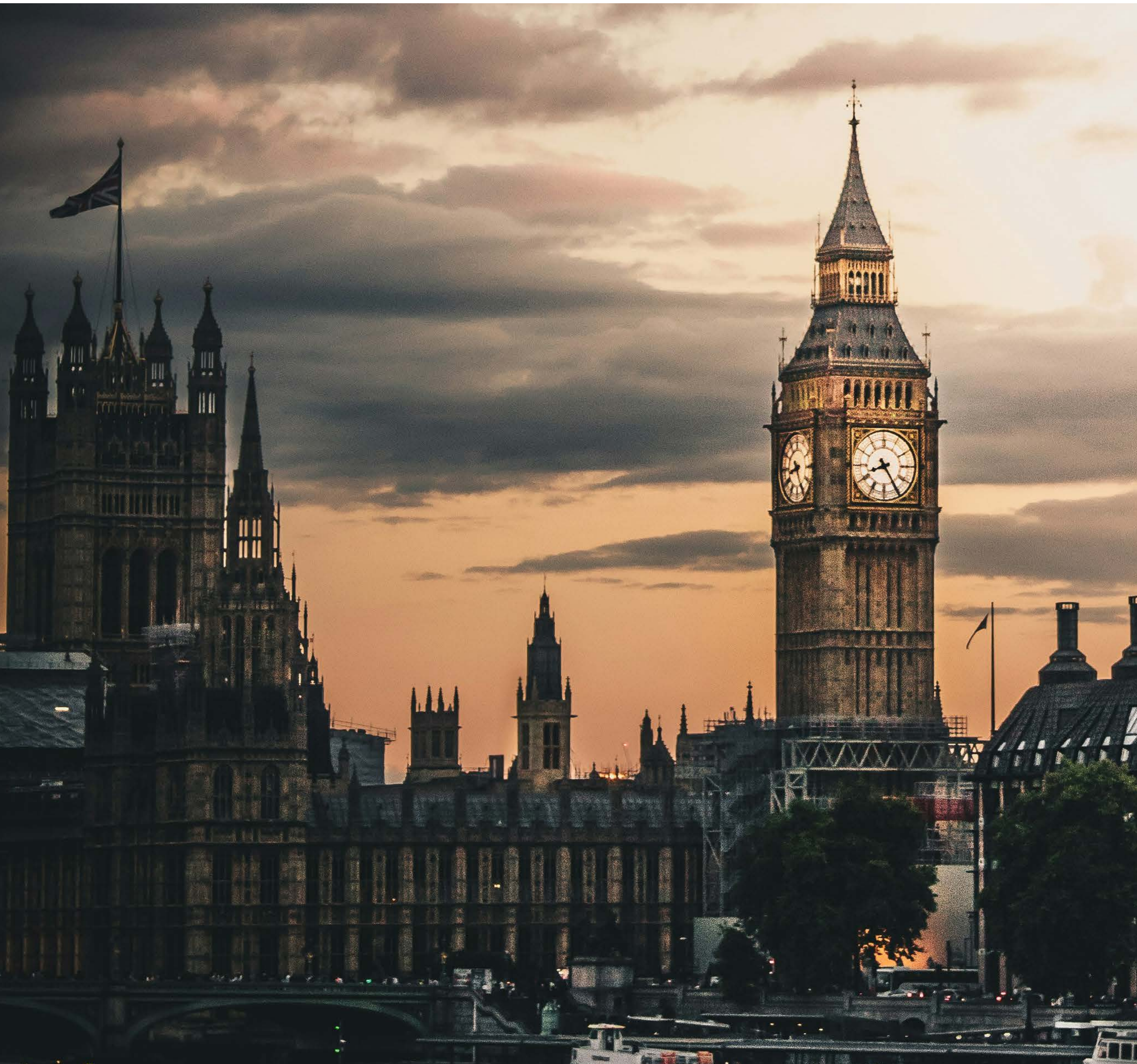
# The voice of global digital finance at Parliament

10 Recommendations for Digital Britain from the global financial services and fintech sector



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# Foreword

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**Former Digital Finance APPG Secretariat**

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Chair, Global Digital Finance
**Former Digital Finance APPG Industry Sponsor**

Technology is a constant and essential presence in our daily lives today, from the use of our smartphones, the supercomputer in our hands, to the media coverage of Artificial Intelligence (AI) and quantum computing, the next big thing in computing. For most of society, this technology is embraced for practical utility, whether communicating with family and friends or work colleagues, using search, looking at maps to find where we are going, browsing goods and services for purchase, or using our money.

Digital technologies have delivered greater choices to a diverse range of consumers delivering in many cases, a higher marginal utility at a lower cost for many goods and services. Few these days pay for communicating on social media channels, especially where public internet coverage is free. This benefit is also evident in financial services where, for example, fees from remittances – the transfer of money from one person to another – have fallen from a high of seven plus percent of the amount being transferred, to almost zero percent over the past decade.

Global financial services are moving beyond the first generation of fintech applications, which opened up the sector to (new) consumers and created new and better products and services like remittances, peer-to-peer lending, robo-investing, and digital banking. This next generation of fintech is set to evolve, at scale, the totality of capital markets infrastructure through new digital technologies, akin to replacing the old plumbing. This is already well underway. Digital money, tokenised digital assets, and Web3 networks: all are in the lexicon of bankers and technologists alike as this next wave technology replaces the old global financial market infrastructure, in a sector that is one of the largest contributors to UK gross domestic product and is of international importance.

Digital Britain has inherent strengths in digital innovation in the financial services sector and academia, along with its track record of having built the best fintech ecosystem in the world through progressive policymaking and attracting capital and talent. It must use those strengths to lead the global financial services of tomorrow. A world-class legal framework for digital infrastructure will better underpin industry fundamentals in a period of great global political and economic volatility. This is not the moment for policymakers to take their eye of the digital ball in financial services – it is singly one of the best economic growth enablers available to the UK, and it is funded for the most part by industry, not government.

With the UK Financial Services and Markets Act 2023 and the creation of the Digital Securities Sandbox, through the Bank of England and the Financial Conduct Authority, the UK has created the new building blocks for the next generation of fintech and the deployment of new digital financial market infrastructure. Greater alignment with HM Treasury and the Debt Management Office in the short term will catalyse this new infrastructure, ensuring the UK continues to play its leadership role in the financial services sector globally.

Great thanks to all the parliamentarians and industry participants involved in the creation of this report. The former Digital Finance APPG held three evidence sessions in Westminster in 2023/4, the primary content of this parliamentary report, before the General Election. The APPG will now reconstitute and move forward in 2025. We look forward to your interest and participation in this vital digital transformation of our financial market infrastructure.

# Thank you

**Thank you to the Former Digital Finance APPG 2024 Officers and Chairs:**

- Adam Afriyie
- Martin Docherty Hughes
- Lord Philip Hammond
- Lord Chris Holmes
- Sir Stephen Timms MP

**Chair Sir Stephen Timms MP, Former Chief Secretary to the Treasury (Labour):**
*"Digital finance is borderless. The speed of technological innovation presents tough challenges for regulators and businesses, but the fintech revolution and decentralised financial market infrastructure open up new opportunities for inclusion and opportunity. The former APPG Digital Finance played a beneficial role by monitoring progress, assessing the challenges and promoting the opportunities."*

**Vice-Chair Lord Philip Hammond, Former Chancellor of the Exchequer (Conservative):**
*"The former APPG Digital Finance was an authoritative voice within the UK Parliament on the futureproof digital financial market infrastructure that will underpin the digital transformation of the UK's world-class financial sector, delivering new and greater productivity, growth, and prosperity. Delivering that digital transformation will allow us to secure the UK's role as a global financial hub in the post-Brexit era."*

**Thank you to all those who contributed in the evidence sessions throughout 2024 including:**

- Abrdn
- Archax
- Blackrock
- BNY Mellon
- BPX
- Chainalysis
- Euroclear
- EY
- Goldman Sachs
- GSR
- Hogan Lovells
- HSBC
- JP Morgan
- Ownera
- UK Finance

**Thank you to our 2024 sponsors of the Digital Finance APPG:**

ARCHAX DIGITAL ASSETSWEEK Hogan Lovells OWNERA

**Thank you to our committed sponsors for the Digital Finance APPG in 2025**

Crypto Council for Innovation r3. tokeny SOLUTIONS

*Global Digital Finance looks forward to continued collaboration in 2025 with Crypto Council for Innovation and partnering with them on future APPG educational initiatives.*

**Thank you to DLA Piper, our former independent secretariat, and Global Digital Finance, our former industry sponsor:**

DLA PIPER GDF GLOBAL DIGITAL FINANCE

# I. Executive Summary

This report builds on the work of the former 2024 All-Party Parliamentary Group (APPG) on Digital Finance (see Annex 5 for the overview of the previous 2024 programme) which is soon to be reconstituted under the new government. This APPG functioned as the permanent authoritative voice within Parliament on all matters related to the transition to digital finance in this new era. Over the course of the 2024 evidence sessions and public/private sector engagements, the group played a critical role in educating policymakers and upskilling their knowledge and understanding of the opportunities of competition, productivity, and new products. Looking ahead, any future or reconstituted APPG will continue to serve to as an education tool, as a better-informed Parliament results in better informed policy, and a better globally competitive Digital Britain.

Through the evidence sessions, of which this report distils the key recommendations and industry feedback, the Digital Finance APPG endeavours to raise the bar for purveyors of the digital finance policy narrative by addressing what digital finance means to Digital Britain. Ultimately, this report addresses why digital finance is a critical matter for both MPs, their constituents, and industry. The recommendations are set out in a timeframe that allows government to respond more expediently, to deliver tangible improvements with benefits for both the broader financial services system and the British public, and to be seen to be leading the global space race in digital finance.

### THE THREE PILLARS OF DIGITAL FINANCE

The global financial services sector is at yet another new threshold of change driven by digital technologies. We saw the transformation of the banking sector at the birth of the internet taken to new levels over the past decade with fintech. We are now witness to the next era of digital finance as we enter the age of blockchain, digital assets, and artificial intelligence. These new digital technologies will enable financial services to be even more competitive, cheaper, efficient, secure, and further open up access to new and innovative products and services to a broader range of consumers and businesses.

These new digital technologies also pose new and often seemingly complex questions for policymakers. Technological developments are delivered into the market and move much quicker than policymakers, the legislative agenda, government agencies, and often regulated industry firms can manage.

It is clear to industry leaders in the financial services sector that this next era of digitisation is not just about banking or fintech products and services, it is about the transformation of our (global) financial market infrastructure. The digitisation of financial market infrastructure is transforming the bedrock on which our future financial services will operate.

This report advocates that the UK can catalyse this change, progress digitisation, boost growth, create new jobs, promote greater social inclusion, and deliver greater prosperity by working across three key pillars of digitisation:

- **Competition** – how the UK will better compete with traditional and new and emerging digital financial hubs to positively exploit its premier position as a global financial services and fintech hub.
- **Productivity** – how the UK will leverage the implementation of this new era of digitisation to boost productivity, growth, and new jobs in digital financial innovation across all regions of the UK
- **New products** – how the UK will nurture innovation to create access to new and innovative products and services to better meet the needs of our citizens and businesses.

Each of these themes was analysed in an evidence session with industry leaders who provided expert evidence and concrete recommendations for the UK. The report has synthesised and distilled these discussions in

order to set out a roadmap to work towards a Digital Britain. The report also includes written submissions and contributions from industry experts as well as GDF and CCI members.

## RECOMMENDATIONS

This report explores each of the three pillars of digitisation and sets out the evidence as to why they matter for the financial services industry. It then proposes next steps for both UK policymakers and industry that can be actioned now, and over the coming years to both mitigate risks, while simultaneously building on the UK's previous fintech successes to further enable firms to adopt and deploy new technologies and lead this next era of the transformation of digital financial market infrastructure.

The 10 key recommendations and findings of the report are:

**Recommendation #1:** The UK should work to become a leader in global standards for the tokenised securities markets, starting with a digital gilt issue.

