zeb

EUROPEAN DLT AND
DIGITAL ASSETS STUDY 2024

Ready for DLT in financial services?

State of DLT & DA adoption and implications for FIs in Europe

partners for change

Key findings

1 The digital assets market in the EU, Switzerland and Liechtenstein looks set to grow exponentially, rising from a volume of EUR 240 billion in 2024 to as much as EUR 3.7 trillion in 2030.

2 The first wave of regulation in Europe has brought financial institutions much needed clarity to approach the topic with confidence – but also new entry barriers and regulatory gaps that must now be closed.

3 Most established financial institutions are currently focusing on introducing basic digital asset offerings, leaving more advanced services to expert and DLT-native players.

4 With regard to infrastructure and asset tokenization, slow adoption of digital assets and the lack of market standards as well as DLT governance are the biggest hurdles.

5 Isolated use cases will not deliver the required profitability, hence financial institutions should develop more holistic DA frameworks that fit into their broader strategic objectives.

Intro

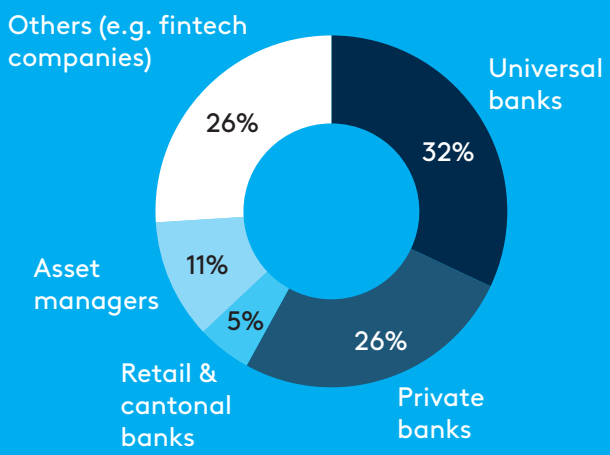
→ zeb conducted a European DLT & Digital Assets Study to evaluate short- to mid-term adoption in the financial services industry.

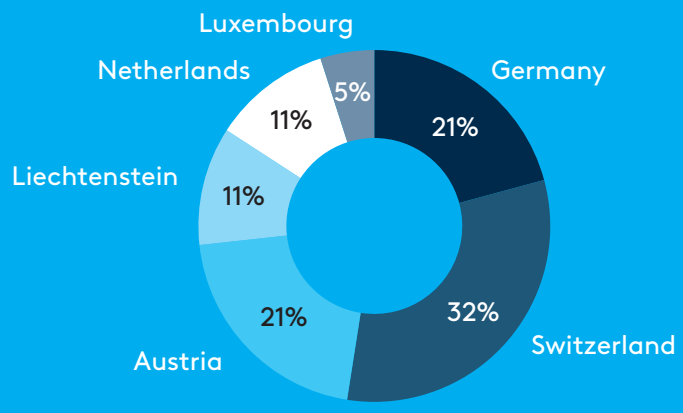
→ The methodology included expert interviews and a survey among FIs across six different countries.

→ The institutions that participated manage approximately EUR 5.5 trillion in assets.

→ Respondents were mainly C-level executives or digital assets / DLT leads.

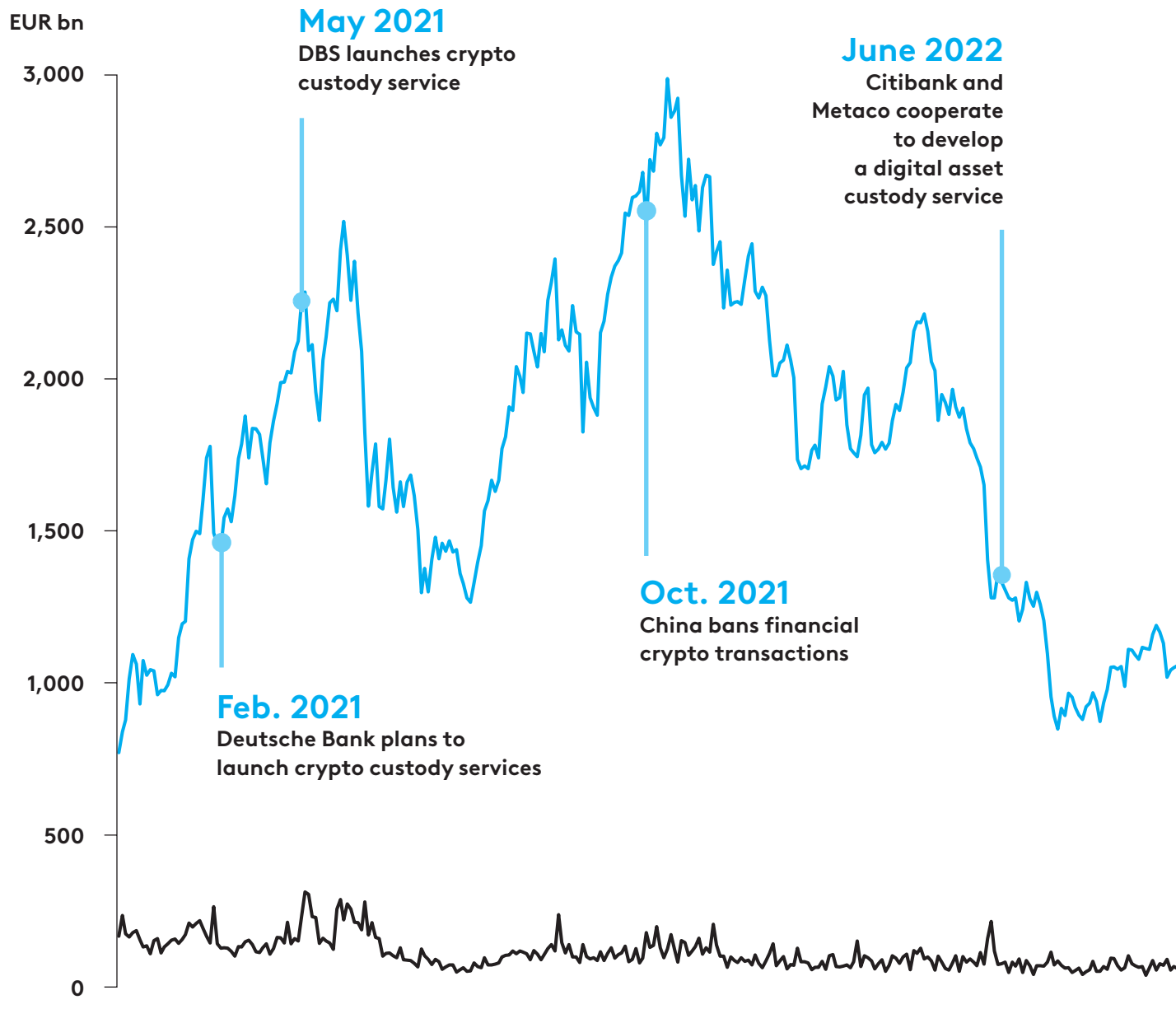
→ The study focuses on the DACH region, the Netherlands and Luxembourg.





What's in it for you?

Mostly triggered by the 2021–2023 "crypto winter", public opinion on DLT & digital assets adoption dampened, yet at the sidelines, many FIs still drove forward their DLT agendas.



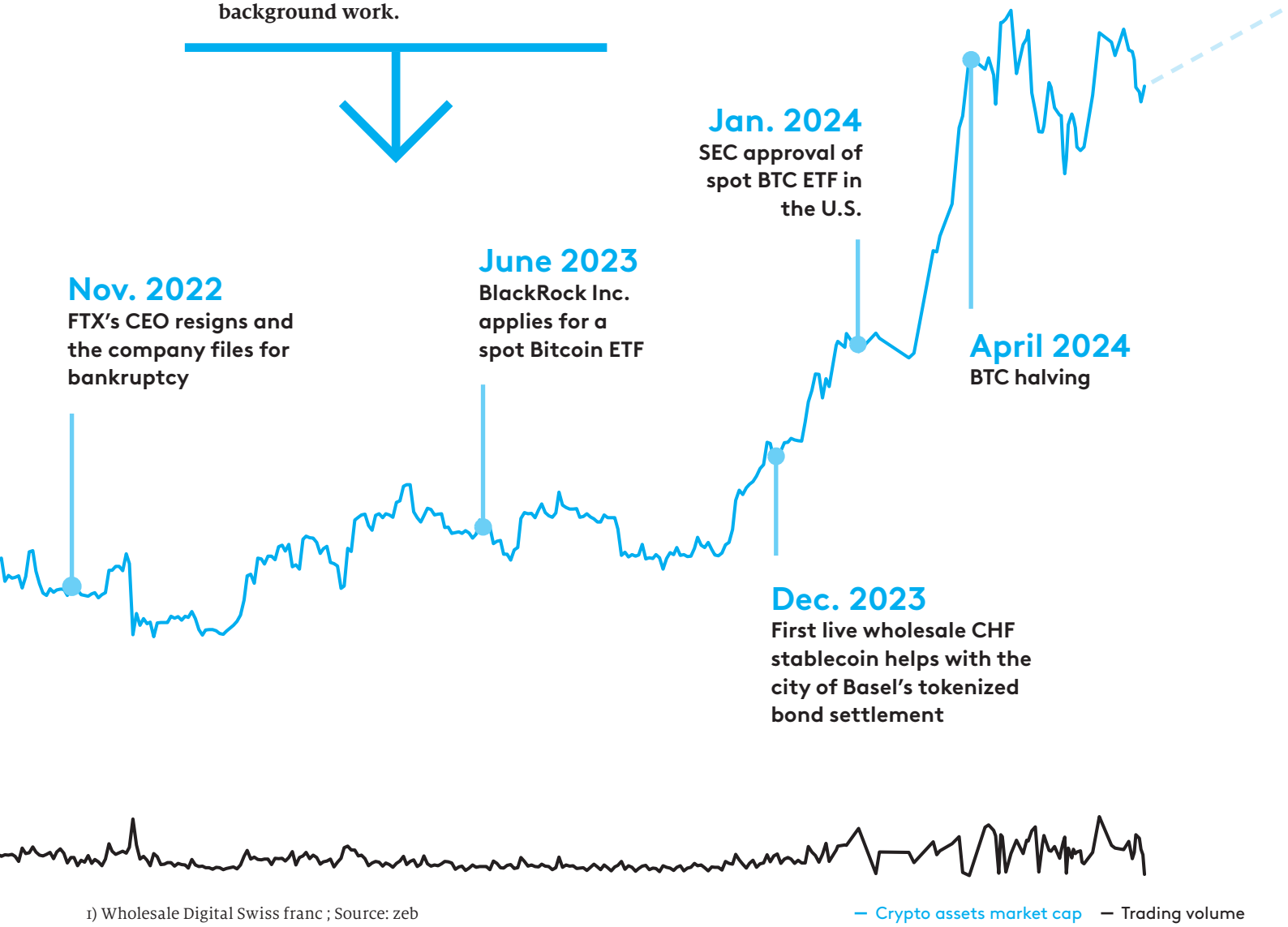
zeb expects the market for cryptocurrencies, tokenized securities, tokenized real assets, stablecoins and central bank digital currencies in the European Union, Switzerland and Liechtenstein to grow as much as fifteenfold between 2024 and 2030. As the market for digital assets (DA) slowly matures, financial institutions (FIs) will need holistic strategic approaches that more broadly cover service offerings, technical processes, and platforms based on distributed ledger technology (DLT) to achieve the required profitability.

