



Tokenisation and traditional finance

Taking stock of developments

—
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- Traditional and digital finance are becoming increasingly entangled, leading to several interesting possibilities involving the so-called 'tokenisation' of assets. Nonetheless, confusion often persists as to the exact definition of this term – alongside others such as distributed ledger technology (DLT) or cryptoassets.
- This article explores the various ways that financial services firms are seeking to tokenise traditional assets and how regulatory regimes are evolving to keep pace. Against this rapidly changing landscape there are opportunities, but firms also need to ensure their risk management, governance, and resilience capabilities remain fit-for purpose.
- Moreover, firms should begin considering wider questions about their role within the future landscape of financial services. For example, what new settlement asset will processes coalesce around? Will disintermediation provide benefits (e.g., cost savings) or render entire business models redundant? Can firms obtain access into entirely new markets?



What is 'tokenisation'?



We should separate the technology from its use case. Distributed ledger technology itself has many applications and potential benefits beyond cryptocurrencies”

Tuang Lee, IOSCO Fintech Task Force Chair and Assistant Managing Director of Capital Markets, MAS, November 2022

There is currently no universally-accepted definition of 'tokenisation'. The [FCA](#) recently described the process as representing an asset as a digital token recorded on a smart contract-enabled blockchain or DLT (i.e., a highly programmable, automated and cryptographically secure database shared between parties). In the context of this article, we use the term to refer to the representation of traditional financial assets – rather than 'crypto-native' innovations – such as Bitcoin.

Tokenisation has several important and unique features – for example, regarding:



Record keeping

DLT, in theory, provides a cryptographically secure method of recording ownership, value and other details.



Automation via rules and 'smart contracts'

Although not mandatory, distributed ledgers can make use of smart contracts embedded within them to include rules to enable automation under certain circumstances.



