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# The Use of DLT in the Asset Management Sector – Assets, Infrastructure and Regulation in Transition

The success of the asset management industry depends to a not inconsiderable extent on its ability to innovate and, above all, on its affinity for technology. It has always tried to use technological progress profitably. And not only to automate operational processes in the front, middle, or back office or to make them more efficient – just think of KYC, clearing, settlement, reporting, etc. – but above all, to optimize trading and investment activities, as well as risk management.

#### I. Technological change in the financial and asset management sector

The fact that the asset management industry in particular is often a technology driver is shown by a look at so-called commodity trading advisors, who have been using modern analysis techniques in the form of artificial intelligence for decades and are now to develop trend-following models for managed futures funds, or at the hedge fund styles that have been established many years ago and are now pursuing complex data-based strategies (quants) or are using special technologies (e.g. in the form of computing power, programming or data transmission), such as algorithmic or high-frequency trading.

About six years ago, the FinTech boom finally found its way into the asset management industry, primarily under the umbrella term of digitalization that covers all levels of the value chain and is considered to have a disruptive character. Currently, digitalization and technologization are experiencing a very special dynamic, especially through the use of blockchain or distributed ledger technology (DLT), which not only fundamentally changes many processes and the (market) infrastructure, but also affects the assets in which investments are made and 7

now even targets the funds themselves, transferring them to the blockchain and thus opening up completely new ways, e.g., for distribution or trading.

#### Tokenization

The transfer of assets into the digital dimension (so-called tokenization) with the buzzwords crypto assets or crypto currencies is, of course, a novelty, which is of utmost relevance especially for the asset management industry and is currently being driven forward at full speed and is now also already being flanked by legislation or regulation, both on a national as well as on a European and international level.

In the context of digitalization, the use of DLT plays a key role and the financial sector is also one of the first industries to experience the disruption emanating from this technology and is now intensively driving the technological structural change itself, precisely in order not to lose significant market shares to tech companies that are vehemently pushing into the market. The possible applications and use cases are quite diverse. Trading and payment transactions are becoming more efficient because they can take place almost in real time, also because intermediaries are no longer needed. This not only offers advantages to customers, but may also create new business models that financial service providers could add to their portfolios. Furthermore, in the area of trade finance, it can be noted that the real-time processes make all transactions accessible to all participants in the DLT network. A central role is played by so-called smart contracts, i.e. programs that can, among other things, monitor the execution and compliance of contracts using DLT. These can help with the automation of settlements, reporting, etc. because of the electronic, permanently up-to-date availability of all (transaction) data, in that some processes are carried out mechanically and automatically. Compliance processes and proxy voting can also be automated in the area of investment management using smart contracts.

#### Trust in blockchain

The focus – and this applies to all points – is on the technically created trust, which is rooted in the essence of the (practical) immutability of the blockchain,

so that a picture of the truth is always accessible to market participants. In addition to immutability, transparency – any participant can see the transactions made – reduces information asymmetries and facilitates collaborations. Finally, the autonomy of DLT guarantees the executions of actions, so trust in the system increases. At the same time, some established intermediaries will become obsolete as transaction costs are reduced.

Asset and transaction information can thus already be recorded in "digital ledgers" instead of physical books. Looking to the future, a constantly updating, forgery-proof, complete system that can be viewed by all can be established on this basis. For financial services, this would mean in particular that companies can operate more efficiently, as internal processes are simplified, cases of intra-system arbitrage are minimized, and the verification of transactions and thus assets becomes much easier.

The most important outcome is that DLT is being relied upon as an infrastructure because of its efficiency. It is seen as an essential part of the transformation towards the future digital financial services sector, as it can be used to design a wide range of use cases more efficiently. In the medium to long term, opportunities are seen in the use of DLT and the associated benefits also for digital currencies, for example. However, in order to enable the timely and efficient use of DLT, all levels, from service providers and investors to policymakers and regulators, must work together to establish DLT so that it can be used to make all activities and processes more efficient.<sup>1</sup>

## Decentralized Finance (DeFi)

It is precisely in this context of digitalization that another movement or development is now taking place which, under the catchword of Decentralized Finance, abbreviated to DeFi, seems to be triggering an unprecedented technological structural change in the entire financial sector, namely the establishment of a decentralized, blockchain-based ecosystem, which offers a wide

<sup>&</sup>lt;sup>1</sup> The future of financial infrastructure WEF 2016, available at http://www3.weforum.org/docs/WEF\_The\_future\_of\_financial\_infrastructure.pdf.

range of financial services and also has significant interfaces with asset management, but which lacks central instances for management and control. DeFis are thus, in contrast to conventional financial markets, those that are based on decentrally organized blockchains and smart contracts instead of central intermediaries. The Ethereum blockchain is regularly used for this purpose. Here, the smart contracts perform the functions of the intermediaries with the consequence that the known intermediaries such as banks, etc. can be largely replaced by the technology. As a result, transaction costs are eliminated or substantially reduced. This means, for example, the elimination of fees when money is lent or borrowed.