The zeb European DLT and Digital Assets Study 2024 shows that many institutions have continued to drive their DLT/DA agendas, undeterred by the "crypto winter" of declining crypto asset prices and trading volumes from mid-2022 to late 2023. zeb surveyed executives from financial institutions in Germany, Switzerland, Austria, Liechtenstein, Luxembourg and the Netherlands with around EUR 5.5 trillion in assets under management, and distilled insights from more than 30 related projects. The results show that the window for hesistant financial institutions is closing – even traditional players are launching basic offerings like DA custody and brokerage, raising the pressure on other first movers to diversify into or bolster more sophisticated services.

The crypto winter as a starting point

→ **Despite declines** in crypto market capitalization and trading volumes, **many banks still drove forward** their own DLT/DA agendas **over the past two years.**

→ **Lighthouse initiatives in all disciplines** by a vast range of players **underlined the background work.**



1) Wholesale Digital Swiss franc ; Source: zeb

— Crypto assets market cap — Trading volume

While cryptocurrencies dominate perceptions of digital assets, financial institutions have widened their focus to include other types of DA on their roadmap, e.g. tokenized bonds. Next to cryptocurrencies like Bitcoin and Ether, financial institutions are looking at tokenized securities like stocks and bonds, tokenized real assets like real estate or commodities, so-called stablecoins tied to sovereign currencies or other assets, and central bank digital currencies (CBDCs). Unlike traditional assets, these new asset types are often based on "smart contracts" to automate execution when certain prespecified terms are met, for example, dividend or interest payouts. Each asset carries an encrypted inalterable transaction history, which allows changes of ownership to be verified instantaneously. This decentralized settlement and clearing differs from that of today's financial instruments, which typically takes two days to transfer an asset from one institution's centralized database to another.

For broad adoption of digital assets to accelerate, financial institutions must establish an infrastructure for the transfer, custody or tokenization of assets. Companies can choose to build it themselves or alternatively buy services from third-party providers. They should be aware that they are embarking on a complex project that will demand considerable resources, although they will be able to easily extend the range of digital assets they cover once the required underlying technology is in place. However, the industry still has to agree on important technical standards to reap the efficiency gains promised by distributed ledger technology.

Basic functions

→ Broad adoption of DLT and digital assets requires **safe infrastructure** for the **tokenization, transfer and custody of assets.**

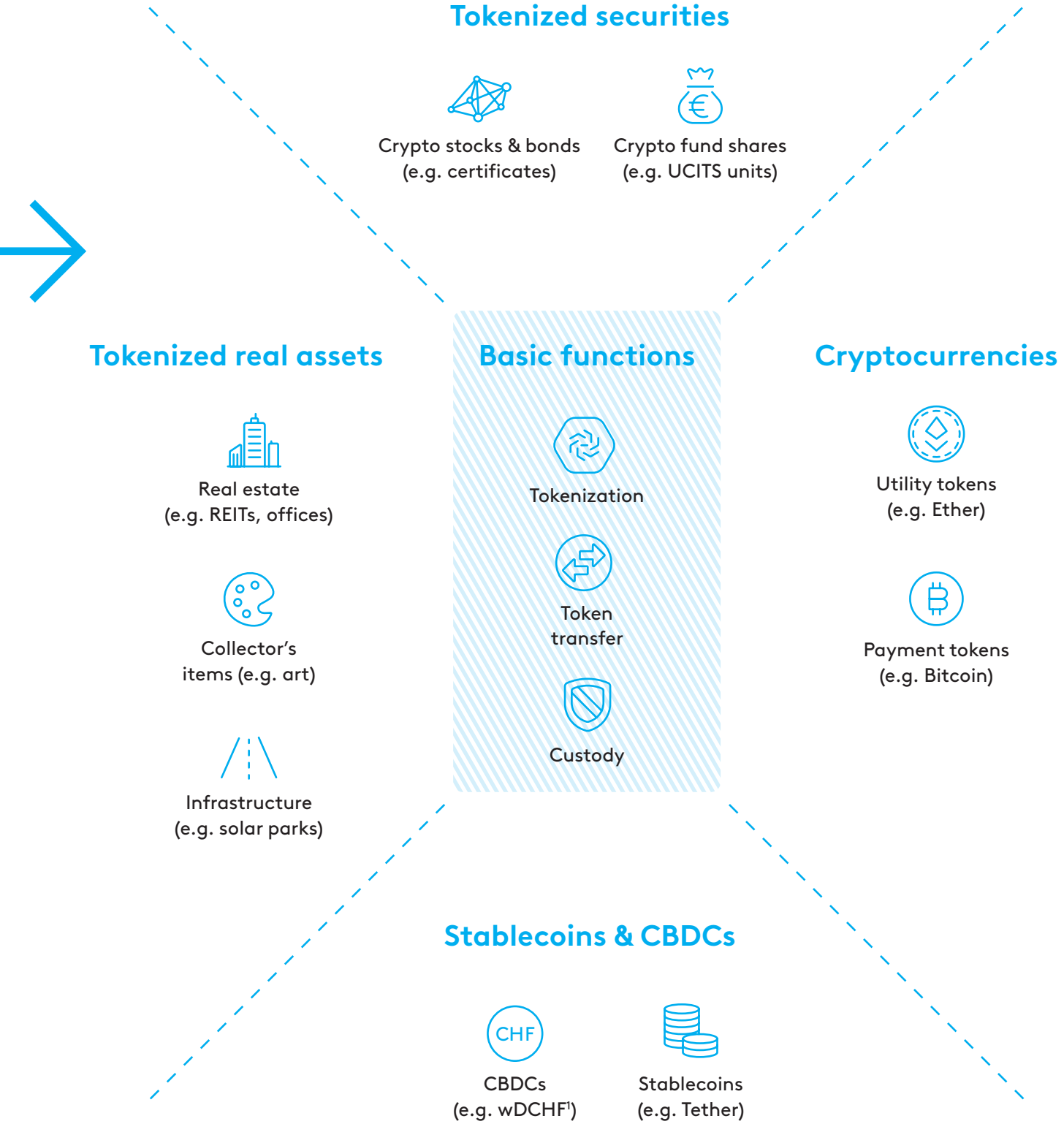
→ These basic functions are **associated** with **high complexity and setup efforts/costs,** if the infrastructure is built internally.

→ **Little effort** is required for **additional use cases.**

"Based on our experience with over 35 distinct digital asset projects, coupled with insights from our study, it is evident that the market for digital assets is primed for exponential growth in the forthcoming years."

Julian Schmeing,
Partner, zeb

For adoption to accelerate, basic infrastructure for the tokenization, transfer and custody of digital assets is required – scalability given as use cases leverage infrastructure

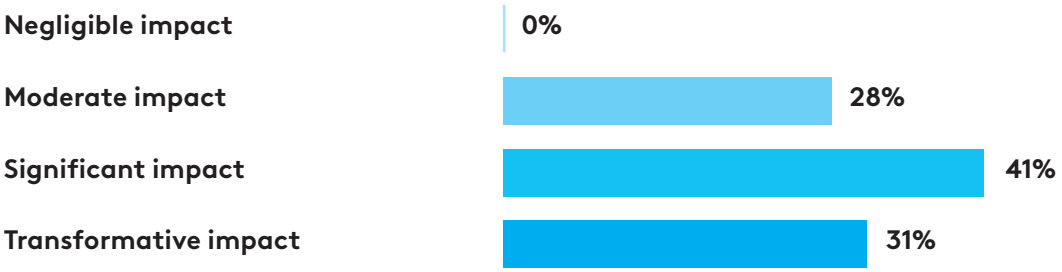


1) Wholesale Digital Swiss franc ; Source: zeb

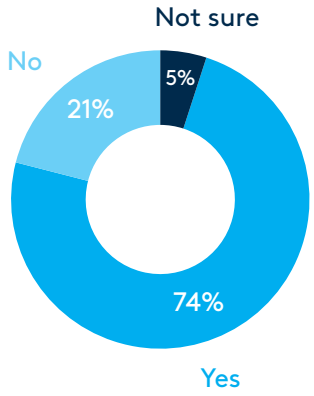
"The availability of stablecoins and Central Bank Digital Currencies are of the utmost importance for the seamless functioning of the DLT eco-system and further adoption of tokenized securities."

Cédric Lüscher,
Manager, zeb

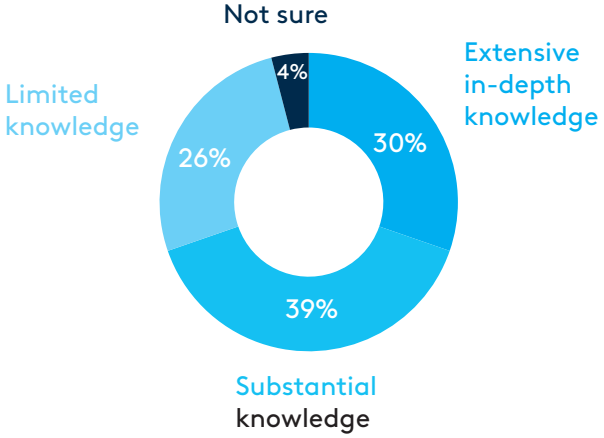
Perceived impact of digital assets on FIs



Institutions **with strategic initiatives** regarding digital assets in the next 3–5 years



Financial **institutions' understanding** of DLT and digital assets



Source: zeb.Digital Assets survey

Market #1

Financial institutions expect the market for digital assets to grow rapidly. More than 70% of financial services executives surveyed by zeb stated that DLT and digital assets will have a "significant" or "transformative" effect on the business models of their institutions. Even more astonishing: three quarters said their institutions – universal, private, retail and regional banks, asset managers and fintech companies in six countries – had strategic initiatives planned over the next three to five years.