**Recommendation #2:** The UK should be a willing issuer in the digitisation process and should also focus on building strong issuance connectivity with key private sector partners.

**Recommendation #3:** The fintech banking issue should be solved – the UK should implement provisions to protect against auto-refusal and industry should also develop an appeal and justification process for the "risk" identified.

**Recommendation #4:** UK regulators should complete the development of an overarching regulatory framework for digital assets as quickly as possible; innovation and experimentation must be underpinned by legal and regulatory certainty.

**Recommendation #5:** Measures to support dematerialisation and clarify property law for digital securities would enhance the digital hygiene of the UK markets.

**Recommendation #6:** The use of interoperable technologies like smart contracts should be used to better enable the operational and back-end efficiencies which will drive this holistic transformation.

**Recommendation #7:** Industry and policymakers should prioritise common standards, interoperability and scaling for the UK's digital market to flourish.

**Recommendation #8:** Education, supported by a cooperative public and private sector, should be a priority in order for the UK's citizens to benefit from the new jobs created, while also mitigating the risk of jobs which may be disintermediated by new technologies.

**Recommendation #9:** The public sector and regulators should be equipped with new products in order for a complete and holistic digitisation of the financial services ecosystem to take place. Industry should support them in implementing these technologies.

**Recommendation #10:** Both retail consumers and the UK private sector should be enabled to choose the new products which best support their business models and needs - innovation should not be constrained by overly stringent requirements for new technologies.

These recommendations are supported by the discussion, analysis, and evidence submitted throughout the evidence sessions as well as in written evidence shared from industry experts. These recommendations are reiterated and further expanded upon in the Conclusions and Call to Action in Section V.

# II. Competition

Digital finance promises to be an opportunity that will transform the global financial services industry. The jurisdiction that can establish itself as the leader and centre will have a distinct advantage, and will deliver greater efficiencies, new products, and transformative innovation to its consumers and businesses.

The Digital Finance APPG's evidence session on 'Competition' examined the question of, what edge the UK has, while also considering how it can learn from the strengths of other regions. Discussions focused on moving beyond the UK's work of the past couple of years to establish a regulatory regime, and considered how the UK can build on its fundamental advantages in order to position itself ahead of other countries as a digital leader.

For example, many industry experts noted the UK's vibrant existing professional services industry and financial ecosystem, globally respected courts and legal frameworks, and a readily available pipeline of talent that continues to expand as strengths that the UK could utilise to maintain its competitive edge.

However, it was also noted that resting on these past successes would not be enough for the UK to remain competitive in light of the progress being made globally on digitisation. Discussions positioned the UK in relation to the EU, the US, and APAC by market participants who operate across these jurisdictions. They highlighted the strengths of these jurisdictions and encouraged UK policymakers to learn from the developments occurring around the world.

**Spotlight Section – A Competitive Home for Capital Markets – UK Finance**

Whilst private sector innovations will likely emerge from the Digital Securities Sandbox, the mass adoption required for an impactful sterling-denominated digital bond issuance - that truly 'moves the dial' and galvanises industry - will only come from a digital gilt issuance. A digital gilt is backed by the UK government. A sterling-denominated digital gilt would attract broader investor participation, and market reach, than a corporate bond equivalent, which in turn would drive liquidity. The combination of automated processes, a reduced need to pre-position collateral, and enhanced settlement, could help investors manage gilt collateral more efficiently to meet margin calls in times of stress.

A digital gilt programme will moreover contribute to fostering greater transparency, efficiency, and accessibility in the market, while also enhancing liquidity and promoting broader market participation.

The goal of building a vibrant and widely adopted UK digital gilt market will require concerted efforts from various stakeholders, including financial institutions, FMIs, regulatory bodies, and the central bank. Industry commends HM Treasury with respect to the Digital Securities Sandbox to form cross-industry recommendations. In a similar vein, such a cross-industry body could support the Debt Management Office in mapping the key components of a successful digital gilt.

The overarching goal is to establish a robust and widely adopted UK digital gilt market characterised by optimal levels of liquidity, efficiency, and stability. In this regard, facilitating repurchase agreements (repos) will be instrumental in achieving liquidity within this market, serving various critical functions such as providing short-term funding, facilitating market making, supporting collateral management, and serving as a tool for monetary policy operations.

**Spotlight Section – Fostering Fintechs for Holistic Digital Growth – Archax**

Archax has written to previous and newly appointed ministers highlighting the transformative potential of digital gilts for the UK's financial landscape and to urge engagement in discussions with industry leaders and the new Government on issuing a digital gilt – paving the way for innovation and advancement in our financial markets.

By way of background, Archax is the UK's first regulated digital securities exchange, custodian and broker. We are at the forefront of pioneering cutting-edge fintech solutions and digital innovation and were previously members of the HM Treasury's 'Technology Working Group', as part of their Asset Management Taskforce, which explored the potential of fund tokenisation. We are also the biggest provider of Financial Promotions in the UK, which allows the likes of Coinbase, OKX and others to offer their services in the UK.

A report published by the Investment Association in March this year entitled 'Further Fund Tokenisation: Achieving Investment Fund 3.0 Through Collaboration', saw the former City Minister note that "the UK is ideally placed to seize on the transformative capabilities of technologies in this industry combining our expertise in innovation and investment management". Whilst the previous Government undoubtedly made positive steps towards making the UK a more attractive jurisdiction for digital innovation, now is the time to look forward and to ensure the new Government takes advantage of the opportunities at its fingertips which will transform financial services in the UK, ultimately helping the Chancellor's growth ambitions and making the UK a more attractive place to conduct business.

Digital gilts provide enhanced efficiency, transparency, and accessibility compared to traditional government bonds. By leveraging blockchain or distributed ledger technology, they will facilitate quicker issuance and settlement, thereby reducing administrative overhead and speeding up trading processes. These digital securities cater to a wider investor base, including retail investors, and can be traded on global digital asset exchanges, broadening their international reach. Moreover, they offer the flexibility to incorporate innovative features like smart contracts and advanced security measures. Embracing digital gilts aligns with our sustainability objectives by reducing environmental impact, further solidifying the UK's position at the forefront of financial innovation.

We are well positioned to help the UK move forward in this digital world and would welcome the opportunity to work towards issuing a digital gilt. This would not only affirm HM Government's presence in the digital space but also captivate the attention of the global digital community.

Please see Annex 2 for a chart which contains a summary of items which Archax considers to be key inhibitors for digital asset growth within the UK.

*Key Recommendations on Competition*

**Recommendation #1:** The UK should work to become a leader in global standards for the tokenised securities markets, starting with a digital gilt issue.

**Recommendation #2:** The UK should be a willing issuer in the digitisation process and should also focus on building strong issuance connectivity with key private sector partners.

**Recommendation #3:** The fintech banking issue should be solved – the UK should implement provisions to protect against auto-refusal and industry should also develop an appeal and justification process for the "risk" identified.

**Recommendation #4:** UK regulators should complete the development of an overarching regulatory framework for digital assets as quickly as possible; innovation and experimentation must be underpinned by legal and regulatory certainty.

While other global regions may have their own advantages, the UK is also well placed to lead on digital finance and can continue to build on its rich history and leading financial services industry. By implementing the key recommendations on competition, the UK can better compete globally to become the leading hub for digital finance.

# III. Productivity

Digital finance holds immense promise to boost productivity, growth and create new jobs. Yet it is important to determine how specifically the UK can harness these efficiencies in order for it to deliver tangible benefits to both industry and UK citizens. This evidence session focused on the market view from a diverse range of financial services expert witnesses, in order to develop concrete recommendations on how to drive productivity and growth.

Throughout the discussions of the 2024 Digital Finance APPG, experts considered how the UK can support and benefit from the tokenisation of real-world assets. As those who focused on competition noted, the ongoing reliance on physical (paper) securities instruments is an obstacle to digitalisation and growth of UK capital markets. Experts noted that in other jurisdictions, the dematerialisation of securities had facilitated issuance of digital debt instruments.

Recommendations and analysis also focused on the transformation and changes that could take place in financial market infrastructure, sometimes described as the "plumbing" of the financial system. This was seen as the driver for the broader digitisation of markets which then would provide an opportunity for the UK to lead the way in innovation and deliver large cost savings to businesses.

For example, evidence sessions considered productivity and how the benefits of new technologies in financial market infrastructure, which are encouraged in the UK Digital Securities Sandbox, could be significant if new forms of 'on chain' payment such as tokenised deposits and CBDCs were also enabled. These digitalised wholesale payment rails can give the UK an advantage in global digital finance markets, and this infrastructure and broader technology transformation can create new jobs in the UK.

Overall, the evidence sessions from 2024 set out that for digitisation to drive productivity and growth there must be both regulatory certainty, coupled with steady and holistic transformation of the UK's digital capital market infrastructure. It was through these mechanisms, that participants believed the UK could foster a vibrant wholesale digital financial services industry and truly harness productivity in order for the UK to become the leading hub for digital finance.

**Spotlight Section – Digital Hygiene Through Legal & Regulatory Change – Hogan Lovells**

The UK is already home to some of the largest global financial institutions and fintechs, who are already investing heavily in digitalisation. However, if the UK wishes to retain and grow its capital markets, which in turn channel investment into the UK economy, it urgently needs to address barriers to productivity. One of greatest barriers is the lack of legal and regulatory certainty.

Firms need clear legal frameworks to develop innovative new digital solutions, such as digital bonds, digital money products and DLT settlement systems. Unfortunately, our regulatory framework is not sufficiently developed. This has adverse implications for investment and productivity.

Bonds are not only issued by governments and financial institutions. Other UK corporate bodies raise £billions of funds by issuing bonds. However, the inefficient and slow nature of our current processes means that our bond market is not meeting the potential to reduce costs, transaction risks or increase speed and transparency.

It has been estimated that issuing digital bonds on a blockchain could save 35-65% of the costs associated with issuance through automation and disintermediation of roles. The time taken for settlement could be reduced from days to a matter of seconds.  While it is possible to issue such digital bonds under English law, there seems to be some market hesitancy. In our view, the failure to provide clearly for dematerialisation of bonds in law is a factor.

In other jurisdictions, laws have been enacted to enable efficiency and greater productivity. In France, securities have been dematerialised since 1984. Switzerland introduced dematerialisation in 2009. Luxembourg adopted a law dealing expressly with distributed ledger technology in 2019 and has facilitated digital securities since 2021. Germany introduced the Electronic Securities Act in 2021. Across the EU, the Central Securities and Depositaries Regulation required most transferable securities to be recorded in book entry form with a CSD; and since January 2023 EU law requires all new transferable securities, including bonds, that are admitted to trading or traded on a trading venue to be immobilised or dematerialised. Public and private bond issuances have also helped to grow market confidence in other jurisdictions: Siemens and other corporates have issued digital bonds under the German Electronic Securities Act; the European Investment Bank has issued digital bonds (including £50million digital bonds) under Luxembourg law; a sovereign DLT bond was issued by the Republic of Slovenia under Slovenian law In July 2024, HSBC has issued a HK$1 billion (US$ 128m) one year digital bond under English law using the HSBC Orion DLT on the Hong Kong stock exchange (HKEX); the World Bank issued a £1.5bn digital bond on the Luxembourg Stock Exchange in 2024 and there have been various issuances of digital green bonds by corporates, foreign governments and the EIB.

It is hoped that the UK's proposed Property (Digital Assets etc) Bill will provide a welcome clarification to the market that digital assets such as digital bonds, including both registered and bearer bonds, are capable of attracting property rights over which security can be taken. But in order to keep pace with competitor jurisdictions, this should be accompanied by a commitment to move away from paper securities instruments.

The UK has a remarkable opportunity to exploit the tokenisation of real-world assets. However, for the UK to become a leader in tokenisation, it requires a stable and scalable payment option, sometimes described as the "cash-leg" of the transaction. Tokenised deposits are increasingly seen as an answer to this.

