner of a private key can freely dispose of crypto or digital assets as transactions are irrevocable.

As mentioned before, cold storage is one of the more secure methods, but it can also be very inconvenient and cumbersome. Therefore, securing the keys - in essence a combination of letters or numbers - becomes a cybersecurity challenge. As a result, this creates an optimization problem: digital assets can either be very safely stored, very convenient or cheap to transact or can offer privacy or transaction speed. According to *SEBA Bank* “Digital asset custodians play a vital role in increasing adoption and must provide robust security with speed, scalability, and operational flexibility. **The balance between security, speed, scalability, and flexibility defines the best solutions.** If we compare security versus speed, cold storage solutions may sometimes result in users paying some opportunity cost since it takes time for assets to go online. A hot wallet, however, is fast but compromises security.” [8]

Chart: Digital asset custody solutions face an optimization problem.



7 - https://my.blockchain-academy.io/blog/sub-custody-for-banks?utm_medium=email&_hsmi=234520600&_hsenc=p2ANqtz-9_Rbs7iFJ8qwy1BfWbI1bNq5Qz5pSU0t4d_7HFwooBm_KIRWBOeNRRGW0qHa7bbR3ExKA4zE0MJ9lkMMWnBG1ZdlgkCg&utm_content=234520600&utm_source=hs_email

8 - https://www.seba.swiss/research/digital-custody?utm_source=newsletter&utm_medium=email&utm_campaign=the-bridge&utm_content=the-bridge-23March2023

New types of risks

With an ever changing landscape of blockchains and tokens, updating digital asset custody solutions is a dynamic process and requires not only cryptographic knowledge but also an eye for privacy features. This makes **digital asset custody one of the most fascinating fields of cryptography.** It requires the careful combination of technology with finance and legal expertise. It is a truly cutting-edge area that requires highly specialized teams and strong risk frameworks. Digital asset custody providers are confronted with basically **three types of risks:**

a. Operational, such as user errors
b. Cyber Security, such as hacking as well as social engineering
c. Regulatory, such as uncertainty in regards to licenses and bankruptcy remoteness

Due to the distributed and open-source nature of the blockchain, digital assets present additional risks to traditional finance. In particular, the division of labor between different providers and legal challenges and **uncertainties in cross-border transactions** have to be considered.

A further legal risk, the **bankruptcy-remoteness of assets,** was recently identified in the US bankruptcy proceeding of *Celsius*, a crypto lender: "Among the thorny legal issues for *Celsius* to be decided in court is resolving whether account holders who lent their crypto on the platform to earn high interest rates are simply in the pool of unsecured creditors or otherwise have specific claims on specific crypto assets." [9] An article on *Bloomberg Law* stated that "Celsius Network LLC owns the coins that users placed in interest-bearing accounts with the crypto lender prior to its bankruptcy, a federal judge said in a written ruling." [10] Therefore assets with *Celsius* were not segregated. In 2022, the *FTX* crypto exchange fraud and resulting bankruptcy made it clear that **counterparty risks have to be taken seriously.** They come in many forms from lack of sufficient funding, regulatory risks, or lack of governance to the lack of deposit insurance or the absence of off-balance sheet custody. With the breadth of providers in Switzerland, from universal bank to startup, investors clearly have to do a thorough due diligence in order to assess the various risks involved.

9 - Financial Times, Fees of high-priced lawyers mount in crypto bankruptcies, 28.12.2022

10 - Bloomberg Law Link

Crypto custody in Switzerland from a legal perspective

On 1 August 2021, the Swiss DLT-Act fully entered into force. Drawn-up as a blanket act, it provided for selective adjustments in a total of nine Swiss federal laws. Amongst others, it introduced significant clarifications to Swiss insolvency and banking law, setting out the requirements for digital assets to be segregated from the bankrupt estate of the custodian.

The custody of crypto and digital assets is, in particular, regulated in the Swiss Banking Act. Whether or not a banking or a so-called Fintech license is required mainly depends on whether the assets under custody qualify as public deposits. The term public deposit is to be understood broadly in that generally all liabilities are in scope and can also include digital assets. **Whenever assets under custody qualify as public deposits, they are included in the liabilities of the bank's balance sheet.**

In contrast to public deposits, **deposit values are not shown in the balance sheet and can be segregated and returned to the customer in the event of bankruptcy.** The distinction between deposit values and public deposits is highly important for banking institutions because deposit values are not subject to the capital adequacy requirements under Basel III.

Pursuant to the Banking Act, **digital assets are deemed to be such deposit values,** if the bank has undertaken to keep them available for the custody customer at all times and they are either individually allocated to him/her or it is evident which share of the common assets the customer is entitled to.

Tina Balzli

This **clear and robust Swiss legal custody framework** provides both additional security to the customer in the event of bankruptcy of the custodian by means of segregability as well as operational benefits to the banks in lowering the capital adequacy requirements for digital assets under certain circumstances.