Since the emergence of DLT and digital assets, the range of use cases for digital assets and the underlying decentralized ledger technology have skyrocketed and boosted the interest of financial institutions and their clients, especially institutional investors. The success of financial institutions in implementing strategic DLT initiatives, however, will in no small part depend on their ability to bridge sizeable knowledge gaps within their organizations.

Insights

- → In line with the perceived relevance, **most participating institutions have strategic initiatives** dealing with the topic.
- → Surprisingly, however, many institutions **with strategic initiatives** have only **limited understanding** of the topic.
- → Despite ¾ of respondents having substantial or in-depth **knowledge**, this is **not the case for their entire organization,** i.e. there is a knowledge gap.
- → The **success** of the strategic initiatives will **depend on the capability** of institutions to **bridge this knowledge gap.**

While nearly three-quarters of the respondents said they had "substantial" or "extensive in-depth" knowledge of digital assets and DLT, the level of understanding throughout their companies is much more limited. Financial institutions will have to make sure to get large parts of their workforce trained regarding the new asset types and technologies.

As over the next few years, financial services companies continue to develop DA infrastructure and expertise to safely issue, manage and store digital assets of all types, zeb expects the market in the European Union, Switzerland and Liechtenstein to grow exponentially. The volume of digital assets could increase by a factor of four to fifteen by 2030 – from EUR 240 billion in 2024 to anywhere between EUR 1 trillion and EUR 3.7 trillion as cryptocurrencies are joined by other DLT-based assets.

Tokenized securities and real-world assets – stocks, bonds, commodities, and potentially real estate – will come to challenge cryptocurrencies as the leading digital asset class in terms of market size. But how much all DLT-based assets thrive will depend on how successfully governments navigate between over- and underregulation, how much investors trust the underlying technology, and how quickly financial institutions invest in infrastructure for these new forms of assets.

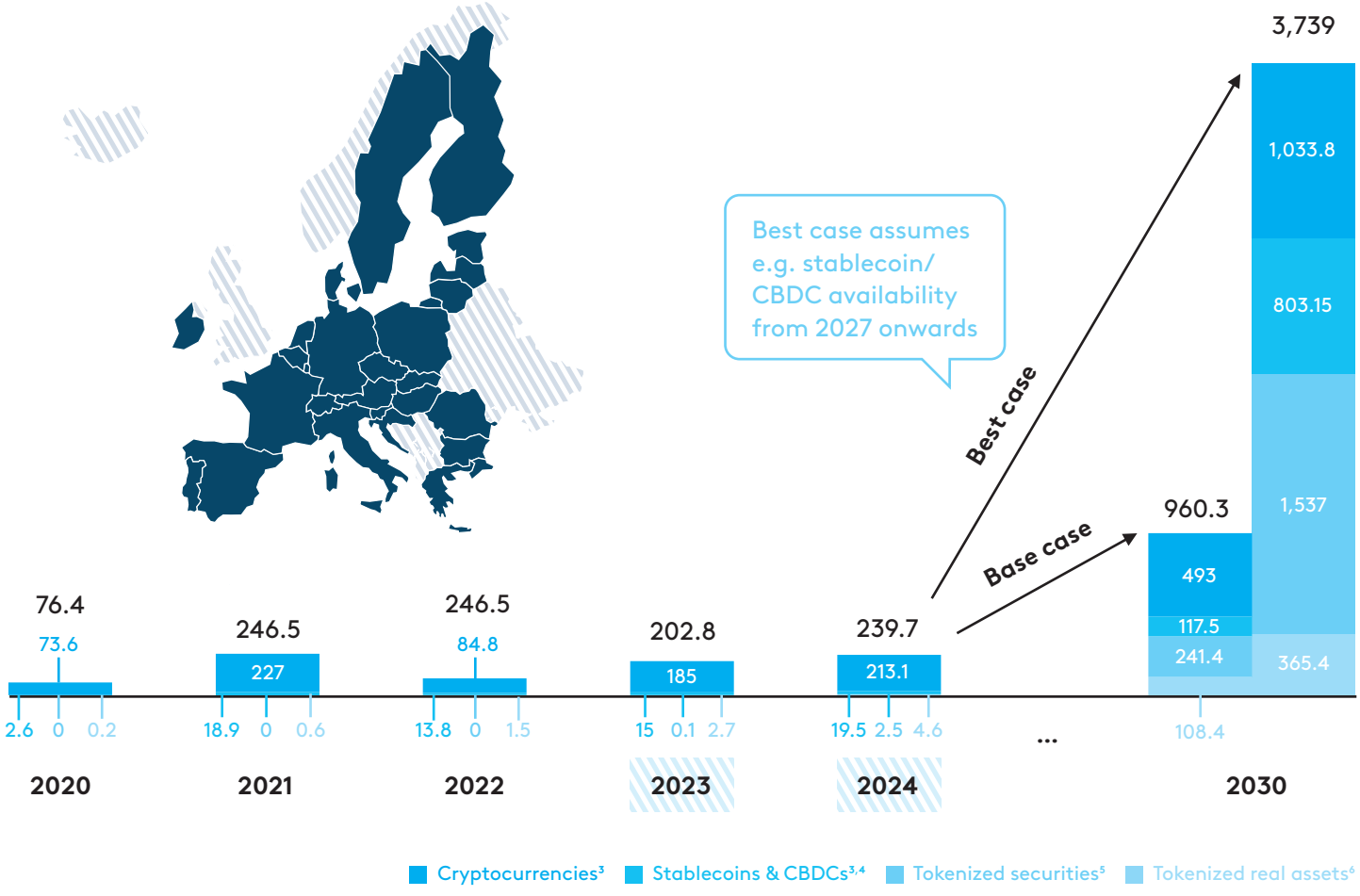
Insights

- → **The market for digital assets** in the EU and CH is expected to reach **approx. EUR 1.0 to 3.7 trillion by 2030.**
- → **Tokenized securities and real assets are going to overtake cryptocurrencies** in terms of market size.
- → **The projections are** dependent on the regulatory environment, trust in the technology and availability of **infrastructure to issue, manage and store digital assets.**
- → For the technologies to reach their full potential, **availability of stablecoins and CDBCs,** which drive liquidity and thus **adoption of tokenized securities,** is essential.
- → In that regard, **central banks,** e.g. the ECB[1] or SNB[2], and **many private players are currently running pilots.**

zeb's projections are also based on indications that financial institutions are eyeing tokenized assets as intently as the most established DA class, i.e. cryptocurrencies. While 70% of executives polled said cryptocurrencies would have a role in their institution's future service offerings, 65% said the same of tokenized securities, signaling a big shift from traditional to DLT-based stocks and bonds.

Financial institutions are noticeably more reticent about stablecoins, i.e. digital currencies that are pegged to sovereign currencies or other reference assets. Although this is meant to make them less volatile than cryptocurrencies and thus more useful as a means of payment, financial institutions' enthusiasm seems to have cooled in the wake of scandals such as the Terra-Luna crash.

Digital assets market projection in the EU + Switzerland in EUR billion



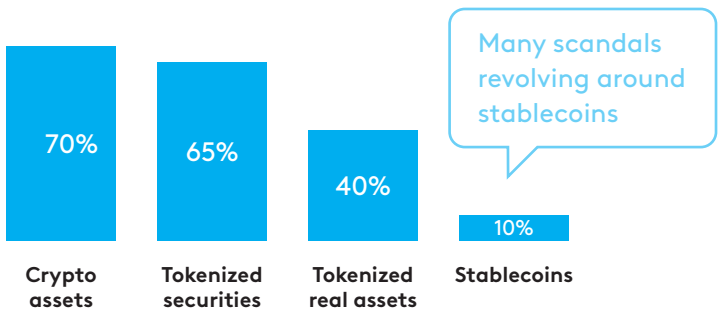
1) European Central Bank; 2) Swiss National Bank; 3) Based on the market capitalization of the 1,000 biggest cryptocurrencies and stablecoins as made public by coinmarketcap.com, projection with a 15% (base case) and 30% growth rate respectively; 4) Central bank digital currencies, projection based on M1 money supply for the euro and the Swiss franc; 5) Including public equities (market capitalization) and debt securities (market capitalization of new issues) as well as private equity and venture capital (market capitalization of new transactions); 6) Includes real estate (transaction volume), infrastructure investments as well as art and collectibles

Nevertheless, the availability of stablecoins and CBDCs will be crucial for the DA market to overcome the current lack of a DLT-based cash legs in the DLT ecosystem and to reach its full potential, driving liquidity and the adoption of tokenized securities. Against this background, the European Central Bank is planning a digital retail euro, the Swiss National Bank is already piloting a wholesale currency, and many private players are currently running pilot projects.

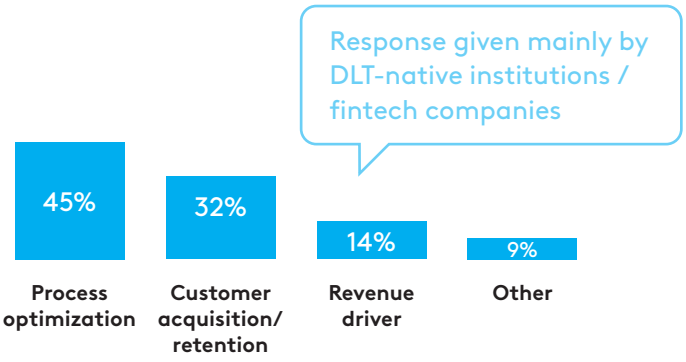
Despite the prospects of significant market growth, financial institutions are currently approaching the wider adoption of digital assets as an opportunity to raise operating efficiency and lower the risk of client churn, rather than to grow their businesses. 45% of the surveyed executives named "process optimization" and 32% "client acquisition/retention" as their institution's main driver for implementing DA or DLT initiatives.

