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Future of Post Trade  
Infrastructure



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IMPACT THAT  
MATTERS**  
*since 1845*

## Executive summary

### Post Trade Market Infrastructures enabled and enablers of Digital Transformation

The Financial Market Infrastructures (FMIs) are today facing an unprecedented transformation of its landscape.

After ten years of integrating different regulatory requirements, the financial market stakeholders are at a pivotal point of their transformation where they must combine on one side the transparency and risk management requirements which apply to them and on the other side the efficiency of the processes.

But the transformation of the FMIs is not only a consequence of the new global regulatory framework. The introduction of new financial technology within the industry is facilitating more than ever the emergence of innovative solutions but also re-shaping the roles, services and operating models of different market players across the value chain.

Not far from each and every new solution, we have seen a significant hype regarding blockchain, DLT, RPA, AI, security tokens and digital currency solutions. While initially identified as disrupters of the legacy FMI framework, a better understanding of these new solutions has evidenced how these new technology can actually enable a digital transformation of the market infrastructure industry.

Like Rome, we believe this new infrastructure will not be built in a day, not least because legal and regulatory considerations need to be addressed by the competent authorities to recognize and frame these technologies. Nevertheless, it is now evident that the future landscape will enable new solutions around digital assets and custody, generating incremental revenues in parallel to implementing process efficiencies, cost reduction and improvement of customer experience.

The post trade 2.0 ecosystem is no longer a question of imagination, but it is currently under construction. Being part of it and engaging in Fintech and DLT is a must for the key stakeholders of the securities and asset management value chain.



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# Introduction

After the blockchain/DLT hype and their anticipated disruptive impact on the post trade infrastructure, the purpose of this document is to layout where we stand today in the definition but also the construction of a new digital post trade environment.

FMI's are more than ever embracing new technology and working in close collaboration/ partnership with Fintechs to achieve three main objectives:

- Develop innovative services for their customers along the security value chain allowing new revenues growth
- Achieve better process efficiency, operational capability and quality in a tightening margin environment
- Focus on customer experience and services based on new digital platform

The introduction of digital enablers (DLT, security token, AI, etc.) in the post trade world is not a trivial exercise and requires a different mind set and approach in order to leverage from technology to serve and answer actual business needs.

We currently see that the application of DLT and the creation of security tokens and Central Bank Digital Currency are among the key enablers for transformation where it's impact on the value chain needs to be analysed.

Throughout our document, we will review the key steps of the security value chain and post trade infrastructure to identify where and how the digital transformation will design the post trade 2.0. We will also address how to win, develop new revenue growth and operational effectiveness with this new ecosystem.

Financial Market Infrastructures (FMI) Agenda

Defining the FMI landscape

The Post Trade Value Chain

On-going Digital Transformation

Post trade Infrastructure 2.0

How to win

# What are the current global trends

The Global Market Infrastructure agenda is driven by 4 major external forces

## Global Regulatory drivers

- Primary market
  - Prospectus/Issuers Transparency
  - Market infrastructures (EMIR)/ Trade Repository
  - Central Security Depository (CSD)
  - Securities Financing (SFTR)
- Trading platform
  - Market Abuse
  - Liquidity
- Post Trade
  - Central counterparty (CCP)
- Capital requirements
- Asset segregation

## New Technology drivers

- Rise of Fintech companies
- After the initial hype, DLT starts to enter the securities value chain with actual projects
- FMI are investing in and are acquiring these Fintech to integrate the new technology in their environment
- Big data/AI/RPA



## Economic drivers

- Manage in an effective way increasing investment costs due to regulatory framework
- Face tightening margins
- Develop revenues diversification along the value chain
- Reduce inefficiencies/ increase synergies & potential gains

## Competition drivers

- Rise of new markets
- Stakeholders are expanding in the securities value chain via acquisition or partnership
- More consolidation (M&A)

The strategy and Target business Model of Financial Market Infrastructures (FMIs) is driven by cost efficiency and the needs to develop new services and revenues both supported by the rise of new technology solutions




## Redefining the FMI landscape

In approaching the future of exchange's it is key to understand the ecosystems in which they operate and the interconnectivity related to these entities. All dimensions of the ecosystem have similar operational challenges and pressures




## The Post Trade and Asset Security Value Chain

In order to understand the future direction of post trade, it is essential to understand the key functionality of their value chain and to address each area's challenges, market dynamics and opportunities