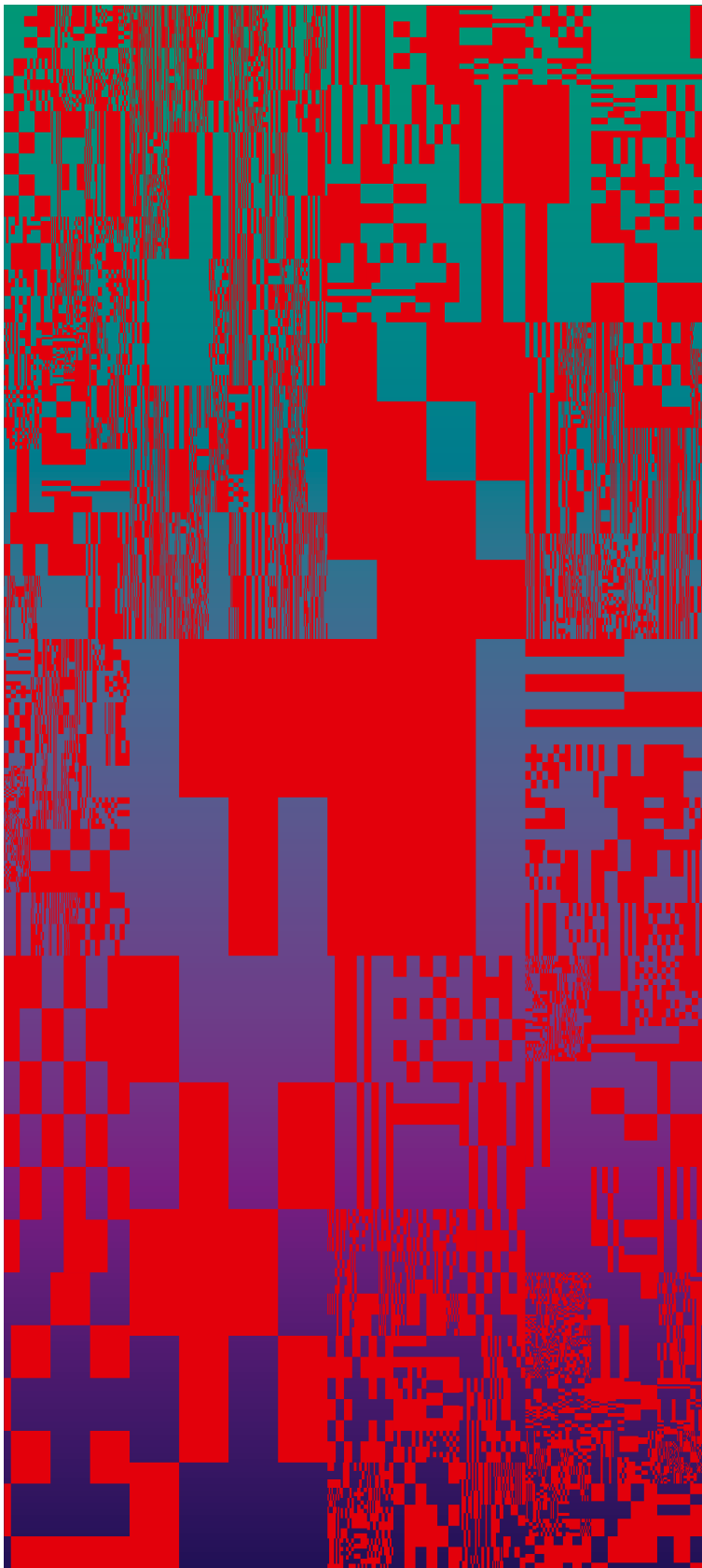
Tina Balzli

Partner, Head of Fintech and Blockchain, CMS Switzerland

tina.balzli@cms-vep.com

05

Survey results



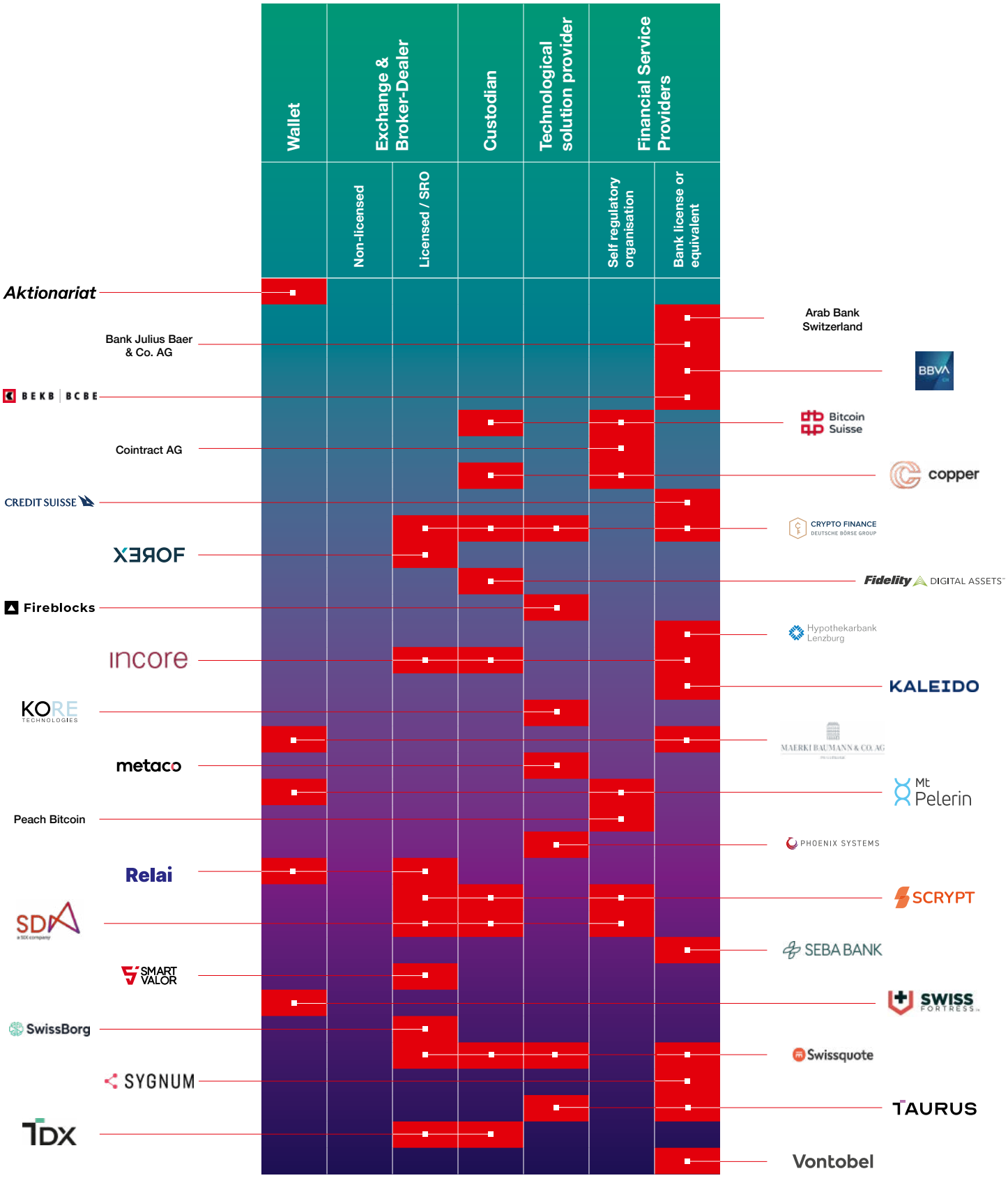
Respondents

In the survey we identified 57 Swiss institutions or institutions with a Swiss footprint that offer digital asset custody services in various forms. It is important to note that their respective categorization is self-declaratory and based on their survey answers.[11] Most of the enterprises originate from Switzerland with some foreign providers having a Swiss footprint.

Swiss digital asset custody ecosystem map

Explanation of survey respondents: The displayed information was provided by the respective entities and is therefore self-declaratory. Only entities who have responded to our survey were included in the ecosystem map. The condition for being included was to have a Swiss presence.

11 - Note: The answers were exclusively based on the survey responses and not independently verified.