Only 14% clearly identified digital assets as a "revenue driver", although this proportion was much higher among executives from DLT-native companies. Looking more closely, this split actually is not surprising. While DLT-based assets like tokenized securities are a technology play, the introduction of crypto unlocks a whole new asset class and thus new revenue potential. Institutions that do not offer their clients this opportunity are already seeing assets under management decline. Established financial institutions in particular face a stark choice between safely migrating their existing revenues to DLT to aim for efficiency gains through process optimization and seeking new revenues in cryptocurrencies.

Proportion of FIs that consider the digital asset type to be relevant for their future service offering



Main drivers for the implementation of DLT/DA initiatives



Insights

- **Efficiency gains** as well as **customer acquisition and retention** seen as the primary reasons for the implementation of DLT/DA initiatives.
- **For most participants, revenue potential** is only a **secondary driver,** which goes along with the fact that **tokenization is largely directed towards existing asset classes,** while only crypto opens up a new asset class.
- **On average, banks spend less than 25%** of their innovation budget available for DLT and DA topics.
- Unsurprisingly, only **DLT-native institutions** and fintech companies allocate a majority of their funds to these topics.
- **DLT/DA are rather** seen as **efficiency and risk topics** than as true business opportunities by the surveyed financial institutions.

Source: zeb.Digital Assets survey

Regulation

In the past 2–3 years, a first regulatory wave revolving around DLT and DA has been focusing on the definition of digital assets, related business models as well as DLT-based market infrastructure. Hence, FIs across Europe now find the required clarity to approach the topic with a certain degree of confidence.

However, as requirements increase, regulators have left many things unclear. Hence, almost one-third of executives surveyed by zeb said that regulatory requirements were among the biggest obstacles to offering DLT-based services.

A secondary regulatory wave is thus already looming on the horizon – to close existing loopholes and elevate the requirements for players, but also to increase consumer protection.

Regulatory frameworks were at first primarily introduced on a national level, as e.g. French, German, Swiss or Liechtenstein policies show. Europe, and especially EU member states, are thus characterized by a patchwork of national legislations. Only recently has the European Union undertaken harmonization efforts and introduced pan-European legislation, e.g. the Markets in Crypto-Assets regulation (MiCAR) coming into force at the start of 2025 or the still experimental DLT pilot regime.

In their regulatory frameworks, national lawmakers and European authorities have laid a useful foundation for a DLT-based economy. Yet, they have often taken different approaches. In Liechtenstein, the authorities focused on the roles required in the DLT ecosystem, and Switzerland adopted a more principles-based approach where DLT DA were included in the existing regulatory framework for financial markets, while Germany regulated certain business models, i.e. crypto custody and registry.

When its Token and Trusted Technology Service Provider Act (TVTG) came into effect in 2020, Liechtenstein was the first country with comprehensive rules addressing legal uncertainties about consumer protection and business models based on cryptocurrencies, stablecoins and tokenized assets. It created a legal framework for a DLT-based economy by defining nine functions from token creation and custody to sales.

Switzerland established a regulatory framework in 2021 with its Federal Act on the Adaptation of Federal Law to Developments in Distributed Electronic Register Technology (commonly known as the DLT Act). A principles-based approach to regulation, Swiss law does not define product categories or specific technologies. This means it can be applied to all DLT-based assets and the entire market infrastructure, making the Swiss regulatory framework a global leader for DLT/DA.

At first, the EU members states adopted a rather siloed approach. France and Germany, as European frontrunners, introduced rules to take account of DLT-based products as early as 2019 or 202, respectively, while other states remained very hesitant about the technology and asset class.

Focusing on Germany, the country passed the Electronic Securities Act (Gesetz zur Einführung elektronischer Wertpapiere, WpG) to cover electronic securities and, for instance, amended its Banking Act (Kreditwesengesetz, KWG) to cover cryptocurrencies and a few specific use cases. Unfortunately, the lawmaking is very specific and not flexible enough to also account for some of the more advanced crypto use cases such as staking. In that sense, the rulemaking remains a challenge for the industry.

On a European level, the MiCAR will finally bring much needed clarity and harmonization as of 2025. It introduces new publication duties for token issuers, increases investor protection and confront crypto-asset service providers with certain licensing requirements. Covered token types are clustered into asset-referenced tokens, e-money tokens and other crypto assets. The MiCAR thus covers payment tokens such as Bitcoin, utility tokens like Ether or stablecoins like Tether. Tokenized securities or other traditional assets are, however, not covered by it and are rather subject to MiFID legislation.

Nevertheless, despite the mostly successful definition of large frameworks for digital assets, there are still gaps in regulation that continue to cause uncertainty and need to be closed.

A second wave of regulation in Europe is already underway. This also includes some global initiatives that will close existing loopholes and tighten existing requirements. For example, the Crypto-Asset Reporting Framework (CARF) agreed upon by many OECD countries will ensure international rules for reporting revenues and tax information regarding digital asset transactions from 2026 onwards. The DAC8 has already been adopted in the EU to implement the CARF provisions, and similar implementations are expected shortly in Switzerland and Liechtenstein

Additionally, the Bank for International Settlements has proposed a global standard for financial institutions to measure and report exposure to digital assets which could limit DA exposure. It aims to promote financial stability and sound risk management for banks but will also potentially challenge the business models of DLT-based companies. The Basel Committee on Banking Supervision has asked national authorities to enforce these rules from the start of 2025, although it might have to extend this timeline.

All in all, the first and second waves of regulation pertaining to DLT and digital assets across European jurisdictions give FIs and their clients confidence that the DLT industry is developing into a regulated industry with sufficient consumer protection.

That being said, it is crucial that, among other things, regulators remain open and adopt a friendly interpretation of legal texts. If they do not adopt a friendly interpretation and trust new market mechanisms, the industry may again be subject to scrutiny.

"Increasing regulation revolving around DLT and digital assets creates legal clarity, but also raises hurdles for successful market entry."

Dr. Julia Kreppmeier,
Consultant, zeb

Service offerings

Retail, corporate and wholesale banks as well as asset managers are looking to extend their service ranges, for example by allowing clients to invest in digital assets, and to unlock unprecedented process efficiencies through the tokenization of traditional financial assets and physical assets like real estate or infrastructure.

Depending on which approach they choose, financial institutions can develop new business models that are client-facing – for example, digital asset brokerage, advisory and yield-optimization services, such as staking. Or they can focus on the development of technical supporting infrastructure – for the issuance and trading of digital assets or verification of client identities – to enable the market along the whole value chain to utilize and offer digital assets to clients. These can also be marketed to other financial institutions, showing that they offer substantial opportunities in both the business-to-consumer and the business-to-business fields. As most financial institutions are only starting to explore DLT and digital assets, basic offerings that offer synergy potential across digital asset types and use cases are in focus. In that sense, the technology dimension trumps the asset allocation dimension, although only crypto-oriented offerings show clear monetization potential for the time being.

Services | Client-facing

Brokerage	Trading of digital assets (centralized and decentralized exchanges) on commission
Custody	Custody of digital assets (including asset transfers, private key and wallet management)
Research	Dedicated research offerings / opinions on digital assets and DLT (e.g. reports or white label packages)
Advisory / Portfolio management	Advice on investments in digital assets and inclusion in discretionary portfolio management
Yield optimization	Digital assets held in custody are used for staking or yield mining
Lombard lending	Provision of a credit line with, for example, cryptocurrencies as collateral
Tokenized securities & secruity tokens	Inclusion of tokenized securities and security tokens in the investment universe for investors

"With established financial institutions increasingly meeting the demand for fundamental digital asset services like custody, **the focus can now shift to developing more advanced use cases and products.**"

Max Willmeroth,
Consultant, zeb

Supporting infrastructure

Issuance of funds & derivatives	Supporting the issuance of funds or derivatives with digital asset underlyings
Tokenization engine	Running a tokenization platform which allows for the representation of assets on DLT
Trading facility	Running a trading facility on which digital assets may be traded
Crypto security registrar	Setup and administration of a crypto securities registry for DLT securities
On-chain data	Provision of structured on-chain data to the client, also with the help of oracles, to enable the entire value chain
Data provider	Platform that provides information and data on digital assets, e.g. market prices
KYC provider	Provider of a compliance software solution for other DLT FIs to audit their clients

Source: zeb.Research

Upwards of 75% of the executives said developing custody and transfer services for digital assets was most relevant. Only 35% of the respondents – mainly fintech companies – said the same of more sophisticated service offerings like "staking", an activity by which liquidity in certain crypto-currencies, e.g. Ether, can be used to gain rewards for helping a network to verify and secure transactions on a blockchain. Interestingly, advanced use cases revolving around cryptocurrencies are mostly introduced by crypto-native players or private banks. Seemingly, other types of institutions so far limit themselves to services and infrastructure that are available for all digital asset types.

Financial institutions and especially established ones currently appear most intent on building and leveraging basic infrastructure for the buying, selling and custody of digital assets. One reason for this is the potential for synergies across different DA types. Although custody, transfer and brokerage infrastructure require substantial changes to the traditional operating model and likely considerable investments, the related infrastructure may simply be scaled to cryptocurrencies, tokens and all other types of DLT-based assets once up and running.

Insights

→ **Crypto and tokenized securities** garner most interest in terms of implementation by participating FIs.

→ **Stablecoins are not at the center of FIs'** efforts, despite their **relevance for the future** of DLT-based finance.

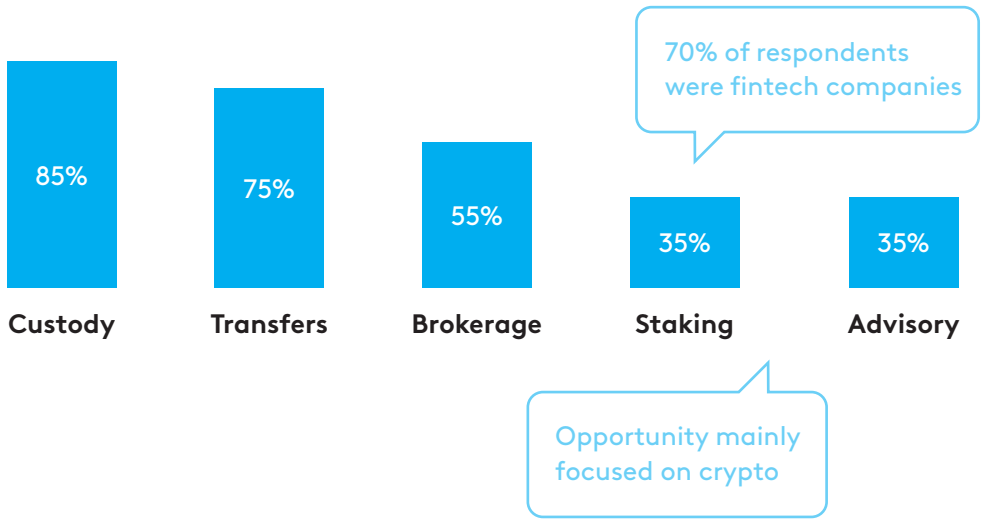
→ This is likely a **result of traditional role allocation** between **FIs and central banks,** the FIs' respective lever on the topic, and the lack of regulatory clarity.