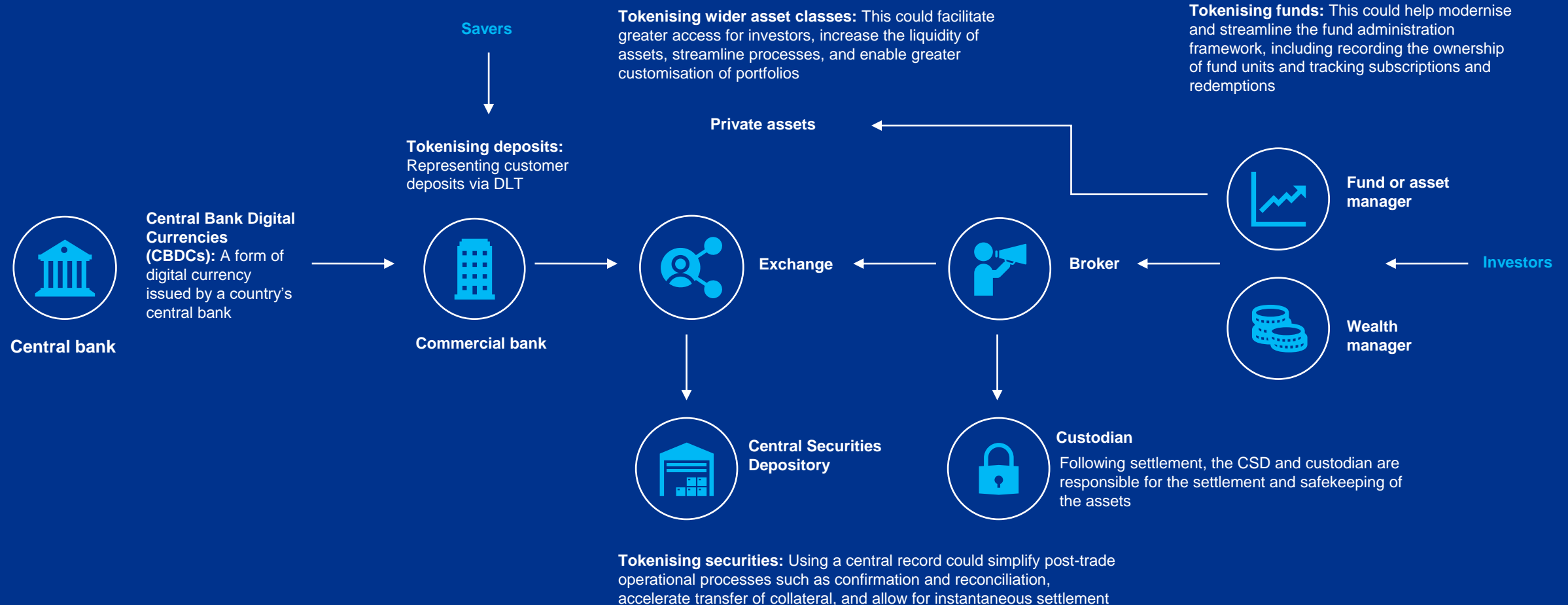
Accuracy

The immutable nature of distributed ledgers and required consensus should reduce the occurrence of errors (and consequent need for reconciliations).

There are several areas and asset classes across the financial services industry where firms are exploring tokenisation. This paper explores these opportunities and regulatory developments.

Tokenisation of traditional assets and products in the financial services ecosystem

The tokenisation of traditional assets has the potential to transform several areas of the financial services ecosystem:



Tokenised deposits

One of the simplest applications of tokenisation within traditional financial services is tokenised deposits.

Tokenised deposits are transferable instruments issued on DLT by a bank, representing a claim against that particular issuer. In other words, they are simply customer deposits represented via a new technology.

The concept of tokenised deposits already exists within the banking regulatory framework. In the UK, a November 2023 PRA [letter](#) explicitly confirmed that their issuance is covered under an entity's banking license and regulated under Article 5 of the Regulated Activities Order ('Accepting Deposits'). As such, tokenised deposits must meet eligibility criteria for FSCS protection and be subject to the same capital and liquidity standards as traditional banking deposits.

In the EU, tokenised deposits are excluded from the Markets in Cryptoassets Regulation (MiCAR), as again, they are already subject to existing banking authorisation and other requirements.

In theory, this means that these assets could have various uses, including domestic and cross-border payments, credit intermediation, trading and settlement and the provision of cash collateral. Moreover, the innovative use of new DLT functionality (like programmability and atomic settlement) would improve these use cases and bring enhanced transparency and 24/7 accessibility.

However, the risks of the new technology have led regulators (including the PRA in the aforementioned letter) to specify increased expectations around AML, senior manager accountability and model calibrations (particularly for liquidity, funding and operational risk).

In practice, there are only a few examples of tokenised deposits to-date. One of the most significant was carried out under Project Guardian – where Singapore dollar deposit tokens issued by J.P. Morgan were used in a currency trade for tokenised Japanese yen.



Tokenised deposits are not to be conflated with stablecoins. Although both hold the potential to be used as settlement assets in the new tokenised ecosystem – the former represents the tokenisation of an existing asset, while the latter is entirely 'new'.

Stablecoins are virtual tokens tied to a reserve of other assets, which can be sold to keep their value on par with a specific currency. Moreover, stablecoins circulate as bearer instruments, whereas tokenised deposits are non-bearer and represent a direct claim on their issuer.

Central Bank Digital Currencies

Central bank digital currencies (CBDCs) are a form of digital currency issued by a country's central bank. In other words, they could be described as 'tokenised cash' – representing a direct claim on the central bank, rather than on a commercial bank (in the case of tokenised deposits, above). CBDCs can exist in both retail form (for everyday payments by households and businesses) and wholesale form (for settling high-value transactions between financial firms).

A BIS [survey](#) recently showed that 93% of central banks are considered issuing a CBDC – with 15 retail and 9 wholesale versions expected to be circulating by 2030.