Wallet
Exchange & Broker-Dealer
Non-licensed
Licensed / SRO
Custodian
Technological solution provider
Financial Service Providers
Self regulatory organisation
Bank license or equivalent
Aktionariat
Bank Julius Baer & Co. AG
BEKB | BCBE
Cointract AG
CREDIT SUISSE
XBRORF
Fireblocks
incore
KORE TECHNOLOGIES
metaco
Peach Bitcoin
Relai
SDX
SMART VALOR
SwissBorg
SYGNUM
TDX
Arab Bank Switzerland
BBVA
Bitcoin Suisse
copper
CRYPTO FINANCE DEUTSCHE BÖRSE GROUP
Fidelity DIGITAL ASSETS
Hypothekarbank Lenzburg
KALEIDO
MAERKI BAUMANN & CO. AG
Mt Pelerin
PHOENIX SYSTEMS
SCRYPT
SEBA BANK
SWISS FORTRESS
Swissquote
TAURUS
Vontobel

Facts and figures

Supported tokens

As mentioned before, digital assets come in various forms and with different regulatory requirements. The different business models of the survey respondents are reflected in the supported tokens. Whereas some **traditional banks have a very narrow offering,** sometimes only bitcoin and ether, other **crypto native providers offer dozens of tokens** from many different protocols (predominantly Ethereum with its ERC-20 tokens). Whereas most providers offer custody services for cryptocurrencies, some started offering **custody for NFTs.** As a reflection of the nascent state of security or asset tokens, only **20.6% providers offer custody services for security or asset tokens yet.**

Target clients

Another indication of the diversity of the Swiss digital asset custody ecosystem is the client base. **20.6%** of the respondents exclusively service **B2C** clients (either wallet providers or private banks), whereas **26.5%** service only **B2B** clients and **50.0%** service **both.**

Licensing and regulatory oversight

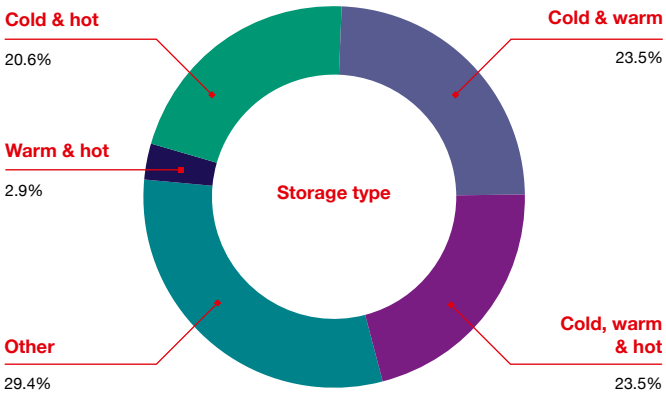
In many jurisdictions the licensing of crypto and digital asset providers is either absent, being drafted or very nascent. The strength of the Swiss ecosystem is that the Swiss regulator has given **licenses to a vast array of institutions** from traditional banks to asset managers. These licenses can be light-touch such as the membership of a self-regulatory body (SRO) all the way to a fully fledged banking license with all the attached requirements. This proactive approach of the regulator has shown results as **79.4%** of the respondents are licensed in some form such as licensed broker-dealer, asset manager, security firm or bank. Among the non-licensed entities are mostly technological service providers and wallet providers.

Deposit insurance or guarantee

In the aftermath of the collapse of both FTX and Celsius last year, investors were confronted with the fact that assets were not properly segregated (or bankruptcy-remote) and were also uninsured against losses. This has led to potential large losses. The benefits of Swiss licensed custody providers is that **41.2% of the respondents offer some sort of deposit insurance or guarantee.** This is a strong risk mitigation measure in a still nascent and often turbulent asset class. At the same time, providers often give investors the choice to either co-mingle their assets or keep them fully segregated. Both approaches have advantages and disadvantages. However, **clearly stating the segregation gives investors clarity and choice.**

Custody type

As explained before, the custody of assets can come in different forms: from the rather secure cold storage to warm storage with client approval to hot storage. Depending on the client's wish, from safekeeping of digital assets to trading, different storage setups can be deployed. Again, the Swiss ecosystem offers services across the entire spectrum with many providers giving clients the choice.



Off-balance and bankruptcy remote

Recent collapses of crypto providers have shown that keeping client assets bankruptcy-remote and off-balance-sheet is essential. Here again, **73.5% of respondents offer bankruptcy remote solutions** whereas the remaining 26.5% either offer self-custody solutions where the client directly oversees the assets or are pure technology providers.

Banks

15 of the 34 respondents or 44.1% of all entities are banks or with an equivalent license. They range from retail and online banks such as Swissquote to private banks such as Maerki Baumann to universal banks such as Credit Suisse, crypto banks such as Sygnum to regional banks such as Hypothekarbank Lenzburg. Banks not only offer a long track-record in safekeeping of client's assets but also offer bankruptcy remote accounts, insurance as well as a breadth of services from trading to staking and lending. This gives wealthy investors, family offices and institutional investors peace of mind. Last but not least, several regional banks have indicated that they are working on a future digital asset solution. Clearly, **Swiss banks have been busy building their digital asset offering** in the recent time.

Conclusions

Broad services offering

The various providers in Switzerland offer a **wide range of services:** from crypto wallets to investment research and advisory as well as pure technology providers and specialized custodians and sub-custodians. They serve business as well as retail clients and can offer a wide range of digital assets and tokens.

Internationally attractive

With its **successful ten years of history in digital assets,** Switzerland has built a world-leading ecosystem that has created homegrown leaders that got acquired as well being an **attractive jurisdiction for foreign companies.** Many international providers have been offering digital asset services in Switzerland such as Spain's BBVA bank, Fidelity from the US or Arab Bank from Bahrain. In addition, dedicated international service providers such as UK's Copper and Israel's Fireblocks have representatives in Switzerland, servicing the growing Swiss market.

Varying business models

What is interesting to observe is that the Swiss ecosystem has a **wide-range of business models:**

- Dedicated technology providers such as *Metaco* or *IBM*
- Specialized banks such as *Sygnum* and *SEBA Bank*
- Pure B2B banks such as *InCore Bank*
- Private banks such as *Maerki Baumann*
- Universal banks such as *Credit Suisse*
- Financial market infrastructure providers like *SDX* or *Taurus*
- Wallet providers for retail customers such as *Swiss Fortress* and *Relai*

This is a result of the **flexible licensing regime** in Switzerland and a proactive regulator and allows for smaller outfits all the way to large universal banks.

Geographical spread

Ever since the incorporation of *Bitcoin Suisse* and the *Ethereum Foundation* in Zug, the small Swiss canton is the cradle of the digital asset industry in Switzerland. However, what started in Zug has in the meantime **spread across Switzerland** from the Lake Geneva region with *Swissquote*, *Metaco*, *Mt. Pelerin* and *Taurus* to Zurich with *Sygnum Bank* or *Crypto Finance AG*. This is clearly a reflection of the adoption among the financial industry that is mainly centered in the Lake Geneva region and Zurich. On the other hand it is also a reflection of the talent pool available in different parts of Switzerland.

The **growth** of Switzerland's digital asset ecosystem has in the meantime continued **internationally:** *Sygnum Bank* in June 2023 successfully secured in-principle approval of its Major Payment Institution License application from the *Monetary Authority of Singapore* (MAS). The license enables the bank to offer its clients regulated crypto brokerage services.[12] Zug-based *SEBA Bank* secured in February 2022 a Financial Services Permission and has opened an office in Abu Dhabi.[13]

Acquisitions

With the sale of *Crypto Finance AG* to *Deutsche Börse* in 2021 and the sale of the technological solution provider *Metaco* to *Ripple* for USD250m in May 2023, the Swiss ecosystem has proven to be a **global leader in digital asset technology innovation** at the intersection of finance and technology.[14] With more Swiss crypto bank projects in the pipeline as well as new startups appearing, **innovation in digital asset custody is accelerating in Switzerland!**

Breadth of licenses

What is also interesting to see is the different licensing regimes available, ranging from self-regulatory body affiliations all the way to a strict banking license. Combinations with international licenses can also be seen. These **different levels of regulatory oversights have allowed for innovation** while providing the **necessary regulatory guardrails.** The Swiss regulator clarified early on that digital asset providers do have to adhere to the relevant regulatory frameworks. This has led to strict governance, in particular for the higher regulatory licenses, as well as segregation of assets, asset insurance, auditing and tax reporting.