→ **Interest in services that allow synergies** across different DA types **is particularly high.**

→ **Focus on custody and tokenization** is likely to increase.

→ **Enhanced crypto services like staking and crypto investment advisory are likely to stay secondary,** due to a tightening regulatory environment.

Proportion of FIs who consider the service offer type to be relevant for themselves in the future



Source: zeb.Digital Assets survey

As trailblazers for a new "native" digital asset class, cryptocurrencies continue to be widely held in high esteem. One reason is that any company dealing directly with a native blockchain, requires a solution to pay DLT transaction fees. So even if the focus of a company may lie on tokenized securities and not on crypto, financial institutions will require a basic stock of the native asset – either directly or through a partner.

All financial institutions recognize that clients are almost equally interested in both basic infrastructure and more sophisticated services. On a scale of one (low interest) to four (high interest), the executives polled by zeb ranked client interest in brokerage functions at an average of 3.2 points, only just ahead of interest in staking. Similarly, interest in digital asset custody services was deemed only slightly higher than that in advisory services.

While the perceived interest of clients can hardly be differentiated based on the individual services, financial institutions are more prone to address client demand for more basic offerings than for more sophisticated services. 45% of executives polled said their institutions had initiated pilot projects in the fields of digital asset custody and transfer, while only 15% spoke of similar efforts in staking and only 5% reported any pilot activity in advisory.

Financial institutions appear to be more drawn to basic services by their synergistic potential – they can be used for different types of digital assets – and held back by ongoing legal uncertainties regarding more sophisticated services. For example, staking is one of the most common activities in the decentralized finance market, but it remains in a legal and regulatory gray area in many jurisdictions.

Despite such problems, financial institutions have increasingly moved digital assets and DLT to the top of their agendas. zeb's survey shows that the proportion of "hesitant players" has decreased noticeably in the last few years, while the share of what we call "followers" has more than doubled. In 2021, 80% of companies said they had the topic in view but were not yet marketing any services, while only 15% said they were offering or about to offer basic functions. Three years later, this ratio stood at 60% to 35%, with a stable, albeit small, proportion of committed DA "leaders".

> **"The basic products are custody and brokerage. Advanced crypto services are staking and tokenization."**
>
> **Pascal Eberle,**
> Sygnum Bank

Source: zeb.Digital Assets survey

Followers have taken basic offerings live or are about to do so. They are often focusing on cryptocurrencies rather than tokenized assets, as the latter often involve additional processing steps, for example, to ensure proper allocation of dividends or other payouts. Offering clients the opportunity to buy and sell cryptocurrencies is a logical first step into the DA market for many financial services companies, especially as they can also buy infrastructure services from B2B providers.

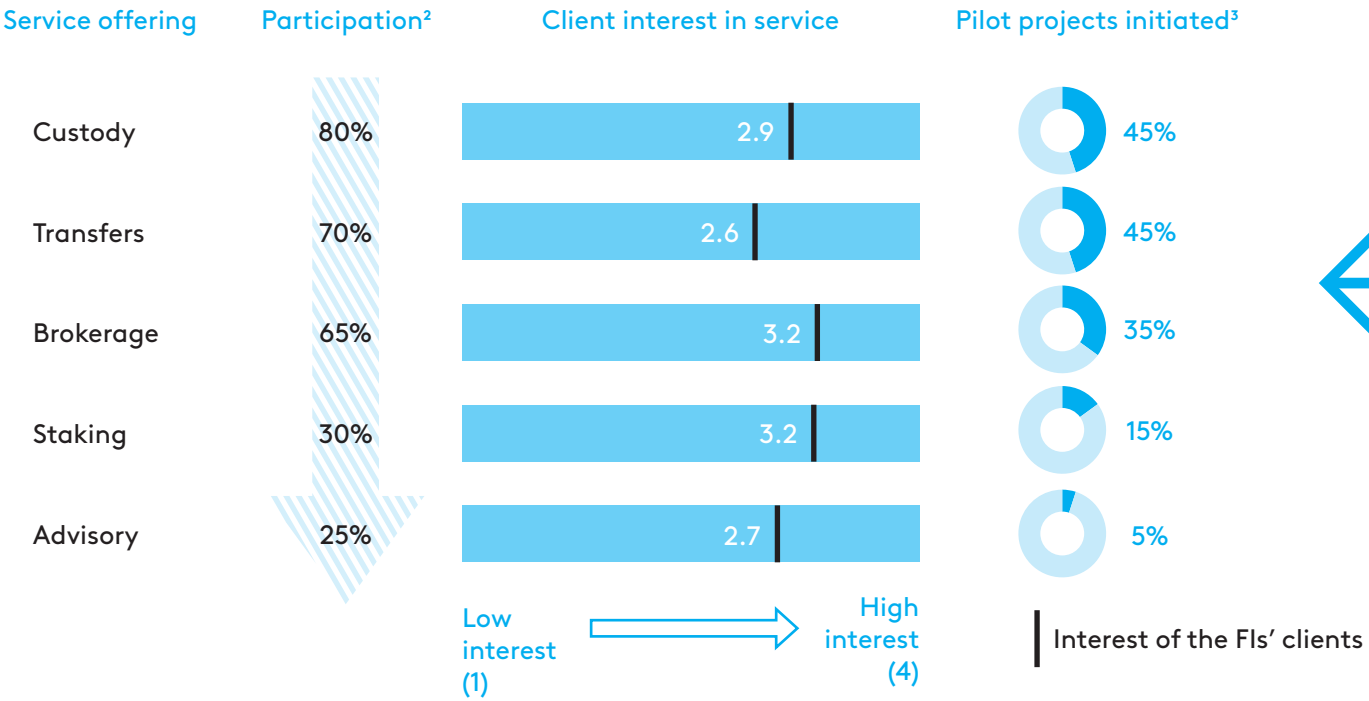
As more and more financial institutions are covering basic client needs, the pressure on the relatively small group of leading players will gradually increase. Leaders have a clear commitment to digital assets and a distinct roadmap for their own business, but they are facing the challenge of having to diversify to stay ahead of the competition. Depending on the financial institution, options for diversification can be offering several DLT and DA services, expanding existing services to include other types of DA, or building an all-encompassing digital assets platform.

Many established European financial institutions across different sectors have entered the digital assets market. However, their approaches differ considerably, depending on their business model. Most DLT- and DA-intensive businesses seem to primarily interested in the promised efficiency gains when it comes to handling securities. Thus, they often engage in pilots for tokenized securities, while leaving cryptocurrencies on the sidelines. For large banks, the driving force behind DLT and DA adoption therefore seems to be efficiency gains.

Private and regional banks, meanwhile, tend to focus on cryptocurrencies as their initial foray into digital assets. They are high on clients' wish lists and the necessary infrastructure can be sourced from third-party providers, doing away with the need for substantial investments.

Because the costs of setting up infrastructure are high, only large banks most commonly commit to this step. While smaller banks currently tend to use third-party infrastructure for the issuance, management and custody of digital assets, their readiness to invest in in-house systems is likely to increase as the market matures.

Clients' perceived interest[1] in DA service offerings



1) Client interest estimated by the survey participants; 2) Proportion of participants who submitted a statement;
3) Proportion of participants who have already initiated pilot projects relevant for the specific service offering
Source: zeb.Digital Assets survey

Adoption of digital assets

Hesitant players

60%

80% in 2021

- → Little to no DLT/DA activity
- → **No marketable offering** yet
- → DLT / Digital assets may be **on the trend radar,** but no distinct roadmap or strategy has been derived

Digital assets followers

35%

15% in 2021

- → Only **basic offering live or in preparation,** predominantly focused on crypto as new asset class
- → Offering mainly serves **churn prevention**
- → **High degree of outsourcing,** e.g. sub-custody with other players

Digital assets leaders

5%

5% in 2021

- → **Clear commitment** to DLT and digital assets through a **distinct strategic roadmap**
- → **Broader offering** surpassing mere crypto brokerage and custody
- → **Investments in own platform and infrastructure** to issue, manage and provide custodial services for digital assets

Insights

- → Overall **high abstentions for advanced services** (staking and advisory) **underline the current focus** on building up basic infrastructure **like custody and brokerage.**
- → **Client interest** remains **unaffected by the complexity** of the services.
- → Despite the increasing complexity of services, FIs can **meet client** needs **by expanding their knowledge/talent base.**
- → In addition, **not all FIs are running pilots yet**, **although they consider the service to be relevant** for them (except for staking).

