

10 Builders

Hyperledger Webinar

Tokenizing the Syndicated Loan Market:
Going Beyond Traditional Boundaries in
Finance





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01

**Who we are and
what we do**

Who we are?

A Blockchain & DLT technology company

We are a **blockchain & DLT tech firm specializing in enterprise solutions**. Our team, comprised of architects, blockchain specialists, business & legal experts, **partners with companies to unlock their potential in blockchain and DLT adoption**

Our focus is on **bringing game-changing solutions** that add efficiencies, enhance liquidity, or transform business models across various industries

By employing **our modular solution suite** and **operational framework**, we deliver tokenization services with **speed and efficiently**, ensuring technology serves the business needs

ABOUT US

30 +

CLIENTS WORLDWIDE

50 +

PROJECTS DELIVERED

80 +

EMPLOYEES

We don't just build products, we create regulated & compliance-conforming solutions for our clients

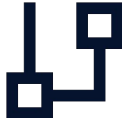
Enterprise blockchain experts

- Strong positioning and reputation in the blockchain enterprise sector at global level
- Demonstrated delivery capacity in productive projects, not just PoCs
- Innovation is embedded in our DNA, as we constantly explore new technologies to transform and evolve specific markets
- Our way of working is agile and collaborative, enabling us to quickly adapt to the changing needs of the market
- Our values are transparency, collaboration and non-conformity. We build trust with our clients and people, creating long-lasting relationships based on mutual respect and shared success

Business & regulatory compliance mindset

- We do not adapt to compliance. We design based on compliance
- We help our clients navigate the complex legal landscape of DLT technology
- Our solutions stand as exemplary models of regulatory adherence
- We collaborate with top-tier law firms and closely engage with regulators like ESMA and CNMV to ensure the highest standards in our solutions
- We accompany our clients every step of the way, ensuring we integrate compliance-conforming and regulated solutions into their business

Our areas of expertise



Strategic Blockchain consultancy

We help organizations in the process of understanding and adapting the technology for their specific business and operational needs.



Digital assets

We design, develop and maintain Digital Assets solutions based on Blockchain/DLT for the financial and corporate sectors to generate new business models, reduce costs, improve operational efficiency, and increase transparency and security.



Deep tech & Innovation

We are experts in advanced technologies that require extensive research, innovation and development to bring them to market. Solutions that are characterized to a high degree of complexity and novelty.

ioBuilders' foundations for delivering tokenization services



Strong Track Record

More than 5 years of experience, successfully completing over 30 blockchain/DLT projects for top industry organizations has equipped us with unparalleled expertise in the field.



Our Tokenization Framework

Our tokenization framework allow us to enhance existing security standards overcoming their current limitations, integrating unique aspects and life cycle characteristics of the assets



Our Building Blocks





Leveraging our tokenization service development experience, we've created a robust suite of tools and components that streamline the execution of complex projects.



**Faster
Time to Market**

**High Quality and
Efficient Project
Delivery**

Some of our use cases & credentials

		<i>Use case deepdive</i>
Digital Securities	<p>We have extensive experience in the tokenization of financial instruments for our clients, spanning stocks, bonds, funds, syndicated loans, and other credit products across diverse industries like finance, energy, or real estate amongst others. Our solutions facilitate DvP & atomic payments as they integrate with digital money platforms</p>	
Digital Credit		
Digital Cash	<p>We have a deep expertise in digital money projects across different typologies: tokenized e-money, commercial bank money, CBDCs and Stablecoins</p>	
Deep Tech	<p>We provide deeptech knowledge to high-tech and innovative projects (e.g. smart contracts standards, network deployment, asset bridging, or interoperability)</p>	
Legal Tech	<p>We are developing digital & blockchain-based legal solutions that bring greater security, transparency and efficiency to the business and its users</p>	

02

Syndicated Loan Platform: Introduction

ioB journey: Expanding our technology in the markets



Fixed Income

We developed a **digital bond platform** built for a large regulated CSD, using blockchain, and enabling atomic delivery vs payment



MTF Equity-Bonds

Development of a **Multilateral Trading Facility System** supervised by European & Spanish Regulators, with an initial use case in the real estate sector



Carbon Credits

DLT solution to **enable the issuance and management of digital CO2 credits**, providing a seamless system for tracking carbon emissions



UCIT Funds

Working since 2020 for one of the **largest funds distribution entity** in Europe: tokenization of fund shares, market transfer orders, settlement etc.