	Primary Market		Secondary Market					
	Issuance (primary market)		Trade	Post Trade		Asset Servicing		
	Listing/Admission to trading	CSD Issuance	Regulated Market/MTF/OTF	Clearing (CCP)	Settlement (CSD)	Custody	Securities Financing	Depository
 <p><b>Challenges</b></p>	<ul style="list-style-type: none"> <li>• Time to Market (reduce the IPO timeline)</li> <li>• Documentation Costs</li> <li>• Transparency on security register (who owns what)</li> </ul>	<ul style="list-style-type: none"> <li>• Transparency on transactions (reporting/fees)</li> <li>• Provide Liquidity of certain assets</li> <li>• Market surveillance</li> </ul>	<ul style="list-style-type: none"> <li>• Settlement finality (settlement fails)</li> <li>• From T+2 to T+ 1, T 0 ?</li> <li>• Collateral management</li> </ul>	<ul style="list-style-type: none"> <li>• Competition with Global Custodian along the value chain</li> <li>• Margin are reduced</li> <li>• Complexity of Custody Operations</li> </ul>				
 <p><b>Market Dynamics</b></p>	<ul style="list-style-type: none"> <li>• Digitalisation of listing process</li> <li>• Security token issuance based asset backed or native token</li> <li>• Boom of ESG securities</li> </ul>	<ul style="list-style-type: none"> <li>• Emergence of new players (exchange) while consolidation is still on-going between existing actors</li> <li>• Central Bank Digital Currency</li> <li>• Development of crypto asset platform</li> </ul>	<ul style="list-style-type: none"> <li>• Digital custody</li> <li>• Smart Contract related to corporate actions and events</li> <li>• Digital Wallet and Asset Safekeeping</li> <li>• Digital Asset Services providers</li> </ul>					
 <p><b>Opportunity</b></p>	<ul style="list-style-type: none"> <li>• Exploit digital solutions</li> <li>• Explore alternate mechanisms for revenue generation</li> <li>• Foster sustainable financial products</li> </ul>	<ul style="list-style-type: none"> <li>• Offering of new revenue streams and value added services (Digital currency)</li> <li>• Providing instant access of information/data for clients</li> <li>• Focus on innovative and scalable, rapidly-provisioned solutions over redundancy</li> <li>• Enhance market surveillance and virtual security (AI)</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on customer needs and implement intuitive and seamless customer experience</li> <li>• Implementation of digital solutions (e.g. Cloud solutions, data monetization opportunities and analytics)</li> <li>• Reinforce regulatory and operational efficiency</li> </ul>					

# What the future will look like

## The security value chain and post trade infrastructure 2.0

Primary Market		Secondary Market					
Issuance (primary market)		Trade	Post Trade		Asset Servicing		
Listing/Admission to trading	CSD Issuance	Regulated Market/MTF/OTF	Clearing (CCP)	Settlement (CSD)	Custody	Securities Financing	Depository
<ul style="list-style-type: none"> <li>• Greater transparency as regards asset ownership and records</li> <li>• A high degree of automation, removing the need for registrars and nominees</li> <li>• No need for reconciliation between network participants as they share the same record of ownership</li> <li>• The use of smart contracts, i.e., self-executing pieces of code that translate contractual terms into computational material e.g., the processing of some corporate actions</li> <li>• Compliance procedures such as AML/KYC can be executed in a more automated way</li> <li>• Enable buyers to access a larger universe of asset</li> <li>• End to end, workflow based listings and review processes with self-service models for listing are reducing the listing time dramatically</li> </ul>		<ul style="list-style-type: none"> <li>• Liquidity and transferability may be facilitated (AIF, RE Funds, structured products)</li> <li>• Trade confirmation, affirmation, allocation, and settlement could be combined into a single step</li> <li>• Clearing and settlement could theoretically become almost instantaneous</li> <li>• Delivery versus Payment under Central Bank Digital Currency/Stable coins</li> <li>• Reconciliations would become virtually superfluous</li> <li>• Better management of counterparty risks</li> <li>• New approaches of collateral management for CSDs (Compliance planning, shareholder directed services)</li> </ul>			<ul style="list-style-type: none"> <li>• Single source of truth and by making ultimate beneficial ownership transparent throughout the lifecycle of an asset and throughout the custody chain</li> <li>• New roles will need to be defined and set up to ensure independent and trusted safekeeping of private keys and other vital wallet management services</li> <li>• Collateral management could be outsourced by new service providers like cloud solutions or multi instrument platforms</li> </ul>		
 <p><b>Expected outcomes</b></p>	<p><b>Cost and time reduction</b> required to launch new security offerings on the market. More <b>transparency on register</b> for issuers</p>	<p><b>Tracked, registered</b> and <b>instantaneous</b> financial securities &amp; asset exchange</p>	<p><b>Transparent</b> and <b>instantaneous</b> clearing, settlement &amp; collateral management</p>	<p><b>Enhanced efficiency</b> in asset servicing</p>			



