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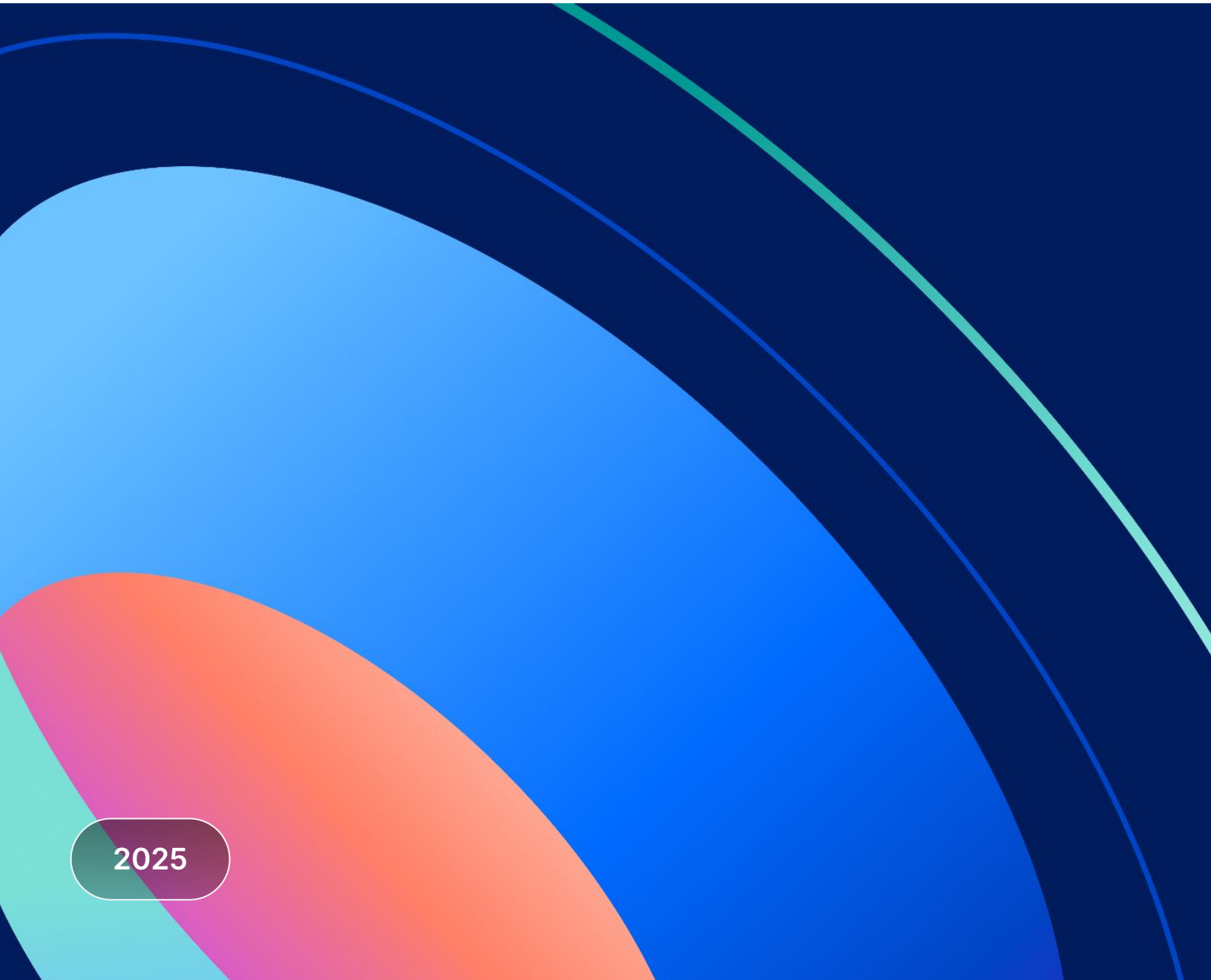
Banking on Digital Assets:

How Traditional Finance is Investing in Blockchain



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About Ripple
Ripple is the leading provider of digital asset infrastructure for financial institutions—delivering simple, compliant, reliable software that unlocks efficiencies, reduces friction, and enhances innovation in global finance. Ripple's solutions leverage the XRP Ledger and its native digital asset, XRP, which was purpose-built to enable fast, low-cost, highly scalable transactions across developer and financial use cases. With a proven track record working with regulators and policymakers around the world, Ripple's payments, custody and stablecoin solutions are pioneering the digital asset economy—building credibility and trust in enterprise blockchain. Together with customers, partners and the developer community, we are transforming the way the world tokenizes, stores, exchanges, and moves value.