Tokenised deposits involve the movement of deposits which are already on a bank's balance sheet onto a distributed ledger; and arguably have the benefit of being treated within the existing regulatory architecture. However, the present lack of regulatory certainty is preventing these opportunities from being realised. The regulatory distinction between e-money and stablecoins, exemplifies the current confusion within the industry. Prolonged regulatory uncertainty will prevent firms from progressing projects, driving investment and know-how elsewhere.

Given the highly competitive international market in digital finance, the UK will lose global market share, if it does not act with sufficient pace to deliver greater certainty. The UK has a narrow window of opportunity when it can learn from the shortcomings of other regimes such as the EU's DLT Pilot and learn from the innovation in other progressive digital markets.

However, the UK should position itself as a leader not a follower. It should confirm that digital assets are capable of attracting property rights; this should apply equally to bearer bonds and to registered bonds. And it should design its digital infrastructure with interoperability in mind.

The UK needs to act now by setting out a clear framework for firms to adopt this technology if it intends to keep its place as a leading jurisdiction for financial services and capitalise on the growth of this global industry.

**Spotlight Section – The Opportunity of Infrastructure – R3**

As the UK aims to take the lead in the next era of financial digitisation, it is essential to establish a robust infrastructure that meets the evolving demands of the market. Cutting-edge technologies, such as R3's Corda—an open, permissioned distributed ledger technology (DLT)—will play a crucial role in advancing financial markets.

The UK's forward-looking approach to digital transformation has presented the region with the opportunity to set global standards in financial market infrastructure, but this opportunity will not be seized without considerable further work amidst strong international competition. The Bank of England, Financial Conduct Authority, Prudential Regulatory Authority, HM Treasury, and wider industry must continue to work together to ensure that the UK is the home of tokenisation and digital finance. This can only be achieved through regulator-industry collaboration, promoting infrastructure that provides the functionality demanded by the market.

R3 is proud that its DLT platform, Corda provided the underpinning technical infrastructure that supported the Regulated Liability Network project and the subsequent hackathon. This work, led by UK Finance, complements the efforts of the Bank of England in the renewal of the RTGS, the creation of the omnibus account model, and its examination of a retail CBDC in driving the UK towards developing the infrastructure of tomorrow.

A key element in realising this potential will require tokenised assets interoperating effectively with central bank money, supported by an infrastructure that enables secure issuance, transfer, and management of digital assets within a framework of stringent regulatory compliance. DLT, particularly open permissioned networks, provide the necessary infrastructure to facilitate this integration—after all, DLT serves as a foundational technology for developing market-level applications. It is designed to meet the unique integration, security, and business process requirements of entire financial markets rather than only those of individual firms. R3's award-winning tokenisation platform, Corda, can provide solutions that enhance market efficiency while offering controlled access, enhanced security, and regulatory-compliant designs. This has enabled our success in supporting the SIX Digital Exchange (SDX), HQLAx, Euroclear, and CBDC projects globally.

The interconnected nature of financial markets means that competition cannot come at the expense of global collaboration. While progress in the UK has been made through industry collaborations like the UK RLN, the ten recommendations outlined in this report illustrate the journey the UK must make if it is to continue to support Britain's global competitiveness. R3 looks forward to continuing to play its part in realising that vision.

**Spotlight Section – The Need to Modernise the UK's financial Infrastructure – Euroclear**

Implementing and embedding new financial technology is required if the UK is to remain a key financial centre and a place to invest and do business. However, we must fix the plumbing of our financial markets by removing friction and duplication in our existing systems.

Through further digitising our financial services sector, we can reap the rewards of improved productivity and competitiveness, creating an environment where new technologies can lower the cost of doing business, improve overall customer and employee experiences and create new business services and areas of growth for the financial services ecosystem.

This modernisation can be positively transformational for communication between issuers and investors, capital-raising, productivity and future innovation. The good news is that the planets are aligning across a series of workstreams towards modernising the plumbing of our financial markets.

Currently, the UK operates parallel shareholder frameworks, in which both paper and digital processes exist in the ecosystem. This means that companies and issuers need to operate duplicative processes.

In July 2023, the Digitisation Taskforce led by Sir Douglas Flint made the first step in delivering significant changes to improve this system when they published their interim report. This included recommendations for legislative measures that will stop the issuance of new paper share certificates and require the dematerialisation of all share certificates.

The interim report also included potential steps towards a more modernised model for share ownership and transfers, recommending a modern, single digital register as a future end state for securities.

Moving to a single digital register would significantly remove friction and improve the facilitation of trade flows and the movement of assets and investments. This system works very well in other countries such as Sweden.

In Sweden, the single digital register has helped boost retail investment levels (shares represent 10.9% of household assets in the United Kingdom compared to 39.9% in Sweden) and created a system where companies move from privately held through to SME growth markets and ultimately main market IPOs a process which we call the continuous "funding escalator".

This highly digitised environment not only reduces pain points for issuers and intermediaries but also offers the possibility of transparency around beneficial ownership that empowers retail investors to participate in corporate actions, like secondary capital raises, in a way, they often cannot yet in the UK and issuers to have a first hand view of the priorities and expectations of their investors.

Private Swedish companies often elect to enter the digitised market infrastructure well before any prospect of joining public markets, a factor contributing to the continuity of that domestic funding escalator.

In the work leading up to the Digitisation Taskforce by Mark Austin in the Secondary Capital Raising Review, it was highlighted that other paper processes such as cheques for dividend payments should be phased out.

In most European markets, the standard practice for the payment of dividends is through the central securities depository (CSD). This method can help lower operating costs, and provide more security and efficiency, given that cheques are easily lost and the time it takes for funds to be settled can be lengthy.

Modernising the UK's financial infrastructure will also involve the adoption of new technologies such as distributed ledger, and open finance enablers like application programming interfaces (APIs) – which require a fully digitised environment.

The digitisation outlined above is a precursor to the adoption of many of the future's most exciting technologies from Generative AI and tokenisation to cloud, quantum and confidential computing.

To deliver digitisation and achieve mass adoption of a modernised shareholder infrastructure, we must move forward with the efforts to modernise the UK's shareholding framework.

Digitisation hinges upon the dematerialisation of our financial infrastructure and the elimination of new paper share certificates. In its place, we must introduce a more modernised model of share ownership and transfers —a single digital share register which consolidates share ownership documents onto a single platform. The approach taken for shares could potentially be extended to Gilts and supporting the efficiency of the Government's borrowing programs.

This will remove duplicative records from our financial system and make room for a more transparent and efficient system that encourages investment from both institutional and retail investors.

Delivering this modernisation for financial services will require collaboration between the new Government and industry stakeholders to be carried out effectively.

**Spotlight Section – The Jobs and the Education of the Future - BNY**

Opportunities exist for the UK to create new, higher value roles and to increase productivity as a result of the efficiencies and new products that can be created by tokenisation and a shift to digital assets. According to Tech Nation, the UK's digital sector, including blockchain and tokenisation, is expected to create 1.2 million new jobs by 2030. The Financial Conduct Authority (FCA) in the UK reported that digital asset firms earned £339 million in 2023, an increase from £190 million in 2022. Similar to the use of AI tools, there is potential for workforce transformation away from certain operational roles in the medium to long-term, but with thoughtful investment in education and by creating an ecosystem that incentivises development of talent in the UK, this risk can be mitigated and pivoted to a growth story.

Critical gaps to fill in the talent market centre on the application of blockchain technology in product design and programming roles, cryptography, and cybersecurity. In financial services, the unique combination of blockchain-focused skills, and understanding of the financial markets and infrastructure is in short supply, with banks and asset managers competing with digital natives for top talent. Many global firms have built their digital assets teams in London, taking advantage of the

existing structural benefits and talent pool, but the cross-border and technology-first nature of the tokenisation opportunity means that firms do not need to hire in the UK, so there must be sufficient access to a world-leading talent pool, and incentives to build teams to make the UK stand out.

The professional services sector also stands to benefit. Roles in audit, compliance, legal and risk management functions supporting digital assets will be critical, and there are several examples of UK-based start-ups in the fintech and RegTech spaces creating economic value and high-impact jobs, in addition to the traditional 'Big 4' and major law firms.

The UK must work to a future where the next generation is prepared to transition to these roles. Many of the UK's leading universities now offer blockchain-related courses at undergraduate, post-grad and executive level, and significant improvements have been made in training new potential talent for the cybersecurity labour market, with the number of cybersecurity graduates increasing by 34% from 2022 to 2024.

This pace is outstripped however by Asia, where Hong Kong and Singapore in particular generate a high proportion of the research output in the sector, and supply talent for the burgeoning crypto and digital assets industry in these countries. In the US, the variety of blockchain related classes is greater, and graduates tend to have improved employment outcomes compared to the UK. Incentivising UK universities to expand their offerings and invest in expanding their curriculums would have the double benefit of expanding the graduate talent pool and attracting international students.

To seize this opportunity and drive demand from students entering the university sector, the UK should start this education earlier: A-Level qualifications in subjects such as Economics, Maths, Computer Science must be updated to cover DLT and its uses, and there are opportunities across the curriculum, from financial literacy education, to the societal impact of blockchain technologies, for students to be informed and engaged. Apprenticeships and vocational qualifications in these technologies would be welcome step and could be delivered in collaboration with industry. This will facilitate not just enhanced career outcomes, but also equip this cohort with the awareness to invest in and take advantage of these technologies as future retail consumers.

Reskilling and upskilling the existing workforce is also vital: high quality training, ideally accredited and available at lower cost for those who need it, would be hugely beneficial to those whose current roles stand to be disintermediated by emerging technologies. Empowering the third sector to partner with industry to deliver, as in initiatives such as the City of London's 'Women Pivoting to Digital Taskforce', would go some way towards addressing the often-disproportionate impact of such change on women and under-represented groups in financial services and technology careers more broadly.

As well as playing a role in formal education, the private sector can also partner with government to deliver education to retail consumers of financial services about the potential and the risks of tokenisation. The work of UK Finance and the Investment Association on the subject demonstrates the power of the industry coming together to further a common goal. By their inherently public nature, initiatives such as the Digital Securities Sandbox provide a substantial platform on which to promote the subject, and UK Finance and its members would welcome a Digital Gilt issuance by the DMO as both a positive affirmation of the UK's commitment to the space, and an opportunity to highlight the potential of the technology to the UK public.

*Key Recommendations on Productivity*

**Recommendation #5:** Measures to support dematerialisation and clarify property law for digital securities would enhance the digital hygiene of the UK markets.

**Recommendation #6:** The use of interoperable technologies like smart contracts should be used to better enable the operational and back-end efficiencies which will drive this holistic transformation.

**Recommendation #7:** Industry and policymakers should prioritise common standards, interoperability and scaling for the UK's digital market to flourish.

**Recommendation #8:** Education, supported by a cooperative public and private sector, should be a priority in order for the UK's citizens to benefit from the new jobs created, while also mitigating the risk of jobs which may be disintermediated by new technologies.

Technology is neither good nor bad; it is how it is harnessed that will determine the impact that it has on different industries and countries around the globe. The UK is also well placed to lead on digital finance and can continue to build on its rich history and leading financial services industry to drive the productivity and growth that new technologies such as DLT can enable. By implementing the key recommendations on productivity, the UK can work towards meeting its ambitions to be a hub for digital finance, and appropriately prepare for the growth and new jobs of the future.

# IV. New Products

Digital finance delivers an opportunity for the UK businesses and individuals to innovate, invent, and create new products. These new products can support broader innovation within financial services, provide existing services in new ways, and better meet the needs of UK businesses, policymakers and citizens. This evidence session discussed different types of product innovation, as well as the new products that are being developed and the subsequent benefits they can deliver to the UK.

New technologies will usher in a range of new products from wholesale products with the ability to transform capital markets, to retail products that will benefit citizens and small/medium enterprises (SMEs) in the UK. Additionally, across many industries, new types of data analytics products have the potential to support better policy development, as well as compliance and regulatory innovation. Across each type of new product, it is vital that the UK nurtures responsible innovation and further encourages businesses and individuals to continue to work towards the next evolution of these technologies.