Furthermore, the technical design guarantees error-free order execution almost in real time using blockchain, which creates a technically created trust. It is also strengthened by the very high degree of transparency, as all transactions on the decentralized blockchain – at least in the case of public blockchains – can be viewed by all users at any time.

The idea here is to open existing and, above all, new financial services to everyone in principle, but without the established financial market participants and intermediaries such as banks, insurance companies, etc. acting as intermediaries. Rather, the parties involved in the respective transaction are to be directly connected using DLT and corresponding applications (Decentralized Apps, dApps)<sup>2</sup>.

The revolutionary and at the same time disruptive character lies primarily in the fact that this decentralized financial system, which is open to everyone, is organized outside the existing financial architecture with the relevant established, strictly regulated actors, by means of blockchain technology, which makes such a system possible in the first place, even if many questions of practical implementation, also with regard to control by financial supervisory authorities, investor protection, etc., still require decisive clarification. In principle, however, every existing form of financial service appears to be mappable under DeFi, and new financial services are also likely to be added.

<sup>2</sup> Basic to DeFi: Decentralized Finance (DeFi) Policy-Maker Toolkit, WEF White Paper June 2021, available at http://www3.weforum.org/docs/WEF\_DeFi\_Policy\_Maker\_Toolkit\_2021.pdf.

#### Intermediaries become redundant

No matter whether so-called decentralized loans, i.e. the granting and taking out of loans – usually against the deposit of cryptocurrencies – without an intermediary, decentralized payment services, i.e. the direct settlement between the parties involved without an intermediary, decentralized exchanges, i.e. the trading of tokenized assets without central instances for clearing, settlement, custody, etc., as well as decentralized financial products (e.g. derivatives), the number of possible applications is growing and the asset management industry will also be affected with all facets: on the organizational and process side, on the investment side with (tokenized) assets, in decentralized trading, etc.

#### II. DLT application examples in asset management

As already outlined at the beginning, in addition to the investment aspect, trading, service and infrastructure aspects are no less important in the context of blockchain & co. Here, in particular, the impact on the entire asset management industry is huge, as a look at Luxembourg shows, for example, where various market participants with the Luxembourg Stock Exchange and Clearstream have set up a DLT platform for the fund industry called FundsDLT. This is – roughly speaking – about streamlining various fund distribution and service activities through the blockchain, among other things with the objective of automating a large number of processes in a secure manner. By the way, as early as 2017, the first fund subscription was processed there via blockchain.

In short: not only the portfolio, but also the asset manager and the ecosystem are becoming digital! The levels and processes that are being digitalized are correspondingly complex and extensive. Accordingly, along the value chain in asset management, all players must be involved in digitalization or technologization from the very beginning, must implement digital transformation processes and give the topic high priority.

Another facet is the impact of digitalization in customer business or with counterparties. Financial service providers of all kinds, including fund companies, can benefit from large amounts of processed data, the keyword being Big Data: more data creates more transparency, risks can be mitigated. This applies to customers, but of course also to counterparties. As examples, three areas are outlined below in which special DLT-related application possibilities arise in asset management.

#### 1. Crypto asset investments

In general, crypto assets in a broader sense create a new asset class for all investors. The prime example with pioneering function for such an asset – especially with regard to its level of awareness and the accompanying controversial public debate – is Bitcoin. The gradual establishment of Bitcoin in the real and financial economy on the one hand, and the clear regulatory pressure, which is now taking on prohibitive features in some countries, on the other hand, show that this sector is still clearly in the development stage, but this also makes this asset class very attractive. And precisely because many public and private institutions are currently developing distributed ledger and blockchain technology, i.e. the technology underlying Bitcoin, and using it for their own purposes, this investment segment deserves special attention. The aim here is not only to develop new business models, but above all to transform existing business models using this technology and make them affordable and easily accessible to investors.

The tokenization of securities, especially illiquid assets, could make them transferable and tradable, thus creating entirely new markets. This is particularly interesting in areas such as real estate investments, private equity or infrastructure.