Private equity

We are working on the creation of a full **end-to-end solution to digitalise the entire lifecycle events of PE funds**



Syndicated Loans

Development of a platform to **issue, manage and trade syndicated loans**, covering the end-to-end lifecycle of loans



LACCHAIN



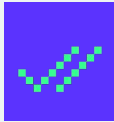
GARRIGUES

BBVA



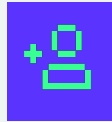
Syndicated Loans Platform Approach

Overview: Creation of a digital, DLT-based technical infrastructure that aims to automate the end-to-end lifecycle of a syndicated loan (SL) aiming to service credit entities (lenders) & borrowers participating in the SL



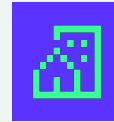
Problems to be Solved

- **Inefficient back-office operations** due to non-communicative systems, requiring significant manpower.
- **Numerous actors involved**, with costly intermediaries.
- **Limited liquidity** due to scarce secondary markets, amidst banks' need for more efficient balance sheet utilization.



Our Role and Solution

- **Technology partner** of the first digital credit infrastructure in the EU leveraging DLT benefits, that aims to transform how parties involved in syndicated transactions collaborate.
- **Improved access to SL** by saving costs and standardizing its lifecycle management.
- Detail of the solution provided in the next slide.



Regulatory Context

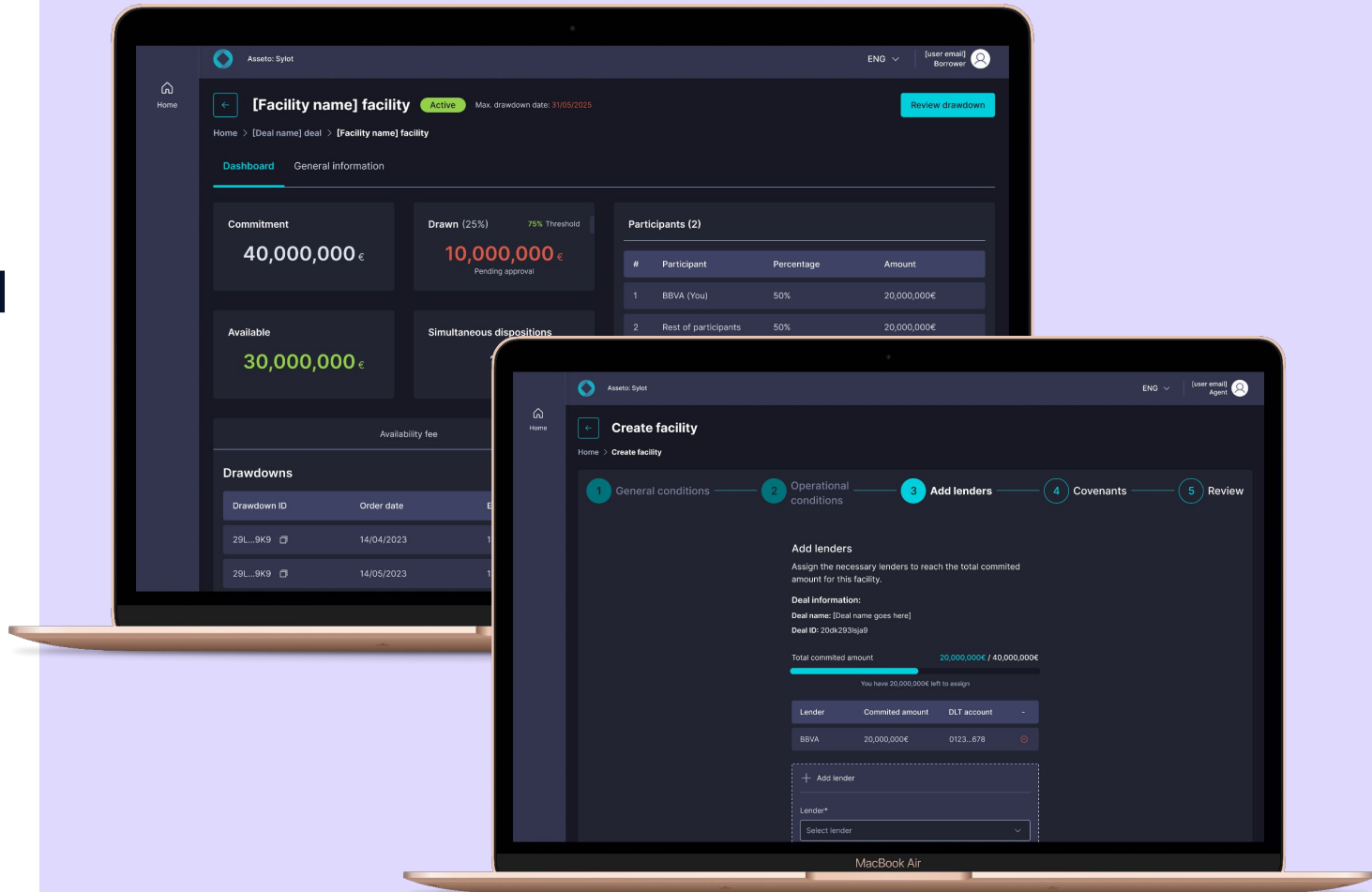
- **Regulatory Context:** the SL platform will be regulated under the new EU regulation (MICA) and is designed to comply with all standards set by the Loan Market Association (LMA), ensuring a professional and regulated approach to lending practices
- **We are partnering with the largest law firm in Spain** to fully align all the regulatory requirements