Overall, this evidence session encouraged the APPG members and participants to consider how new products can transform the UK financial services industry. It was made clear that for the UK to be a leading jurisdiction and digital financial services hub, individuals and businesses should be able to choose how to best use the new products and technologies that would support their business. However new products must also be used to equip the public sector in order for there to be effective supervision and enhanced compliance processes to complete the evolution of the ecosystem.

**Spotlight Section – The Wholesale Products for the Business World of the Future**

Innovation and technological advancements have always been fundamental to the evolution of capital markets and will continue to play an important role in reshaping the financial services landscape. Electronic and algorithmic trading, big data analytics, cloud computing, machine learning and artificial intelligence already augment many key aspects of the asset management value chain by enhancing investment, trading, risk management and compliance capabilities to improve the investor experience and help more people achieve financial wellbeing.

Digitisation and tokenisation are also emerging as a powerful transformative force that could play a significant role in reducing fragmentation and removing structural siloes that exist across market infrastructure. For instance, blockchain and distributed ledger technology (DLT) offer new ways to trade, move and manage assets. Processes that are integral to capital markets such as clearing, settlement, margin and collateral management might benefit from features such as near instantaneous transfer of ownership (essential for unlocking trapped liquidity), digital audit history and immutable recordkeeping which could bring capital efficiencies and pre and post trade benefits.

Overall, the buy-side's commitment to innovation and efficiency, characterised by careful and considered adoption of advanced technologies, will continue in helping to foster a more efficient, inclusive, and resilient financial ecosystem.

Globally, investment products such as spot cryptoasset exchange-traded products (ETPs) and the broader move towards tokenisation of real-world assets mean that traditional financial (TradFi) and digitally native firms, along with respective financial ecosystems, are increasingly having to learn to interoperate. Real world use cases are starting to emerge that are driving a trend towards

greater convergence and improved interaction between capital markets infrastructure, whether it is between blockchain and non-blockchain networks or development of cross-chain bridges.

For instance, tokenisation of real-world assets such as money market funds enable digitally native firms to leverage and still gain access to traditional investment products. Additionally, expanding the pool of collateral acceptable to market participants to include specific money market funds, which could subsequently be tokenized, might create new forms of fund utility and commercial opportunity linked to areas such as asset transferability, improved liquidity and distribution.

Fully realising the benefits of a digital ecosystem will also require a network effect. To achieve this, a scalable financial market structure that brings together market participants across the capital markets spectrum and allows them to seamlessly interoperate is needed. For instance, while activity in digital bond issuance has increased, institutional adoption will remain limited until infrastructure that can unify the full bond market ecosystem, such as secondary market liquidity, expansion of the custody framework, financing, lending and collateral, is in place.

Over the past few decades, ETPs have transformed investor's access to traditional financial markets. With no minimum investment requirement, low fees and diversified holdings, ETPs offer a secure way for investors to access thousands of securities across multiple asset classes in a well-regulated and understood wrapper. These structural qualities could make holding cryptoassets via an ETP wrapper attractive to investors who see crypto as a burgeoning alternative asset class or who wish to gain exposure to thematic opportunities such as digital disruption.

Spot cryptoasset ETPs have the capacity to provide end investors with an efficient way of gaining exposure by removing barriers to entry while mitigating associated operational and custody risks. For instance, ETPs offer a safer mechanism for investors to hold a bearer instrument by removing the need for self-custody, which limits the risk of loss attributed to user error or hacking. As with traditional ETPs, investors also gain access to the full global network of liquidity venues, sophisticated levels of best execution and a familiar trading and settlement ecosystem, including standardized marketplaces, time zones and transparent reporting. This alleviates certain operational complexities investors often face directly trading cryptoassets such as 24/7 market operations and ensures transactions are safe and secure.

Finally, the standardised nature of ETP wrappers brings economies of scale, which lowers costs and makes investor education around areas such as product and risk easier. For instance, if the FCA were to permit cryptoasset ETPs to be sold to retail investors with authorised prospectuses approved under the Prospectus Regulations, the FCA could ensure retail investors receive higher levels of risk disclosure and awareness of investment risks than via direct cryptoasset investments. Furthermore, if the FCA were to allow UCITS funds to invest in cryptoasset ETPs, UCITS funds would apply diversification rules to their holdings, meaning investors would get exposure to cryptoasset ETPs as part of a broader diversified investment portfolio. As the cryptoasset ecosystem continues to mature, certain existing challenges posed to end investors may be mitigated and barriers to direct investment of cryptoassets reduced. However, investors have a wide range of financial objectives and the efficiency of a traditional wrapper structure such as ETPs may continue to appeal to those who seek exposure to cryptoassets in an efficient and professionally risk–managed manner.

**Spotlight Section – Transforming Compliance & Building Technology for Regulators – Chainalysis**

When it comes to the use of crypto, the UK has a significant role in the global and European landscape. According to the Chainalysis annual adoption index, which determines which countries are leading the world in crypto adoption and where unique their use is taking hold, the UK sits at 12th compared to 14th in 2023. The consistency in adoption shows that despite the continued absence of a comprehensive financial services-like regulatory framework which would provide additional clarity to the market and inevitably attract more activity, the UK remains a strong destination for digital asset activity. This is encouraging, proving that the UK still has the opportunity to influence how risks are addressed globally and become an international hub for the safe growth of the sector.

This is key to delve into further, as while digital assets offer a new paradigm for global means of exchange and financial markets, their growing use in the UK also offers an opportunity for regulators when it comes to their effective oversight and supervision. Central to this is the transparency upon which the sector relies, which affords unparalleled visibility into market activity and the actions of individuals and entities. Effectively leveraging this visibility using blockchain analytics tools significantly reduces the burden for firms when complying with rules and authorities when supervising firms' compliance and enforcing against breaches, enabling a shift in focus from data collection to action.

This represents a significant capability boost for regulators, allowing them to more easily implement effective, data and compliance-first oversight of these markets digital asset markets, reducing the reliance on market participants' submission of accurate and reliable reports, instead automating and streamlining that process to push authorities to act proactively in identifying, addressing, and ultimately preventing harm to consumers from abusive activity.

The UK is known and respected for its high-quality regulatory frameworks and the world-leading regulators that administer them. To maintain this reputation and ensure the UK develops into an attractive destination for digital asset activity and entities, it will be crucial that these regulators and the new Government embrace the opportunity to use the data available, deploy blockchain analytics, and encourage firms to use them too.

While this is a step away from the traditional approach to regulation, which is typically top-down and rules-based, this approach, which embraces collaboration and situates data and tools created for the industry centrally, is powerful. It creates common ground on which all sides can collaborate more fully, using the same tools to speak the same language, understand the same risks, and ultimately address them together and help grow the UK market sustainably and safely.

Chainalysis' tools have been used in partnership with UK law enforcement to disrupt several organised criminal groups, including Lockbit, a notorious international ransomware group, and Labhost, a phishing-as-a-service provider. Both groups are known to have caused enormous harm to UK businesses and citizens. Our data and tools also formed the basis of the global public-private partnership Operation Spincaster, designed to identify, disrupt, and prevent crypto fraud scams by surfacing over 7000 actionable leads related to approximately $162 million of losses across six countries.

In the UK, our data and tools have, anecdotally, over the last 3-4 years, been involved in a total of £80 million of confiscated funds and a further £50 million under restraint. While these are significant

sums, they are just a fraction of what we estimate to be the total seizure opportunity in the UK and only speak to law enforcement seizure activity. With the right approach and with sufficient support, our tools can take the UK from a world where we are largely reactive to harm to one where we are far more proactive in addressing bad activity in digital assets, enabling regulators and other authorities and even firms to work together to stop it before it can materialise or develop.

*Key Recommendations on New Products*

**Recommendation #9:** The public sector and regulators should be equipped with new products in order for a complete and holistic digitisation of the financial services ecosystem to take place. Industry should support them in implementing these technologies.

**Recommendation #10:** Both retail consumers and the UK private sector should be enabled to choose the new products which best support their business models and needs - innovation should not be constrained by overly stringent requirements for new technologies.

In this discussion, industry experts urged the Digital Finance APPG not to throw the baby out with the bathwater. The new products that are being developed have huge transformative capabilities for Britain, and it is crucial to both support these, but also to equip the public sector with the products that they will need to operate more effectively.

# V. Conclusion

The future of Digital Britain has a critical dependency on the alignment of policymakers and market participants, as well as the UK's ability to learn from and innovate in cooperation with other jurisdictions. This report provides initial recommendations and feedback on how digital finance can transform the UK making it more competitive, enhancing its productivity, and providing new digital products to its citizens and industries.

Throughout this report, it was set out that clear to industry leaders in the financial services sector this next era of digitisation is not just about banking or fintech products and services, it is about the transformation of our (global) financial infrastructure. The digitisation of financial market infrastructure is transforming the bedrock on which our future financial services will operate. To support this transformation, the report provides detailed industry feedback and analysis on the themes of the three digital pillars which were also the focus of the APPG's evidence sessions. This evidence shared by industry, was gathered from a broad range of industry participants who represent all corners of the new digital ecosystem. Their expert views, and experience building and scaling digital business in Britain, have laid out a roadmap of how the UK can look towards the future and truly establish itself as a technological hub.

The report concludes with 10 recommendations and calls to action for both industry and policymakers. These recommendations acknowledge that financial services are transforming. At the moment, the UK has a window of opportunity, through which there is the potential for widescale change. As digitisation progresses globally, the UK has the capability to fundamentally shift the way that transactions occur, and legal settlement takes place. Across the world there is the emergence of new types of assets, some of which the market is accessing now through traditional wrappers, while simultaneously traditional assets are moving on chain. Either way, evidence was shared highlighting that that businesses are still choosing the UK and believe there are aspects of it that make it an attractive place to do business. By working towards the aims of the recommendations the UK can make sure that this remains true. It can catalyse transformation and growth, while supporting new product development rather than remaining stagnant. The 'Calls to Action' were developed with UK businesses and policymakers in mind and will support the UK in becoming a true hub for digital finance.

By better enablingdigital finance technologies, we will help the digital transformation of the capital markets brokerage, custody, and settlement infrastructure to deliver efficiencies that unlock billions in capital for asset owners to reinvest - we have the opportunity to make the UK the go-to global hub for digital finance. The benefits from the digital transformation of the capital markets will rapidly enable a safer, rapid, more inclusive, and diverse financial services sector for all of society.

To help unlock these opportunities, there needs to be well-informed and forward-looking policies and that can only happen with a well-informed and forward-looking Parliament.

**Recommendation #1:** The UK should work to become a leader in global standards for the tokenised securities markets, starting with a digital gilt issue.

**Recommendation #2:** The UK must be a willing issuer in the digitisation process and should also focus on building strong issuance connectivity with key private sector partners.

**Recommendation #3:** The fintech banking issue must be solved – the UK should implement provisions to protect against auto-refusal and industry should also develop an appeal and justification process for the "risk" identified.

**Recommendation #4:** UK regulators should complete the development of an overarching regulatory framework for digital assets as quickly as possible; Innovation and experimentation must be underpinned by legal and regulatory certainty.

**Recommendation #5:** Measures to support dematerialisation and clarify property law for digital securities would enhance the digital hygiene of the UK markets.

**Recommendation #6:** Most of the transformation that will have the biggest impact for the UK, and should be supported by the public sector, are the operational changes that will deliver back-end efficiencies with wide ranging positive impacts (e.g., use of smart contracts).

**Recommendation #7:** Industry and policymakers should prioritise common standards, interoperability and scaling for the UK's digital market to flourish.

**Recommendation #8:** Education, supported by a cooperative public and private sector, must be a priority in order for the UK's citizens to benefit from the new jobs created, while also mitigating the risk of jobs which may be disintermediated by new technologies.

**Recommendation #9:** The public sector and regulators must also be equipped with new products in order for a complete and holistic digitisation of the financial services ecosystem to take place. Industry should support them in implementing these technologies.

**Recommendation #10:** It is crucial to allow both the public, and the UK's broader industries to choose the new products which best support their businesses models and needs – innovation should not be constrained by overly stringent requirements for new technologies.

