



QUANT PREDICTIONS:

The Three Year DLT Market Evolution

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Distributed Ledger Technology is driving a transformational change in the way the world connects. Here, we look at where this change will take us over the next few years.



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DLNs. Distributed Ledger Networks. The first practical example of the concept emerged as recently as 2019 and, today, there are already over a hundred in use across a range of sectors, such as financial services, supply chain automation, finance and provenance.

Indeed, it is no exaggeration to say that DLNs are changing the way the world works, by leveraging the widely-recognised potential of Distributed Ledger Technology (DLT). We're not there yet, of course, but the signs are that we will be. And soon. Within a few years, DLNs are likely to be the norm rather than the exception, opening doors of opportunity for individuals, companies, and countries across the

globe. Here, we look at why such a prediction is justified. First, though, it's worth a brief reminder of how we arrived at where we are.

BACKGROUND

It is now over ten years since blockchain exploded onto our collective consciousness in the form of Bitcoin and, since then, blockchain has become one of the most familiar terms in the fintech sector and beyond. But, of course, blockchain is simply one specific form of a much broader technology - Distributed Ledger Technology (DLT), a decentralised, peer-to-peer digital system for recording transactions - the potential of which is enormous. Despite its potential, though, the many





use cases which have so far deployed DLTs have rarely gone beyond the proof of concept stage. This is for a number of reasons – principally that the technology is extremely complex and

siloed in nature. This makes application development and implementation both difficult and expensive, as each new project or upgrade usually requires a ‘from scratch’ approach, including the recruitment of new specialists. The result is that, until very recently, discussion of DLTs, in both the industry and the media, has tended to be technology – rather than business – focused.

Recently, however - within just the last couple of years - things have begun to change: today, governments and transnational entities have started to recognise the potential for DLTs in terms of large-scale, real-world applications such as digital ID, tokenised money and cradle-to-grave

tracking of product. But they also acknowledge the scale of the technical challenge in realising this potential. To help address this challenge, many of these bodies have begun to establish managed DLT infrastructures as a foundation on which their communities can develop applications. These infrastructures - DLNs – are, essentially, a specific network with a set of members that use a DLT for a defined business purpose, and most tend to fall into a “public permissioned” model, where anyone can have access, but everyone is identified. National DLNs already exist in Australia, Spain, India and Turkey as well as Estonia, Georgia and Slovenia – and more arrive almost by the month, as governments



start to implement their national IT strategies.

THE RISE OF REGIONAL DLNs

But, while national DLNs have huge potential, regional (multinational) DLNs have even more. This is because they deliver even more value than national infrastructures, by providing the ability to deal with cross-jurisdictional issues and support cross border trade. In fact, the benefits of regional DLNs are so significant that some are already live, or in an advanced state of development. In the EU, for example, the EBSI DLN is coming online, while China's BSN infrastructure is now rolling out globally. Probably, however, the most advanced example of a regional DLN is currently LACChain, an alliance led by

the Inter-American Development Bank. Operating across the Latin American and Caribbean region, LACChain is already having demonstrable positive social impact, and the consortium has developed a roadmap which, supported by Quant technology, will ultimately lead to the interconnection of regional DLT ecosystems.

Impact of regulation

Before the full benefits of regional DLN infrastructures can be realised, however, significant challenges remain.

One of these is the harmonisation of cross-jurisdictional regulatory frameworks. Currently, there is a relatively low level of harmonisation and regulatory clarity between

jurisdictions, and this is a prerequisite for enabling viable cross-jurisdictional business models. Once again, though, major progress is being made in this area.

There is, today, a huge amount of activity, for example, in the regulation of tokenised assets and money, and of cryptocurrencies.

Specific developments include the US OCC's groundbreaking interpretative letter, which gives national banks and federal savings associations the authority to provide cryptocurrency custody services for customers. Alongside this, in the EU, major amendments to the MiCAR and MLD5 legislation represent a sea change for anonymity-seeking users and

exchanges. This trend in the development of regulatory frameworks, which is likely to continue apace, is encouraging large players with more conservative risk appetites to get involved at scale. The many banks, for example, that were quick off the mark with less risky use cases, such as trade finance, are already expanding their applications as regulatory clarity grows.

Interoperability will lead to large scale networks

Another challenge to – and critical prerequisite of – the effective implementation of regional DLNs is interoperability. Today, DLNs are mainly closed loop systems, often with a single front end application and limited or no interoperability.



At the technical (as opposed to governance) level, this lack of interoperability is, historically, a result of the essentially siloed nature of the underlying DLTs. Developed individually, without regulation or standards to allow for interaction, current DLTs are isolated and disconnected: they cannot talk to each other.

This was, and is, one of the main obstacles to mass adoption of DLTs and - consequently - DLNs. However, a solution to this now also exists, in the form of unique technology from Quant.

Introduced in 2018, Quant Overledger is the World's first and only enterprise-grade solution that provides true

universal DLT interoperability without adding additional complexity or infrastructure. Today, the company works with many national bodies and corporations across the world, including LACChain, to help them meet their interoperability needs. Moving forward, Quant will connect Overledger Network to all of the most significant DLNs, and provide a single API to allow easy, seamless cross-connection of business services.

PREDICTING THE FUTURE OF DLNs

Crossing borders

So, where does all this take us?