Continuous growth

The **Swiss ecosystem has a long operating history** with firms such as *Bitcoin Suisse,* incorporated in 2013, or *Crypto Finance,* incorporated in 2017. At the same time, **new entrants from the traditional banking sector** such as the bank-licensed *PostFinance,* as well as new crypto banks, are emerging.[15]

After the collapse of the crypto exchange *FTX* in November 2022, investors realized the **importance of safe custody of digital assets.** This has led to a higher interest in regulated and licensed providers. In the fourth quarter of 2022 *Sygnum Bank* for example saw client money inflows of USD920m.[16]

The safekeeping of financial assets has a long tradition in Switzerland. It is a natural extension of this and will strengthen Switzerland as a hub of global wealth management and private banking at the intersection

12 - https://crypto.news/sygnum-singapore-gets-approval-to-offer-crypto-services/

13 - https://www.seba.swiss/media-and-investors/seba-bank-secures-financial-services-permission-from-abu-dhabi-global-market-and-opens-office-in-abu-dhabi

14 - https://deutsche-boerse.com/dbg-en/media/press-releases/Deutsche-B-rse-Completes-Acquisition-of-a-Majority-Stake-in-Crypto-Finance-2882488 & https://www.metaco.com/press-release/metaco-joins-ripple/

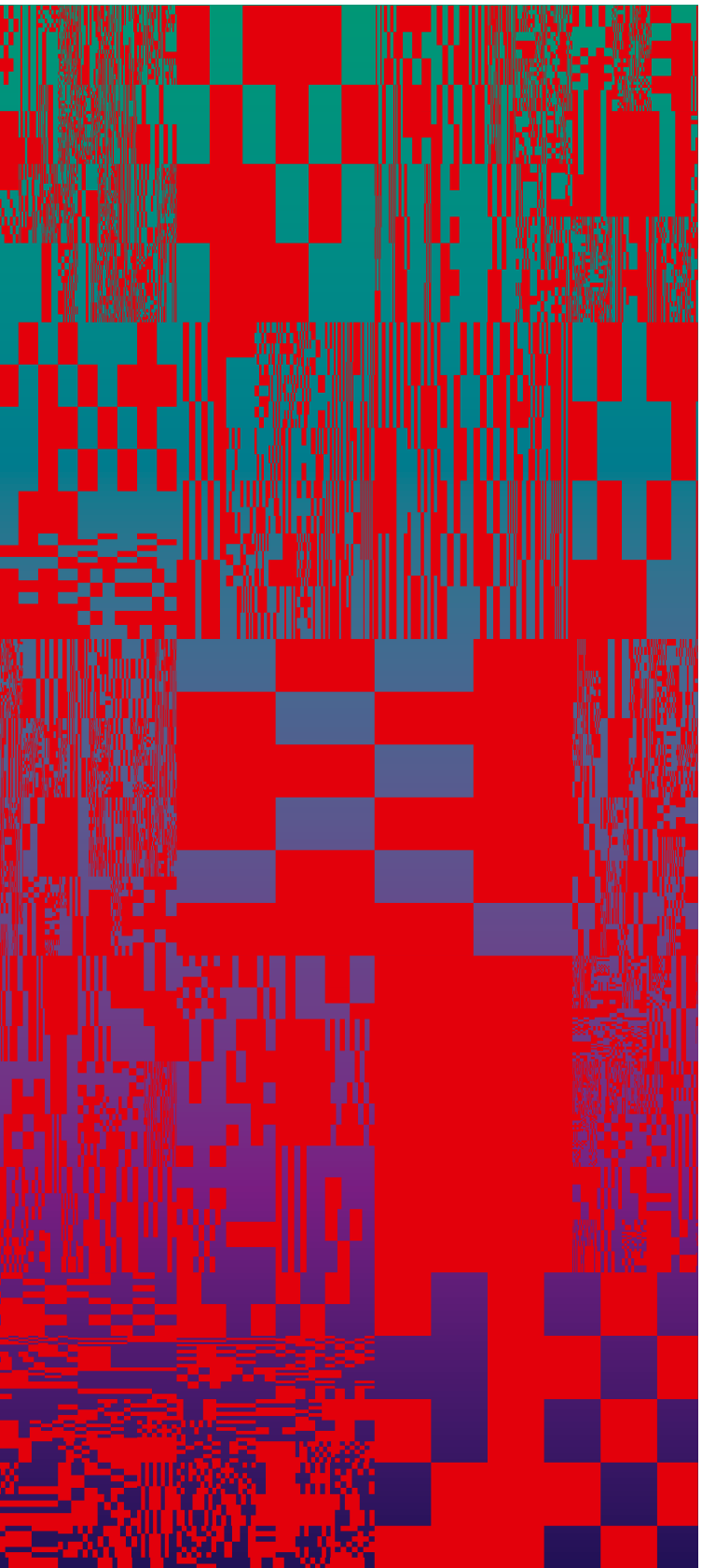
15 - https://investrends.ch/aktuell/produkte/postfinance-startet-mit-krypto-angebot/

16 - https://www.insights.sygnum.com/post/flight-to-quality-investors-turn-to-those-they-trust

of technology and finance. **Digital asset custody is the beginning of the digital asset journey,** often **leading to further services** from trading to advisory and staking. Switzerland is clearly a trail-blazer when it comes to the **fusion of traditional finance with digital assets.** These are all requirements for an institutional adoption of digital assets at scale.

Switzerland has struck a careful balance between allowing for innovation and protecting investors, resulting in Switzerland being globally one of the leading providers of secure digital asset custody for various clients. **Switzerland's responsible innovation** approach has clearly become its strength: Slow and steady wins the race!

06



Swiss private banking and the future of finance

The world of digital assets, crypto currencies as well as tokens can be fascinating and bewildering at the same time. Terms such as hot and cold wallets, staking, forks or multi-signature wallets can be confusing at best. Despite the early communities mantra of "not your private key, not your coins" **institutional investors with fiduciary duties require institutional grade offerings.** The breadth and depth of the Swiss digital asset custody ecosystem offers a **wide-range of services,** catering from retail to business customers, allowing for self-custody or fully banked solutions that come with different regulatory oversight regimes. This will enable more institutional and professional investors to access the rapidly evolving world of digital assets.

