

Blockchain Report

Insights into Blockchain's Evolving Role Across Industries



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1. Introduction

The landscape of blockchain technology continues to evolve, with substantial developments across various industries, including financial services, intellectual property, sustainability, artificial intelligence, and governmental regulatory frameworks. This report details the significant events and trends that shaped the blockchain industry in Q2 2024. Key players such as Deutsche Bank, JPMorgan, Ripple, Mastercard, and major government entities have all played a part in the advancement and adoption of blockchain technology. Additionally, we are witnessing growing involvement from educational institutions and startups that are helping drive blockchain-based innovations into mainstream sectors.

2. Blockchain in Financial Services

2.1. Deutsche Bank and Project Guardian

Deutsche Bank has been an active participant in Project Guardian, a comprehensive, multi-year initiative led by the Monetary Authority of Singapore (MAS). The project is designed to explore asset tokenization using blockchain technology to create a more secure, transparent, and efficient financial ecosystem. Deutsche Bank's lead on the project, Boon-Hiong Chan, has emphasized that blockchain holds the potential to significantly transform the way wealth management and asset servicing are conducted, particularly within regulated frameworks.

As part of the project, Deutsche Bank is collaborating with MAS and other industry partners to build an open-architecture blockchain platform that can facilitate the servicing of tokenized funds. The project's ultimate goal is to operate within the confines of existing regulatory frameworks, ensuring that the new system is fully compliant with financial industry standards. The outcome of this project could have far-reaching implications for the digital finance landscape in the Asia-Pacific region, potentially serving as a blueprint for other global financial institutions looking to explore blockchain's potential.



"Contributing to Project Guardian will bolster our efforts to help shape the new frontier of asset servicing, and strongly position us to contribute to industry progress, and not only anticipate our clients' needs but exceed their expectations."

- Anand Rengarajan, Managing Director, Global Head of Sales and Head of Securities Services at Deutsche Bank

Source: https://www.db.com/news/detail/20240514-deutsche-bank-joins-project-guardian-to-explore-asset-tokenization-applications?language_id=1

2.2. JPMorgan and Kyriba Partnership: Streamlining Cross-Border Payments

In an effort to streamline cross-border payments, JPMorgan has partnered with Kyriba, a provider of liquidity performance solutions, to simplify international transfers using blockchain technology. This collaboration leverages JPMorgan's Onyx blockchain platform, enabling treasury teams to manage their JPM Coin deposit accounts directly within Kyriba's treasury management system. The integration allows businesses to conduct real-time cross-border transfers on a private blockchain network, significantly enhancing operational efficiency.

This partnership is notable because it reduces the traditional barriers that often complicate the adoption of blockchain for global payments, such as interoperability challenges and regulatory concerns. With JPM Coin as a digital token, treasury teams can now streamline international payments with greater transparency and security. This development not only accelerates the adoption of blockchain technology in corporate financial systems but also highlights JPMorgan's continued leadership in digital currency innovation.



"By integrating our Blockchain Deposit Accounts into their existing TMS workflows, clients can initiate and manage real-time settlements, unlocking the potential of 24/7 money movement"

- Abhinav Natarajan, Global Product Head of JPM Coin

Source: https://www.ledgerinsights.com/ jp-morgan-integrates-jpm-coin-with-kyribas-treasury-solution/

2.3. Tokenization of U.S. Financial Instruments

The Securities Industry and Financial Markets Association (SIFMA) has initiated a project aimed at tokenizing various U.S. financial instruments, including U.S. Treasuries and central bank money. The project has garnered support from major financial institutions such as Citi, JPMorgan, and Wells Fargo, and it seeks to develop a blockchain-based system to settle transactions using tokenized forms of U.S.-dollar cash and securities.

By using blockchain to tokenize these assets, the financial sector aims to reduce settlement times and increase transaction efficiency, all while maintaining the security and reliability that are expected in traditional financial markets. The inclusion of major financial players in this initiative underscores the growing consensus that blockchain technology has a significant role to play in modernizing financial markets. The project also has the backing of the Federal Reserve Bank of New York, which is acting as a technical observer.