Digital Transformation is on-going with a strong drive from DLT  
 DLT Solution is currently deployed in order to support FMI and post trade processes world wide



Identified examples

- Societ  General issued Eurobonds as a security token, directly registered on the Ethereum Blockchain.
- BBVA issued the world's first Green Bond using a version of Hyperledger Fabric permissioned Blockchain.
- World Bank in partnership with Commonwealth Bank of Australia Digital Innovation Lab 5, used Blockchain technology to replace registry, issuing, clearing & custodian processes with smart contract automation on a private version of the Ethereum Blockchain.
- Santander launched the first end-to-end Blockchain bond using Ethereum Blockchain.
- Deutsche B rse and its partner HQLAx successfully launched their jointly developed Distributed Ledger Technology (DLT) solution for frictionless collateral swaps in the securities lending market.
- ID2S launched by Orange is the first European DLT CSD granted with a European passport and claims to be the first to offer real-time settlement of Money Market instruments in central bank money.
- Several Central Banks around the world are assessing the opportunity of using virtual currency from a wholesale and as financial transactions payment under a Central Bank Digital Currency (CBDC).

**International Money Transfers**



Near instant international money transactions.

**Decentralised Notary**



Establishment and execution of contracts, as well as verification of parties and assets.

**Prediction & Stock Markets**



No need to rely on a third party to report.

**Syndicated Lending**



Speed up the building of the book and improve pricing estimates accuracy.

**Trade Surveillance**



Tamper proof and secure audit trail.

**Fiat Currency Payment & Settlement**



Faster, cheaper and more secure payments.

**Security Issuance & Transfer**



Creation of unique identifiers, transaction tracking and asset segregation.

**Securities Clearing & Settlement**



Through delivery of more efficient post trade processing.

**Securities Asset Servicing**



Through automation of dividend/ interest payments and corporate action processing.

**Collateral Management**



Collateral securely held on the DLT.

**Derivatives Contracts & Clearing**



Enforcing derivatives contracts and improving derivatives clearing through Smart contracts.

**Asset Registries**



Without the need for a central administrative authority.

**KYC & Anti-Money Laundering**



Know Your Customer and anti-money laundering registries and surveillance.

**Creating Transparency**



Across multiple applications, and facilitating differentiated customer and regulatory reporting.

**Fraud Deterrent**



Creation of a tamper-proof evidence trail.



## How to win in the new landscape

### Grabbing new business opportunities and revenues under a customer centric approach

1

#### **New ways of working**

In order to fully leverage from new technology including DLT and security token opportunities, one needs to consider DLT not only as a new type of 'database' but also as a new way to organise the security value chain from issuance to custody. This is clearly one of the main challenges to tackle as we have to re-shape our views from a sequential centralised value chain to a distributed ledger model where participants can have access to the same information in the same time.

This implies new ways to define the security value chain, new roles and responsibilities (trustee agent, assurance on digital wallets,...), redefinition of existing roles (issuance, notary services, safekeeping and custody services) as well as emergence of new products and securities offerings on primary and secondary market (Digital Property, Digital Art,...).

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#### **No Rules, No Games**

A new security token value chain and supporting trade and post trade infrastructure can be organised with no or limited regulatory framework as we have seen in the recent development of crypto-payment platforms. From our point of view, a sustainable development of security token within the industry can only occur in the context of a well-defined regulatory framework supported by strong digital payment like Central Bank Digital Currency or Stablecoins. This is crucial to provide a trusted, transparent and resilient environment both from a regulator and investors point of view.

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#### **A well balanced ecosystem mixing innovation and resilience of legacy actors**

A strong and sustainable development of new market infrastructure solutions will reside into a durable and well-balanced ecosystem mixing a strong defined regulatory framework and compliance to it. New approaches and innovative mind sets from new entrants with expertise and know how from existing market infrastructures are evolving.

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#### **A Customer Centric approach**

The new digital enablers have to be at the service of a business and/or customer needs. This is key to assess what is in for customers/users. There is no need to have a machine learning/ AI solution where there is not much to leverage from quality data or information, there is no need to deploy distributed ledger technology where an excel spreadsheet can deliver the same results. The success of the digital transformation on post trade/asset servicing will imply actual outcomes in terms of process efficiency, cost savings and enhanced customer satisfaction.

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#### **Expansion into new areas**

FMI participants need to foster operational efficiency through new technology and offering of new revenue services through combining a step-by-step approach of DLT where it is currently needed in the market (e.g. collateral management, ESG products, etc.). A strong and sustainable development of security tokens in DLT will rely on a robust and well-balanced ecosystem coupled with a new approach and innovative mindset from new entrants; and expertise and know-how from existing market infrastructure operators.







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