What of the future, both immediate and near-term? The growth of DLNs is a clear sign that practical applications of DLTs are beyond proof of concept, and that the technology is rapidly becoming

more mainstream. In fact, this growth is likely to increase even more swiftly over the next year or so. All the evidence points to a near-term proliferation of DLNs, and that those DLNs which are easiest to connect to will grow most quickly. This will lead - probably within 3 years – to the majority of, if not all, countries having a national blockchain infrastructure, allowing the development of regional DLNs which enable the expansion of cross-border use cases. Ultimately, these regional DLNs will also be connected to form a globally connected infrastructure.

CBDC multiplying the benefits of national infrastructures

Such an infrastructure will be transformational, delivering benefits that range from improving business

efficiency to facilitating the creation of more inclusive societies across the world.





But, while applications will, over time, emerge across all sectors of social and industrial activity, much of the immediate development will be in the field of finance and trading, as the evolution of national and regional DLNs accelerates the shift of industry focus from cryptocurrency to regulated activities with tokenised money and assets. Ultimately, many national infrastructures will use their country's sovereign CBDC as one of several payment methods for applications on their DLNs.

This, of course, begs an obvious question: in this new world of asset and currency tokenisation, what will emerge as the dominant technology brand?

The answer to this is unclear, but it seems highly unlikely that a single public DLT will be the dominant platform for DLT-based applications. While Ethereum has flourished in the past few years, the combined effects of its relatively low speed and high gas price, together with the fragility of public smart contracts, has proved a major obstacle to widespread commercial adoption. And this is unlikely to change. Although Ethereum and the upcoming Ethereum 2.0 will continue, and perhaps even grow over the short or medium term, supporting the cryptocurrency and DeFi markets, they will almost certainly plateau or (more probably) decline, as regulation and reputation accelerates the growth of tokenised assets on managed DLNs.

It is reasonable to expect most of the lowest risk and most commercially viable use cases to occur on the permissioned public DLNs operated by national governments and regions, or commercial bodies.

Of course, major cryptocurrencies will always exist, in the same way that online gambling will always exist. But they will co-exist with collateralised single currency and multicurrency stablecoins, leaving little space for less trusted algorithmic stablecoins. Within a few years, perhaps as few as three, cryptocurrency will be marginalised by a move towards fiat-backed tokenised money, enabled by DLNs.

In fact, this move is already beginning to happen, as several options for this (fiat-backed tokenised money) have now been developed in collaboration with regulators, and are already coming to market. These options include CBDC in some jurisdictions, collateralisation by banks and EMLs, FNLity and Diem Reserve.

Quant's technology will support the implementation of these models, as the Overledger DLT Gateway has unique features to link settlement, clearing and retail layers for tokenised money, while Overledger Network will connect to strategically important tokenised currencies to facilitate fully tokenised payment services using DLNs.

At Quant, we see overwhelming evidence that the world of DLT is now seeing a shift of focus from technology to business - a shift that will introduce a new era of use case innovation based around DLNs. Indeed, this era has already begun. National infrastructures are already beginning to blossom, and more regional DLNs will rapidly emerge as regulatory harmonisation evolves. And it is here that Quant technology will play another critical role in fast-tracking the development and implementation of DLNs at all levels. Why? Because, as commercial, national and regional DLNs and infrastructures start to increase types and volumes of trading, regtech and compliance solutions will need to be easily integrated by service providers.

One obvious way of doing this is via a regulatory layer within the interoperability solution fundamental to the DLN concept. And this is precisely what Overledger Network provides, offering the ability to easily pass compliance data between parties and dynamically add compliance solutions to meet the needs of customers.



QUANT'S MAIN PREDICTIONS:

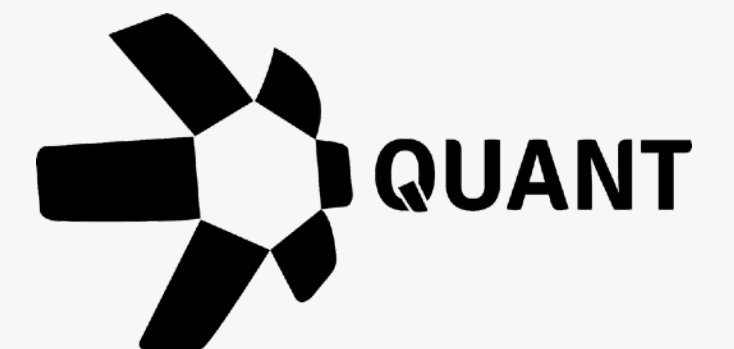
- Focus shifts from technology to business, from DLTs to DLNs
- Growing impact of regulation and governance on commercialisation of DLT – rise of well governed DLNs
- Growth in implementation and adoption of national and regional DLNs
- Acceleration of the growth of tokenised assets on managed DLNs
- For mainstream adoption, cryptocurrency will be marginalised by a move towards fiat-backed tokenised money, enabled by DLNs.

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In short, we at Quant predict that, by 2024, the world will – in terms of connectivity - be a very different place from the world we see today. It will be a world where DLNs are mainstream. And a world which will offer huge benefits to governments, companies and individuals alike.

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Martin Hargreaves is Chief Product Officer at Quant, with 25 years industry experience. With a technical background, he has been leading Product teams for eight years building nationally critical B2B SaaS and Payments products, joining Quant in the first half of 2020. His passion is building world class products and product teams, and delivering the critical systems that will improve our lives in the future.

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