3. Blockchain and Intellectual Property

3.1. Wacom's Yuify Platform for Digital Artists

Wacom, a global leader in digital pen technology, has introduced Yuify, a blockchain-based platform specifically designed to protect digital artists' intellectual property rights. This platform allows artists to secure their work by recording ownership details on the blockchain, creating an immutable, verifiable record of authorship. Yuify integrates seamlessly with popular digital art tools, including Adobe Photoshop, providing users with a streamlined experience for verifying ownership and managing licensing terms through a built-in License Builder tool.

The Yuify platform is currently in its beta phase and offers digital artists a new level of control over how their work is used and distributed. By leveraging blockchain's ability to create a decentralized, tamperproof ledger, Wacom aims to empower creators by reducing the risk of unauthorized use or infringement of their work.



"Wacom is not anti-AI and Yuify is not a giant platform guys protection scheme [...] but instead a plugin to enable artists to self authenticate and selfmanage their artwork [...] A first step [...] Put simply, the idea is 'let's protect an artist's portfolio', let's authenticate the tight engagement between an artist and their work"

- Nobutaka Ide, CEO at Wacom

Source: https://www.creativebloq.com/ai/ wacom-has-found-a-use-for-blockchain-and-it-will-protect-your-art-from-ai

4. Blockchain in Sustainability and Supply Chains

4.1. Atlantis and Water Resource Management in India

Atlantis, a company dedicated to using technology for sustainability, has successfully implemented blockchain technology to address water shortages in India. In a pilot program deployed across 50 villages in the Chikmagalur region, Atlantis introduced a blockchain-based system that incentivized villagers to transfer water from areas with surplus to those in need. The project, which facilitated the transfer of over 21,000 kiloliters of water, involved 3,000 participants and showcased the potential for decentralized solutions to address pressing resource management challenges.

The pilot program used a system of blockchain-based "bounties" to encourage water transfers, ensuring transparency and efficiency in the distribution process. This initiative is an example of how blockchain can be used to solve critical sustainability issues by incentivizing local communities to manage resources effectively.



"We were trying to build solutions for climate change – primarily through water – as a Web2 company, but a private entity trying to build for the commons was not really striking a chord. And we ran into all kinds of challenges with existing power structures, everything from regulations to unregulated mafia in India. It's very easy to bring down an idea if it's built by a private entity. All you need is a bunch of lawyers"

- Irthu Suresh, Founder at Atlantis

Source: https://www.coindesk.com/consensus-magazine/2024/05/14/ irthu-suresh-using-blockchain-tech-to-reduce-water-shortages/

5. Blockchain and Al Integration

5.1. Appinventiv and AI-Blockchain Integration

Appinventiv, a digital solutions provider, is working at the intersection of blockchain and artificial intelligence (AI) to offer enhanced security and data management for businesses. Appinventiv provides a wide range of blockchain-related services, including smart contract development, blockchain consulting, and NFT solutions, leveraging Web3 technologies such as Solana and Polygon Network. These services are designed to help businesses integrate blockchain with AI in ways that improve data ownership rights and security, particularly in sectors where data quality and interoperability are critical.

Appinventiv is also exploring the use of NFTs as a means of verifying participation and roles in decentralized ecosystems. Additionally, the company is focused on improving Ethereum smart contract standards to enhance interoperability between different blockchain networks, which is essential for AI applications that require seamless integration across multiple platforms.

5.2. Decentralized AI and Data Privacy

In the field of AI, blockchain technology is being used to address growing concerns about data privacy and security. By combining Generative AI (GANs) with blockchain, companies can ensure that data ownership rights are preserved while maintaining transparent tracking and verification of AI-generated content. This integration allows businesses to use proprietary data securely without compromising privacy, making it easier to collaborate on AI projects without fear of data breaches or misuse.