Source: company websites

State of offerings by sample EU FSIs

→ **Aiming for efficiency** gains in their securities business, it is mostly large **banks that venture into offerings beyond crypto.**

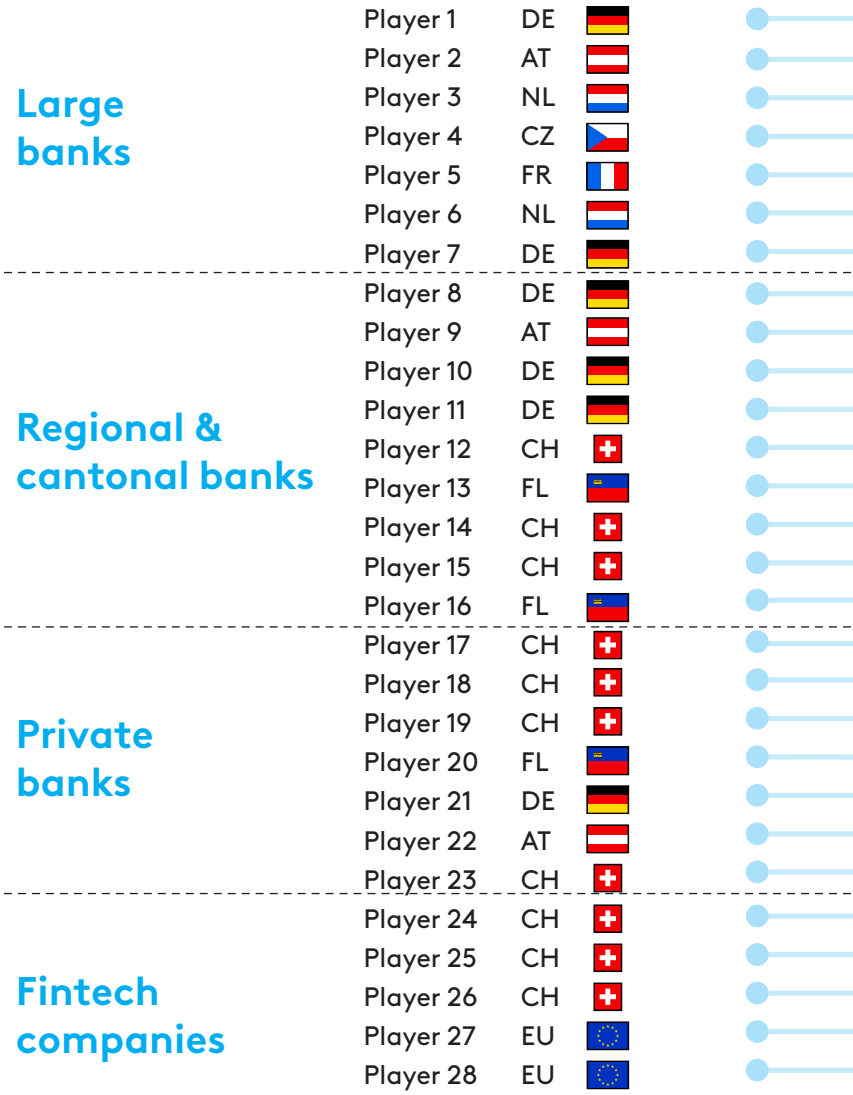
→ **Private, regional and cantonal banks** so far mostly focus on **offering extensions with crypto,** i.e. low-hanging entry points to DLT/DA.

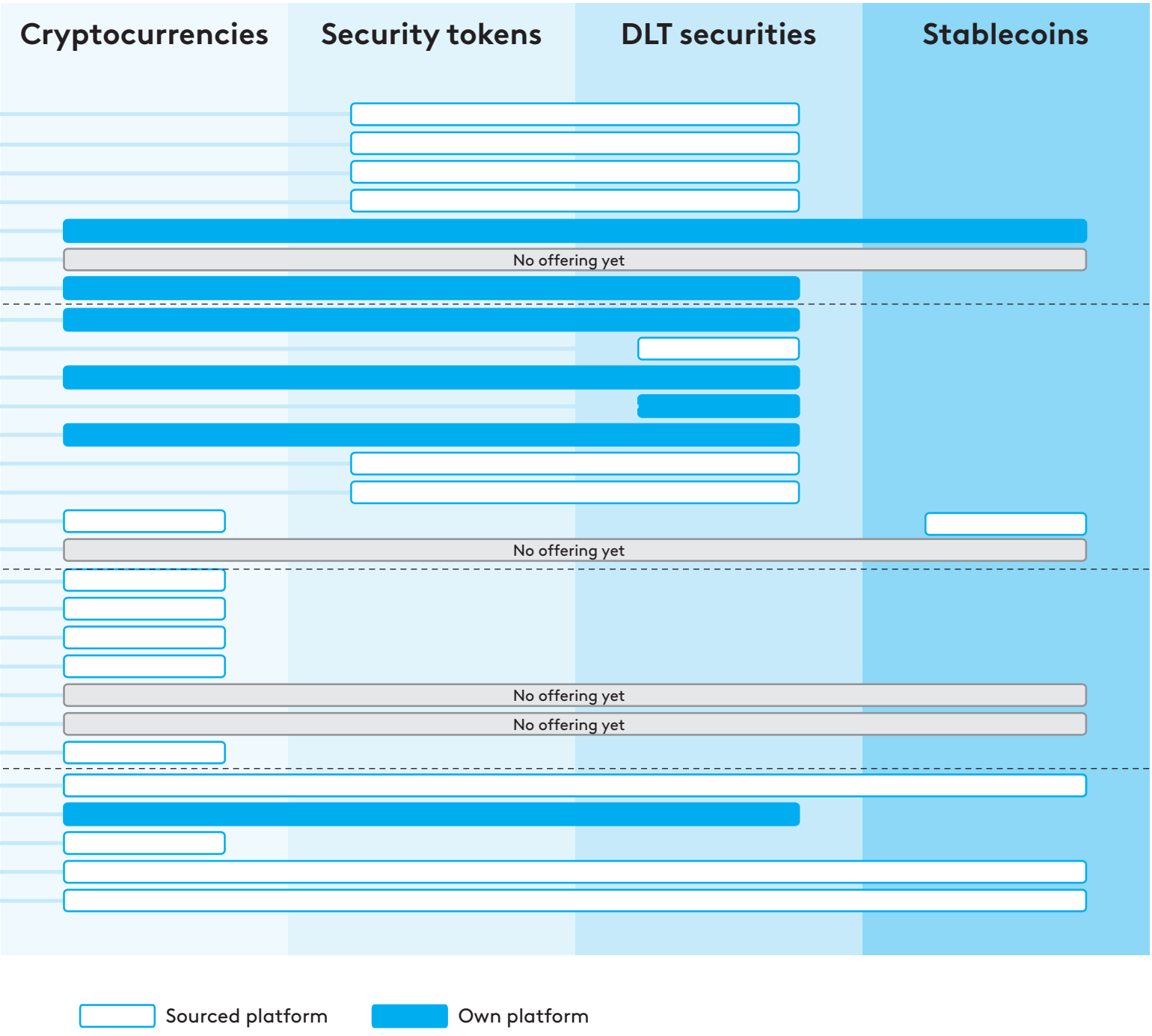
→ Due to the required investment, it is therefore **mostly larger players** that build their **own infrastructure.**

→ **Smaller banks** so far **tend to source infrastructure** for safe issuance, management and custody of DA.

→ With increasing maturity of DLT and DA, **coverage of products and inhouse infrastructure is likely to increase.**

Coverage by 28 sample banks





Source: zeb.Research based on public announcements

As more financial institutions enter the DA market and those already active in it widen their service offerings, internal governance looks set to become more professionalized. While just under 80% of the executives zeb surveyed said that their institution did not have one dedicated manager or team for digital assets, just under 60% said they were planning to hire proven DA experts.

This suggests that finding well-trained staff will become even more of a challenge for FIs. in zeb's practical experience, educating internall staff across all functions is of the utmost importance if one wants to ensure long-term success of DLT and DA initiatives. Once internal knowledge is in place across business, tech and risk functions, it will become easier to integrate digital assets services into existing functions, as all staff enjoy a level playing field. Despite the time and effort involved in DLT-related training initiatives, zeb is convinced they will pay off in the long-run.

Insights

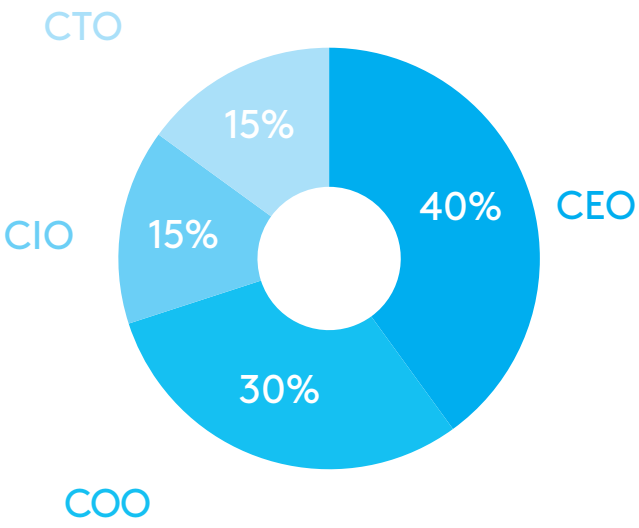
→ Despite the perceived relevance of the topic, **many institutions do not have a specific department** to deal with DLT and digital assets.

→ In zeb's experience, **centralized coverage** helps with the derivation and implementation of **targeted DLT/DA initiatives.**

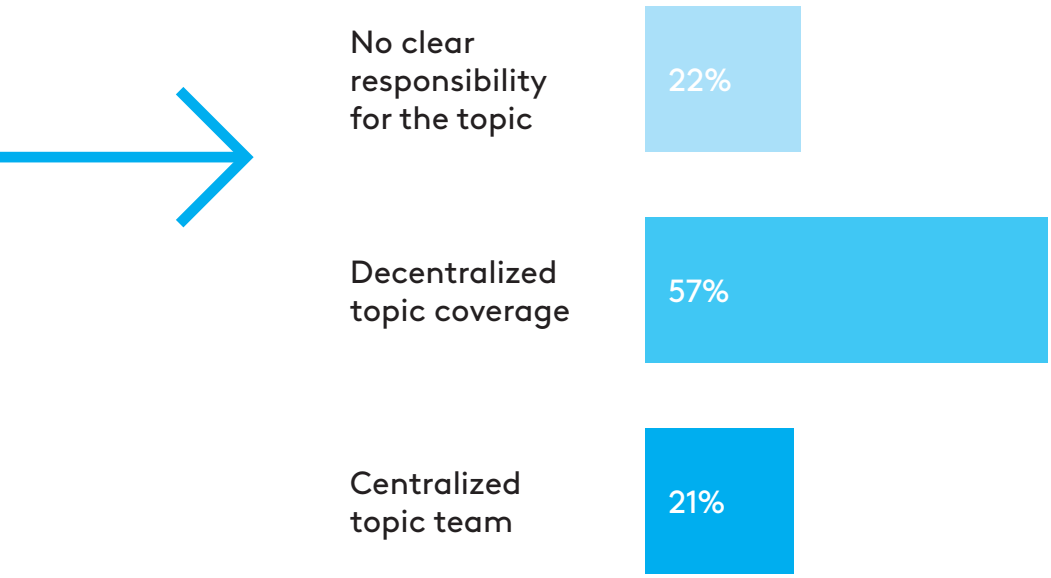
→ **Decentralized know-how** embedded across the organization helps to **foster overall acceptance and risk** awareness but may not be enough on its own.