About CB Insights
CB Insights is the leading provider of AI for market intelligence. The company aggregates, validates, and analyzes hard-to-find private and public company data. Its powerful AI tells users what it all means to them personally. The world's smartest companies rely on CB Insights to focus on the right markets, stay ahead of competitors, and identify the right targets for sales, partnership, or acquisition.

About UK CBT
The UK Centre for Blockchain Technologies (UK CBT) is a leading national hub for blockchain innovation and expertise, uniting the University of Oxford, the University of Birmingham, and University College London (UCL) to shape and advance the UK's blockchain agenda. Its mission is to position the UK as a global leader in the development and responsible adoption of blockchain by fostering collaboration across academia, industry, and government. Through cutting-edge research, inclusive education, community building, and policy engagement, UK CBT empowers stakeholders and unlocks blockchain's potential for business and society.

Introduction

The banking sector has evolved through the years due, in large part, to a number of technological advancements: telephone banking in the 1980s; internet banking and the e-commerce boom in the 1990s; mobile banking in the 2000s; the growth of machine learning and artificial intelligence over the past decade; and now, blockchain and digital assets integrating with traditional finance.

Institutions are responding to rising client demand for exposure to digital assets by offering access to crypto exchange-traded products (ETPs). A recent Citi report[1] found that global stablecoin transaction volumes reached $650-700 billion per month during the first quarter of 2025, and that adoption will continue to climb as the efficiency gains (faster transactions, global access, low cost, 24/7 availability) are realized across traditional finance.

Proliferation of blockchain technology has not only piqued the interest of major finance players, but it has also spurred new business models for fintechs and crypto businesses to carve out their own share of the financial services pie. Traditional financial institutions have begun partnering with crypto-forward businesses on initiatives like tokenization; for example, JP Morgan Chase recently completed its first public blockchain transaction,[2] settling tokenized U.S. treasuries with support from crypto businesses Chainlink and Ondo Finance.

Real-world use cases for blockchain are being integrated into financial systems worldwide, and while crypto was initially met with skepticism, legislators are recognizing the need for regulatory clarity to protect consumers and support responsible innovation.

The U.S. has made progress on this front, with the FDIC[3] and SEC[4] providing new guidance for financial institutions engaging with digital assets, and the GENIUS Act, passed by the U.S. Senate on June 17, 2025, which would establish federal oversight for stablecoins.[5] Additionally, the EU's National Competent Authorities (NCAs),[6] the Dubai Virtual Assets Regulatory Authority (VARA), and the Monetary Authority of Singapore have taken action to reduce ambiguity in digital asset regulation. In tandem, public-private collaboration is narrowing the crypto knowledge gap and shifting perspectives across traditional finance.

With regulatory progress, banks are slowly but surely moving into the digital asset space as the benefits of integrating blockchain technology into finance become impossible to ignore.

Now, we're entering into a new era of survival of the fittest. With growing institutional demand for digital asset services and tokenization of financial assets, the question on many minds is: Will banks maintain their place at the top of the finance food chain?

Read on for an inside look at how, where, and why banks are investing in blockchain technology and digital asset applications.