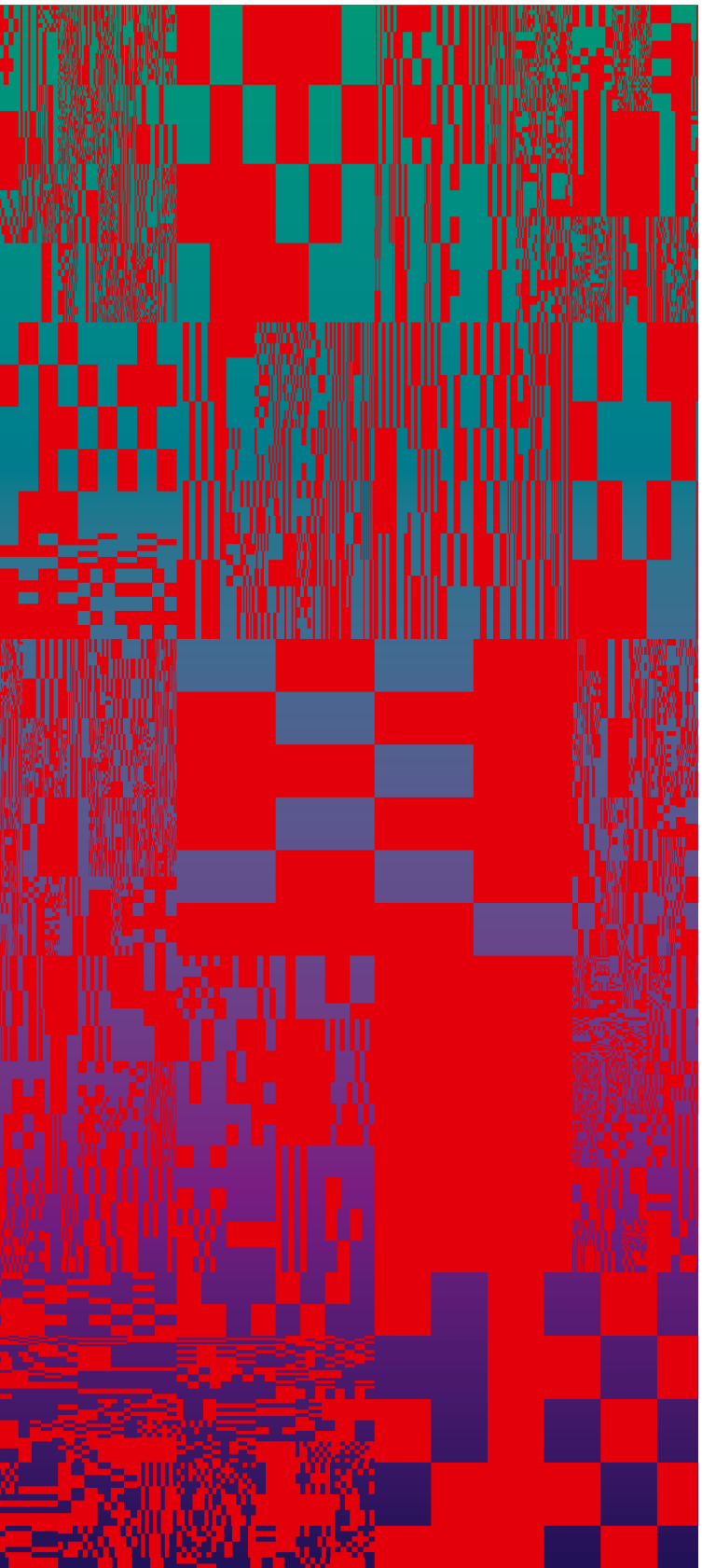
Switzerland has been at the forefront of this trend ever since the Swiss regulator *FINMA* issued its ICO guidelines in 2018 that was followed by the pioneering DLT legal framework by the Swiss parliament in 2021 that specifically allows for collective as well as segregated custody. **This is globally truly unique as it enables collective custody of digital assets.** Other jurisdictions are lagging: the USA currently has no dedicated framework and the EU will only in the near future implement the Markets in Crypto Assets Regulation (MiCA) that will provide a legal and regulatory framework, establish licensing regimes and oversight as well as digital asset custody guidelines.

According to the "Basel III Monitoring Report September 2022" **19 international banks surveyed** crypto asset exposures of EUR 9.4bn.[17] The market is still small but steadily growing. With more and more devices connected to the internet, think cars, drones, art works to securities, the safekeeping of this valuable data will increase in importance. This leads to the question: how can valuable data be efficiently exchanged in a global and open network while protecting pivacy?

It's about combining everything from digital identification to privacy and data protection with data control. These are exactly the topics that enable blockchain solutions. **Securing valuable data is one of the most important data challenges in our rapidly networked world.** This is not only technologically highly demanding, but also requires compliance with an emerging global regulatory framework. The Swiss blockchain ecosystem has been working on precisely these challenges, developing **high-performance cryptographic custody solutions for decentralized global networks.** At the intersection of technology and finance Switzerland has become a world-leader in less than ten years, supported by the government, the banking industry as well as the *Swiss National Bank* with its various digital asset pilots together with the *BIS Innovation Hub.* **The future of responsible innovation in finance has already started in Switzerland!**

17 - https://www.bis.org/bcbs/publ/d541.pdf

07



Digital Assets in Switzerland: Two missing links to accelerate adoption in the Financial Services Industry

Switzerland has long been recognized as a global financial hub known for its stability, trustworthiness, and expertise in wealth management. As the world increasingly embraces digital assets such as tokenized traditional bankable and non-bankable assets, stablecoins and cryptocurrencies, the Swiss banking sector is actively exploring the opportunities presented by these new forms of value. In this short article, we will delve into the evolving landscape of digital assets in Switzerland, with a particular focus on accelerating adoption in the financial services industry.

Embracing digital innovation

Over the past decade, digital assets have emerged as a potentially revolutionary force within the financial industry. With their soaring popularity, traditional financial institutions start acknowledging the potential benefits associated with these assets while regulatory and supervisory bodies around the globe are evaluating the associated risks and how to best embed these new types of assets and services into existing regulatory frameworks.

Switzerland's lead in these regards was mainly driven by the forward-looking and progressive regulatory guidance by authorities such as early guidelines by the Financial Market Supervisory Authority (FINMA), the enforcement of the DLT-Act, and the willingness among incumbents and new market entrants to openly collaborate. Against this backdrop, Switzerland's regulatory environment strikes a delicate balance between investor protection and innovation, while ensuring compliance with anti-money laundering and know-your-customer regulations. This regulatory clarity has attracted several prominent players in the digital asset custody space to set up operations in Switzerland and has given rise to globally relevant Swiss players which are represented in this first edition of the Swiss Digital Assets Custody Report.

However, we currently observe that many of the promises of distributed ledger technology, tokenization and other associated use-cases have not yet materialized nor lived up to their initially presumed potential. This begs the question about how the adoption of digital assets in the Swiss financial services industry - and down the road also in the retail context - can further be strengthened. We see two missing links as paramount catalysts to achieve this goal.

