



CRYPTO
OASIS

Roland
Berger



FINANCIAL INSTITUTES

EXTRACT FROM

CRYPTO²
OASIS⁰
ECOSYSTEM²
REPORT³

UNITED ARAB EMIRATES

DLT
SCIENCE
FOUNDATION

SPRING
SPRING
SPRING
SPRING

EDITION

An aerial photograph of the Burj Khalifa, the world's tallest building, standing prominently in the center of the Dubai skyline. The building's distinctive tiered structure and spire are clearly visible against a clear blue sky. Surrounding the Burj Khalifa are other modern skyscrapers and commercial buildings, some with curved glass facades. In the foreground, a multi-lane highway with several overpasses is filled with cars, indicating a busy urban environment. The overall scene captures the architectural grandeur and urban density of Dubai.

DLT
SCIENCE
FOUNDATION

The DLT Science Foundation (DSF) is a non-profit organisation committed to promoting the growth and adoption of distributed ledger technology (DLT).

Our mission is to help create a more equitable society with the adoption of DLT and **other exponential** technologies - which starts with fostering a more **open and sustainable innovation ecosystem**. We foster collaboration and investment in this ecosystem to ensure blockchain technology reaches its **full potential**.

We continue expanding our robust and growing ecosystem of developers, academic institutions and industry leaders. Alongside our grant program for academic institutions, the foundation is also developing research initiatives, policymaker engagement, and educational partnerships to further our mission.

Visit us to learn more at DLTscience.org 

DLT
SCIENCE
FOUNDATION

Building Trust,
Discovering Truth

TABLE OF CONTENT

How Crypto Oasis is Transforming the Blockchain Landscape
Ralf Glabischnig | Saqr Ereiqat | Faisal Zaidi

Corporates

Financial Institutes

Native

Non-Native

The Need for a Token Market Utility for Tokenized Assets as a Mandate for Financial Infrastructure Modernisation
Nitin Gaur | Global Head of Digital Asset & Technology Design,
State Street Digital

What is the Future of Tokenization?
Ronit Ghose | Global Head Future of Finance,
Citi Global Insights

FS Providers

Unleashing the Power of Tokenization: Revolutionising Financing for Web3 Companies
Amine Nedja | CEO, ABO Digital
Jeremy Weech | Investment Associate, ABO Digital

6

10

12

14

14

15

18

20

21

Disclaimer

This report is intended for general industry knowledge and information purposes only. This report is under no circumstances intended to be used or considered as financial or investment advice, a recommendation or an offer to sell, or a solicitation of any offer to buy any securities or other form of asset. The report is not to be considered as investment research or an objective or independent explanation of the matters contained herein and is not prepared in accordance with the regulation regarding investment analysis. The material in the report is obtained from various online sources available in the public domain or acquired from the organisation directly. The information collected was obtained latest on the 30th of June 2022.

We have taken reasonable care to ensure that, and to the best of our knowledge, material information contained herein is in accordance with the facts and contains no omission likely to affect its understanding. Please note that we make no assurance that the underlying forward-looking statements are free from errors. Readers should not place undue reliance on forward-looking information, which will depend on numerous factors, and any reader must make an independent assessment of such projections. Neither the project companies nor Crypto Oasis is making any representation or warranty, express or implied, as to the accuracy or completeness of this report and none of the project companies or Crypto Oasis will have any liability towards any other person resulting from your use of this report.

Neither the issue nor delivery of this report shall under any circumstance create any implication that the information contained herein is correct as of any time subsequent to the date hereof or that the affairs of the company have not since changed. Crypto Oasis or the project companies do not intend, and do not assume any obligation to update or correct the information included in this report. The contents of this report are not to be construed as legal, business or investment advice.

All organisations that have written thought leadership articles in this report have done so at our request and their views are theirs alone and Crypto Oasis does not assume any liability based on their views.

The information contained in the report may be subject to changes without prior notice. Crypto Oasis does not accept any form of liability, neither legally nor financially, for loss (direct or indirect) caused by the understanding and/or use of this report or its content. This report is only intended to provide the public with knowledge in a consolidated way, and should not be copied or otherwise distributed, in whole or in part, to any other person.

Certain articles in the report and the ads are paid for and the purpose of them is to increase awareness for the companies involved.

Virtual Assets are unpredictable and volatile in nature and all investment decisions are the readers own and should not be influenced by the contents of this report. Crypto Oasis does in no way advocate that any investments in digital assets are safe, low risk or that returns are guaranteed from any of the companies mentioned in the report. Investment decisions are not trivial, simple, easy and suitable for all and any investment decisions should be made after the readers have done their own research or taken professional investment advice. Past performances of assets are in no way indicative of future returns.

None of the information in this report is to create an urgency to buy a virtual asset in anticipation of future gains or create a fear of missing out on future gains by not buying a Virtual Asset immediately. Crypto Oasis does not advocate the purchase of a Virtual Asset using credit or other interest accruing facilities, any decision made by the reader will be their own and not influenced by Crypto Oasis.