[1] https://www.citigroup.com/rcs/citigpa/storage/public/GPS_Report_Blockchain_Digital_Dollar.pdf

[2] https://fortune.com/crypto/2025/05/14/jpmorgan-chase-kinexys-digital-payments-ondo-chainlink/

[3] https://www.fdic.gov/news/press-releases/2025/fdic-clarifies-process-banks-engage-crypto-related-activities

[4] https://www.sec.gov/rules-regulations/staff-guidance/staff-accounting-bulletins/staff-accounting-bulletin-122

[5] https://www.congress.gov/bill/119th-congress/senate-bill/394/text

[6] The EU regulation MiCA (Markets in Crypto-Assets Regulation) is enforced primarily by National Competent Authorities (NCAs) within each EU member state, with oversight and harmonization efforts from the European Securities and Markets Authority (ESMA) and the European Banking Authority (EBA)

Methodology

Ripple partnered with CB Insights and the UK Centre for Blockchain Technologies to explore how banks have made global investments in the digital asset ecosystem between 2020-2024. CB Insights reviewed the activity of more than 8,000 blockchain companies and 1,800 banks (financial institutions providing banking services to consumers and/or businesses) as part of this analysis. The findings include activity around direct investment, mergers and acquisitions, and partnerships.

Blockchain companies build, apply, and analyze blockchain and cryptocurrency technologies for business or consumer use cases. These include blockchain infrastructure and development, decentralized finance (DeFi), Web3, Non-Fungible Tokens (NFTs), gaming, blockchain in supply chains, enterprise blockchain, metaverse, institutional crypto and digital asset custody, and crypto mining. See CB Insights' blockchain collection[7] to learn more. References for subsets of banks analyzed include the Financial Stability Board's 2024 list of G-SIBs (Global Systemically Important Banks) and the FDIC's list of U.S. banks.

Unless otherwise noted, all funding, investment, and deal data cited is sourced from CB Insights.

A Primer on Blockchain

A blockchain is a decentralized, immutable, digital ledger that cryptographically records transactions in a sequential chain of blocks, giving rise to the term 'blockchain'.

But not all blockchains are created equal. Different blockchains serve different purposes and use cases, including long-term storage of value, enabling smart contracts, streamlining cross-border payments and more.

When applied to finance, blockchain technology can:

- make markets accessible 24/7/365;
- automate manual processes like settlement and reconciliation;
- improve liquidity of financial assets;
- drive additional revenue streams through new digital asset use cases;
- offer a new type of governing structure (e.g., decentralized autonomous organizations);
- reduce intermediaries and costs associated with global transactions;
- democratize access to digital assets and financial services.

[7] https://app.cbinsights.com/cxn/2853/4324

The underlying technology that powers the movement and management of digital assets—cryptocurrencies, stablecoins, tokenized real-world assets, etc.—is not only making finance dramatically more efficient, it's proving innovative new use cases and transforming the industry.

For example, blockchain can enable fractional ownership of tokenized assets and foster greater synergy between issuers and investors. Lowering the financial barrier to entry expands access to financial instruments and increases the number of investors, benefiting the market as a whole.

Additionally, crypto-enabled global payments and programmable smart contracts are strong use cases for blockchain already revolutionizing finance. Market participants seem to agree that this technology will have profound effects on the industry as we know it.

Funding to stablecoin companies is projected to increase tenfold in 2025 compared to 2024 levels per CB Insights' data. Combined with recent bank initiatives to issue their own stablecoins, this surge reflects the banking sector's growing interest in harnessing blockchain technology while avoiding the price volatility that characterizes some other cryptocurrencies.

Ripple's survey of more than 1,800 global finance leaders found that 90% believe blockchain and digital assets will have a significant or massive impact on finance in the next three years. And Boston Consulting Group estimates that tokenized assets will surpass $18T by 2033, reflecting a CAGR of 53%.

Sentiment is trending positively within finance as well as market analysts, and CB Insights data on blockchain-based investment activity across the banking sector reinforces this bullish perspective.

90%

of global finance leaders believe blockchain and digital assets will have a significant or massive impact on finance

A Macro Look at the Data

There are many ways to integrate digital assets and blockchain into finance. From portfolio diversification and offering customers access to crypto-enabled payments, to digital asset custody services and tokenizing financial assets like bonds, mutual funds, equities and more.

The decision to "build vs buy"—developing digital asset capabilities in-house vs partnering with, investing in or acquiring a digital asset service provider—remains one of the most important considerations for businesses in the early stages of implementing a blockchain strategy.

We took a closer look at how major financial institutions are executing on their "buy" strategies by reviewing public investment activity in blockchain companies between 2020-2024.

Between 2020-2024, over $100B was invested in blockchain companies across more than 10,000 deals.