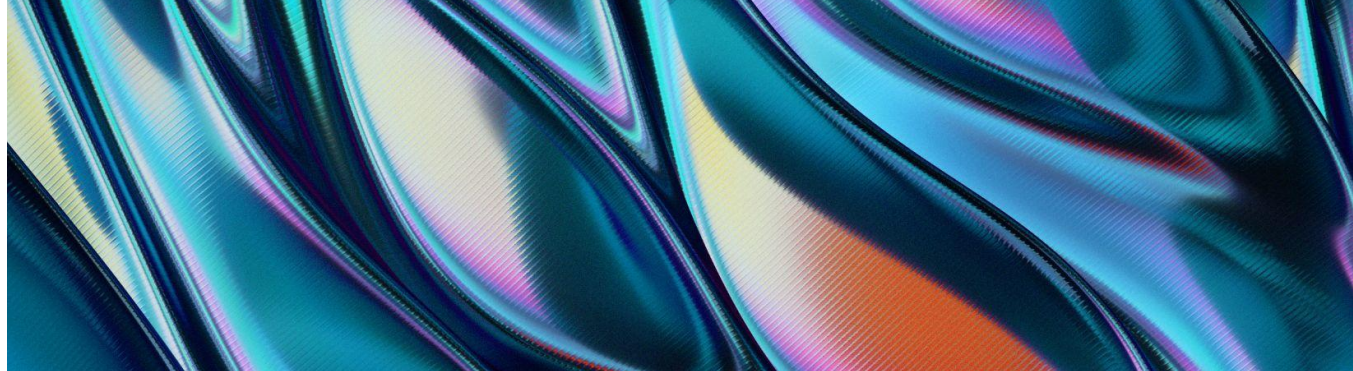
Impact & Value Provided

- **First DLT-based infrastructure for the SL market in the EU** under regulatory scrutiny.
- **Providing liquidity** to SL markets by providing a secondary market.
- **Improved efficiency** by standardizing lifecycle management and reducing back office costs.

Syndicated Loans Platform



Core Characteristics



Sylot is harnessing DLT for Transparent and Efficient Management of Syndicated Loans.



DLT based

Consensus-based, transparent and auditable processes are orchestrated within the technical infrastructure