6. Government Initiatives and Legislative Frameworks

6.1. U.S. Customs and Border Protection (CBP) Blockchain Initiative

In a significant move toward modernizing border security operations, Representative Nancy Mace has introduced a bill that would require U.S. Customs and Border Protection (CBP) to adopt blockchain technology. The proposed legislation mandates the use of blockchain to track goods, verify travel documents, and manage personnel deployment at the U.S. border. Representative Byron Donalds has cosponsored the bill, signaling bipartisan support for the initiative.

This public blockchain platform would provide enhanced data security and transparency, enabling CBP to reduce physical inspections and streamline the processing of customs documentation. The bill also outlines the creation of an oversight system for the technology, ensuring that its implementation is regularly reported to Congress.



"Our latest bill introduces a public blockchain platform for CBP to cut the red tape and modernize border security. This tech will simplify document checks, track goods, and manage staff far more efficiently. "

- Nancy Mace, U.S. representative for South Carolina

Source: https://x.com/RepNancyMace/status/1788245108892033284

6.2. Europeum: EU's Sovereign Blockchain Infrastructure

The European Union is moving forward with the development of Europeum, a blockchain project designed to create a sovereign infrastructure for managing digital identities, credentials, and licenses. The project has secured participation from 10 member states, including Belgium, Croatia, Cyprus, Greece, Italy, Luxembourg, Portugal, Romania, Slovenia, and Poland.

Europeum aims to provide a secure, decentralized platform that supports the creation of digital wallets and verifiable credentials, allowing businesses and citizens to manage their digital identities across borders. This blockchain-based infrastructure is intended to simplify multi-country projects, share governance responsibilities, and support the EU's broader digital transformation goals.



"Europeum will have a tangible presence in the daily lives of European citizens"

- Mathieu Michel, Belgian state secretary for Digitalisation

Source: https://www.dlnews.com/articles/regulation/ say-hello-to-europeum-the-european-union-blockchain-project/

7. Corporate and Startup Involvement

7.1. Mastercard's Start Path Program

Mastercard has expanded its Start Path Blockchain and Digital Assets Program by welcoming five new global startups to the initiative: Kulipa, Parfin, peaq, Triangle, and Venly. The four-month virtual program is designed to help these high-potential startups scale their operations while exploring how blockchain technology can solve real-world problems. Each of the selected startups will have access to Mastercard's resources, including its customer base and distribution channels, as they work to develop blockchain-based solutions for digital commerce and finance.

Since its inception in 2014, Mastercard's Start Path program has supported over 400 startups from 54 countries. This expansion into blockchain reflects Mastercard's commitment to driving innovation in the digital assets space, helping startups bring their blockchain solutions to a global audience.

7.2. Ripple's Expansion in Japan and Korea

Ripple has launched a new fund focused on driving blockchain innovation in Japan and Korea, with a particular focus on expanding the use of the XRP Ledger. Ripple's partnership with HashKey DX aims to introduce blockchain-based supply chain finance solutions in Japan, using the XRP Ledger to enhance transparency and efficiency in financial transactions. This initiative reflects Ripple's commitment to expanding its presence in the Asia-Pacific region, which has become one of the company's fastestgrowing markets.

7.3. Plume and Real-World Asset Tokenization

Plume, a startup specializing in the tokenization of real-world assets (RWAs), has raised \$10 million in seed funding from prominent investors such as Haun Ventures and Galaxy Ventures. Plume's platform leverages blockchain technology to bring real-world assets, including real estate and art, onto the blockchain by providing a full-stack RWA infrastructure.

Plume is using the Arbitrum Nitro framework to build its layer-2 "rollup" chain, allowing for fast and cost-effective transactions that are recorded on the Ethereum blockchain. With over 80 projects already deployed on its private test network, Plume plans to open its public testnet soon, followed by a full release later this year.

8. Blockchain in Education

8.1. Morgan State University and Ripple's FinTech Center

Morgan State University has received a \$1.05 million grant from Ripple to support its National FinTech Center, part of Ripple's University Blockchain Research Initiative (UBRI). This funding will be used to enhance research and education in blockchain, cryptocurrency, and financial technology (FinTech), with a particular focus on Historically Black Colleges and Universities (HBCUs). The grant will fund faculty research, student projects, and educational workshops aimed at advancing the understanding of blockchain and its applications in finance.