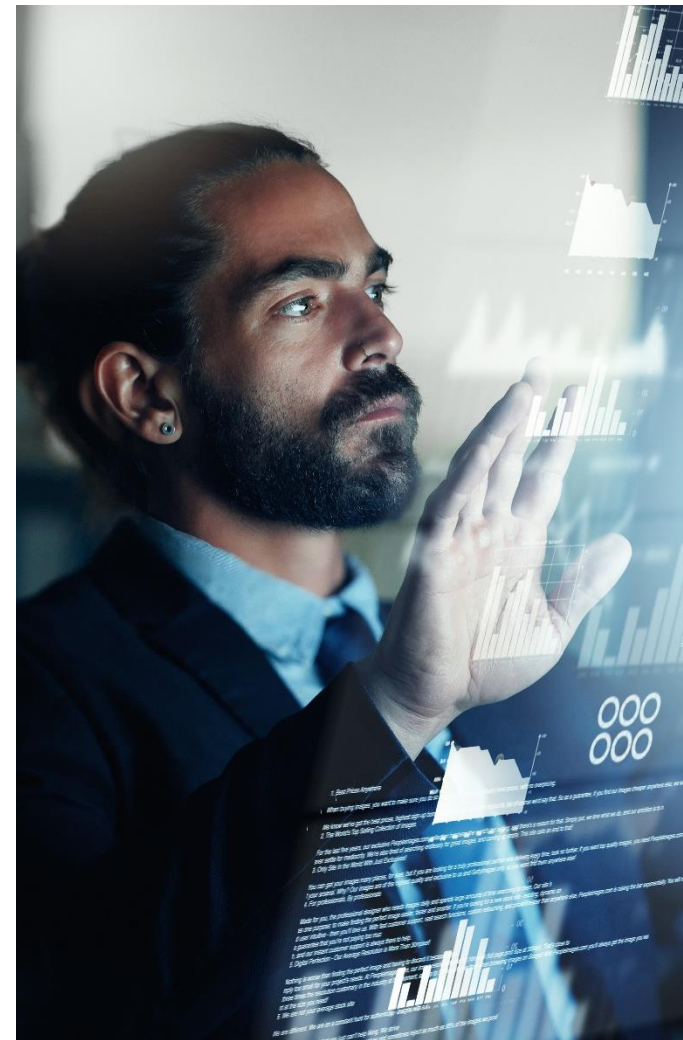
CBDCs are expected to facilitate faster and cheaper payment and settlement systems. And, unlike other cryptoassets, they have equivalent confidence as national currencies. This would help to preserve financial sovereignty and the central bank's ability to control monetary policy, as opposed to leaving DLT entirely in the hands of the private sector.

On the other hand, key risks could include the potential disintermediation of commercial banks – i.e., individuals switching their commercial bank deposits for CBDCs (particularly during times of economic uncertainty). Depending on the speed and scale of such a trend, this could consequently reduce the availability of credit in the system. Other risks could include the fragmentation of payment systems, increased cybersecurity concerns and international complications (including digital currency substitution and capital outflows).

The Bank of England (BoE) published a consultation on a retail digital pound in February 2023 and has now moved on to the ['design' phase](#) of the project. [See more in our article [here](#).] In July 2023, the European Commission published draft legislation for the legal framework of a potential retail digital euro – although the final issuance decision will sit with the ECB. [See more in our article [here](#).]

Both proposals centre around common features including public-private partnership, privacy, a lack of remuneration (i.e., 0% interest rate), interchangeability with other forms of legal tender and holding limits. Interestingly, both proposals have also decided to remain technology agnostic – e.g., the core ledger could be operated on either DLT or a centralised traditional database (albeit one that's compatible with blockchain technology). There are still challenges to be overcome – for example, concerns that DLT is unlikely to have the processing power to support a digital euro aimed at catering to approximately 350 million Europeans (see more [here](#)).

The BoE considers a wholesale CBDC largely redundant following the update of its real-time gross settlement (RTGS) system. However, the ECB recently published a [bulletin](#) announcing a series of settlement experiments to be completed in 2024. This will ensure that, should there be a significant industry uptake of DLT for wholesale financial transactions, central bank money can "continue to be used to settle the cash leg".



The BIS, among others, have extrapolated this work around CBDCs to begin investigating a new type of financial market infrastructure – described as a 'unified ledger' or a 'regulated liabilities network' – that would combine tokenised central bank money, tokenised deposits and other tokenised assets on one platform. This would integrate developments in both the public and private sector and allow them to operate seamlessly together.

Tokenising securities

Financial market infrastructure for the trading and settlement of equities, bonds and derivatives has evolved massively over the last 50 years. Open outcry trading has transitioned into electronic trading which continued to exponentially develop with the advent of the internet. However, all trading and settlement is still reflected on each participant's separate ledgers and systems and therefore requires operational processing such as confirmations, reconciliations around trading, settlement and corporate actions.