EDITORIAL BOARD

Paolo Tasca	Jiahua Xu	Nikhil Vadgama	Faisal Zaidi
UCL and DLT Science Foundation	UCL and DLT Science Foundation	UCL and DLT Science Foundation	Crypto Oasis and Inacta Communications

EDITORIAL TEAM

Ralf Glabischnig	Saqr Ereiqat	Manal Katiela		
Candice Olivar	Fabio Schlaf	Gracia Galang	Larisa Stanciu	Luca Forkl
Maria Fernandez	Muhammad Jahanzaib	Saed Ereiqat	Sahar Zaidi	Daniel Nikolaev

Address: 48th Floor, Almas Tower, Jumeirah Lakes Tower, United Arab Emirates
Email: pr@Cryptooasis.ae | Website: www.cryptooasis.ae

DEVELOPED & DESIGNED BY

INACTA.
COMMUNICATIONS



Ralf Glabischnig
Founder, Crypto Oasis



Saqr M. Ereiqat
Co-Founder, Crypto Oasis



Faisal Zaidi
Co-Founder, Crypto Oasis

HOW CRYPTO OASIS IS TRANSFORMING THE BLOCKCHAIN LANDSCAPE

Over the last few years, the Blockchain industry has witnessed significant growth and evolution, and the UAE has emerged as one of the leading destinations for Crypto and Blockchain-related businesses. Witnessing this first hand we started referring to the region of Middle East and North Africa to give it an identity of its own as the Crypto Oasis, which has now established itself as a global Blockchain Ecosystem fostering innovation in the UAE.

In its second edition, the Crypto Oasis Ecosystem Report 2023 showcases the significant progress and achievements of the Crypto Oasis in establishing itself as the fastest growing Blockchain Ecosystem globally, with over 1,800 organisations identified as of Q1 2023. In partnership with the DLT Science Foundation and Roland Berger as well as report-in-reports from Venom and Chainalysis, our report highlights the massive surge in institutional and individual adoption in the crypto industry, as well as our contribution and assistance to Blockchain and Web3 organisations in accessing resources and expertise to navigate the complex and rapidly evolving landscape.

One of the factors contributing to the success of the

Crypto Oasis Ecosystem is the regulatory environment in the UAE, which has been stable, predictable, and favourable, enabling local and international players to setup operations. The UAE's focus on disruptive technologies positioned it as a modern-day renaissance hub. With AI, the Metaverse and Web3 at the forefront of cutting-edge disruption, Dubai is at the heart of this Ecosystem, epitomising creativity, and innovation essential for progress in the digital space.

According to the Chainalysis input in our report Crypto currency transactions in the UAE are largely driven by early-adopters looking to make investments, as opposed to everyday citizens who buy Crypto out of necessity in other regions.

To build Ecosystems within Ecosystems, we built several ventures and IPs that target different aspects of the Industry. Our Web3 Meta-Community, arte, has had over 60 meetups in the past year, with over 120 projects presenting at these meetups. We have also hosted thought leaders in the Web3 industry at more than 13 arte Talks, which take place at the Theatre of Digital Art in Madinat Jumeirah every other week. Furthermore,

we continuously host major players in the Blockchain space like Ethereum, Casper Labs, Dfinity, and Solana for fireside chats at Crypto Oasis meetups in DIFC, which focus on Protocol founders and CEOs.

Another recent initiative launched at the Crypto Oasis Ecosystem night in March 2023 is the Crypto Oasis Games Guild. The objective of this initiative is to build an ecosystem for the gaming industry in Web3. With partners like Epic, Unity and QORPO Gaming Studios and support from major players in the Ecosystem like Polygon we have been able to launch with 18 founding members from all over the globe. The initiative currently in its growth phase will be building on the thought leadership of its members and promoting cross-collaboration and partnerships between industry players.

To build on the success of previous ventures and Ecosystems, we are launching a new initiative in commitment to the UAE's COP28 initiative. The new initiative, called The Green Block, is an Ecosystem for the ESG part of Web3 that aims to foster a sustainable future by bringing together innovators and entrepreneurs to develop and implement solutions that promote environmental sustainability and social responsibility.

The Green Block focuses on promoting, leading, and connecting this part of the industry to align with the goals of the UAE.

Additionally, the Crypto Oasis has served as the Ecosystem partner at events in the region, including the Future Blockchain Summit, Superverse, Dubai Metaverse Assembly, and Art Dubai, among others. Crypto Oasis is also a Web3 Ecosystem partner at the Dubai Fintech Summit, where this second iteration of the Crypto Oasis Ecosystem Report is launched.

In conclusion, the Crypto Oasis Ecosystem Report 2023 highlights the incredible progress and achievements of the Crypto Oasis in establishing itself as a leading Blockchain Ecosystem globally. The report showcases the massive growth and adoption of Blockchain and Web3 technologies, as well as Crypto Oasis commitment to supporting the development and success of Blockchain and Web3 entrepreneurs and organisations. With its vibrant community, favorable regulatory environment, and thriving start-up Ecosystem, the UAE is poised to become a global hub for the crypto industry, and we are proud to be at the forefront of this transformation.