8.2. Yale SOM's Blockchain Finance Program

As part of its Global Network Week (GNW), Yale School of Management (SOM) has partnered with the National University of Singapore (NUS) to offer a module on blockchain applications in finance. This program, led by Professor Emir Hrnjic, provides students with a combination of peer-topeer learning and expert-led lectures, offering insights into how blockchain is transforming the financial sector. The GNW program allows students to network with industry professionals and deepen their understanding of blockchain technology through hands-on team activities.

9. Cryptocurrency Developments

9.1. PayPal's PYUSD Stablecoin on Solana

PayPal has expanded the use of its PYUSD stablecoin by launching it on the Solana blockchain. Following its initial rollout on Ethereum, PayPal has chosen Solana due to its faster transaction speeds and lower fees, making it an ideal platform for commercial use cases. This move is part of PayPal's broader strategy to enable faster, more affordable transactions for its users, particularly in the realm of digital commerce.



"Making PYUSD available on the Solana blockchain furthers our goal of enabling a digital currency with a stable value designed for commerce and payments [...] The Solana network's speed and scalability make it the ideal blockchain for new payment solutions that are accessible, cost-effective, and instantaneous"

- Jose Fernandez da Ponte, Senior Vice President of the Blockchain, Cryptocurrency, and Digital Currency Group, PayPal

Source: https://newsroom.paypal-corp.com/2024-05-29-PayPal-USD-Stablecoin-Now-Available-on-Solana-Blockchain,-Providing-Faster,-Cheaper-Transactions-for-Consumers

9.2. TON Blockchain's Record Growth

TON Blockchain has experienced a significant surge in its total value locked (TVL), which has doubled to over \$605 million in just three weeks. This growth has been driven by decentralized exchanges such as Ston.fi and Dedust, as well as liquid staking projects like Tonstakers and Bemo. Toncoin (TON), the native token of the network, has also reached an all-time high, with its market capitalization surpassing \$18.6 billion.

The network's rapid growth has outpaced many of its competitors, including Bitcoin and Ethereum, and TON is now ranked as the 10th largest cryptocurrency by market capitalization. This impressive growth highlights the increasing popularity of the TON Blockchain, particularly for decentralized finance (DeFi) applications.

10. Conclusion

Q2 2024 saw substantial advancements in blockchain technology across a wide range of sectors, from financial services and intellectual property to sustainability, AI integration, and education. Major institutions such as Deutsche Bank, JPMorgan, and Ripple continue to lead the way in blockchain adoption, while governments, educational institutions, and startups are playing a crucial role in driving innovation. The rise of decentralized finance, tokenization of real-world assets, and the increasing importance of stablecoins and NFTs further demonstrate blockchain's growing significance in the global economy. As blockchain technology continues to mature, its impact across industries will undoubtedly expand, with both established institutions and emerging startups at the forefront of this digital revolution.

11. Expert's Insights



Aram Mughalyan Co-Founder at Solidate

1. How do you think new regulatory frameworks, like the EU's Europeum project, will impact blockchain's role in cross-border transactions?

New regulatory frameworks like the EU's Europeum project could significantly enhance blockchain's role in cross-border transactions by providing a standardized, secure, and transparent infrastructure. This could simplify compliance, improve transaction speed, and increase trust among stakeholders, especially in sectors like finance and supply chain management. However, challenges may arise in harmonizing these regulations across different jurisdictions.



Magomed Kurbaitaev

CEO and Founder at Gameplan

2. What are the biggest challenges in integrating AI with blockchain, as seen in projects like Appinventiv's AI-blockchain solutions?

The biggest challenges in integrating AI with blockchain include ensuring data privacy, scalability, and interoperability. While AI enhances blockchain's automation and decision-making capabilities, the complexity of managing secure, large-scale data sets on decentralized platforms is a major hurdle. Appinventiv's efforts show potential, but overcoming these challenges will require more advanced infrastructure and stakeholder collaboration.

12. Acknowledgments

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