The tokenisation of securities offers the possibility that all this activity can take place on one distributed ledger – taking away the need for operational processes such as confirmation and reconciliation – and allowing corporate actions to be executed more efficiently through the use of smart contracts.

Tokenisation and use of distributed ledgers also offers the possibility of instantaneous settlement – or atomic settlement. As markets are in the process of moving from T+2 settlement to T+1, a move to atomic settlement (i.e., T+0) would further reduce counterparty risk and the need to hold capital to cover intraday funding risks. However, there are some concerns that instantaneous settlement would take away the ability to net trades and therefore could reduce market liquidity.

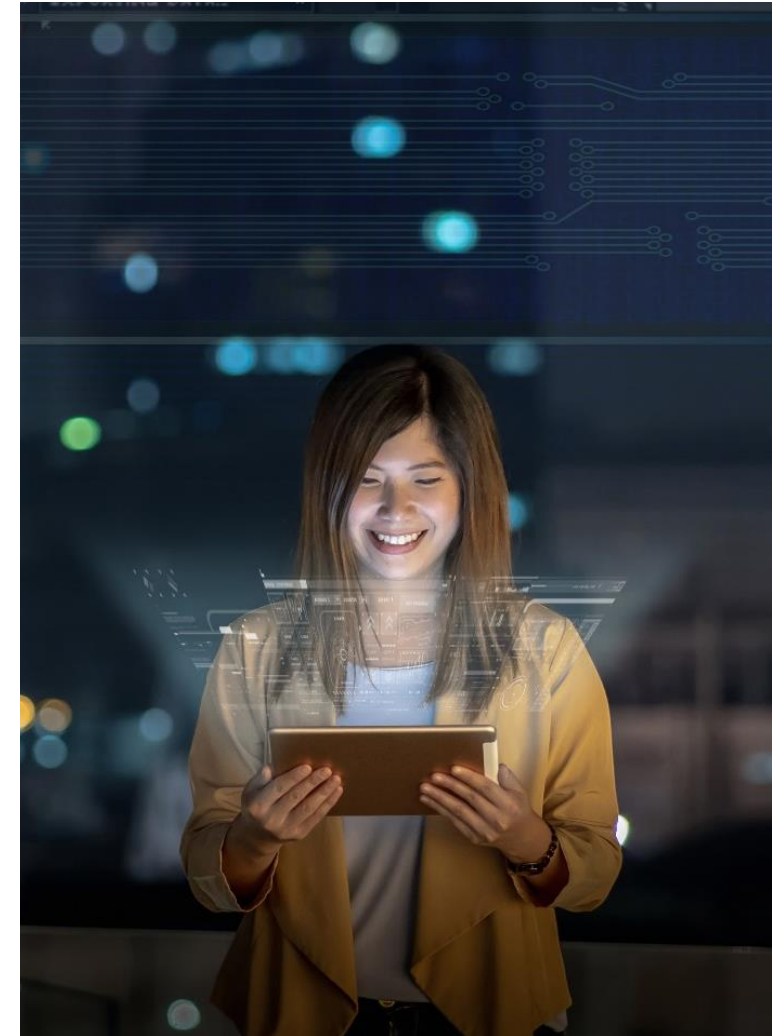
Market participants are also experimenting with the use of tokenisation with pilot transactions across the globe including the issuance of corporate bonds, bonds issued by multilateral financial institutions, green bonds issued by governments, derivatives products (such as warrants), and repo transactions. In some cases, the issuance is fully on a blockchain. In other cases, issuances have been split across digital and traditional exchanges.

In the UK, tokenised financial instruments that could be defined as 'specified investments' under the RAO are already captured under existing regulation. The underlying nature of the financial instrument is no different, it has just been represented using a different technology. Similarly in the EU, the regulatory framework already exists, with tokenised 'financial instruments' captured under MiFID II. ESMA is currently consulting on guidance on 'the conditions and criteria for the qualification of cryptoassets as financial instruments' to help market participants understand whether their product is captured under MiFID or MiCAR framework.