CRYPTO OASIS ECOSYSTEM REPORT 3

UNITED ARAB EMIRATES

PROJECTS & STARTUPS

GLOBAL PROTOCOLS



DIGITAL ASSETS INFRASTRUCTURE



WEB3 INFRASTRUCTURE



ESG



DEFI

NFT PLATFORMS



METaverse



WEB3 GAMING



EDUCATION & RESEARCH

SERVICE PROVIDERS

ADIA

ADQ

ADQ

ADQ

ADQ

ADQ

ADQ

ADQ

ADQ

ADQ

ADQ

ADQ

ADQ

ADQ

ADQ

ADQ

ADQ

ADQ

ADQ

ADQ

ADQ

ADQ

GOVERNMENT & ASSOCIATIONS



NEWS & MEDIA



UNIVERSITIES & INSTITUTES



VENTURE CAPITAL



TECHNOLOGY & ADVISORY



LEGAL & COMPLIANCE



INCUBATORS & VENTURE BUILDERS



FINANCIAL INDUSTRIES



OTHER INDUSTRIES



ECONOMIC ZONES



INVESTORS & COLLECTORS



CORPORATES

FINANCIAL INSTITUTIONS

The Blockchain industry has the potential to revolutionise the financial sector by offering a Decentralised and secure platform for faster and cheaper transactions, automated contracts, and greater security. Financial services like banking, insurance, investment, and asset management recognise the transformative impact of Blockchain technology to generate new revenue, deliver process efficiency, improve end-user experience, and reduce risk in business operations.

Building on the advantages of Blockchain technology, converting financial products into digital assets, smart contracts and programmable money will allow for greater connectivity and programmability between various financial products, services, assets, and holdings. This will help redefine the processes of commercial and financial markets, creating a new paradigm where value is brought at every touch point.

The financial industry in the Middle East drives economic growth, and Governments and businesses are progressively seeking Blockchain technology that will help them enhance the efficiency and security of financial services. The UAE has launched several initiatives to promote the use of Blockchain technology in the financial sector such as the Abu Dhabi Global Market (ADGM) which has established a regulatory framework for digital asset activities and the Dubai Financial Services Authority (DFSA) which has launched a regulatory sandbox to test innovative Fintech solutions, including Blockchain-based services.

Similarly, the Kingdom of Saudi Arabia has founded the Fintech Saudi initiative to support the growth of Fintech and Blockchain businesses in the country. The Central Bank of Bahrain has also introduced regulations for open banking and digital payments, paving the way for the adoption of Blockchain-based financial services.

SEBA BANK

SYGNUM

بنك أبوظبي التجاري
ADCBARAB BANK
SWITZERLANDبنك دبي التجاري
Commercial Bank of DubaiEDB
مصرف الإمارات للتنمية
Emirates Development Bankبنك الإمارات دبي الوطني
Emirates NBDبنك أبوظبي الأول
FAB
First Abu Dhabi Bank

Julius Bär

بنك رأس الخيمة الوطني
RAKBANKS.P. HINDUJA
BANQUE PRIVÉE

Swissquote

Wio

Zand

ABO Digital

CEG INVEST

DALMA
CAPITALISP
INVESTMENT SOLUTIONS PARTNERSHYPER
PAY

mastercard

MoneyGram

network

VISA

NATIVE

SEBA Bank

SEBA BANK

Founded in April 2018 and headquartered in Zug, Switzerland, SEBA Bank is a pioneer in the financial industry providing a seamless, secure and easy-to-use bridge between digital and traditional assets. As a smart bank, SEBA Bank offers a fully universal suite of regulated banking services in the emerging digital economy.

Abu Dhabi, ADGM
LOCATION

Sygnum

SYGNUM

Sygnum Bank is a regulated Digital Asset Bank and a digital asset specialist with global reach. With Sygnum Bank AG's Swiss banking licence, as well as Sygnum Pte Ltd's Capital Markets Services license in Singapore, Sygnum empowers institutional and private qualified investors, corporates, banks and other financial institutions to invest in the digital asset economy with complete trust.

Dubai, DIFC
LOCATION

NON-NATIVE

Abu Dhabi Commercial Bank ADCB

ADCB

ADCB is a full-service commercial bank offering a wide range of products and services such as retail banking, wealth management, private banking, corporate banking, commercial banking, cash management, investment banking, corporate finance, foreign exchange, interest rate and currency derivatives, Islamic products, project finance, and property management services. ADCB joined the consortium of UAE Trade Connect (UTC) utilising its Blockchain platform to help de-risk trade finance.

Abu Dhabi, ADDED
LOCATION

ARAB Bank Switzerland

ARAB BANK

Founded in 1962, Arab Bank Switzerland has a recognised Swiss bank status. Arab Bank Switzerland is subject to all Swiss banking laws, rules and regulations and is supervised by the Swiss Financial Market Supervisory Authority (FINMA). Arab Bank Switzerland is an independent sister company of Arab Bank PLC. To this end, Arab Bank Switzerland can draw upon a wide network of branches in the Arab world and in major financial centres around the globe. Arab Bank Switzerland offers Crypto asset management services.