This includes 219 mega-rounds ($100M+), the most common of which were seed and seed VC rounds.

The majority of blockchain companies that attracted funding are based in the U.S., followed by Singapore, Canada, and the UK. This scattered global adoption coupled with the relatively nascent nature of the technology (and regulation) proves it really is anyone's race to win—and the competition is heating up.

Zooming in on Banks

The research found that from 2020-2024, global banks in particular took part in 345 investments in blockchain companies, the majority of which were early-stage—seed funding and series A funding. This may be because the blockchain industry is still in the early stages of development, but it could also point to an eagerness to move quickly on digital asset integration. Banks are generally more conservative investors, so funding a startup suggests that the blockchain company's use case aligns with the bank's long-term strategy.

Banks participated in 33 blockchain-related mega-rounds between 2020-2024. Bank investments came primarily from the U.S. and Japan, followed by Singapore, France and the UK. SBI Group—a Japanese financial institution that spans banking, brokerage, asset management, and insurance among other businesses—and Goldman Sachs were particularly active investors, alongside SCB 10X, the investment arm of SCBX Group, based out of Thailand.

Of the 33 mega-round deals, the use cases that garnered high levels of interest included: institutional infrastructure related to trading, staking, and tokenization (27%); payments (24%); and digital asset custody (21%).

Three of the 33 mega-rounds noted took place in 2024. In May, Brazil-based fintech CloudWalk received $312.95M in funding from Banco Itaú,[8] and another $444M in funding from BTG Pactual and Banco Safra last December. Founded in 2013, CloudWalk leverages blockchain technology to enable streamlined domestic payments for merchants across Brazil and has recently expanded into the U.S.[9]

345

From 2020-2024 global banks took part in 345 investments in blockchain companies.

In March of 2024, Japan's SBI Group led the Series F-II funding round for Germany's embedded finance platform Solaris, raising more than $104M.[10] Solaris has pioneered a number of key digital asset initiatives across Germany including helping launch the country's first digital asset trading venue as well as its first regulated security token offering.

Solaris offers custodial solutions in combination with digital banking services. More recently, SBI Group expanded its global footprint by acquiring a majority stake in Solaris.[11]

This is just one example of the growth opportunity in the digital asset space: Early movers like SBI are combining their traditional financial network and expertise with in-demand modern financial services offered through crypto businesses.

There was one notable blockchain-related banking deal that surpassed $1B during this time period. The New York Digital Investment Group (NYDIG) growth equity round took place in late 2021 and brought in $1B from investors like MassMutual, New York Life, and Morgan Stanley to support development of NYDIG's bitcoin platform.[12] Earlier that same year, Morgan Stanley was named the first major U.S. bank to offer high net worth clients access to bitcoin funds.[13] While the NYDIG deal was phased out in 2024, Morgan Stanley quickly rolled out a bitcoin exchange traded fund (ETF) offering through BlackRock and Fidelity funds—just months after the U.S. Securities and Exchange Commission (SEC) approved spot bitcoin ETFs.[14]

[8] https://www.cloudwalk.io/newsroom/cloudwalk-owner-of-infinitepay-raises-fidcs-to-expand-sme-operations

[9] https://www.techloy.com/infographic-top-latam-startup-funding-week-49-2024/

[10] https://newsroom.solarisgroup.com/235904-solaris-raises-eur-96-million-in-funding

[11] https://newsroom.solarisgroup.com/248141-solaris-investor-sbi-completes-ownership-process

[12] https://www.prnewswire.com/news-releases/nydig-announces-1-billion-funding-round-301444063.html

[13] https://www.cnbc.com/2021/03/17/bitcoin-morgan-stanley-is-the-first-big-us-bank-to-offer-wealthy-clients-access-to-bitcoin-funds.html

[14] https://www.cnbc.com/2024/08/02/morgan-stanley-wealth-advisors-bitcoin-etfs.html

While these deals reflect strong momentum, it is important to note that 2022 saw a decrease in bank investment activity in blockchain companies in line with the crypto winter—a period of declining crypto prices and low trading volume. Following the subsequent FTX collapse in November of the same year, the dollar value of global banks' dealmaking activity dropped in 2023 to $560M.