Market infrastructure and regulation has also evolved to require separate entities to perform the different functions involved in the operational processing - e.g., exchanges are separate from Central Securities Depositories (CSDs) (where settlement takes place).

This means that the full advantages of operating on a shared ledger cannot be met. To address this, there has been the introduction, in the UK, of the Digital Securities Sandbox (DSS) and the EU, the DLT pilot regime. Both frameworks temporarily amend the Central Securities Depositories Regulation (CSDR) to allow firms to combine functions currently performed separately by trading venues and CSDs. Four applications have been submitted to the EU DLT Pilot regime since it went live in March 2023 with ESMA concluding the novelty of the regime may explain its relatively slow uptake. The FCA and BoE are consulting upon the application process and rules for the DSS with the expectation it will open in summer 2024.

As the wider regulatory framework for cryptoassets and stablecoins develops, there may be additional impacts on the framework for tokenised securities. For example, the FCA's discussion paper on stablecoin regulation proposes that cryptoassets qualifying as specified investments, i.e., tokenised securities, become subject to a new custody regime that would apply to all other cryptoassets (including stablecoins and unbacked cryptoassets). The FCA argues that this is to take account of the fundamental differences in the way custody operates on DLT versus traditional arrangements. This proposal has met with some opposition.



Tokenising collateral

In the context of over-the-counter (OTC) derivatives, pilots completed by the industry have illustrated the potential to accelerate the transfer of ownership of collateral assets. For example, tokenising units of a money market fund (MMF) held as collateral and transferring ownership of these units from one counterparty to another almost instantaneously.

There are potential operational and risk management efficiencies to be gained for counterparties. The ability to tokenise MMFs and transfer the ownership to use as collateral could also negate the need for investors to redeem their MMF units to use the cash for collateral & margin calls. This could lessen the market stress seen in periods such as March 2020 'dash for cash' during the onset of the COVID pandemic.

However, given the already significant focus on potential vulnerabilities associated with MMFs, regulators are likely to closely monitor potential risks and unintended consequences arising from the ability to move collateral more quickly around the financial system.



Tokenising wider asset classes

Beyond the benefits for regulated markets described above, there could also be efficiencies and operational opportunities for market participants and asset managers who trade and invest in wider, alternative asset classes such as real estate, infrastructure, and private equity and debt.

Some of the potential benefits include:



Greater access for investors

Allowing a wider range of investors access to certain investments by fractionalising large and illiquid assets such as real estate. Fractionalising these assets may, in turn, also facilitate the lowering of minimum investment thresholds.



Increased liquidity

Potentially increasing the liquidity of certain assets – either through fractionalisation of illiquid assets or making the title transfer process easier.



Streamlined processes

Simplifying operational processes, helping to make the process to transfer title and the ownership of assets more streamlined and efficient (e.g., the UK land registry has completed a [trial](#) for residential property). Simpler processes could also lower transaction costs.



Portfolio customisation

Given the possibility to embed smart contracts in tokenised securities, tokenisation may enable greater customisation of asset managers' product offerings by making it more cost-efficient to move away from off-the-shelf fund products to instead creating tailored portfolios for individual clients at scale.

It's worth noting that the validity of some of these purported benefits has been debated by the industry, for example whether tokenising an illiquid asset increases its liquidity or not.

Greater legal and regulatory clarity is likely to be needed in several areas. These include the eligibility of tokenised assets for authorised funds, whether several investors holding fractions of an asset would represent a collective investment scheme in its own right, and on the underlying legal and regulatory regime for digital assets. On the latter point, in the UK, the Law Commission has considered how property law could be applied to digital assets and [found](#) that personal property rights could be related to certain types of digital assets.

In its 2023 [discussion paper](#), the FCA sought views on whether current rules could impact firms' ability to invest in tokenised assets. Whilst the FCA has provided more clarity in the area of fund tokenisation, there have been no further communications from the FCA on the tokenisation of the underlying assets.

Tokenising funds

For several years, fund managers have been considering how best to modernise and streamline the fund administration framework, including recording the ownership of fund units and tracking subscriptions and redemptions.