In any case, since January 2020, crypto assets may be held in custody with the corresponding BaFin licensing in accordance with the German Banking Act (KWG) (permission requirement). For investors not only from the institutional segment, this creates a new asset class, with which asset managers in particular can also offer a broader product range.

A prerequisite for this is, however, the availability of relevant market information and adequate asset valuation. In this context, investment/asset tokens are likely to be of particular interest to investors, as they have functions comparable to conventional investments.  $^{\rm 3}$ 

# 2. Crypto-based fund distribution

Once the legal framework is in place to allow fund units to be issued and traded via the blockchain, all the efficiency benefits of the blockchain can be exploited in this context. Indeed, blockchain technology can significantly improve settlement processes. Its use can reduce counterparty risk by enabling a trustless settlement process similar to DVP<sup>4</sup> settlement in that delivery of an asset is directly linked to immediate payment for the asset. The example of custody highlights further potential savings, particularly for investors, as the blockchain can cost-effectively perform the function of custody of digital assets and issuance of tokens.

Furthermore, distributed ledger networks can eliminate friction losses and standardize data across the entire value chain. Risk mitigation is thus one of the larger benefits of tokenizing fund shares. Additional benefits, such as increased liquidity and transferability of fund shares, will lead to many more opportunities, including the ability to use fund tokens as collateral in other financial transactions.

Settlement, or post-trade processing, serves as another application example. Namely, blockchain technology should also be able to enable trustless delivery versus payment (DVP) settlement without intermediaries. The complete shift of settlement processes to decentralized technologies – as blockchain is one – makes the settlement process more efficient as it lowers the associated transaction costs and reduces the associated risks. Therefore, blockchain-based multichain-atomic-swap-technology is becoming a peer-to-peer alternative to a centralized clearing counterparty that typically facilitates DVP settlement of financial assets.

<sup>&</sup>lt;sup>3</sup> Cf. Elektronische Wertpapiere und Krypto-Token, EuZW 2019, 857 et seq.

<sup>&</sup>lt;sup>4</sup> DVP (Delivery Versus Payment)

#### 3. Crypto-based fund administration

Finally, no less significant is the use of blockchain in fund administration. If used appropriately, blockchain would bring real-time transparency to fund trading, which would further enable fund managers to fully understand their trading positions and needs and also communicate them to investors. There is potential here for further optimization and efficiency gains. For example, reconciliation efforts can be significantly reduced when assets are in a DLT framework, as a copy of the asset's entire history is available to all participants – this is the nature of the decentralized blockchain.

#### III. The regulatory embeddedness of DLT and cryptocurrencies

With such revolutionary technological developments, it was naturally only a matter of time before politics and supervision were called onto the scene. Corresponding political activities followed, for example, the German government adopted its blockchain strategy<sup>5</sup> at the national level in 2019, which has since resulted in various legislative procedures, in particular the Electronic Securities Introduction Act (eWpG)<sup>6</sup> that came into force on June 11, 2021. The Digital Finance Strategy<sup>7</sup> published by the EU Commission on September 24, 2020, is broader in scope, both thematically and geographically, and with the Digital Finance Package<sup>8</sup> as its centerpiece, it is the largest legislative package to date that addresses the opportunities and risks of digitalization.

#### 1. The eWpG and Fondsstandortgesetz

The German legislator and the German financial supervisory authority have, as previously outlined, reacted quite early, especially with regard to DLT and new

<sup>&</sup>lt;sup>5</sup> Available at https://www.bmwi.de/Redaktion/DE/Publikationen/Digitale-Welt/blockchain-strategie.pdf?\_\_\_\_\_ blob=publicationFile&v=8.

<sup>&</sup>lt;sup>6</sup> https://media-expi.licdn.com/dms/document/C4DiFAQFOETRD3d87BQ/feedshare-document-pdf-analyzed /o/1623222822227?e=1623326400&v=beta&t=J4DPlvnlvYbJNLgz\_p2drBJZmxvuHyvOGOKrQGAuTu4.

<sup>&</sup>lt;sup>7</sup> Available at https://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=CELEX:52020DC0591&from=EN.

<sup>&</sup>lt;sup>8</sup> Press release on the Digital Finance Package available at https://ec.europa.eu/commission/presscorner/detail/de/IP\_20\_1684.

investment opportunities in the form of crypto securities, and have taken up these technological developments. Following the introduction of the so-called crypto custody business in the German Banking Act (KWG) in 2020, the legislator flanked the further digital transformation in the financial industry last year with the adoption of the Law on the Introduction of Electronic Securities (eWpG) and the Law Stregthening the Fund Market Place (Fondsstandorgesetz, FoStoG), which amends the German Investment Code (KAGB).