# VI. Appendices

**Annex 1 – Spotlight - FIX/FinP2P Protocol Interoperability Alliance: Enabling Interoperability Between Traditional Finance and Digital Securities**

The FIX/FinP2P Protocol Interoperability Alliance, initiated through a strategic partnership between Global Digital Finance (GDF) and FIX Trading Community, represents a groundbreaking effort to bridge traditional finance with digital securities. This alliance leverages the strengths of the open-source FIX protocol, widely used in financial markets, with the open-source FinP2P tokenisation interoperability protocol, governed by GDF under a Creative Commons license. Through this collaboration, the Alliance aims to modernise existing financial infrastructure, allowing for seamless interactions between traditional and blockchain-based platforms.

The primary objective of this Working Group has been to enable efficient messaging and secure asset management for tokenised securities. This includes traditional asset types, such as bonds and private equity, as well as emerging digital asset classes like money market funds, alternative investments, and real estate funds. By leveraging FIX, the protocol that powers the backbone of electronic trading globally, and FinP2P's ability to integrate tokenisation services, the initiative aims to enhance market liquidity and accessibility.

**Addressing the Challenges of Integration and Interoperability**

The FIX/FinP2P Alliance set out to address a critical industry gap. Despite the rapid growth of digital assets, integrating them into traditional systems has posed significant challenges due to the complexities of blockchain technology and regulatory compliance requirements to date. This integration has the potential to unlock vast new revenue streams, facilitate greater investment opportunities, and provide traditional financial institutions with access to tokenised assets.

The key benefits of this initiative for the financial ecosystem include:

- **Increased Market Participation**: By connecting traditional financial institutions to digital asset markets, the Alliance aims to promote wider market participation, allowing traditional investors to explore tokenised investment options.
- **Enhanced Operational Efficiency**: The initiative automates trading and settlement processes, reducing manual intervention, mitigating errors, and thus increasing operational efficiency across the transaction lifecycle.
- **Broader Adoption of Standards**: The Alliance uses FIX, a globally recognised standard in trading, to support tokenised transactions. This strategy ensures that the ecosystem remains compliant with regulatory standards, ultimately enabling digital assets to be adopted more readily in institutional finance.

**Bridging Tradition Finance with the Digital Asset Ecosystem**

The FIX/FinP2P Alliance has been structured to progress through a multi-phase approach, with a Sandbox Lab serving as the initial phase. This collaborative testing environment allows for iterative feedback from participating organizations and facilitates real-time testing across multiple use cases. Below is an outline of the Alliance's phased approach:

**Phase 1: Establishing the Sandbox Lab**

The Sandbox Lab, supported by Ownera as an integration partner, is a controlled environment where participants can experiment with connecting traditional FIX-based systems to blockchain-enabled tokenised assets. This Lab comprises three essential components: a **Sell-Side Router** for asset issuance, a **Payment Router** for diverse payment solutions, and a **Digital Custody Router** for secure asset management.

Participants can explore various tokenised assets (e.g., private shares, bonds, real estate funds) and use the FIX protocol to simulate primary and secondary trading activities. The Sandbox also provides a FIX Adapter endpoint, allowing participants to initiate transactions, receive updates, and engage in settlement orchestrations across multiple blockchain platforms.

**Phase 2: Documenting Outcomes and Publishing a Whitepaper**
As a culmination of the Sandbox testing, Deloitte, in collaboration with GDF and FIX, is developing a comprehensive whitepaper to outline the key findings from the Sandbox, including observed challenges, integration insights, and recommendations for scaling the project. The whitepaper sets out to serve as a reference for industry participants, regulators, and other stakeholders interested in modernizing their financial infrastructure to include tokenised assets.

**Phase 3: Scaling to Live Assets and Expanding the Network**
Following the publication of the whitepaper, the Alliance intends to transition from Sandbox testing to live environments. In this phase, the Alliance will connect to actual tokenised assets on participating platforms, thus moving from controlled testing to real-world applications. This phase also includes promoting industry-wide engagement at events like Digital Asset Week and hosting live demonstrations, reinforcing the commitment to fostering broader adoption and industry standards.

The FIX/FinP2P Protocol Interoperability Alliance has set a precedent for integrating tokenised assets within traditional financial infrastructure. By creating an interoperable solution through FIX, the Alliance endeavours to addresses the needs of both asset issuers and investors, offering a clear path to broad market participation in digital assets. As the initiative moves into live applications, it stands to further catalyse the digitization of financial markets, providing a framework that other industries may adopt to accelerate their own digital transformation.

**Annex 2 – Spotlight - A Digital Minister for a Digital Britain – The Importance of Holistic Digital Policy –**
*by Naveed Sultan, Founder and Chairman, Centre for Responsible Leadership Professor of Practice & Co-director, Centre for Financial Technology, Imperial College, Business School Former, Chairman, (Institutional Business Group) Citigroup - contact: n.sultan@imperial.ac.uk*

The challenges and transitions we face today are driven by a complex blend of macroeconomic, social, demographic, and environmental factors, compounded by the rapid advancement of various technologies. These dynamics are, in many ways, unprecedented, leaving both public and private sector leaders striving to navigate them effectively. History shows that when confronted with an environment of this scale and complexity, it becomes essential to develop new policy tools and approaches to drive positive economic and societal outcomes.

The term “digital” has become synonymous with much of the transformative change we are witnessing. It encapsulates the broad range of technologies fuelling these shifts.

Traditionally, governments have relied on monetary and fiscal policies to promote growth and efficiency. However, these measures are increasingly insufficient in addressing today’s challenges. As a result, I believe policymakers and private sector leaders must develop new tools and competencies to successfully manage these transitions and capitalize on emerging opportunities. Digitalization is vital to unlocking new possibilities and mitigating risks, prompting a reassessment of key sectors such as education, healthcare, transportation, and financial systems. The future success of businesses and societies alike will depend on their adaptability, speed, and resilience in this evolving landscape.

We propose that every sovereign nation should adopt a comprehensive digital policy to complement its existing monetary and fiscal strategies, ensuring an effective response to the complexities of digital transformation. Evidence suggests that countries with holistic digital policies experience significant economic, social, and political benefits. Additionally, we recommend establishing a dedicated ministry at the national level to oversee digital policy.

During my tenure as Chairman of the Institutional Clients Group at Citi, we developed a report on Holistic Digital Policy (Report Link-https://www.citigroup.com/global/insights/holistic-digital-policy_20211004). This report highlights key focus areas for guiding the development and implementation of digital policies, including data management, artificial intelligence, inclusive finance, digital infrastructure, private sector incentives, and regulatory frameworks. It also underscores the importance of addressing emerging risks, such as cybersecurity and potential adoption barriers.

By adopting a comprehensive digital policy, nations will be better equipped to manage the complexities of digital transformation and position themselves for future success.

**Annex 3 - Spotlight-Sustainability, Digital Energy Attribute Certificates: Case study of UK Climate Fintech C:Pesa DIGIRECs® to achieve Carbon Free electricity parameters for consumption**
*by Dr Robert Barnes, Chartered FCSI(Hon), Co-CEO BPX – Global Digital Finance Member & MD Anopolis, Advisor to C:Pesa on Trading & Digital Finance*

**UK's Digital Finance** capabilities are ripe to address **ESG and Sustainability challenges.** This Case Study highlights potential for a new global market for Digital Energy Attribute Certificates, e.g. **C:Pesa DIGIRECS®,** real time 3rd party certification to achieve Zero Carbon Electricity consumption parameters in the Age of Artificial Intelligence and the Digitalisation of International Trade.

**Recent UK legal moves** make it possible for Finance Professionals to embrace truly digital-first market architectures and enable adoption of Digital Assets by Firms & Fund Managers using new UK products and marketplaces that can serve them.[1,2,3,4,5,6]

Firms & Fund Managers with collective global Assets under Management of **more than $121 trillion** have signed up to the United Nations **Principles for Responsible Investment.**[7] These Principles are driving **ESG and Sustainability** considerations into decision making for their own organisations and the companies in which they invest.

**Artificial Intelligence** could lead to a doubling of double CO2 emissions from Data Centres by 2030, with their world-wide power consumption expected to grow from 1-2% to 3-4%; for instance, a ChatGPT query uses 10x the electricity of a Google search.[8] This unprecedented growth due to Cloud, Data Centres, Large Language Models adds urgency to what **UK incorporated** Climate Fintech firm **C:Pesa®** characterise as the need to "Solve for Electricity" *tightly/specifically* by addressing Scope 2 emissions, rather than Carbon Credits/Carbon Offsets that "Solve for Carbon" *loosely/generally* with indirect impact on Scope 1; Scope 2; Scope 3 emissions.[9,10]

Corporates, Financial Firms and Funds need help meeting Sustainability requirements now more than ever with the surge in demand for Electricity and mandatory ESG accounting and reporting rules becoming effective 2024-2026 in Europe and USA – including Senate Bills recently passed by California impacting firms world-wide that do business in California.[11]

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[1] 11 September 2024 – **Property (Digital Assets etc.) Bill introduced to Parliament – "clarifies that a 'thing' is not incapable of attracting property rights simply because it exists in digital form"** https://lawcom.gov.uk/property-digital-assets-etc-bill-introduced-into-parliament/
[2] 30 September 2024 – **Bank of England & FCA Digital Securities Sandbox Policy Statement:** "The DSS is now opened after consultation with industry...the Bank and the FCA have set out their approach to safely adopt new technologies in the operation of financial market infrastructures." https://www.bankofengland.co.uk/paper/2024/policy-statement/boe-fca-joint-approach-to-the-digital-securities-sandbox
[3] September 2014 – Lima, Gonçalo, Barnes, Robert and Kerrigan, Charles (2024, September). The benefits of asset tokenisation within securitisation. In the *Journal of Securities Operations & Custody*, Volume 16, Issue 4, pages 366-384. https://doi.org/10.69554/JETD8525
[4] 20 September 2023 – **Electronic Trade Documents Act** – https://www.legislation.gov.uk/ukpga/2023/38/section/3/enacted
[5] Summer 2014 – Barnes, Robert (2024). Now is the time for digital assets and growth. In *The International Banker*, Summer 2024, p18. https://www.internationalbankers.org.uk/magazine/the-international-banker-summer-2024
[6] 11 May 2023 – Barnes, Robert (2023, May). UK has a plan and fresh legal moves to promote trust and confidence in global digital markets, In The Review. https://www.cisi.org/cisiweb2/cisi-news/the-review-article-details?learningid=10645
[7] Source: **Principles for Responsible Investment** https://www.unpri.org/about-us/about-the-pri
[8] 14 May 2024 – Goldman Sachs Research https://www.goldmansachs.com/intelligence/pages/AI-poised-to-drive-160-increase-in-power-demand.html
[9] 26 April 2024 – Personal communication directly with Carbon Pesa Limited founders E. Mutuma Marangu and Ameet Shah.
[10] Greenhouse Gas Protocol Scope 2 Guidance https://ghgprotocol.org/sites/default/files/2023-03/Scope%202%20Guidance.pdf
[11] 1 October 2024 – Mark Segal (2024). California Governor Signs Climate Disclosure Bill into Law with 2026 Start Date Intact. In *ESG* today.
"**SB 253**, the 'Climate Corporate Data Accountability Act,' requires companies with revenues greater than $1 billion that do business in California to report annually on their emissions from all scopes, including direct emissions (Scope 1), emissions from purchase and use of electricity (Scope 2), and indirect emissions, including those associated with supply chains, business travel, employee commuting, procurement, waste, and water usage (Scope 3). **SB 261,** 'Greenhouse gases: climate-related financial risk,' applies to U.S. companies that do business in California and with revenues greater than $500 million to prepare a report disclosing their climate-related financial risk, as well as measures to reduce and adapt to that risk." https://www.esgtoday.com/california-governor-signs-climate-disclosure-bill-into-law-with-2026-start-date-intact/

Two main tools ESG managers use today to address Scope 2 Emissions are (1) Purchasing Power Agreements for Carbon Free sources such as Solar, Wind, Geothermal and/or (2) matching attributes of emissions via purchasing Energy Attribute Certificates (EACs), tradeable market-based instruments to achieve Carbon Free electricity parameters for consumption.