In November 2023, the industry and FCA took an important step to facilitate the tokenisation of fund units in the UK and catch up with progress made other jurisdictions. An industry-led ['blueprint'](#) (under the UK Technology Working Group) set out an approach that UK fund managers can follow to develop and pilot models for the tokenisation of fund units within the existing regulatory framework.

Importantly, the FCA [welcomed](#) the report and noted that there are no obvious or significant barriers to 'phase one' of the blueprint. Under the first phase, funds would need to meet certain criteria to be eligible for tokenisation. For example, they would need to be authorised, hold mainstream assets, to use a private, permissioned chain, and to settle transactions on the same basis as today (i.e., without using digital money).

Fund managers would also need to take account of several considerations as part of implementation – such as communications with investors and the interests of existing unitholders as part of the tokenisation process. Notably, the FCA has [joined](#) 'Project Guardian' to work more closely with other regulators on fund and asset tokenisation use cases.

Subsequently, the Technology Working Group published a follow-up [report](#) in March 2024. It explored further tokenisation use cases and set out draft prospectus risk factors that fund managers of tokenised funds could use to inform their disclosures.

In the meantime, some overseas fund managers are establishing tokenised funds for institutional investors – investing in traditional assets but offering units in digital assets.

In the EU, there is currently no common regulatory framework around the tokenisation of funds, but some member states have taken their own steps. For example, the CSSF has clarified that service providers in Luxembourg may use DLT to maintain a fund's unit/shareholder register, and pilots have been completed in other countries.

Tokenising fund units could reduce costs, increase transparency, provide faster settlement, and facilitate automation. Regulators have made positive statements and clarifications, but all participants across the fund management ecosystem (including platforms, transfer agents and depositaries) will need to collaborate to deliver meaningful progress in the short term.

“

As part of the development of the working group's report, the FCA and firms did not identify any obvious or significant barriers to this baseline approach in the FCA's rules that apply to authorised funds”

Camille Blackburn, Director Wholesale Buy-Side, FCA
– Letter to firms on fund tokenisation

Cryptoasset Exchange-Traded Funds (ETFs) & Exchange-Traded Notes (ETNs)

Of recent interest has been the Securities and Exchange Commission's decision to approve US-domiciled spot Bitcoin ETFs. The SEC emphasised the products will need to comply with existing rules on disclosure, listing and execution. More recently, the FCA has confirmed that it will not object to requests from Recognised Investment Exchanges (RIEs) to create a UK-listed market segment for cryptoasset-backed ETNs for professional investors.

The SEC decision was particularly noteworthy, particularly given the reluctance of it to approve the products and its corresponding warning to investors. The FCA also made it clear that the ban on the sale of cryptoasset ETNs (and crypto derivatives) to retail consumers remains in place – describing the products as “ill-suited to retail investors due to the harm they pose”.

However, given that the products invest in cryptoassets, rather than tokens that are a digital representation of traditional assets, we do not cover these developments in any further detail.



Practical considerations for firms

There are many concurrent, overlapping (and often confusing) developments happening in this space. This has significant implications for firms – both those already involved in tokenisation and those that will likely become involved as the developments mature and become increasingly mainstream.



Collaboration

The benefits (for consumers as well as providers) can only be achieved if all participants in the ecosystem are operating together 'on chain'. Industry will need to work together and with regulators to progress opportunities for the mass-market that go beyond limited pilots.



Change management

Transitioning from complex and embedded legacy systems onto DLT infrastructure will be a delicate and complex process, involving effort and expense. Market participants will need to avoid disrupting critical daily processes to ensure that markets continue to operate seamlessly.



Interoperability

Cohesion between DLT and non-DLT solutions, and between different types of DLT solutions, must be ensured, so as to avoid fragmentation of the trade-settlement process.



Cyber security and operational resilience

Such risks will remain and, in some cases, be heightened through the use of this new technology. Firms should therefore ensure they are appropriately preparing and protecting their business models against such risks.



Regulatory and commercial change

Due to the volume of regulatory change occurring in the space, firms' regulatory change functions must ensure that developments are being coherently captured and accounted for, alongside their strategic initiatives. In addition to regulatory considerations, firms should consider the broader impact of tokenisation on their commercial strategy, and any wider tax, accounting or legal challenges that could arise.