Dubai, DED
LOCATION

Commercial Bank Dubai (CBD)

Commercial Bank of Dubai

Commercial Bank of Dubai is one of the leading banks in the UAE, offering innovative and bespoke personal banking and business banking services, through state-of-the-art digital channels including mobile and online banking and through an extensive branch and ATM network. Operating in the UAE for over 50 years, CBD manages the financial requirements of some of the largest corporates and businesses operating in the country, driving the UAE economy. CBD are the first UAE bank to have established a presence in the Metaverse, Decentraland.

Dubai, DED
LOCATION

Emirates Development Bank (EDB)

EDB

Emirates Development Bank (EDB) founded under a decree issued by the President of State, H.H. Sheikh Khalifa bin Zayed Al Nahyan by Federal Law No. 7 of 2011. The establishment of the bank came within a clear vision and well-defined and effective message moving forward to build a national economy characterized by diversity, and based on innovation and allows citizens to access suitable accommodation by providing finance at affordable economic cost.

Abu Dhabi, ADDED
LOCATION



THE NEED FOR A TOKEN MARKET UTILITY FOR TOKENIZED ASSETS AS A MANDATE FOR FINANCIAL INFRASTRUCTURE MODERNISATION

In this post, I want to better explore and draw attention to the impact of asset tokenization – the tokenization of real-world assets, or RWAs – on the overall financial market infrastructure. As the industry debates tokenizing financial assets, another debate ensues among the current market's participants on the readiness of its infrastructure. It is important to understand the current market's infrastructure, its participants, the regulations that govern it, and incentives before we aim to disrupt and seek efficiencies in contextual terms of time and trust. These are two constructs that have vast network implications regarding assets, in various forms, that are in constant motion and the underlying market's infrastructure that governs the movement of assets while preserving asset integrity and ownership rights. Digital asset technologies, such as asset tokenization and Blockchain (distributed ledger technology, or DLT), are disruptive by nature and flattens business processing by shifting from asynchronous dissemination of information to more synchronous dissemination. This simple technology-induced shift disrupts various elements of current market infrastructure providers, including access, global trading, process efficiency, regulatory and compliance, and connectivity to markets, and the resulting data provide insight for business analysis and fuel regulatory technology (RegTech).

The chicken-and-egg problem here is whether we tokenize assets first or build the appropriate digital asset rails that will facilitate the movement of tokenized assets. This is a difficult problem to address not only due to the regulatory and compliance requirements of current market participants but also to the aligned incentives of the business model that have evolved over time. Another problem to address is the investments the industry would have to make in digital asset technologies, which due to the disruptive nature of the application of technology

will flatten the current market's infrastructure to achieve efficiency by solving for transparency and the velocity of asset movement. So, do the incumbents make investments in the future state of the digital market infrastructure or invest in services they provide, such as exchange complexes, clearinghouses, depositories, payments and settlement, and so on?

In this post, I discuss the need for a token market utility for tokenized assets as a mandate for financial infrastructure modernisation. In 2010, the post-financial crisis Dodd-Frank Act in the United States focused particularly on an enhanced supervisory framework for Financial Market Utilities (FMUs) that were designated systemically important because failure and disruption in these utilities could increase the risk of liquidity or credit problems across financial institutions or markets. So, my position in that we start with understanding the role of market utilities as a critical focus area in any effort to modernise our financial infrastructure. Crypto markets have some of these tents built in; however, current financial markets have the burden of legacy, and if we aspire to tokenize RWAs, we will need to draw upon lessons learned from Crypto markets and employ technology that affords us a modernisation path, without, of course, imposing risks to the financial system.

Understanding the Shift

Modern financial market infrastructure is essentially a chain of interconnected market participants that aid in accumulating capital and forming investment resources. These market participants have specific functions, such as asset custody, central bookkeeping, liquidity provisioning, clearing, and settlement. Because of function, capital constraints, or regulation, many of these entities are

not vertically integrated, which prevents collusion or unilateral investment decisions. So, various products may be governed by different markets, but the fundamental financial primitives remain universal. For example, products like stocks, bonds, futures, options, and currencies (FX) all need to be traded, cleared, and settled, and other functions like collateralisation, lending, and borrowing ensue. Financial markets work only where there is a supply of and demand for capital, and this is important as it maintains the constant flow of assets. Today, information dissemination between these interconnected participants is a function of sequential batched relay systems, and this asymmetric dissemination creates opacity and inefficiency in terms of liquidity requirements, system trust costs (fees), and opportunity costs. Blockchain and DLT systems aim to solve these issues of time and trust with the characteristics of immutability and asymmetric dissemination of consistent information, which lends itself to trust and instant transaction processing.