Custody Standards: The missing link to institutional adoption

First, institutional-grade custody services play a vital role in the adoption of digital assets, providing secure storage, asset verification, and increasingly important legal compliance. Recognizing the demand for these kinds of custody solutions, Swiss banks, FinTech companies and technology providers have been at the forefront of developing robust infrastructure and operational frameworks. One initiative we want to highlight in this context is the Capital Markets and Technology Associations' (CMTA) Digital Assets Custody Standard (DACS). The DACS provides a set of requirements and recommendations for best practice in the setup and operation of digital asset custody solutions. You will find a more detailed description in this report under "An industry standard and guarantee label for safe custody of digital assets".

The deposit token: The missing link to efficient post-trading and settlement processes

The second link concerns the means to efficiently trade and settle digital assets. The SBA has published a white paper[18] on a digital Swiss franc, in which we outline various designs of tokenized deposits on a public blockchain. If issued by regulated banks, a deposit token could make an important contribution to accelerate digital assets adoption in the Swiss financial services industry. The Deposit Token is "programmable money", i.e. a purely digital form of the Swiss franc that can be enhanced with programmable functionalities. The main use cases include the trading and settlement of digital assets, payments in the context of the "Economy 4.0" (including payments executed among machines within the Internet of Things), and decentralized finance applications. Given the Deposit Token's character as a platform technology and a public good, further innovative areas of application are likely to emerge over time.

18 - https://www.swissbanking.ch/_Resources/Persistent/9/4/1/1/941178de59b98030206fc15ac8c99012f65df30b/SBA_The_Deposit_Token_EN_2023.pdf

Conclusion

The SBA strongly believes that besides institutional-grade custody solutions, the availability of an on-chain means of payment will be another driver for accelerating digital assets adoption in Switzerland. In this context we have been actively engaging with regulators, policymakers, other industry associations and industry players to shape the digital asset landscape. We acknowledge the importance of providing a reliable and trusted environment for institutional and private investors to enter the digital asset realm, create spaces for experimentation and further develop the regulatory framework in line with international developments. To cater to institutional demand, our members are investing in state-of-the-art infrastructure and forming strategic partnerships. By leveraging their existing expertise in financial services, these banks and their partners are well positioned to provide secure, reliable, and compliant custody solutions.

Swiss banks have valuable expertise in wealth management, risk mitigation, and safeguarding client assets. By extending these competencies to digital asset custody and the provision of tokenized deposits, they instill confidence in institutional investors, who often have stringent risk management and regulatory requirements. If institutional adoption is gaining momentum, in our view retail adoption will follow subsequently. Furthermore, we understand the significance of education and awareness in fostering digital assets adoption. Therefore, we are actively engaged in promoting knowledge sharing events, seminars, and training programs to help financial institutions understand the intricacies of digital assets and navigate the evolving regulatory landscape.

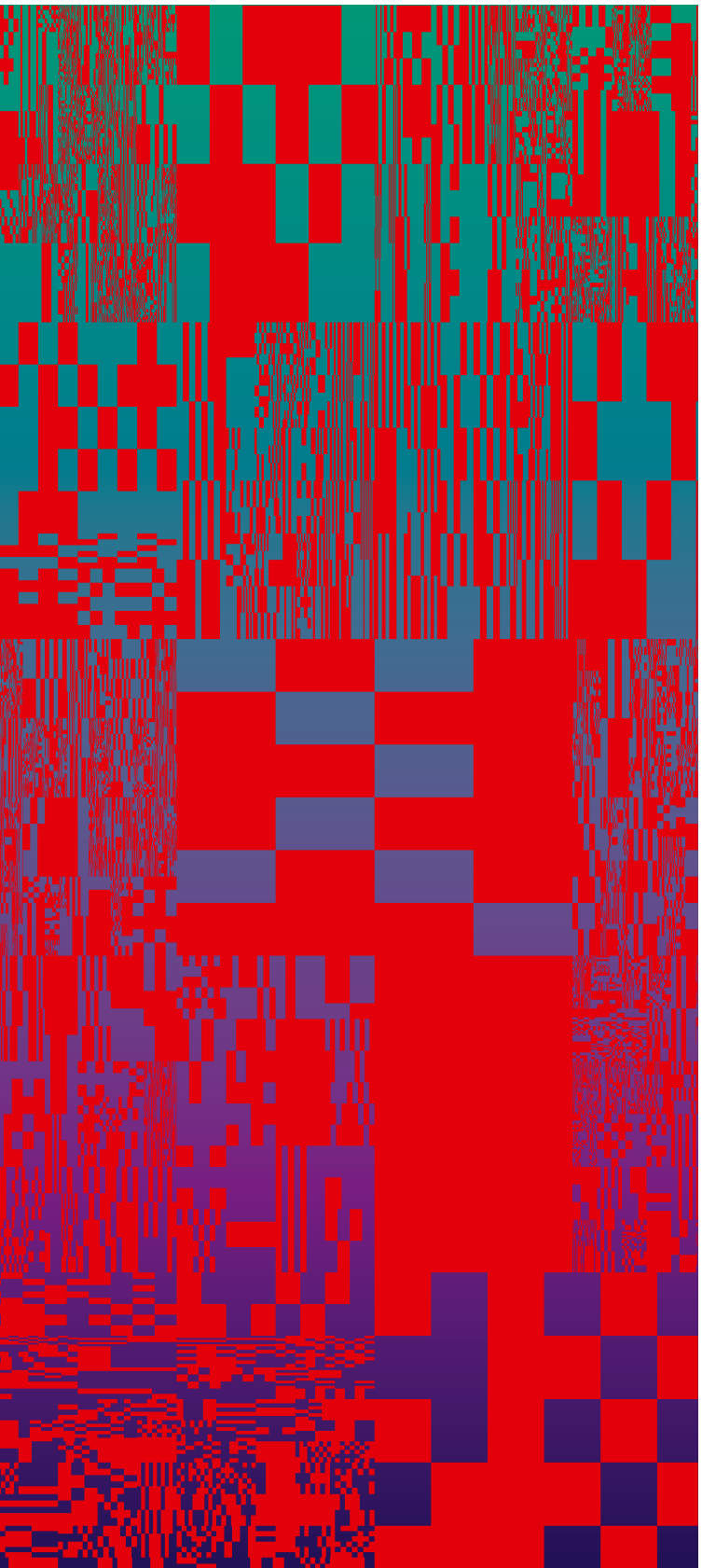
Andrea Luca Aerni

Andrea Luca Aerni

Policy Advisor Digital Finance, Swiss Bankers Association

andrea.aerni@sba.ch

08



Tokenization of funds: what does it mean for Asset Managers?

Tokenization refers to the process of converting traditional assets, such as stocks, bonds, real estate, or collective investment schemes into digital tokens. For Asset Managers, trading assets in a digital format potentially provides various benefits such as fractional ownership, enhanced transparency, increased liquidity and enhanced efficiency by automating processes using smart contracts. But what exactly does tokenization mean for traditional asset managers?