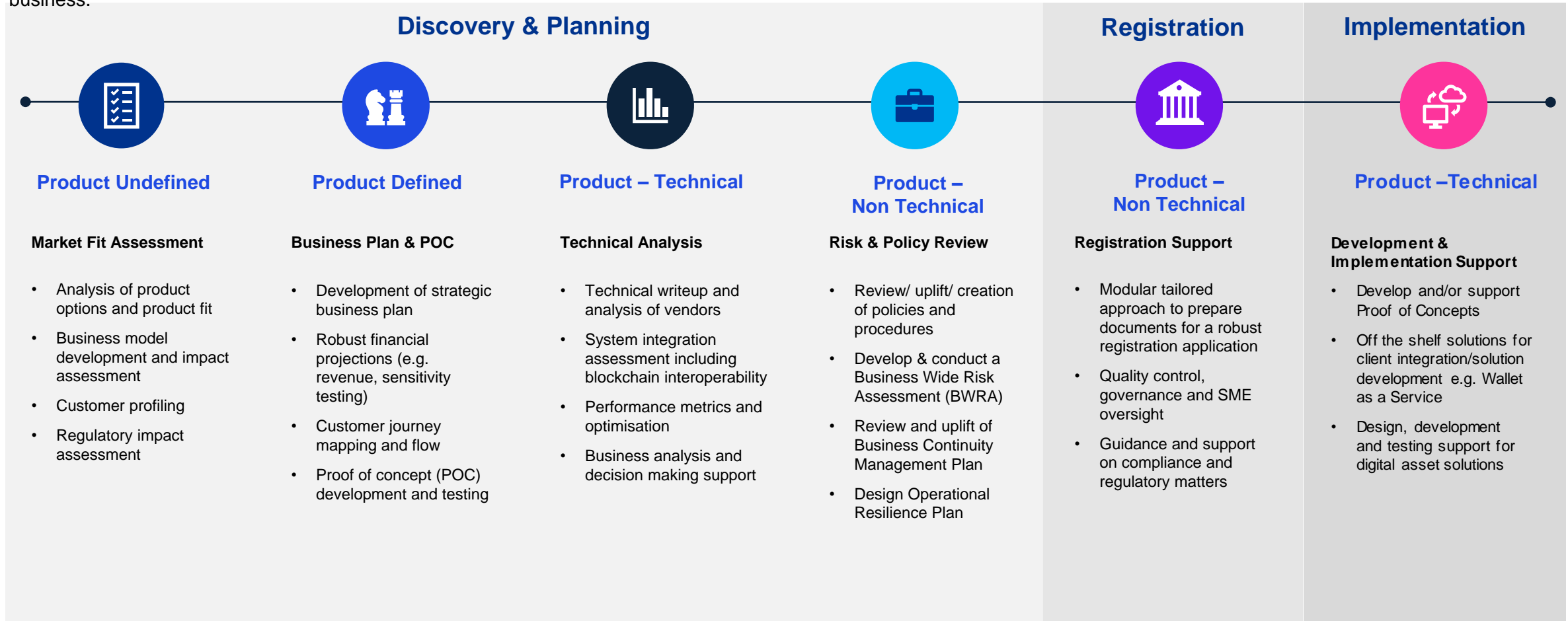
Final Thoughts

As things stand, a fully tokenised financial services landscape likely remains quite far off into the future. Further legal, regulatory, operational, and technological change is required to realise the full benefits of an end-to-end tokenised system. For example, it may create more risk if underlying assets are not moving when transfers occur on-chain.

Cross-industry collaboration and alignment across key jurisdictions are both crucial in achieving the tokenisation 'utopia'. However, the transition has undoubtedly already begun and, as such, there are new risks that firms will need to manage now, and new opportunities that they can choose to capitalise on.

How KPMG in the UK can help

KPMG in the UK can help traditional finance firms, fintechs, and crypto natives to navigate the emerging tokenisation, digital assets and blockchain ecosystem. Whether you're just starting the journey or seeking to advance further, we are dedicated to helping you explore new opportunities and support your vision of developing a sustainable digital assets business.



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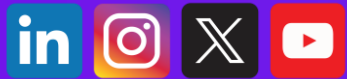


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