Although 2024 activity was low compared to the three years prior, the dollar value of global banks' dealmaking activity actually increased from 2023 to 2024.

Global Systemically Important Banks (G-SIBs)

Examining the blockchain investment activity among Global Systemically Important Banks (G-SIBs) can help paint a clearer picture of their long-term digital asset strategy and confidence in the technology.

Following the 2008 financial crisis, G-SIBs' activity has fallen under intense scrutiny; operating under a microscope means investment decisions must be made with careful consideration.

Movement into the blockchain space by G-SIBs helps legitimize the technology, signalling that real-world applications have matured enough to be put into practice, certain use cases are both scalable and commercially viable, and digital asset regulation is progressing.

During the period examined, we found that G-SIBs commonly partnered with other banks to jointly invest in blockchain companies, instead of investing independently. We also found that this sector preferred partnerships—largely with crypto exchanges—and investments over full acquisitions. This is common for emerging technology investments and offers G-SIBs the agility to gain a seat at the table and leverage a faster time to market without the extensive operational burdens that accompany an acquisition.

Investments in Blockchain Companies by G-SIBs 2020-2024

106
G-SIB investments in blockchain companies

14
Mega-round deals ($100M+)

18
investment deals made by Citigroup and Goldman Sachs

15
investment deals made by JP Morgan Chase and Mitsubishi EFJ Financial Group

16
partnerships in 2024 including Blockchain-based ETF provider Wisdom Tree and BNY Mellon

Source: CB Insights

Blockchain company	Investment Year	Year founded & headquarters	Total funding to date	G-SIBs that invested	Use case
Talos	Series B, 2022	2018, United States	$145M	BNY Mellon Citigroup Wells Fargo	**Digital asset trading**: Institutional trading platform providing lifecycle management and connectivity across crypto exchanges, OTC desks, and prime brokers
Fnality	Series B, 2023	2019, United Kingdom	$158.5M	BNP Paribas Goldman Sachs The round included additional funding from Fnality's Series A investors, including G-SIBs: BNY Mellon Barclays Santander State Street Sumitomo Mitsui.	**Wholesale payments:** DLT-based payment systems for 24/7 digital cash settlement between banks, fully backed by central bank funds
Partior	Series B, 2024	2021, Singapore	$111M	JP Morgan Chase Standard Chartered	**Payments:** Real-time cross-border multi-currency clearing and settlement via unified blockchain ledger
HQLAx	Series C, 2024	2017, Luxembourg	$17.54M	HSBC BNP Paribas Citigroup Goldman Sachs JP Morgan Chase	**Tokenization:** Real-time transfer of security ownership tokens in securities finance and repo markets
TradeWaltz	Equity Funding, 2024	2020, Japan	$6.49M	MUFJ Mizuho Sumitomo Mitsui	**Supply chains:** Digitization and data transfer of analog trade procedures; blockchain-based cross-border trade solutions

Source: CB Insights

Expert View

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Deputy Director, UK Centre for Blockchain Technologies

Raising Security Standards

Once seen as a fringe use case for crypto-native startups, tokenization is now set to become a key part of traditional finance. Industry leaders such as BlackRock's CEO have called it "the next generation for markets." Indeed, the Boston Consulting Group in partnership with Ripple now estimates tokenized assets will surpass $18T by 2033.[15]

An example of this institutional embrace is HSBC's move into tokenized precious metals. What began in 2023 for institutional clients quickly evolved into a full retail offering, with the HSBC Gold Token launched in March 2024 in Hong Kong.[16] Available through HSBC's online and mobile platforms in Hong Kong, the product allows individuals to acquire fractional ownership of physical gold in a secure, regulated manner. Such initiatives underscore how tokenization can enhance liquidity and inclusivity in financial markets by making investments in assets like gold more accessible and efficient.

What is particularly noteworthy is how HSBC is thinking about what comes next.

Today's tokenized assets and cryptocurrencies rely on cryptographic algorithms (e.g., RSA or elliptic-curve signatures) to secure transactions and ownership.