As is well known, the greatest achievements of the eWpG are, in a first step, the possibility of issuing electronic securities, where the entry in a central electronic securities register replaces the securitization in the form of a deed, and, in a second step, the admission of so-called crypto securities, which are created by entry in a - decentralized - crypto securities register that operates, for example, on the basis of distributed ledger technology (DLT). The restriction of the scope of application to bearer bonds originally envisaged in the Act was extended to share certificates in the course of the legislative process, so that funds can now also be transferred to the blockchain. For this purpose, the eWpG is supplemented by the Regulation on Crypto Fund Shares (KryptoFAV).<sup>9</sup> The last aspect, in particular, was an important milestone for the German fund industry and investors behind it - and not only from a competitive point of view. Almost at the same time, the FoStoG was launched, which allows German special AIFs to invest in crypto assets (digital representations of a value that can be transferred, stored and traded electronically, as specified in more detail in the German Banking Act), another achievement that was extremely important – again from a competitive point of view. It would have been inconsistent to digitalize the investment catalog of funds on the one hand, but leave them in the analog world on the other.

## 2. The Digital Finance Package of the EU-Commission

At the European level, too, the Digital Finance Package (in particular through the MiCA and DORA regulations, the DLT pilot regime, etc.) is driving forward digitali-

<sup>&</sup>lt;sup>9</sup> https://bundesfinanzministerium.de/Content/DE/Gesetzestexte/Gesetze\_Gesetzesvorhaben/Abteilungen/Abteilung\_VII/19\_Legislaturperiode/2021-09-06-KryptoFAV/1-Verordnungsentwurf.pdf?\_\_\_ blob=publicationFile&v=6.

zation in the financial sector at full speed and on an even larger scale, so that first movers can take their first steps and gain experience that is not likely to be detrimental to competition. On the contrary. Even investors, who have documented virtually no interest in crypto stocks in the BAI Investor Survey 2020, should rethink their position here. Finally, the accompanying regulation is now ready.

To this end, the EU Commission has presented a series of measures or legislative proposals with different regulatory approaches that will also significantly affect the asset management industry, precisely because its business model and the underlying infrastructure and related services are affected. Of the package of measures, the legislative proposal for an EU legal framework for crypto assets (MiCA Regulation), the proposal for an EU legal framework regarding the operational stability of digital systems (DORA Regulation), the pilot regime for market infrastructures based on distributed ledger technology (DLT Pilot Regime) as well as amendments to various financial market regulations (including MiFID II, UCITS, AIFMD) are of particular relevance and will therefore be briefly presented below.<sup>10</sup>

#### a) MiCA Regulation

With the "Regulation on Markets in Crypto Assets" (MiCA)<sup>11</sup>, the Commission has for the first time presented a uniform EU-wide regulatory framework for crypto assets<sup>12</sup> that are not financial instruments.<sup>13</sup> In part, there is already, such as in Germany, a national administrative practice of financial supervision for individual supervisory and application issues<sup>14</sup> or rudimentary legal regulations for crypto assets<sup>15</sup> and/or investment in them.<sup>16</sup> The MiCA Regulation now goes beyond this and regulates<sup>17</sup>:

<sup>&</sup>lt;sup>10</sup> For further information, see also the EU Commission's FAQ on the Digital Finance Package, available at https://ec.europa.eu/commission/presscorner/detail/de/qanda\_zo\_1685.

<sup>&</sup>lt;sup>11</sup> Draft regulation of 24.9.2020 available at https://eur-lex.europa.eu/resource.html?uri=cellar:f69f89bbfe54-11ea-b44f-01aa75ed71a1.0022.02/DOC\_1&format=PDF.

<sup>&</sup>lt;sup>12</sup> See def. in Art. 3(1)(1): "a digital representation of value or rights that can be transmitted and stored electronically using distributed ledger technology or similar technology".

<sup>&</sup>lt;sup>13</sup> Thus, for example, e-money, (structured) deposits or securitizations are explicitly excluded from the scope of regulation and continue to be subject to other rules.

<sup>&</sup>lt;sup>14</sup> Cf.e.g. the BaFin bulletin "Hinweise zum Tatbestand des Kryptoverwahrgeschäfts," available at https://www. bafin.de/SharedDocs/Veroeffentlichungen/DE/Merkblatt/mb\_200302\_kryptoverwahrgeschaeft.html.