One can basically distinguish between three use cases: First, the tokenization of assets per se, be it traditional assets or new assets such as cryptocurrencies. Secondly, the tokenization of collective investment schemes themselves, namely investment funds. And finally, the combination of both, i.e. the tokenization of the investment fund as well as the underlying assets. Such solutions have already been on the market for several years, but with a very limited investment universe and an unclear regulatory status. However, these solutions show that the technology works and would be ready to revolutionize the huge investment fund market.

However, before tokenization can become a reality on a larger scale, many important steps still need to be implemented: First, there are still many legal and regulatory uncertainties regarding tokenized assets that need to be clarified. For example, among other things, compliance with securities laws and regulations must be ensured. But there are also technological hurdles to overcome: for example, it is not clear whether today's blockchain technology has the necessary capacity and speed to handle the huge trading volumes of traditional markets. Furthermore, it is often forgotten that the acceptance of trading tokenized assets on a larger scale arguably depends on the availability of a trustworthy "cash leg". Without a widely recognized central bank backed digital currency in which transactions can be settled, trust is likely to be lacking. Finally, customers need to be convinced of the benefits of tokenized assets, as today's "traditional world" works fine for most market participants.

Lorenz Arnet

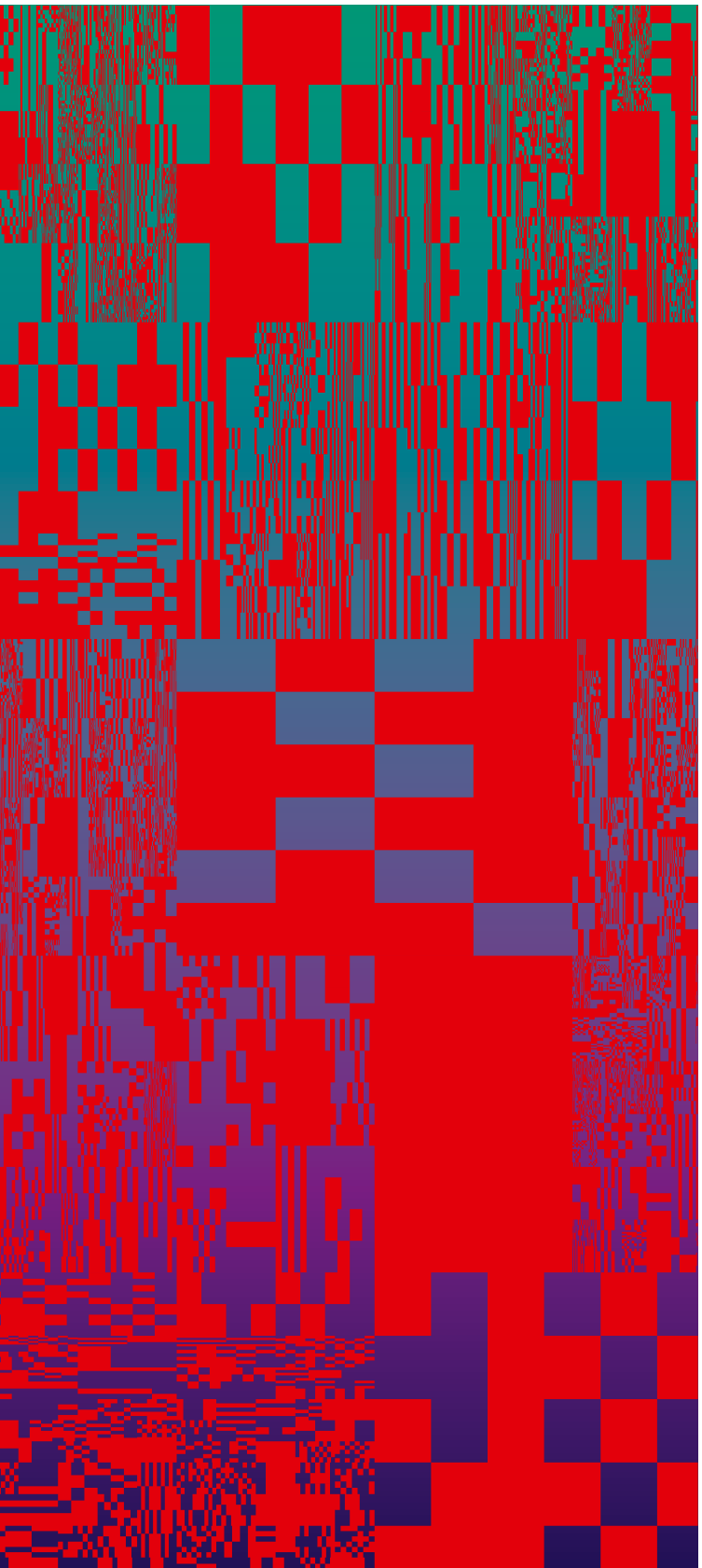
To sum up, tokenization has the potential to transform the traditional investment landscape by introducing new opportunities for investors, improving market efficiency, and enhancing liquidity and transparency in the financial ecosystem. But there is still a long way to go before the new technology is used on a larger scale, as there are still many regulatory, technological and market adoption challenges to be solved.

Lorenz Arnet

Senior Business Counsel, AMAS

lorenz.arnet@am-switzerland.ch

09



An industry standard and guarantee label for safe custody of digital assets

Switzerland is well positioned to take advantage of blockchain's potential to modernise the financial industry. The country's DLT-friendly regulatory framework, adopted in September 2020, set the necessary conditions for the development of financial intermediaries and trading platforms ready to take full advantage of DLT's potential to transform the financial sector. As highlighted in the introduction to this Swiss Digital Asset Custody Report, different types of tokens exist based on their underlying assets. For the CMTA, the digitalisation of traditional assets, such as equity or debt securities, or bonds, presents a significant potential for change. The introduction of ledger-based securities (also known as tokenised or digital securities) into Swiss law, simplifies the way that securities can be issued, transferred, held or admitted to trading, as well as the way that businesses can raise capital to finance their activities. The digitalization of securities also paves the way for possibilities that go beyond the replication of existing capital market infrastructures, such as on-chain and faster settlement, digital share registers, automation of equity plans or operations of shareholder agreements.

Advancing digital asset adoption through a common standard for best practice in custody

However, in the beginning of any nascent industry, there is often a chicken and egg problem, and Switzerland's digital asset industry is no exception: whilst companies can now issue shares or bonds in the form of ledger-based securities, and Swiss law allows for secondary market places through the DLT trading facility, investment into such platforms may not take off until digital securities have been issued in large quantities – and for companies to be incentivised, platforms need liquidity.

One factor that is certain is that the availability of high-assurance custody solutions is an essential element to encourage adoption amongst investors and consequently for the development of secondary trading venues.