→ **Hiring staff is extremely difficult.** In zeb's experience, it's **best to train staff internally** across all functions and to integrate new tasks with existing organization/functions.

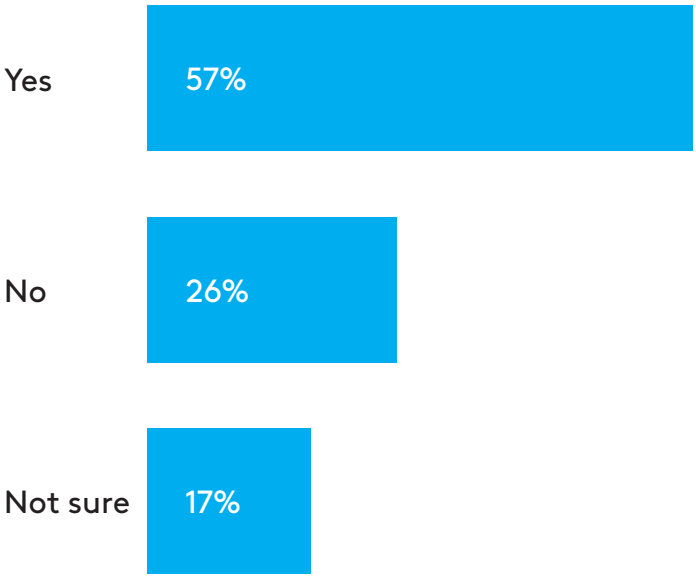
Who does the responsible DLT & digital assets team report to?



How is the topic of digital assets dealt with in financial institutions?



Is your institution planning to hire additional staff with DLT or digital assets expertise?



Sources: zeb.Research based on public announcements; zeb.Digital Assets survey

Infrastructure

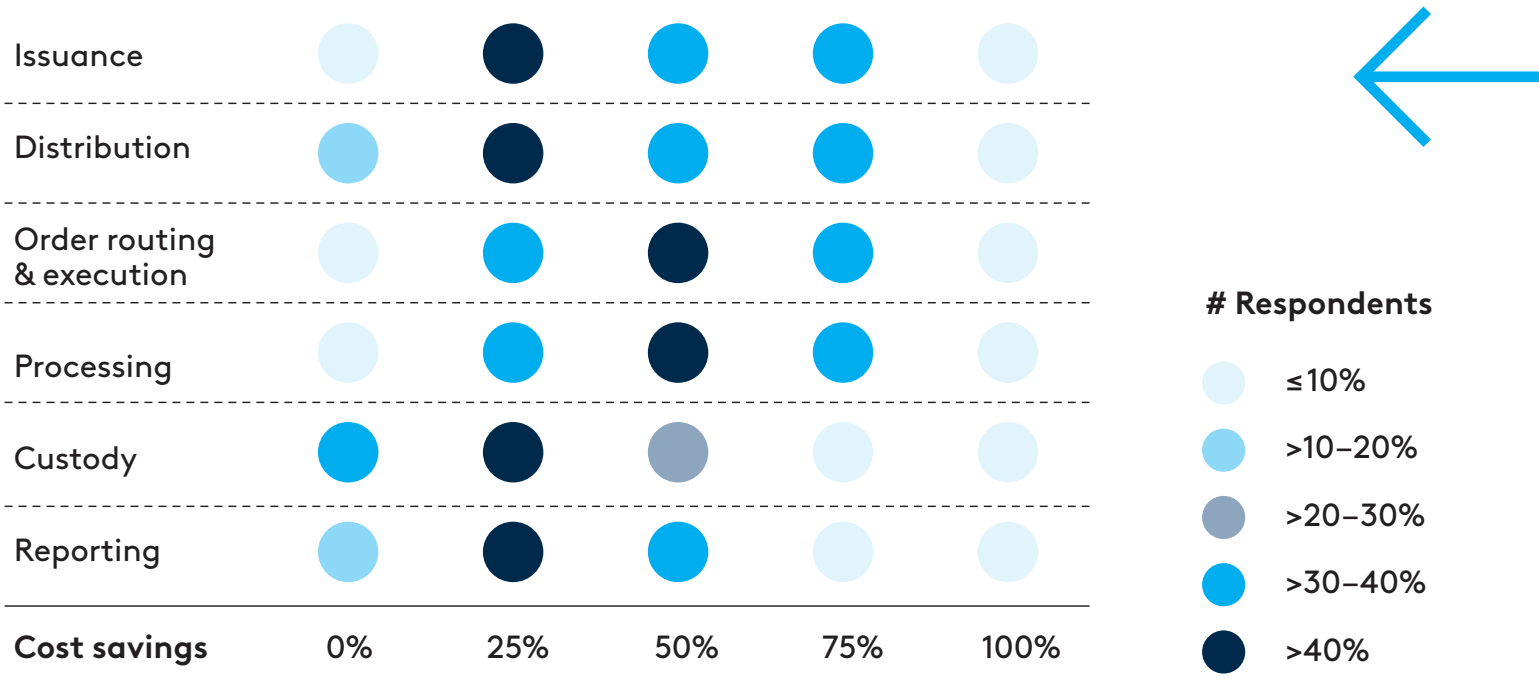
DLT is widely expected to lower costs along the entire capital markets value chain by 25% to 50%. Interestingly, the executives surveyed by zeb expect the highest savings in order routing and execution, thanks to immediate order routing and settlement through instant verification and authorization – a significant improvement from the current two-day standard. By applying DLT to financial products like funds, one can potentially automate cash flows such as coupon disbursements or interest calculations through smart contracts.

That being said, business rationale, remaining regulatory hurdles or missing technological standards may still prevent these efficiency gains from being fully leveraged. The possibilities to tokenize a factory to make real estate more accessible are limited by the legal requirements regarding the official registration of property transactions.

Therefore, as there are many instances, in which the transaction speed and fungibility of digital assets will evolve, financial institutions should analyze the potential of each asset class and service offering separately.

Financial institutions recognize they will have much to assess in the coming years. While about 40% of the executives zeb surveyed reckon that no more than 20% of stocks and bonds will be tokenized by 2030, some 60% expect tokens to make up between one-fifth and the whole of the securities market by then. Even cautious players expect a considerable shift into DLT-based assets that promise faster, round-the-clock services and the chance to unlock currently illiquid markets.

While financial institutions clearly recognize the great potential of digital assets, they remain cautious about entering this nascent market for three main reasons: the industry's switch to DLT-based assets remains relatively modest, there are still several competing standards for tokenization, and DLT governance, i.e. the question whether chains should be public- or private-permissioned. Market participants speak of classic chicken-and-egg problems – for example, that a common token standard cannot develop while players defer market entry for lack of one common token standard.



Sources: zeb.Digital Assets survey

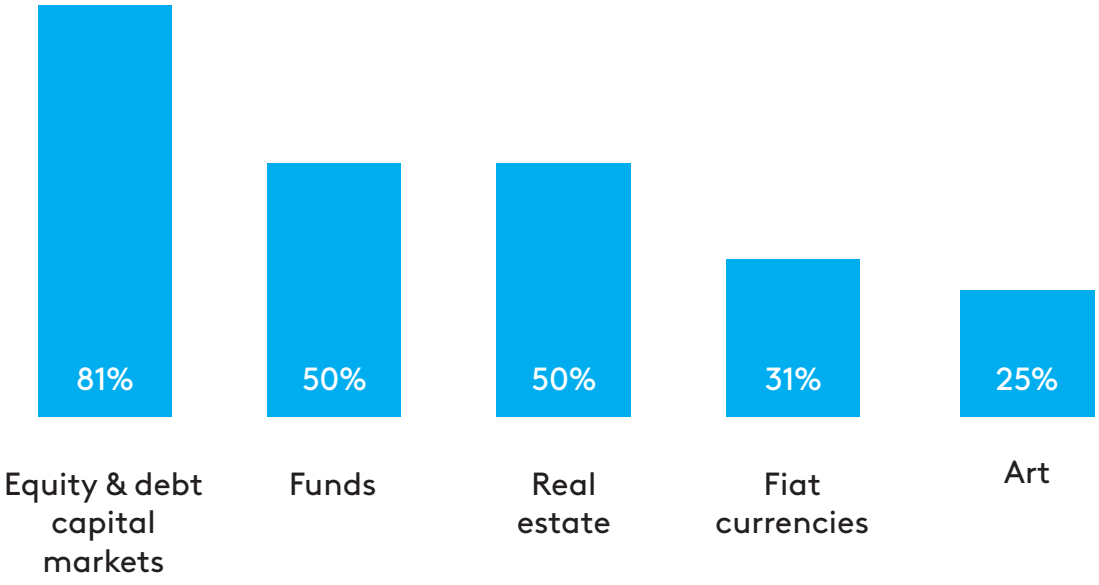
"The harmonization of technical standards and DLT governance lies at the heart of remaining challenges related to DLT infrastructure and unlocking promised DLT efficiency gains."