The role of a financial market utility is a vital support role, akin to a public utility company that maintains infrastructure for essential public services such as water and electricity. An FMU maintains a multilateral system for purposes of transferring, clearing or settling payments, securities, or other financial transactions among financial institution. So, FMUs are critical in ensuring asset and transaction integrity and ascertaining ownership rights. Failures of these utilities can lead not only to systemic risk in the form of credit and liquidity risk but also to colossal failures, hence the reason for regulation and supervision to ensure the security and resiliency of FMUs as an integral part of the financial market infrastructure. As we tokenize assets, we need to understand the importance of rails that allow us to transfer assets, provide the right infrastructure to tokenize RWAs and digital fiat (stable coins or central bank digital currencies), and also provide a framework for atomic swaps and settlements with appropriate integration with accounting and reporting systems and that adhere to all tenets laid out by the Principles of financial market infrastructure (PFMI). In practice, the benefits of tokenization include efficiency gains driven by automation, transparency, improved liquidity potential, and time compression in business processes that govern the movement of across the market infrastructure.

Implications of Technology Employed in Financial Markets

We need to factor in the shift in velocity and veracity for transaction processing. Such a shift has an economic impact (velocity of movement of assets and unlocked capital) but also has data infrastructure requirements (collection, organisation, analysis, and insights) to support functions such as a business analysis and financial crimes. If we aspire to build a real-time asset movement infrastructure, we will need to build real-time shock absorbers to protect the financial markets from economic downturns and social events such as financial crimes. Digital asset technology can provide a robust transaction processing infrastructure, but the system will need an equally robust, high-performance compute infrastructure to meet the demands of the massive data collection and processing needed for a real-time computational framework.

Another transaction debate, in addition to transparency and cost reduction, involves faster settlement, which today is T+1 (trade-related settlement within a day), with FedNow Service (the proposed real-time payment system in the United States) same-day settlement on the horizon. The speed of settlement does impact the velocity of money movement, and while it is attractive, we need to understand the impact of atomic settlement on other downstream systems and financial primitives we deal with today. These financial primitives include things like lending and collateralisation. So, while the goal may be to unlock the potential of locked capital, it is important to understand the impact on today's system, which collects rent, and envision newly aligned business incentives for these market participants. In other words, it will be a radical change, and we need to understand and consume the change without imposing any risk to the system.

Perspectives

As the industry debates tokenising financial assets, another debate ensues among the current market's participants on the readiness of its infrastructure. The chicken-and-egg problem here is whether we tokenize assets first or build the appropriate digital asset rails that will facilitate the movement of tokenized assets. Financial market utilities (FMUs) have been designated systemically

important because failure and disruption in these utilities could increase the risk of liquidity or credit problems across financial institutions or markets. So, my position is that we start with understanding the role of market utilities as a critical focus area in any effort to modernise our financial infrastructure.

Digital asset technology can provide a robust transaction processing infrastructure, but the system will need an equally robust, high-performance compute infrastructure to meet the demands of the massive data collection and processing needed for a real-time computational framework. If we aspire to build a real-time asset movement infrastructure, we will need to build real-time shock absorbers to protect the financial markets from economic downturns and social events such as financial crimes.

So, while the goal may be to unlock the potential of locked capital, it is important to understand the impact on today's system, which collects rent, and envision the newly aligned business incentives of these market participants.

In other words, it will be a radical change, and we need to understand and consume the change without imposing any risk to the system.



Nitin Gaur

Global Head of Digital Asset & Technology Design, State Street Digital

NON-NATIVE



Emirates NBD (ENBD)

ENBD is a leading banking group in the Middle East, North Africa and Turkey (MENAT) region with a presence in 13 countries, serving over 14 mn customers. As of 31st March 2022, total assets were AED 694bn (equivalent to approx. \$189bn). Emirates NBD announced its pilot project focused on using Blockchain technology for global remittances and trade finance with ICICI Bank in India.

Dubai, DED
LOCATION



First Abu Dhabi Bank (FAB)

FAB is UAE's largest bank and one of the world's largest financial institutions. Headquartered in Abu Dhabi, in Khalifa Business Park, the bank's international network spans over 19 countries, across the world, providing the global relationships, expertise and financial strength to support local, regional and international businesses seeking to do business at home and abroad. FAB was one of the first banks in the Middle East to introduce real time cross border payments using Blockchain technology.

Abu Dhabi, ADDED
LOCATION



Julius Bär

Julius Bär Group AG, known alternatively as Julius Baer Group Ltd., is a private banking corporation founded and based in Switzerland. Headquartered in Zürich, it is among the older Swiss banking institutions.

Dubai, DIFC
LOCATION



WHAT IS THE FUTURE OF TOKENIZATION?

Why is Tokenization Important and What is the Total Tokenization Market Size?

Almost anything of value can be tokenized and tokenization of financial and real-world assets could be the “killer use-case” Blockchain needs to drive a breakthrough. Up to now, most Blockchain base projects that have reached product-market-fit (PMF) have been focused on creating new financial rails, for example in helping citizens of countries with capital controls move funds across borders, or helping mitigate market failures, such as provide payment options where existing rails are very expensive, such as moving money cross border to much of Africa from the rest of the world.

As we wrote in our recent report, money, tokens & games, we believe that existing institutions, be it traditional financial firms or gaming companies, will over the next decade increasingly incorporate Blockchain and Web3 solutions into existing tradfi or Web2 platforms. This incorporation of Blockchain technology and the promotion of tokenization by existing players, be it in finance or gaming, will lead to significant growth in the tokenization market size. Over time, centralised companies will act as a conduit for decentralisation ideas and technologies to get a foothold inside existing systems and help promote future diversity.