It is for this reason that the CMTA published its Digital Assets Custody Standard (DACS).[19] The DACS provides a set of requirements and recommendations for best practice in the setup and operation of digital asset custody solutions. In particular, it covers the critical procedures in which secret cryptographic keys can be generated, stored and recovered in a secure manner. In 2020, when the CMTA first published the DACS, it had become clear that setting an industry standard for custody could encourage wider adoption of digitalised securities. The CMTA had already published a guide to how to tokenise the shares of Swiss corporations, or in other words, how to incorporate equity securities into digital tokens recorded on a Blockchain. Once the tokens had been issued, the next question became how to securely store them. Experience shows that while interest in digital assets is growing from both private and professional clients, the vast majority of them do not wish to store those digital assets (i.e. the private

19 - https://cmta.ch/standards/digital-assets-custody-standard

cryptographic keys that give access to the assets) themselves, and prefer to use professional custody solutions. The custody of digital assets requires different infrastructures and skills from the custody of traditional securities and is not subject to clear minimum security and operational requirements, contrary to traditional asset custody. The CMTA's DACS aims to fill this void by providing baseline requirements and recommendations for generating, storing and recovering private keys securely.

A new certification scheme to provide greater transparency

The CMTA released an updated version of the DACS in March 2023, to reflect new developments in the custody space, in particular MPC-based solutions. The CMTA has also released a certification framework, which allows custodians to demonstrate adherence to the DACS by using the CMTA.DACS trademark.[20] A key requirement to secure the right to use the trademark is the delivery to CMTA of an opinion from an audit firm (that has been recognised by CMTA as able to do so), confirming that the operations and/or infrastructures of the relevant custodian comply with the DACS' recommendations and requirements. Certification provides a label that custodians can use to demonstrate adherence to the DACS, providing a clear signal of quality to clients. Custodians must meet the requirements and recommendations outlined in the DACS, which cover for example the process for choosing a custody model, the control of access rights to a custody solution's interface, or access to administration capabilities for key ceremonies, amongst other things.

Three certification marks

Companies can apply for the certification that reflects their services:

- CMTA.DACS (Operations) V2.0 is available for the operator of a digital asset custody solution
- CMTA.DACS (Infrastructure) V.2.0 is available for an infrastructure solution provider, who supplies the infrastructure to custody digital assets, but is not involved in the operation of the solution
- CMTA.DACS V2.0 demonstrates compliance with all operations and infrastructure requirements of the DACS

20 - https://cmta.ch/certification/dacs

Growing need for professional custody solutions

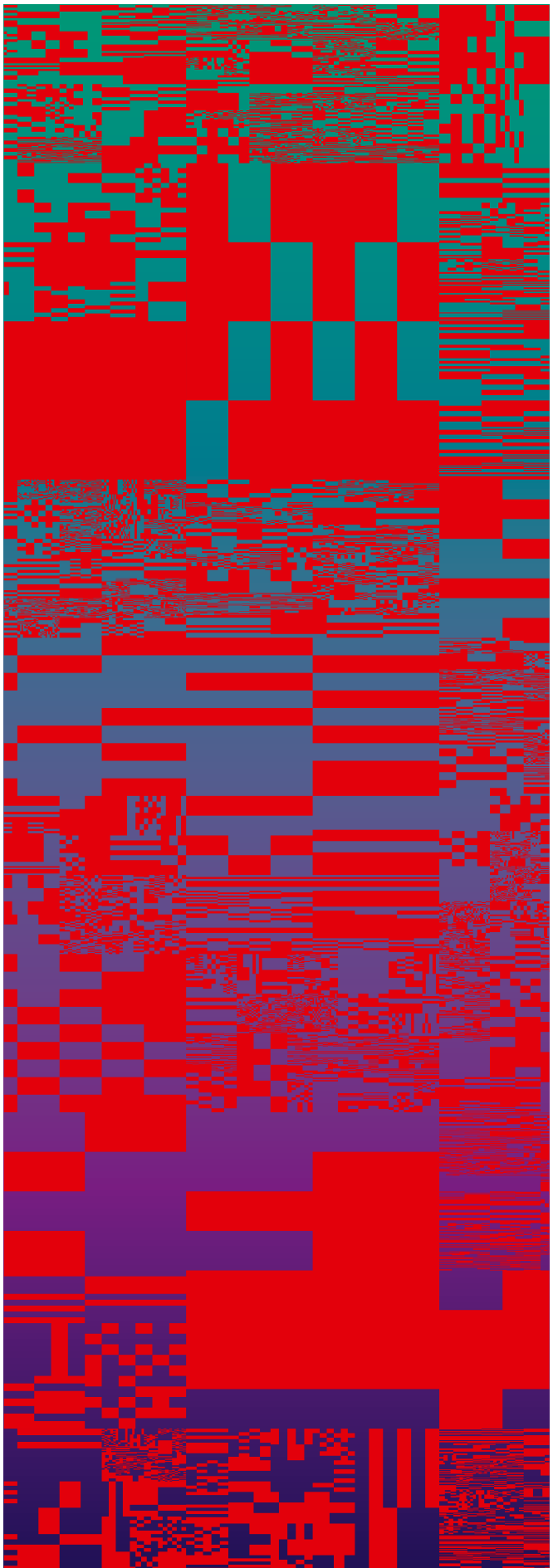
In September 2020, the Swiss federal Parliament adopted a new law "on the adaptation of federal legislation to the developments of distributed electronic ledger technology", generally better known as the "Lex DLT". The new law clarified a broad range of legal and regulatory issues regarding digital assets, such as the manner in which digital assets can be recovered in the bankruptcy of a custodian. Swiss law is now particularly avant-garde in its approach to professional custody. The law creates a "bridge" between tokenised and intermediated securities, allowing banks to transform ledger-based securities into intermediated securities by crediting them to their customers' securities accounts with a professional custodian (Article 6 al. 1 lit. d of the Intermediated Securities Act). This guarantees uniform legal treatment for holders of "traditional" securities (i.e. securities deposited with central securities depositories such as SIS) and ledger-based securities.

Despite its clear advantages, the new system of ledger-based securities has yet to reach the critical mass that it could. One hampering factor could be the lack of custody solutions. As shown by the responses to the survey for this report, only a few providers currently offer custody services for security or asset tokens. In CMTA's experience, the custody and management of private keys is a sticking point toward wider adoption of digital securities.

It seems clear that an alternative to self-custody is undoubtedly necessary to enable ledger-based securities to take off. In practice, the need to have to create Blockchain addresses, buy cryptocurrencies to pay for gas, and then have the responsibility for safeguarding private keys, is something that few entrepreneurs feel comfortable doing. Currently, custody solutions are the missing link for widespread adoption of ledger-based securities. The DACS aims to provide the industry with an important tool to meet this growing demand for professional custody solutions and promoting best practice.

By the CMTA (Capital Markets and Technology Association). About the CMTA: The Capital Markets and Technology Association is an association of leading names from Switzerland's financial, tech and legal sectors that creates common industry standards to facilitate the use of DLT in the capital markets. www.cmta.ch

Further information:
www.homeofblockchain.swiss



Network Partners

Cardano Foundation

SWITZERLAND GLOBAL ENTERPRISE

Canton of Zurich
Department for Economic Affairs
Office for Economy and Labour

Kanton Zug

Dipartimento delle finanze e dell'economia
Divisione dell'economia

KANTON LUZERN