In September 2024, HSBC became the first global bank to pilot quantum-secure technology for buying and selling tokenized gold.[17]

The result was the first real-world application of quantum-secure technology in digital asset trading. This included deploying post-quantum cryptography (PQC) and quantum random number generation (QRNG) in collaboration with Quantinuum. In short, these technologies are designed to protect tokenized assets from emerging cyber threats, such as the risk posed by quantum computers capable of breaking today's encryption protocols.

A 2024 analysis by the Global Risk Institute estimated a 34% chance that quantum computers capable of breaking RSA-2048—the public-key cryptography standard used in financial systems—will be operational by 2034, rising to nearly 80% by 2044.[18] This timeline puts urgent focus on quantum-proofing the cryptographic underpinnings of digital assets.

The HSBC pilot also demonstrated interoperability across different ledgers, bridging private and public blockchain environments and transferring assets across networks using the quantum-hardened system. In this context, HSBC's work exemplifies how a bank can move beyond experimentation and begin actively preparing the cybersecurity posture these new assets will require.

[15] https://ripple.com/ripple-press/global-financial-infrastructure-entering-a-new-era/
[16] https://www.hsbc.com/news-and-views/news/media-releases/2024/hsbc-pilots-quantum-safe-technology-for-tokenized-gold
[17] https://www.gbm.hsbc.com/en-gb/insights/innovation/asset-tokenisation-in-the-quantum-age
[18] https://globalriskinstitute.org/publication/2024-quantum-threat-timeline-report/

The Role of Regulation

The future financial infrastructure powered by digital assets will also require robust regulation and standards. The ISO 24165 standard, introduced in 2021, assigns a unique Digital Token Identifier (DTI) to each digital token: a 9-character code that provides a universal reference for tokens across platforms.[19] This framework fills a gap left by traditional identifiers (like ISIN for securities) which cannot easily accommodate onchain assets.

One initiative worth highlighting is the DTI standard maintained by the DTI Foundation. Similar to how ISIN codes work for traditional securities, DTI codes provide a standardized, universal identifier for digital tokens. Over 2,000 tokens have already been assigned codes, creating the foundation for consistent tracking, reporting, and risk management across jurisdictions.[20]

Standards are essential not only for helping regulators monitor activity but also giving institutions a common language to integrate digital assets into existing systems. Whether it's pricing, clearing, or compliance workflows, the infrastructure needs to speak the same language. DTI is a step in that direction.

The regulatory climate is also finally catching up, providing clarity for banks to operate in the space. Such regulatory certainty—like that of the EU's MiCA or Dubai's VARA—is expected to encourage greater institutional participation in tokenized markets.

These developments exemplify how public-sector frameworks and standards are evolving in tandem with industry innovation.

Continued collaboration between regulators and the private sector will be vital to ensure digital asset ecosystems flourish at scale.

Future Outlook

Large global banks (Tier-1 institutions) have led the way since 2020, pouring resources into in-house digital asset platforms, consortia, and venture investments. These efforts have yielded visible milestones (e.g., JP Morgan's Kinexys network for tokenized deposits or HSBC Orion powering tokenized gold and bond issuances). Empirical studies are beginning to document the effect of blockchain technology on the financial sector.

When it comes to smaller institutions such as regional and community banks, their approach has been more cautious. Many mid-sized banks have opted to partner with fintech firms or join industry utility platforms rather than build proprietary systems from scratch (e.g., Western Alliance Bank enabling business clients to tokenize and transfer deposits).[21] While broad-based adoption among smaller banks is nascent, a national survey in 2022 found that 11% of U.S. community banks reported plans to launch crypto-asset services[22] there is growing recognition of shifting bank attitudes, client demand, and competitive pressure to innovate.

As illustrated in this report, the tokenization of real-world assets is already reshaping the way financial institutions think about product design, market access, and infrastructure. The next chapter will be about scale and trust, allowing blockchain and tokenized assets to become a natural part of banks' toolkits across the industry.

11%

of U.S. community banks reported plans to launch crypto-asset services.