We forecast a market size of \$7-10tn of tokenized securities and products by end 2030. We forecast \$4tn to \$5tn of tokenized digital securities, primarily alternative financial assets and corporate bonds, plus \$1tn of distributed ledger technology (DLT)-based trade finance volumes by 2030. Additionally, we estimate up to \$5tn could move to newer digital money formats such as CBDCs and stablecoins by 2030, of which roughly half could be DLT or Blockchain-

based. Our estimates are discussed in greater detail in our recent report Money, Tokens & Games.

What is the Expected Growth Over the Coming Years ?

We are very early in the process of these products growing but there are real catalysts now, including the demand by investors, especially alternative asset managers, for tokenized products. In addition, legal changes are underway, such as the UK law change on digital trade finance. Our forecast of \$4tn to \$5tn of tokenized digital securities by 2030, assumes 1% of corporate and quasi-sovereign bonds, 7.5% of real estate funds, and 10% of PE/VC funds and 2% of repo, securities financing and collateral markets are tokenized.

Up to now, mainstream Blockchain adoption has been slow amid challenges such as: [1] lack of legal / regulatory framework that allows such transactions; [2] cost of building entirely new rails alongside existing financial rails and integrating the two; [3] Potential disintermediation of existing players resulting in caution or hostility from incumbents; [4] Lack of standards & interoperability; [5] PublicBlockchaininfrastructurenotbeingastraightforward fit for existing compliance rules and business processes.

Blockchain involves the recording, storing or transmission of value. It has the characteristics of money and finance, and these are different to other industries as they are heavily regulated. Unlike other technological disruptions, it is hard for Blockchain and tokenization to disrupt from below or the periphery. What is different now, compared to say five years ago, many regulated financial institutions are pursuing Blockchain based projects. This is even true of many central banks around the world.

What Industries are Expected to Move First in the Tokenization of Everything Agenda

We believe that in financial services, the private/unlisted market is more suitable for Blockchain adoption due to the greater benefits of resulting liquidity and transparency and consequent access to new client segments. Hence, managers of alternative assets such as Private Equity or Hedge Funds are among the most enthusiastic in pursuing Blockchain solutions at present. For public securities across sectors, tokenization could also provide other benefits in areas such as improved collateral use but bid/offer spread efficiency or market liquidity are unlikely to be transformed for markets such as US public equities.

We will need the support of large financial institutions, which are increasingly focused on tokenization and the support of the law, where notable changes are taking place in areas such as English law, which governs most international trade finance.

Outside finance, a trend we are tracking is the increasing interest of Web2 gaming companies to incorporate Blockchain based features into their existing hit games, and also developers and talent leave Web2 gaming companies to establish new Blockchain focused gaming companies. The first generation of Web3 games, such as Play-to-Earn, turned out to be Covid era fads. The next generation are focusing on building great games first – and the tokenomics come later. We are watching developments in Asia, especially South Korea and Japan, to track the future of Tokenization in games.

Any Other Insights That You Would be Able to Share on the Topic

In addition to measuring the growth of Blockchain by 2030 in trillions of Dollars (i.e., Tokenization), we believe it would also be useful to look at it from the perspective of billions of users. Blockchain user numbers will be boosted by daily activity – spanning money, games, social, and more. Successful Blockchain adoption will be when it has

a billion-plus end users who do not even realise they are using the technology.

– Money: Countries with populations totaling approximately 2 billion are likely to experiment with distributed ledger technology-linked (DLT-linked) central bank digital currencies (CBDCs).

- Games: The next generation of gaming will include tokenized assets, initially driven by Asian games and appealing to power users.
- Social: Micropayments, including in Metaverse games, will likely be Blockchain-based. Large consumer brands will also help power Web3 adoption.

The other aspect we would like to touch up relates to the technological and legal enablers required to bring billions of users and trillions of dollars of investments into the Blockchain Ecosystem. There is a need to change the technological and legal plumbing that is needed to support, maintain, and operate the system. These changes could include Blockchain-based identity solutions, privacy solutions enabled by zero-knowledge proofs, Oracles to connect/feed real-world data on-chain, and of course, a robust regulatory and legal framework that would allow individuals and institutions to embrace this new technology.



Ronit Ghose
Global Head, Future of Finance,
Citi Global Insights

NON-NATIVE

RAKBANK



RAKBANK is a public joint stock company, headquartered in the Emirate of Ras Al Khaimah, in the UAE. The bank is 52.76% owned by the Government of Ras Al-Khaimah and its shares are publicly traded on ADX. RAKBANK announced partnering up with Kraken to offer AED-based digital asset trading.



SP Hinduja



S.P. Hinduja Banque Privée is a Swiss-regulated and supervised bank. The Bank was established in 1994 as a Swiss Banking Institution continuing on the asset management activities of a finance company created in 1978.



Swissquote



Swissquote is a Swiss bank in online financial services and offers their clients innovative and state-of-the-art solutions to meet their investment needs. Headquartered in Geneva, Switzerland, they have additional offices in Bern, Zürich, London, Luxembourg, Malta, Dubai, Singapore, and Hong Kong. Swissquote allows its clients to invest and trade Cryptocurrencies.