BlackRock's Task Force on Climate-Related Financial Disclosures (TCFD) Annual Report 2023 reports how they used both tools:

- "BlackRock achieved its 100% renewable electricity match goal to match the same amount of renewable electricity as the electricity that BlackRock's global operations [...] consume annually [...]
- Where BlackRock does not have operational control to procure its own electricity, or where renewable electricity is not available, **BlackRock purchases Energy Attribute Certificates as a means of achieving this goal**.
- While BlackRock matches its global electricity load with 100% renewable energy, BlackRock has some residual Scope 2 market-based emissions."[12]

EACs help firms to achieve Carbon Free electricity parameters for consumption through credible documentation issued after independent verification. EAC taxonomies include International Renewable Energy Certificates (I-RECs), North American Renewable Energy Certificates (RECs), UK issued Renewable Energy Guarantees of Origins (REGOs) and EU issued Guarantees of Origin (GO).[13] I-REC is the recognized leader by number of countries and follows the taxonomy of the I-Track Standard Foundation (ITSF) which equates 1 MWh of clean electricity – Wind, Solar, Hydro, Geothermal, others – to 1 I-REC.[14]

Financial systems for issuing and trading EACs today are generally manual, bilateral and non-transparent. Yet in 2023, the ITSF issued more than **280 million** I-RECs across 5000+ projects in 40+ countries. I-REC market activity is now larger than and eclipsing the Voluntary Carbon Market.[15] The growth of I-RECs is augmented internationally by the RE100 group, representing 400+ corporations committed to go "100% Renewable" who have adopted the I-REC to meet Net Zero on Electricity (NZE) targets and directly address **ESG** Scope 2 emissions requirements.[16]

The next frontier of clean energy sourcing is to build the 'Amazon' of EACs – where there are virtually no barriers to access a multilateral marketplace, where all producers can participate to receive incremental income and consumers have exponentially more choice of EACs described by timestamp, geo-location and other data. World-wide, this will deliver net new income into the hands of clean energy producers to invest in and grow new Sustainable energy sources for capacity.

The first step is a tamper-proof certification process leading to digitalisation of timestamped verified certificates that flow via digital-first operational systems. The next step is to gather participants in a marketplace to achieve benefits of network effects.

[12] Source (Endnote, p. 43): https://www.blackrock.com/corporate/literature/continuous-disclosure-and-important-information/tcfd-report-2023-blkinc.pdf
[13] Source: The International Tracking Standard Foundation, "Many commodities, such as electricity, cannot be tracked from production to consumption in the absence of a standardized and fact-based accounting instrument. The only way to allocate portions of the market to a unique end-consumer is through a book-and-claim system. All EACs for electricity (e.g., GOs, RECs, and I-RECs) function on this principle." https://www.trackingstandard.org/faq/
[14] Source: The International Tracking Standard Foundation, https://www.trackingstandard.org/about-us/
[15] 17 April 2024 – Ed Everson, "Understanding Demand – Global Volumes – Where are markets heading (I-REC)?" Evident. REC Market Meeting [RMM] – Valuing consumer action, Session 7B, Beurs van Berlage, Amsterdam, Netherlands: Slide 7 – 2023, there were 283m Issued I-RECs (MWh), Slide 10 – almost 180m I-RECs Redeemed in 2023 which exceeded the number of Voluntary Carbon Market Retired Carbon-based Credits (denominated in tons of CO2).
https://recs.org/app/uploads/2024/05/RMM24_brochure-FINAL.pdf
[16] Source: The International Tracking Standard Foundation, https://www.trackingstandard.org/

Executing on this vision, **UK incorporated** Climate Fintech firm **C:Pesa®** created the **C:Pesa DIGIREC®**, a digitally enhanced version of the I-REC, launching Q4 2024 in trials world-wide. A **C:Pesa DIGIREC®** is generated without any human intervention in the issuance process via a fully automated end-to-end process to preserve the integrity, provenance and traceability of data. An appliance placed at the source of clean energy generation – next to the inverter at electricity power plants – receives production data and sets up a 'golden source of truth' by writing this data into an immutable distributed ledger.

This data is structured automatically into an electronic form for submission as a claim to the ITSF for independent verification that 1 MWh of clean electricity was generated at that specific power plant with underlying 1000 kWh of timestamped electricity units making up the 1 MWh claim submission. After independent verification, an I-TRACK Standard Foundation authorized country representative known as a Certificate Approver authorises I-REC Issuance.

This issued I-REC, **cryptographically #hashed and timestamped using C:Pesa® IP**, becomes a unique immutable **C:Pesa DIGIREC®** held in the **C:Pesa®** Registry with specific and unique underlying metadata including provenance and chain of ownership that can be queried at any point in time to address **ESG and Sustainability** accounting, reporting and assurance requirements. Adoption of **C:Pesa DIGIRECS®** will move analogue Energy Attribute Certificates away from a trust-based construct to a truth-based one via digitalization and time sequencing for accurate ESG accounting, reporting and assurance.

One of the first to issue **C:Pesa DIGIRECs®** and sell them to big pharma as a means of **Sustainable Finance** will be the Meru Level 5 Training & Referral Hospital in Meru County, Kenya. This features a 227 kWp solarized facility – chosen by **Project SHIELD**, a joint initiative led by the **University of Oxford** and **Astonfield Solesa Solar Kenya Limited**.[17]

**Project SHIELD** won an award from **Innovate UK's Energy Catalyst Program**, part of **UK Research & Innovation**. Financial support provided under this award for the project forms part of the **UK's Official Development Assistance (ODA)** commitment. This is monitored by the **Organisation for Economic Cooperation and Development (OECD). Energy Catalyst** is being supported by the **Foreign, Commonwealth and Development Office (FCDO)** and the **Department of Science, Innovation** and **Technology (DSIT)** through **Innovate UK.**[18]

Another **Sustainability** use case is the tracking of electricity consumption parameters of components as they progress through supply chains to eventual manufacture of product. **C:Pesa DIGIRECs®** could embed via smart contracts into digital documents of title, such as electronic bills of lading, to help firms meet calls for the **Digitalisation of International Trade** from the **ICC UK** and the **Centre for Digital Trade** to improve liquidity, reduce risk and increase profitability with respect to importing and exporting to the UK and delivering paperless trade across the whole trade ecosystem.[19]

This Case Study illustrates how new private sector **Digital** instruments, **enabled by recent UK legal moves** like

[17] 10 October 2024 – Personal communication directly with Carbon Pesa Limited founders E. Mutuma Marangu and Ameet Shah.
[18] 23 May 2024 – extract of **Grant offer letter** awarding University of Oxford Jacob McKnight for Project title: Solar Hospital Energy Leasing Demonstrator (SHIELD) including funding as a "subsidy" awarded to Astonfield Solesa Solar Kenya Limited – "This grant funding is being made available by **Innovate UK**, part of **UK Research & Innovation**. **Innovate UK** is the **UK's national innovation agency.** It drives productivity and economic growth by supporting businesses to develop and realise the potential of new ideas, including those from the UK's world class research base. **Innovate UK** connects businesses to the partners, customers and investors that can help them turn ideas into commercially successful products and services, and aid business growth. **Innovate UK** funds business and research collaborations to accelerate innovation and drive business investment into research and development. The support is available to businesses across all economic sectors, value chains and UK regions."
[19] 2024 – Seizing the moment: Unleashing the potential of trade digitalisation by the International Chamber of Commerce United Kingdom (ICC UK) and the Centre for Digital Trade, "The **UNCITRAL Model Law on Electronic Transferable Records (MLETR)** is the global framework for handling documents of title in digital form. On 20 September 2023, the **Electronic Trade Documents Act (ETDA)** came into force enabling the legal recognition of documents of title to be handled in digital form, **aligning English law to MLETR**." https://iccwbo.uk/seizing-the-moment-report/

- **Property (Digital Assets etc) Bill**[20] introduced 11 September 2024 to Parliament implementing recommendations from the Law Commission and its **Digital Assets: Final Report**[21] as presented to Parliament 27 June 2023
- **Electronic Trade Documents Act**[22] enabling legal recognition of documents of title to be handled in digital form

can serve initiatives for Net Zero Emissions and Assurance requiring provenance and traceability in a way that incentivises both the production and consumption of clean Electricity just as it is needed most.

In this way, the **C:Pesa DIGIREC®** becomes a global **Digital Finance** instrument related to **Sustainability** that is acceptable to corporate and financial professionals for its integrity, assurance and legal compliance. The resulting confidence can stimulate a strong secondary market, trading with liquidity and true price discovery with transparent supply and demand.

**UK-incorporated innovators like C:Pesa®** are ready to help stakeholders in **Sustainable Finance** prepare for the **Age of AI** and the **Digitalisation of International Trade –** giving Energy Producers, Firms & Fund Managers access, choice and efficiency when they issue, trade, and redeem digital instruments to achieve Carbon Free electricity parameters for consumption.

[20] 11 September 2024 – **Property (Digital Assets etc) Bill introduced to Parliament – "clarifies that a 'thing' is not incapable of attracting property rights simply because it exists in digital form**" https://lawcom.gov.uk/property-digital-assets-etc-bill-introduced-into-parliament/
[21] 27 June 2023 – **Digital Assets: Final Report** by the Law Commission. Presented to Parliament pursuant to section 3(2) of the Law Commissions Act 1965
Ordered by the House of Commons to be printed on 27 June 2023, https://lawcom.gov.uk/document/digital-assets-final-report/
[22] 20 September 2023 – **Electronic Trade Documents Act** – https://www.legislation.gov.uk/ukpga/2023/38/section/3/enacted

## Annex 4 – Spotlight - Key issues in the UK inhibiting digital innovation in financial markets *By Archax*

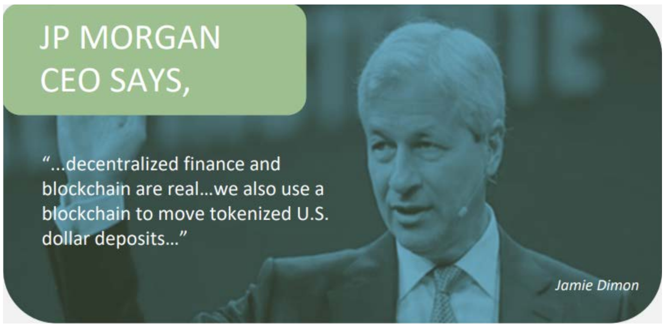
ARCHAX

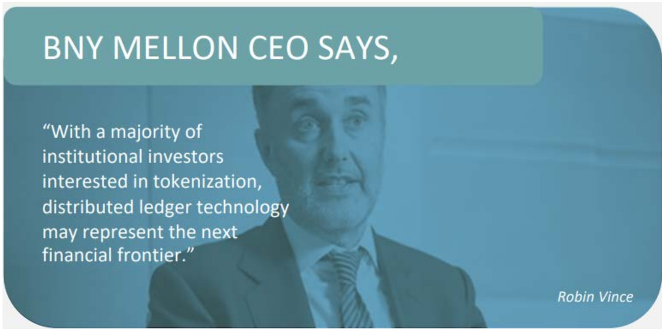
### Key issues in the UK inhibiting digital innovation in financial markets

Please see below a summary of items which Archax considers to be key inhibitors for digital asset growth within the UK.