Daniel Schmid Perez,
Senior Consultant, zeb

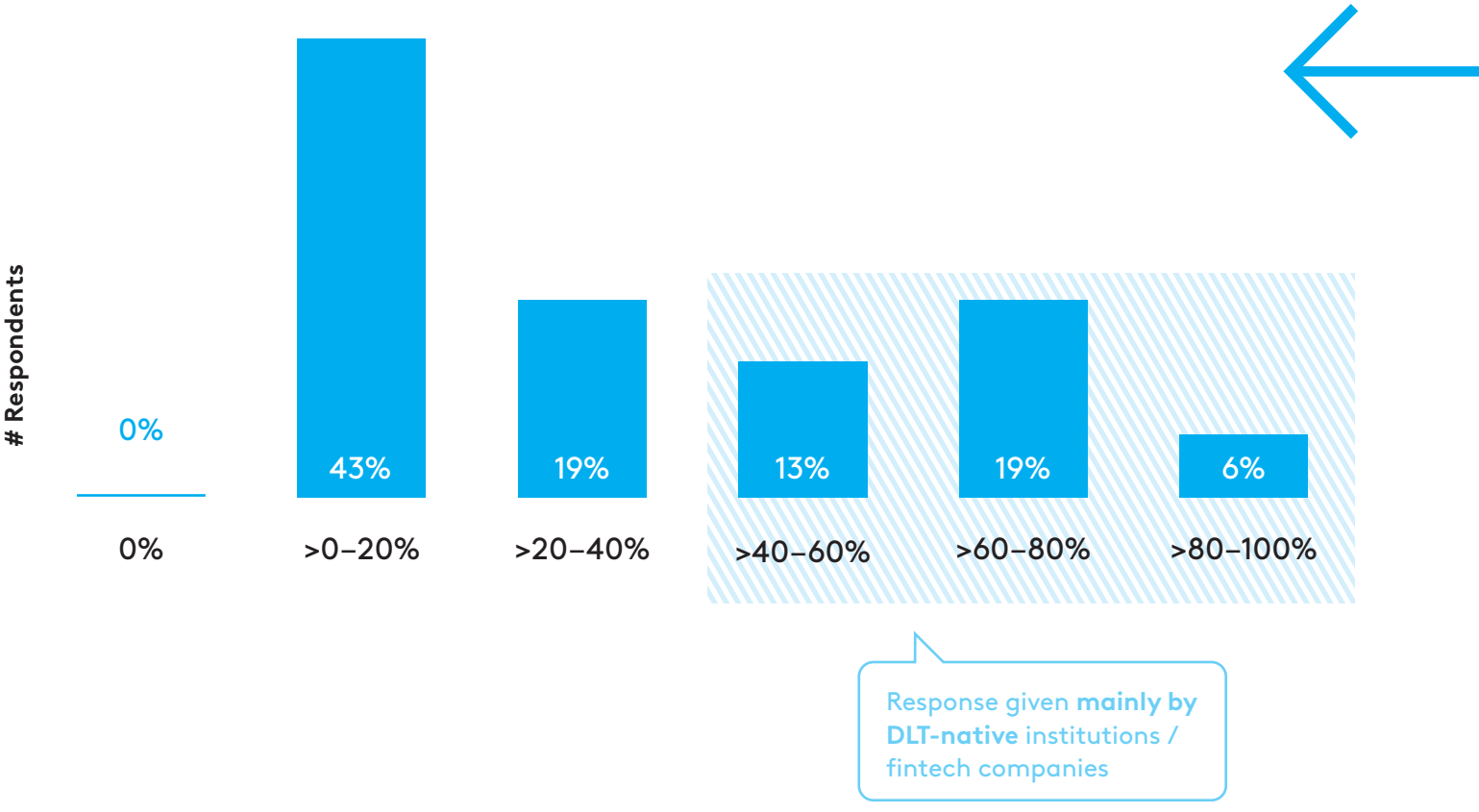
Insights

- Along the entire asset management value chain, participating **FIs assess the cost savings potential to be between 25 and 50%.** The highest savings are expected in order routing and execution, as well as the processing of tokenized products (e.g. funds).
- Business rationale and regulations may reduce cost savings, so that the **actual cost savings potential may be lower than the cost savings potential from a technological point of view** (mere DLT-based representation of products).
- A thorough **analysis per asset class and service offering is thus required** in light of specific regulatory, strategic and business factors.
- The expected **savings potential depends on** financial institutions **overcoming** obvious **infrastructure issues** (see chapter 1) and hidden factors like business rationale.

How is the topic of digital assets dealt with in financial institutions?



What proportion of securities do you expect to be tokenized by 2030?



Sources: zeb.Digital Assets survey

To expedite the adoption of DLT and DA, it is imperative to establish fundamental infrastructure capable of facilitating the tokenization, transfer and custody of digital assets. Banks should prioritize the development or integration of technological platforms that exhibit scalability across various use cases and DA types. Traditionally, managing these basic functionalities internally has been linked with significant complexity and setup costs. However, once in place, the effort required for accommodating additional use cases diminishes substantially. In response to this dynamic, banks should adopt distinct strategic approaches to market entry (see Chapter 5 "Strategic imperatives" – top-down and bottom-up approach).

One challenge all financial institutions will have to keep in mind is that interoperability between DLT networks and different DLT layers is currently still limited. The past development of diverging standards and non-compatible blockchains has led to a patchwork of competing infrastructure platforms.

Especially established financial institutions have been prone to come up with siloed solutions, often on private-permmissioned blockchains. So long as these infrastructural silos exist, it will not be able to realize full efficiency gains of DLT. One focus for the coming years should thus be to work on interoperability or to further build on permissionless blockchains.

This also implies that financial institutions will have to cooperate, so as to develop more standardized approaches to tokenization. On top, they should come up with flexible platform designs that allow them to reduce potential sunk cost in infrastructure investments. Among the many token standards, some cater for specific requirements of the financial industry and have modules to account for product or compliance rules (for example, ERC-1400, ERC-3643, formerly known as T-REX). Financial institutions considering a move into the DA market should not forget to consult other DLT-/DA-savvy players.

Insights

- The **tokenization** of assets **promises many advantages** such as 24/7 and faster service provision and a reduction in costs.
- **Big potential** is attributed to the **tokenization** of assets in **illiquid markets.**
- While approx. **40%** of surveyed financial institutions believe that **up to 20% of securities will be tokenized** by 2030, approx. **half** of all participants **expect** this **share to be higher** by 2030.
- The current **lack of infrastructure** is hindering the technology's widespread **adoption.**
- One of the **biggest potential drivers** is the introduction of **CBDCs.** Currently, both the ECB and SNB have projects in place to introduce CBDCs.

> **"Market growth depends on the readiness of the infrastructure to support practical use cases like real-world asset tokenization."**
>
> **Bram Ceelen,**
> Anycoin Direct

Strategic imperatives

As the four dimensions of the study have shown, DLT and digital assets are poised to take over the European markets by storm. Financial institutions will therefore come under increasing pressure to develop overarching holistic DLT strategies. The era of siloed DLT/DA pilots is coming to an end – and the window of opportunity for institutions to successfully position themselves as early adopters is closing. DA service providers should increasingly focus on holistic frameworks. Standalone use cases and pilots will not bring about the necessary return on investment. Hence, new initiatives should be measured against the overall strategy and its potential in light of regulatory, technical and strategic considerations.

As regulation in Europe continues to tighten, financial institutions are deriving ways to remain compliant while continuing to serve their clients' needs. Those who quickly attain regulatory approvals and any required licenses will have a crucial competitive advantage over their peers. The best way for companies to ensure this is to fully integrate DA capabilities into their compliance and risk organizations. By also ensuring compliance with measures to fight money laundering and terrorist financing, financial institutions can make use of an opportunity to establish a holistic risk tolerance framework.

As more and more established financial institutions launch basic offerings like custody, transfers and brokerage for digital assets, first movers will come under increasing pressure. Their key challenge will be to stay ahead of the pack and build up progressive business models. The emerging token economy looks set to offer them new opportunities to develop advanced business models, e.g. the tokenization of private equity or private debt.

The main challenge for established financial institutions will be not to miss out on market opportunities and to quickly build up the required capabilities – and to integrate them with their existing businesses for efficiency's sake.

As infrastructure for digital assets grows, financial institutions will need to place more emphasis on interoperable token standards. Furthermore, banks require individual assessments of whether private or public blockchains better suit their specific needs, based on their individual target vision and the scalability of the network. Interoperable token standards promise vastly more scalability than the current abundance of different token standards. Banks will have to collaborate on a national or even international level to create common standards and invest in data household-ing, including zero-knowledge technologies to tackle privacy issues, as finance becomes more decentralized.

> **"Banks should clearly define who they are and who they want to be, and use this as a basis for defining their strategic DLT roadmap."**
>
> **Andreas Sack,**
> DekaBank

Takeaways for banks

When it comes to mastering DLT and digital assets, banks ultimately need a holistic strategic framework that encompasses services, processes and the technical foundation. In the current market, two approaches that combine these dimensions can be observed.

Banks can pursue a classic top-down approach, in which they first define the overarching framework and the desired scope for long-term success. In the second step, they derive the necessary processes and technical infrastructure. In this case, banks typically focus more on products and apply a higher degree of sourcing at the beginning. It is only at later stages that they start to develop their own platforms based on the reflected client demand.

Alternatively, some banks choose to opt for a modular bottom-up approach, in which a flexible, functional technical foundation must first be created on which various use cases can then be successfully developed. Setting up their infrastructure initially involves high up-front costs, but the banks remain independent from B2B service providers.

As noted above, financial institutions should not expect to realize all the potential cost benefits of every DLT opportunity immediately, which is another reason to proceed step by step.

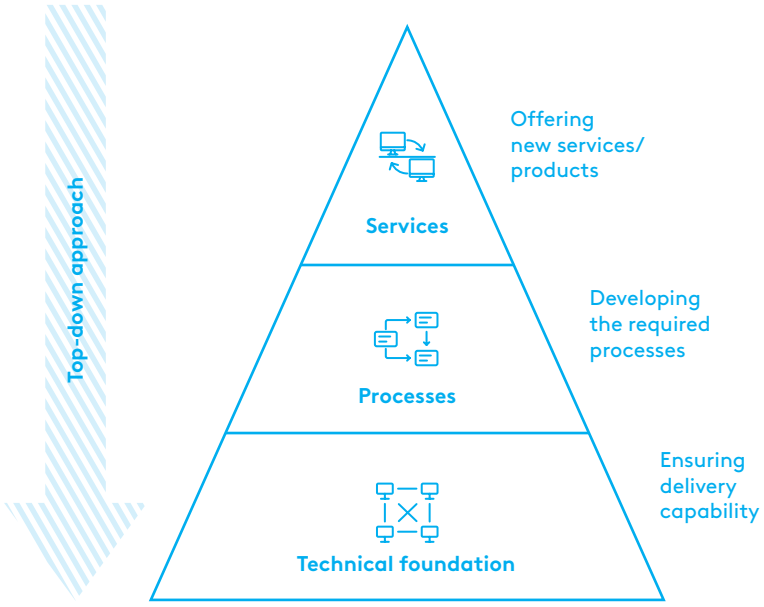
Current DLT & DA market developments are characterized by two approaches

Top-down approach

Top-down approach: definition of a framework for **scalable solutions.**

From a holistic **digital asset strategy,** required **processes and technical infrastructure** should be derived.

Basic **decisions on sourcing and infrastructure** can be made based on the **future range of services and products.**



Bottom-up approach

Bottom-up approach: ensuring **successful implementation** of various use cases (services/products).

New processes and services can be developed based on the **modular and flexible technical** infrastructure.

The use of a **single infrastructure** ensures **scalability across use cases** and reduces the risk of developing siloed solutions.

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