Wio Bank



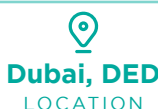
Wio is an intelligent financial platform that connects you to tomorrow with the right network, services, and support to enhance your life.



Zand Bank



Licensed by the Central Bank of the UAE, Zand is the first digital bank to provide both retail and corporate banking. In addition to innovative banking services, Zand is set to be a digital economic accelerator, providing the foundations for a broader generation of digital services.

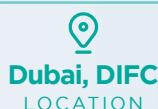


FS PROVIDERS

ABO Digital



ABO Digital is an investment firm providing alternative financing solutions to Cryptocurrency projects around the world. As part of the Alpha Blue Ocean group, which has executed more than \$2bn in financing commitments for publicly listed companies across the globe since its inception in 2017, ABO Digital brings a breadth of experience in capital markets to provide institutional-grade expertise in providing innovative and flexible financing solutions to help Blockchain developers build and grow their projects.

UNLEASHING THE POWER OF TOKENIZATION:
REVOLUTIONISING FINANCING FOR WEB3 COMPANIES

The financial world is witnessing a monumental shift as tokenization emerges as a game-changer in the industry. For the uninitiated, tokenization involves converting the rights to a tangible or intangible asset into a digital token. These tokens represent fractional ownership of the underlying asset, enabling multiple investors to hold stakes in a single asset. By utilising Blockchain technology, tokenization ensures secure, transparent, and efficient tracking of asset ownership. This technology is poised to overhaul traditional finance by enhancing accessibility, transparency, and efficiency. Citi, the global banking giant, published a paper in March 2023 projecting an 80-fold increase in tokenization of real-world assets (worth up to \$4tn) by 2030. Meanwhile BlackRock's CEO, Larry Fink, extolled the significance of tokenization in his annual letter to investors in March 2023, stating that it drives efficiencies in capital markets, streamlines value chains, and optimises cost and access for investors.

Web3 companies, which operate using Blockchain and leverage Decentralised technology to deliver various services, stand to benefit immensely from tokenization. Conventional funding sources are frequently beyond their reach, leaving them scrambling for financing. tokenization, however, enables them to create digital tokens representing business ownership, opening up new avenues for funding, despite ongoing debates about whether these tokens qualify as securities.

A prime example of tokenization's potential, beyond the typical utility tokens that most Web3 companies' issue, lies in the realm of Bitcoin mining. Bitcoin miners verify transactions on the Bitcoin network and add them to the Blockchain, earning rewards in the form of newly created Bitcoin and transaction fees. However, mining income is notoriously volatile, as it hinges on both the price of Bitcoin and the mining difficulty. For example, by the end of the 2022, Bitcoin mining profitability dropped by a staggering 70%.

Tokenizing future mining revenues can create a new asset class, allowing miners to hedge their future cashflows whilst allowing investors to gain exposure to mining income streams. These tokens enable miners to exchange a portion

of their future income for immediate funding—a boon for small-scale miners lacking the capital to invest in costly mining equipment and for investors seeking secure, direct exposure to Bitcoin mining. This could be extended to traditional mining companies that may want to Tokenize royalties based on their future mining revenues. Tokenization allows holders of these revenue-backed tokens to trade them on exchanges and this is where the real power lies: unlocking liquidity.

Tokenization also paves the way for miners to borrow against their future mining revenues. By using tokens as collateral, miners can secure loans from decentralised lending platforms like Aave, Compound, and MakerDAO, accessing much-needed capital without selling mining equipment or Bitcoin holdings. This concept parallels the existing model in the Software-as-a-Service (SaaS) industry, where platforms such as Pipe4, allow software companies to borrow against future recurring revenues in a dilution-free manner, empowering SaaS businesses to borrow against or sell future contract-based revenue for dilution-free capital today.

The applications of tokenization extend far beyond financing based on future revenue streams. Tokenization can fractionalise ownership in real-world assets such as real estate, art, or commodities, enabling investors to buy and sell smaller portions of these assets and making them more accessible to a diverse range of investors. For instance, Crypto bank Sygnum transferred legal ownership of Picasso's 1964 Fillette au Beret onto the Blockchain and sold 4,000 tokens representing ownership in the painting to investors.

As the funding market tightens, it is increasingly plausible that middlemen like banks and underwriters will be bypassed in capital raising processes. While banks are integral to capital formation, major firms like Siemens have already begun issuing bonds on the Blockchain, circumventing traditional banks. The primary advantage of Blockchain-based debt issuance lies in eliminating costly intermediaries, reducing expenses, and lowering borrowers' cost of capital. Obligate, a trailblazing Blockchain-based debt protocol, connects borrowers and lenders using smart contracts, with investors

receiving tokens directly in their Crypto wallets representing the bond, along with the right to payment at maturity or collateral in case of borrower default.