| Item | Description | Examples | Suggested action |
|---|---|---|---|
| **Bank accounts** | Most banks in the UK refuse bank accounts to any crypto related company or one with crypto within its name. | Archax could not get an account with Lloyds, Barclays, Natwest, HSBC, Bank of Scotland or Royal Bank of Scotland, despite being FCA regulated as a trading venue and on the FCA crypto asset register. | Banks should have to justify why they are not allowing this to happen without hiding behind a generic "risk based reason" statement. It is incorrect to assume there are money laundering issues with all cryptoasset companies, especially those who have demonstrated to the FCA that they meet the thresholds for regulation and cryptoasset registration. |
| **5MLD** | Regulated companies, such as brokers, have already demonstrated that they satisfy the money laundering regulations by virtue of their FCA permissions. The FCA cryptoasset registration process demands that they redemonstrate the same. | A UK broker, such as Winterflood Securities is subject to the Money Laundering Regulations by virtue of its existing permissions. If they wanted to offer cryptoassets to their clients, they must reregister.<br>There is an interesting question – if we don't think Winterflood satisfy the MLRs, we should remove their existing permissions. If we think they do, we should do a proportionate test of their cryptoasset capabilities. | Companies, like brokers, who are already FCA regulated should be able to apply for a registration variation whereby they need to demonstrate specific new requirements for cryptoassets. If they don't intend to hold the cryptoassets themselves, i.e. they are trading on a registered cryptoasset venue, then limited requirements should be applied. |
| **ETPs** | Exchange traded products with no leverage should be available to retail investors. | A Bitcoin Exchange Traded Product is not allowed to be traded by a retail individual due to the ban imposed by the FCA. However, individuals can still buy Bitcoin from onshore and offshore firms. Therefore, we are not protecting individuals but pushing them into unregulated products on unregulated and unregistered venues. | Remove the ban on derivatives/exchange traded products where the underlying offers no leveraged exposure and is a regulated product. |
| **Foreign companies** | Currently, cryptoasset companies can sell into the UK from offshore without meeting the 5MLD thresholds. | A UK crypto exchange is required to be on the cryptoasset register to serve UK consumers. However, an offshore entity can do so with no registration. Therefore, companies that do not meet the threshold are moving offshore and selling back into the UK. This means that tax and innovation is moving offshore but consumer risk is not reduced. | We should be encouraging entities to be on the cryptoasset register and those with deficiencies or problematic historical transactions should be encouraged to take remedial action rather than asked to remove their application.<br>Reverse solicitation should be better controlled with anyone with more than 100 UK clients (for example) mandated to apply for registration. Perhaps tax rules could be used to encourage a UK presence. |

## Annex 5 – GDF Community Resources


**Abrdn**

- https://www.abrdn.com/en-no/institutional/investment-solutions/digital-assets
- https://www.abrdn.com/en/institutional/insights-and-research/digital-assets-unlocking-value-in-technologies-of-future

**BCG ADDG**

- https://addx.co/insights/bcg-addx-report-asset-tokenization-to-grow-50x-into-us-16-trillion-opportunity-by-2030/

**Binance:**

- https://www.binance.com/en-GB/blog/all/update-on-binance-for-uk-users-9375968188540265 89
- https://www.binance.com/en-GB/blog/all/binance-launches-uk-domain-in-compliance-with-new-financial-promotions-rules-2903800236178709961
- https://www.binance.com/en/research/analysis

**Bitfinex**

- https://blog.bitfinex.com/tag/bitcoin-market-analysis/ (use 'categories' and 'tags' to narrow search)

**Block**

- https://block.xyz/inside/clean-energy-bitcoin-mining
- https://block.xyz/inside/block-partners-with-commerce-department-NIST-to-accelerate-development-and-adoption-of-digital-identity
- https://block.xyz/inside/press-release-bitkey-launch
- https://block.xyz/inside/press-release-block-core-scientific-agreement
- https://block.xyz/inside/using-ai-to-identify-and-prevent-fraud
- https://block.xyz/inside/report-bitcoin-volatility

**BNY**
- https://www.bny.com/corporate/global/en/about-us/technology-innovation.html

**Crypto.com**
- https://crypto.com/research

**Deloitte**
- https://www2.deloitte.com/us/en/pages/about-deloitte/solutions/blockchain-digital-assets-insights.html

**Euroclear**
- https://www.euroclear.com/services/en/primary-issuance/digital-financial-market-infrastructure.html
- https://www.euroclear.com/newsandinsights/en/press/2024/mr-15-dtcc-clearstream-and-euroclear-develop-framework-to-advance-adoption-odigital-assets.html

**EY Parthenon**
- https://www.ey.com/en_us/insights/financial-services/how-investors-make-digital-assets-part-of-their-lives
- https://www.ey.com/en_us/insights/financial-services/tokenization-in-asset-management

**Goldman Sachs**
- https://www.goldmansachs.com/insights/technology

**GSR**
- https://www.gsr.io/reports/

**HSBC**
- https://www.gbm.hsbc.com/en-gb/insights/financing/first-multi-currency-digital-bond-offering
- https://www.gbm.hsbc.com/en-gb/insights/innovation/banking-and-beyond-with-blockchain

**JP Morgan**
- https://www.jpmorgan.com/insights/global-research/technology

**OKX:**
- https://www.okx.com/learn/category/blog
- https://www.okx.com/learn (scroll down to 'All topics' to narrow search)

**PayPal**
- https://newsroom.paypal-corp.com/2023-03-03-PayPal-Responds-To-The-US-Office-Of-Science-And-Technology-Policy-Digital-Assets-R-D-Agenda
- https://newsroom.paypal-corp.com/2024-05-02-MoonPay-Now-Lets-Users-Buy-Sell-Crypto-funded-by-PayPal
- https://newsroom.paypal-corp.com/2024-05-29-PayPal-USD-Stablecoin-Now-Available-on-Solana-Blockchain,-Providing-Faster,-Cheaper-Transactions-for-Consumers
- https://newsroom.paypal-corp.com/2023-06-Metaverse-and-Money
- https://newsroom.paypal-corp.com/2023-08-07-PayPal-Launches-U-S-Dollar-Stablecoin
- https://newsroom.paypal-corp.com/2023-01-29-PayPal-Ventures-Invests-in-Mesh


- https://newsroom.paypal-corp.com/2023-09-20-PayPal-USD-is-now-available-on-Venmo
- https://newsroom.paypal-corp.com/2024-04-04-Xoom-Enables-PayPal-USD-as-a-Funding-Option-for-Cross-Border-Money-Transfers

**Standard Chartered:**

- https://www.sc.com/en/news/economy-and-trade/196147/
- https://www.sc.com/en/news/ccib/how-payments-collections-enhance-customer-experience/
- https://av.sc.com/corp-en/content/docs/Standard-Chartered-Deepening-Sustainability-with-DLT.pdf
- https://www.sc.com/en/news/digital-solutions/securing-future-crucial-link-crypto-custody-counterparty-risk/
- https://www.sc.com/en/news/cash-management/need-to-know-regulatory-impacts-asia-payments/
- https://www.sc.com/en/news/ccib/stablecoins-blockchains-and-the-future-of-global-commerce/
- https://www.sc.com/en/news/corporates/how-financial-institutions-lead-cbdc-era/
- https://www.sc.com/en/news/ccib/five-reasons-optimism-trade-2024/
- https://www.sc.com/en/press-release/standard-chartered-china-participates-in-e-cny-business-pilot/

**Taurus:**

- https://www.taurushq.com/insights/taurus-dora/
- https://www.taurushq.com/insights/Taurus-Banking-Grade-Custody-June-2023/
- https://www.taurushq.com/insights/tokenization-practitioner-point-of-view/
- https://www.taurushq.com/blog/

**Tether**

- https://tether.io/news/

**UDHC**

- https://www.udhc.com/writing

**Zodia:**

- https://zodia-custody.com/insights/
- New report: The Future of Custody in a Tokenised World https://zodia-custody.com/the-future-of-custody-in-a-tokenised-world/

## Annex 6 – Association Resources

### AFME

- https://www.afme.eu/publications/reports/details/scaling-dlt-based-capital-markets---a-policy-roadmap-for-the-uk
- https://www.afme.eu/publications/reports/details/digital-finance-in-the-eu---priorities-for-fostering-resilient-innovative-and-competitive-financial-markets
- https://www.afme.eu/publications/reports/details/scaling-dlt-based-ssa-and-government-bond-markets---a-roadmap-strategy-for-european-issuers
- https://www.afme.eu/publications/reports/details/artificial-intelligence-challenges-and-opportunities-for-compliance-
- https://www.afme.eu/publications/reports/details/decentralised-finance---principles-for-building-a-robust-digital-economy-
- https://www.afme.eu/publications/reports/details/impact-of-distributed-ledger-technology-in-global-capital-markets
- https://www.afme.eu/Portals/0/DispatchFeaturedImages/20240523_UK%20DSS%20Consultation%20Response%20draft_vF_clean.pdf
- https://www.afme.eu/Portals/0/DispatchFeaturedImages/Joint%20Associations%20Cryptoassets%20Working%20Group%20-%20BCBS%20Cryptoasset%20Standard%20Amendments.pdf
- https://www.afme.eu/Portals/0/DispatchFeaturedImages/20240206_FCA%20and%20BoE%20Stablecoin%20Discussion%20Paper_AFME%20response_vF_clean%20(1).pdf
- https://www.afme.eu/Portals/0/DispatchFeaturedImages/ESMA_MIC2_AFME_RESPONSEFORM%20(1).pdf
- https://www.afme.eu/Portals/0/DispatchFeaturedImages/ESMA_MIC2_AFME_RESPONSEFORM.pdf
- https://www.afme.eu/Portals/0/DispatchFeaturedImages/290920%20AMF%20DeFi%20Response%20.pdf
- https://www.afme.eu/Portals/0/DispatchFeaturedImages/ESMA_CP1_MiCA%20_AFME.pdf
- https://www.afme.eu/Portals/0/DispatchFeaturedImages/AFME%20Consultation%20Response%20-%20Digital%20Securities%20Sandbox%20FINAL.pdf
- https://www.afme.eu/Portals/0/DispatchFeaturedImages/AFME_HMT%20Crypto%20Consultation%20Response%2028.04.23.pdf

### CCI

- https://cryptoforinnovation.org/proof-of-work-enabling-the-energy-transitions/
- https://cryptoforinnovation.org/key-elements-of-an-effective-defi-framework/
- https://www.centerforadigitalfuture.org/equityinweb3
- https://cryptoforinnovation.org/analysis/
- https://cryptoforinnovation.org/recent-coverage/
- https://cryptoforinnovation.org/policy-briefs/

### TheCityUK

- https://www.thecityuk.com/our-work/response-to-the-interim-report-issued-by-the-uk-digitisation-taskforce/
- https://www.thecityuk.com/our-work/iukfp-harnessing-the-power-of-fintech-and-data/

### The Digital Pound Foundation

- https://digitalpoundfoundation.com/thought-leadership/

**Innovate Finance**

- https://www.innovatefinance.com/capital/fintech-investment-landscape-2023/

**The Investment Association**

- https://www.innovatefinance.com/insights/ (use ‘content areas’ to narrow search)

**TISA**

- https://www.tisa.uk.com/wp-content/uploads/2024/06/TISA-MANIFESTO-SUMMARY-June-2024-FINAL.pdf

**UK CBC**

- https://committees.parliament.uk/writtenevidence/112014/pdf/?_gl=1*148phi9*_up*MQ..*_ga*MTA2MTM2MzU1OC4xNzI1MDMxOTQ5*_ga_9684J19FT4*MTcyNTAzMTk0OS4xLjAuMTcyNTAzMTk2NC4wLjAuMA..