<sup>&</sup>lt;sup>15</sup> Such as the eWpG.

<sup>&</sup>lt;sup>16</sup> Such as the eWpG and the FoStoG.

<sup>&</sup>lt;sup>17</sup> Cf. Art. 1 MiCA Draft Regulation.

- Transparency and disclosure requirements for the issuance of crypto securities and their admission to trading;
- Licensing and supervision of crypto service providers, issuers of value-referenced tokens and issuers of e-money tokens;
- Operation, organization, and corporate governance of issuers of value-referenced tokens, issuers of e-money tokens and providers of crypto services;
- Consumer protection regulations for the issuance, exchange, custody, and trading of crypto tokens;
- Measures to prevent market abuse with the aim of ensuring the integrity of the markets for crypto assets.

Systematically, this regulation is quite similar to the MiFID framework for financial instruments with regulations on the licensing procedure for issuers and providers, trading and distribution of crypto assets and related services, financial market stability, consumer protection, publicity obligations, etc. The regulations, which have not yet been finalized, will allow operators licensed in a member state to provide relevant services throughout the EU under an EU passport in the future. In detail, the regulation then provides – in line with the regulation of other financial market players – for capital requirements, specifications for the safekeeping of assets, a mandatory complaints procedure available to investors and investor rights vis-à-vis the issuer. In addition, there is an obligation to submit and publish a so-called white paper, comparable to a prospectus required in other areas of financial market regulation. Issuers of significant asset-backed cryptocurrencies ("global stablecoins") are also to be subject to further and stricter requirements (e.g., regarding equity, investor rights, and supervision).

As a result, this new supervisory regime is of course not only of particular interest to (alternative) investment funds and their investment universe, but also against the background of whether and how traditional assets can be digitalized in the future or how new technologies will actually be used in different areas of activity and processes.

#### b) DORA Regulation

Another central pillar of the Digital Finance Package is the regulation on the "Operational resilience of digital systems of the financial sector and amending

Regulations (EC) No. 1060/2009, (EU) No. 648/2012, (EU) No. 600/2014 and (EU) No. 909/2014" (Digital Operational Resilience for the financial sector, DORA).<sup>18</sup> Digital operational resilience is the ability of companies to ensure that they can withstand all types of disruptions and threats related to so-called ICT (information, communication, technology) risks. The entire financial industry is exposed to cyber attacks that can cause serious financial and/or reputational damage to the companies themselves, but of course also to their customers. Accordingly, this aspect has been prominently addressed in the Digital Finance Package in the form of a separate regulation, and financial firms of all types, i.e. also the asset management industry, have to comply with strict standards to limit the immediate impact and further spread of ICT-related incidents.

On this basis, the DORA regulation contains dedicated specifications and requirements to combat and prevent risks associated with the increasing digitalization of financial products and markets. The primary focus is on dealing with various digital risks, the ICT risks, which are of course also relevant for capital management companies and AIFMs, regardless of whether they invest in crypto assets or not.

#### c) DLT pilot regime

In view of the importance and the enormous technical potential of DLT, not only in the financial sector, a regulation on a "pilot scheme for market infrastructures based on distributed ledger technology" was launched as a further central pillar of the EU Commission's Digital Finance Package.<sup>19</sup> In turn, transactions with financial instruments in the form of crypto securities are conducted and settled on or with these market infrastructures, i.e. a market segment that is also of particular relevance for asset management.

The pilot regime is a "sandbox" (or controlled environment) approach that provides exemptions from existing rules for MTFs and CSDs so that regulators can gain experience in the use of distributed ledger technology in relevant market

<sup>&</sup>lt;sup>18</sup> Draft regulation of 24.9.2020 available at https://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=CELEX: 52020PC0595&from=EN.

<sup>&</sup>lt;sup>19</sup> Draft directive of 24.9.2020 available at https://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=CELEX:5 2020PC0594&from=EN.

infrastructures. In its legislative proposal, the Commission distinguishes between those crypto assets that are already regulated by EU legislation and those that are still exempt from such regulations to date. The pilot scheme refers to market infrastructures for the market segments that want to trade crypto assets and carry out transactions using the crypto assets. At the same time, it aims to ensure that they properly manage risks related to investor protection, market integrity, and financial stability. Companies should be given the opportunity to test the current regulations in practice and learn more about how they work. While these legislative proposals do not directly regulate crypto assets, they do have an immediate impact on financial services providers.