Leveraging our extensive expertise gained from six years of executing over 100 structured Private Investment in Public Equity (PIPE) transactions, ABO Digital, our innovative digital asset investment firm, is broadening financing opportunities for Cryptocurrency projects. In partnership with AllianceBlock8, we aim to deliver tokenized structured products based on traditional financial instruments and support Cryptocurrency projects in raising capital by tokenizing structured debt or other structured products using their native tokens. We recognise the tremendous potential in unlocking liquidity within private assets, evidenced by the entry of private equity giants like KKR into this domain. Through this groundbreaking technology, we empower Cryptocurrency projects to craft bespoke financing deals, expanding investment options for global investors and fostering greater access to a diverse array of opportunities.

In summary, tokenization is set to redefine financing options for companies as Blockchain technology gains traction. The financial landscape will be reshaped as ownership is fractionalised and capital raising processes streamlined. Early adopters stand to capitalise on a wealth of opportunities, and as traditional finance evolves, the integration of Blockchain and tokenization will become crucial for companies seeking to excel in a rapidly changing world. This heralds an exciting era of growth, innovation, and financial transformation for Crypto and Blockchain enthusiasts. Don't be left behind—join the growing ranks of Crypto and Blockchain enthusiasts reshaping the financial landscape. Act now, and invest in a future defined by innovation, growth, and financial transformation.



Amine Nedja
CEO, ABO Digital



Jeremy Weech
Investment Associate, ABO Digital

FS PROVIDERS

CEG

CEG INVEST

Privately owned investment firm with Swiss roots, specialised in real estate and private markets opportunities. They focus on helping corporates and projects achieve their financial goals, whilst CEG holds themselves to highest standards. They manage their company with a long-term approach by creating and maintaining personal, long-term partnerships based on trust.

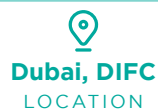


Ras Al Khaimah, RAK DED
LOCATION

Dalma Capital

DALMA CAPITAL

Dalma Capital is an award-winning global alternative investment platform, fund manager and accelerator for alpha generation with an inherent edge in emerging investment strategies and markets. Dalma Capital is exposed to Blockchain and Cryptocurrency investment funds.



Dubai, DIFC
LOCATION

FS PROVIDERS

ISP

ISP
INVESTMENT SOLUTIONS PARTNERS

ISP is a Swiss privately-owned specialised investment boutique headquartered in Zurich with its founding roots dating back to 1993. They serve corporates, banks and other financial institutions, investors and traders through a unique blend of the latest technology, high-touch service and the extensive expertise of our interdisciplinary teams.



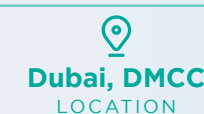
Dubai, DIFC
LOCATION

PAYMENT SERVICES

Hyperpay

HYPER PAY

HyperPay is an online payment gateway driving the future of cashless payments in the MENA region. They process millions of transactions a year for thousands of merchants across almost every industry.



Dubai, DMCC
LOCATION

Mastercard

mastercard.

Mastercard is a global technology company in the payments industry. Their mission is to connect and power an inclusive, digital economy that benefits everyone, everywhere by making transactions safe, simple, smart and accessible. Using secure data and networks, partnerships and passion, their innovations and solutions help individuals, financial institutions, Governments and businesses realise their greatest potential. Mastercard is enabling Crypto payments through its dedicated card leveraging its existing payment network.

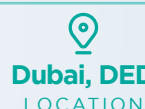


Abu Dhabi
LOCATION

Moneygram

MoneyGram.

MoneyGram is a global leader in cross-border P2P payments and money transfers. Its consumer-centric capabilities enable family and friends to quickly and affordably send money in more than 200 countries and territories, with more than 75 countries now digitally enabled. With MoneyGram Access digital wallets are accessible to users. Wallet holders will be able to deposit and withdraw USDC from their wallet, then pay with or receive cash at participating MoneyGram locations.



Dubai, DED
LOCATION

Network International

network

Over the past 25 years, Network International has built a business based on long-standing and trusted relationships with many of the leading merchants, financial institutions and payment networks operating in the Middle East and Africa. Such relationships are based on their comprehensive capabilities, scale, local presence in the multiple markets in which they operate, alongside their trusted reputation. Network International announced a partnership with Crypto exchange and custodian MidChains to bring innovative payment solutions to the UAE market.



Dubai, DED
LOCATION

Visa

VISA

Visa is a world leader in digital payments, facilitating transactions between consumers, merchants, financial institutions and Government entities across more than 200 countries and territories. Visa has an active strategic partnership with Crypto.com, and have rolled out fan based NFT's for the World Cup.



Dubai, DED
LOCATION

4 Subscription

Once approved, your CH or XS ISIN can be opened and your product goes live.

2 Request

Start your request on our custom platform and set up your unique product structure, selecting from existing counterparties – such as custodians, brokers, paying agents – or your own.

5 Issuance

Everyone can now participate in your product performance, as investors have received their certificates, and your idea can be funded.

3 Creation

Enjoy as we take care of the product setup consisting of legal review, any required onboardings, structuring, termsheets, and approvals.

1 Idea

Expand your investment universe: turn literally any investment idea into a bankable security or token.



From idea to investment

Make any asset bankable and investable –
simple, fast and effective.