**UK Finance**

- https://www.ukfinance.org.uk/news-and-insight/blog/payments-in-digital-world-need-agile-innovation-in-merchant-acquiring
- https://www.ukfinance.org.uk/news-and-insight/blog/accessible-inclusive-banking-digital-age
- https://www.ukfinance.org.uk/news-and-insight/blog/stablecoins-first-phase-uks-crypto-regulation
- https://www.ukfinance.org.uk/news-and-insight/blog/assessing-proposals-uks-stablecoin-regulation
- https://www.ukfinance.org.uk/news-and-insight/blog/aligning-uks-rhetoric-crypto-assets-regulation
- https://www.ukfinance.org.uk/news-and-insight/blog/crypto-lending-defi-tax-exemption-comes-short
- https://www.ukfinance.org.uk/news-and-insight/blog/humanising-identity-in-crypto-world

**ISDA**

- https://www.isda.org/category/asset-classes/digital-asset/

**PIMFA**

- https://www.pimfa.co.uk/wp-content/uploads/2023/09/PIMFA-response-to-Digitisation-Taskforce-Interim-Report-220923.pdf
- https://www.pimfa.co.uk/wp-content/uploads/2023/06/PIMFA-response-to-DSIT-consultation-Pro-innovation-approach-to-AI-190623.pdf
- https://www.pimfa.co.uk/wp-content/uploads/2023/02/PIMFA-response-to-FCA-DP22-4-AI-100223.pdf

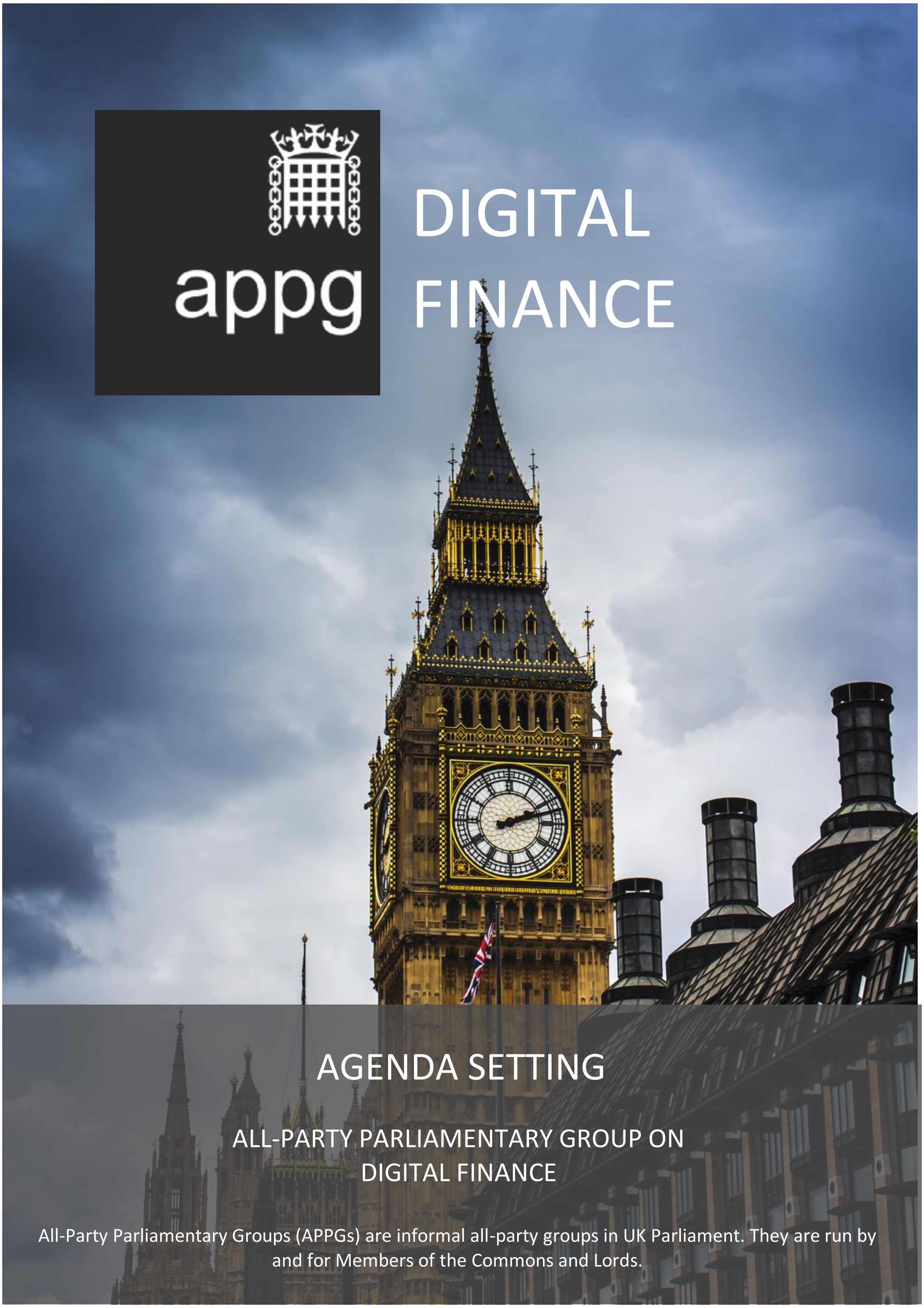
**CFIT**

- https://cfit.org.uk/cfit-forms-industry-coalition-fighting-economic-crime-through-enhanced-verification/

**ICMA**

- https://www.icmagroup.org/fintech-and-digitalisation/fintech-resources/fintech-publications-consultations-and-reports/

**Annex 7 – Digital Finance APPG – 2024 Programme**



# APPG Digital Finance Officers

Chair
Sir Stephen Timms MP

Vice-Chair
Lord Philip Hammond

Officer
Adam Afriyie

Officer
Martin Docherty Hughes

Secretariat
Vincent Keavney CBE
Former Lord Mayor of London

### Chair Sir Stephen Timms MP, Former Chief Secretary to the Treasury (Labour):

"Digital finance is borderless. The speed of technological innovation presents tough challenges for regulators and businesses, but the fintech revolution and decentralised financial market infrastructure open up new opportunities for inclusion and opportunity. The APPG Digital Finance can play a beneficial role by monitoring progress, assessing the challenges and promoting the opportunities."

### Vice-Chair Lord Philip Hammond, Former Chancellor of the Exchequer (Conservative):

"The Digital Finance APPG will be an authoritative voice within the UK Parliament on the futureproof digital financial market infrastructure that will underpin the digital transformation of the UK's world-class financial sector, delivering new and greater productivity, growth, and prosperity. That will allow us to secure the UK's role as a global financial hub in the post-Brexit era."

Appointed Secretariat For Digital Finance APPG

DLA PIPER

Industry Sponsor

GDF GLOBAL DIGITAL FINANCE

# WHY NOW?

The global financial services sector is at yet another new threshold of change driven by digital technologies. We saw the transformation of the banking sector at the birth of the internet taken to new levels over the past decade with fintech. We are now witness to the next era of digital finance as we enter the age of blockchain and artificial intelligence.

These new digital technologies will enable financial services to be even more competitive, cheaper, efficient, secure, and further open up access to new and innovative products and services to a broader range of consumers and businesses.

These new digital technologies also pose new and often seemingly complex questions for policy makers. Technological developments are delivered into the market and move much quicker than policy makers, the legislative agenda, government agencies, and often regulated industry firms can manage.

It is clear to industry leaders in the financial services sector that this next era of digitisation is not just about banking or fintech products and services, it is about the transformation of our (global) financial infrastructure. The digitisation of financial market infrastructure is transforming the bedrock on which our future financial services will operate.

The next era of digital finance offers the opportunity to deliver on promises from the U.K.'s leading financial services sector to boost growth, create new jobs, promote greater social inclusion, and deliver greater prosperity.

Following on from U.K. Government-led initiatives in partnership with the City of London such as the creation of Innovate Finance (2014), the Kalifa Fintech Review (2021), and the establishment of the Centre for Financial Innovation and Technology – CFIT (2023), the U.K. must positively exploit the benefits of our world class financial services and fintech ecosystem, nurtured over the past decade, and lead this new digital space race.

The U.K. has always been at the forefront of technological developments and innovation in financial services, and at the threshold of this new era, we must further capitalise on our heritage and investment. The Government has demonstrated, through the introduction of recent legislation such as the Electronic Trade Documents Act and the Financial Services and Markets Bill, that it is keen to support the UK's ability to lead the digital space race. This support will enable greater future digital innovation and, together with our financial ecosystem, is our cutting edge.

Other jurisdictions are making significant progress by putting in place measures to attract new capital, talent, and regulated firms to compete in the digital space race. The U.K. has the advantage of being a globally leading tier one financial services and fintech hub that it is home to many of the firms that will lead this new era of digital finance, but we must act now.

We must build on our successes to further enable firms to adopt and deploy new technologies and lead this next era of the transformation of digital financial market infrastructure, or risk firms taking their business to more innovation, regulation, and tax friendly jurisdictions.

By better enabling blockchain technologies, we will help the digital transformation of the capital markets brokerage, custody, and settlement infrastructure to deliver efficiencies that unlock billions in capital for asset owners to reinvest - we have the opportunity to make the U.K. the go-to global hub for digital finance. The benefits from the digital transformation of the capital markets will rapidly enable a safer, rapid, more inclusive, and diverse financial services sector for all of society.

To help unlock these opportunities, there needs to be well-informed and forward-looking policies and that can only happen with a well-informed and forward-looking Parliament.

# OUR AIM

The All-Party Parliamentary Group on Digital Finance aims to function as the permanent authoritative voice within the Parliament on all matters related to the transition to digital finance in this new era.

The APPG will play a critical role in educating policymakers and upskilling their knowledge and understanding of the opportunities:

- Competition – how the U.K. will better compete with traditional and new and emerging digital financial hubs to positively exploit its premier position as a global financial services and fintech hub
- Productivity – how the U.K. will leverage the implementation of this new era of digitisation to boost productivity, growth and new jobs in digital financial innovation across all regions of the U.K.
- New products – how the U.K. will nurture innovation to create access to new and innovative products and services to better meet the needs of our citizens and businesses.

The APPG serves as an education tool, as a better-informed Parliament results in better-informed policy.

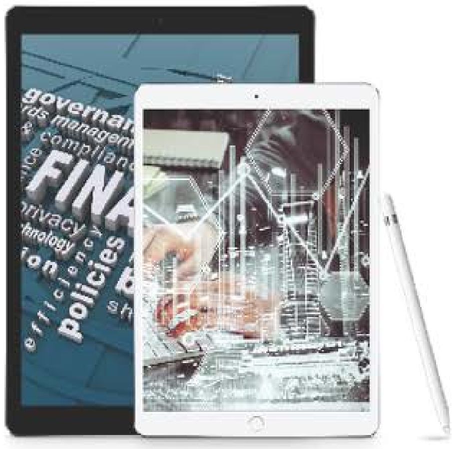
The digital technology and innovation narrative often gravitates towards the jargon of technology and new business models that many business executives, asset managers, and policy makers find difficult to understand, or see the commercial value and social utility in. Many often ask, "what job does this do in society, who does this benefit, and why is the important, now."

The APPG Digital Finance endeavours to raise the bar for purveyors of the digital finance narrative by addressing what digital finance means to Digital Britain:

- how it can be used to boost productivity and growth
- what are the opportunities for jobs creation and the next generation of young coders and innovators
- what can government policy do to realise the benefits technology can deliver to the U.K.

Ultimately, the APPG will be successful if it meaningfully addresses why digital finance matters to MPs and their constituents, and industry, in a timeframe that allows government to respond more expediently, to lead, and to be seen to be leading the space race in digital finance.

# All-Party Parliamentary Group on Digital Finance



## OUR FOCUS

The Digital Finance APPG will take a deep look into several emerging topics in global finance which require deep-dive considerations between UK Parliamentarians, international lawmakers, financial advisors, financial traders, financial security firms, investors, banks, the science base (academic finance), and other stakeholders.

The topics of the group will include rules, norms, standards, codes of conduct, new industry practices, digital proofs of concept, real technology use cases, and policy approaches to:

- Regulation of the crypto spot and cash derivatives market
- Regulation of stablecoin and cross-border payments
- Digital assets custody and settlement
- Private and public markets' digital securities tokenisation
- Commodities tokenisation
- Property markets tokenisation
- DeFi legal structures
- Digital assets and tax recovery
- Patient capital and unlocking digital assets markets
- Non-fungible tokens (NFTs)
- AML / KYC / (anti-money laundering)
- CBDC (Central Bank Digital Currency)
- Derivatives tokenisation.

We will consider both digital and physical financial market Infrastructure development as well as data management and interoperability across the digital financial market infrastructures.

Finally, we will conduct policy and regulation landscaping to understand various UK and international approaches to building a new digital financial market infrastructure.