[15] https://ripple.com/ripple-press/global-financial-infrastructure-entering-a-new-era/

[16] https://www.hsbc.com/news-and-views/news/media-releases/2024/hsbc-pilots-quantum-safe-technology-for-tokenised-gold

[17] https://www.gbm.hsbc.com/en-gb/insights/innovation/asset-tokenisation-in-the-quantum-age

[18] https://globalriskinstitute.org/publication/2024-quantum-threat-timeline-report/

Conclusion

From robust investment activity and forward-thinking security developments to global regulatory clarity and implementation, it’s clear that the banking sector is taking blockchain seriously.

This technology is no longer a peripheral experiment but rather, a foundational pillar of modern financial infrastructure. Its application across a number of finance use cases is expanding rapidly, with real-world traction and institutional capital following suit.

Forward-thinking banks are not only investing in blockchain companies, but also actively integrating this into their own systems and shifting from exploration to execution. These are strategic moves that reflect blockchain’s ability to offer a competitive edge in the near-term and a competitive necessity in the long-term.

GLOSSARY OF KEY TERMS

For clarity, we define key terms that underpin the innovations discussed in this report.

Blockchain
Blockchain technology creates a record of transactions across computers that cannot be retroactively altered or reordered. The technology offers a way for untrusted parties to reach a consensus on a common digital history, preventing fakes or duplicates of digital assets.

Crypto wallet
Crypto wallets offer users a secure and convenient way to manage and transfer their cryptocurrencies. Instead of storing physical currencies, the wallets store the cryptographic keys needed to access the digital assets on the blockchain.

Decentralized finance (DeFi)
Decentralized finance (DeFi) refers to an ecosystem that enables fast, secure financial transactions that do not rely on central authorities like intermediary banks, credit unions, or brokerages. DeFi protocols include decentralized exchanges (DEXs), derivatives exchanges, lending and borrowing, asset management/yield protocols, payments, and insurance.

Digital asset
Where 'cryptocurrency' is used to refer to a currency distributed on a blockchain, 'digital asset' refers to any asset distributed on a blockchain including cryptocurrencies; tokenized real-world assets like commodities, real estate, stocks, bonds; non-fungible tokens; stablecoins.

Digital asset custody
Digital asset custody providers provide the safekeeping of a customer's digital assets by storing and securing their private keys.

Distributed-ledger technology
Distributed-ledger technology refers to a system where a shared record of transactions is maintained across multiple computers as opposed to a single central copy. The ledger is typically secured using cryptography and requires agreement from the network to validate new transactions or additions to the ledger.

Governance
This concept includes the policies, guardrails, and best practices used to store, retrieve, and manage digital assets.

G-SIB
Global systemically important banks, or G-SIBs, are financial institutions perceived as "too big to fail" without causing a financial crisis due to their size, interconnectedness, complexity, lack of substitutability, or global scope. The Financial Stability Board annually identifies a list of these institutions which should have sufficient loss-absorbing capacity available to prevent financial crises. (source - FSB)

Non-Fungible Token (NFT)
Non-fungible tokens (NFTs) are digital assets — which can range from images to songs to videos — that are verified through blockchain technology. NFT marketplaces facilitate the minting, buying, and selling of NFTs. Decentralized gaming and metaverses include token-based gaming economies and virtual worlds powered by blockchain technology. Many decentralized games and metaverses integrate NFTs in some capacity.

Smart contract
A smart contract is a program deployed on the blockchain which automatically runs when certain conditions are met. Since they are deployed on the blockchain, they cannot be altered after the fact and are transparent to all parties.

Stablecoin
Stablecoins are digital currencies collateralized by the value of an underlying asset, such as fiat currencies, tangible assets, or cryptocurrencies. Companies may support the use of stablecoins by issuing stablecoins, providing custody infrastructure, or leveraging stablecoins for payments. infrastructure, or leveraging stablecoins for payments.

Tokenization
Asset tokenization is the process of converting physical or digital assets into digital tokens. These tokens are issued, tracked, and traded on a blockchain network. Providers may issue tokens supported by capital markets (e.g., securities, funds), real estate, art, land, or other physical goods.

Web3
Web3 is a decentralized internet built on an open, permissionless blockchain network. Web3 applications include decentralized finance (DeFi), NFTs, gaming, worlds/metaverses, social media, content, identity, and data.