The first step is to identify suitable operators for the DLT applications through which access to DLT applications will be provided. Both established service providers and new players will have the opportunity to obtain authorization. In addition, a threshold of  $\in$  2.5 billion total value of DLT securities is planned, above which the exit from DLT applications will be completed. In terms of the most innovative observations and experiences possible, the pilot regime should try out as many different technologies as possible in addition to blockchain. That is why there are some calls to allow not only closed DLTs, but also public permission-free DLTs.

# d) Linking the New Technology Regulations with Existing Financial Market Laws

The aforementioned cornerstones of the Digital Finance Package naturally do not stand side by side in isolation, but are interlinked. No less important is the linkage with existing financial market laws for the various players on the financial markets, such as asset managers and fund companies, insurers, pension funds, other financial service providers, etc., in particular. This function is assumed by the draft directive clarifying or amending certain related EU financial services legislation<sup>20</sup>, including MiFID II, UCITS, AIFMD, Solvency II, IORPs, etc. The purpose of these amendments is, for example, to insert specific cross-references to the DORA Regulation so that the management of ICT systems and tools by

<sup>&</sup>lt;sup>20</sup> Draft directive available at https://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=CELEX:52020PC0596 &from=EN.

the respective financial companies is carried out in accordance with the requirements of this regulation. Specifically, this involves, for example, the insertion of cross-references to the DORA Regulation within the framework of the MiFID Directive with regard to the continuity and regularity of investment services and activities, the resilience and sufficient capacity of trading systems, effective contingency arrangements and risk management.

For AIFMs and UCITS, it is particularly a matter of ensuring that they have proper administrative and accounting procedures, control and security arrangements for the management of information and communication technology systems as defined in the DORA Regulation, and adequate internal control procedures, including, in particular, rules governing personal transactions by their employees and the holding or management of investments for the purpose of investment in their own account; this is to ensure that relevant transactions can be reconstructed according to origin, contracting parties, type, time and place of conclusion and that the assets are held in accordance with the law or the investment regulations. Another aspect involves the integration of the requirements of the DORA Regulation regarding plans to be drawn up for ICT business continuity and for restoring normal operations after collapses into the requirements for contingency and business continuity plans pursuant to the CRD.

As a result, it is becoming apparent that all players across the financial sector will also have to deal with the new requirements of the DORA Regulation and completely review and adapt their existing organizational and IT infrastructure precisely in order to meet the new technological requirements and risks.

#### VI. Summary and outlook

The digitalization wave is also in full swing in the asset management sector and is encompassing more and more parts of the value chain and, above all, bringing forth more and more technological use cases. Blockchain technology, in particular, is a prime example of this and is now being applied to more and more use cases in the financial sector, especially digital assets. Under the term "tokenization", all kinds of assets can be mapped onto blockchain-based systems. In Europe, huge efforts are currently made to tokenize securities and also digitally map asset classes such as real estate, infrastructure, as well as niche segments such as art, etc. Moreover, the regulation of such blockchain-based digital assets is becoming clearer.

After countries such as Liechtenstein or Switzerland pioneered with their "blockchain laws", not only a number of European countries, including of course Germany, have caught up with their own legislative initiatives; in addition, the EU Commission itself has now taken the reins and is setting the pace with its Digital Finance Strategy. Alongside the Sustainable Finance Initiative, this is the second mega topic that is currently posing a strategic and operational challenge to the entire financial sector.

In any case, all these initiatives show that regulatory uncertainty regarding the use of blockchain in finance is diminishing and that digital assets are also finding their way into investors' portfolios. The key message at this point is that blockchain or DLT should not be reduced to just the investment theme of digital or crypto assets, but that the focus should be primarily on the technological impact on the value chain of asset managers.

All areas, from front office (e.g. transaction execution), middle office (e.g. settlement) and back office (e.g. accounting, valuation, collateral management), to sales and legal & compliance, to risk management (e.g. liquidity management) and reporting (for regulatory, investor, tax purposes, etc.) will be affected by technological change as part of the value chain. In the next five to ten years, there will be a disruptive change in the entire financial industry in which technology companies will be among the key drivers and profiteers. The asset management industry needs to take advantage of this dynamic for its own benefit and that of its investors, and must be careful to ensure that key elements of value creation remain with it. The triumph of ETFs has already shown how quickly upheavals can change an industry. Now, asset managers must concentrate on their core competencies and shape the technological structural change so as not to be overrun.

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