Full life cycle tokenization

Management, execution and settlement of all capital and interest events



Registry & distribution

Tokenization and registry of the initial participants in the syndicated loan

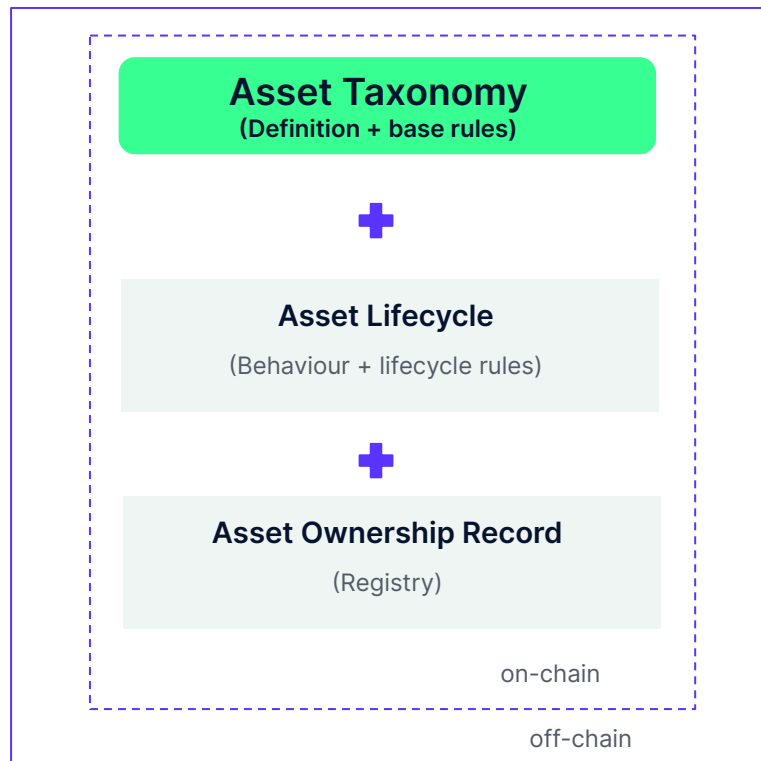


Transfer of participations

Seamless exchange of participations between lenders and investors

SyloT tokenization Blueprint

- Asset anatomy, rules and asset information
- End to end native asset lifecycle
- Transfer of participations rules and executions

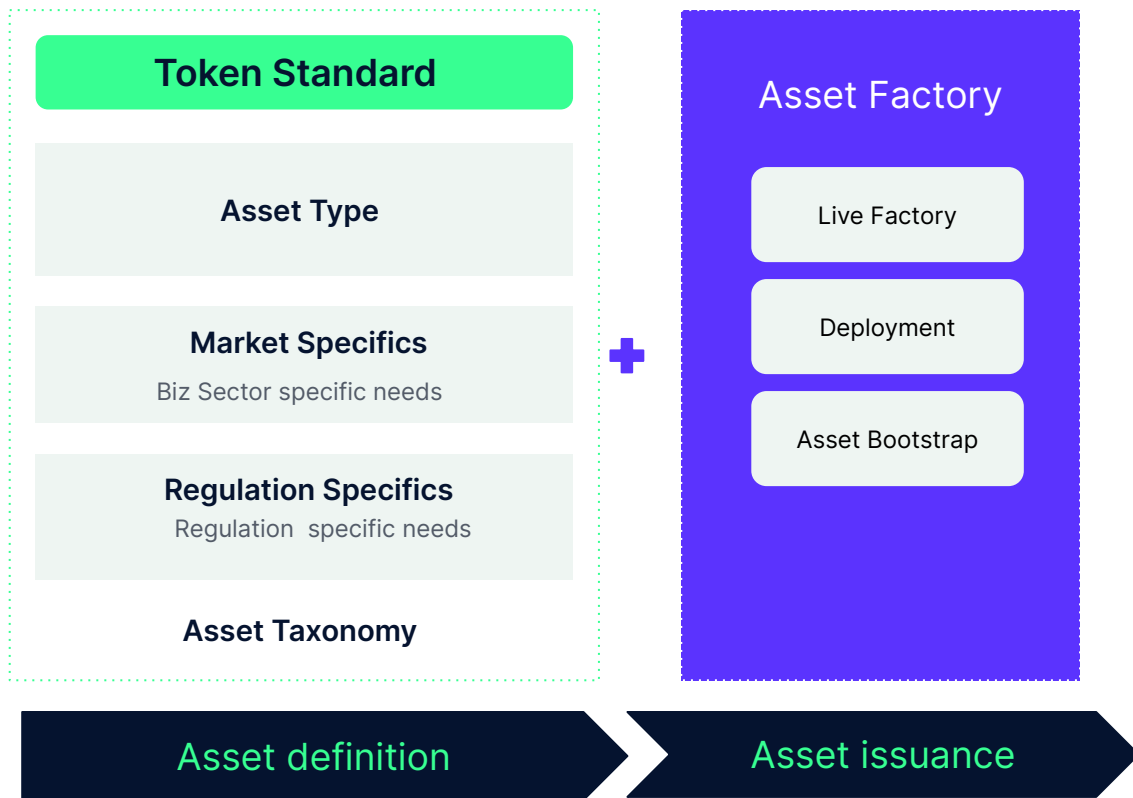


- Standards + custom implementations
- Token taxonomy framework
- Factory, Facade, and other enterprise blockchain standards
- Transfer restrictions mechanisms

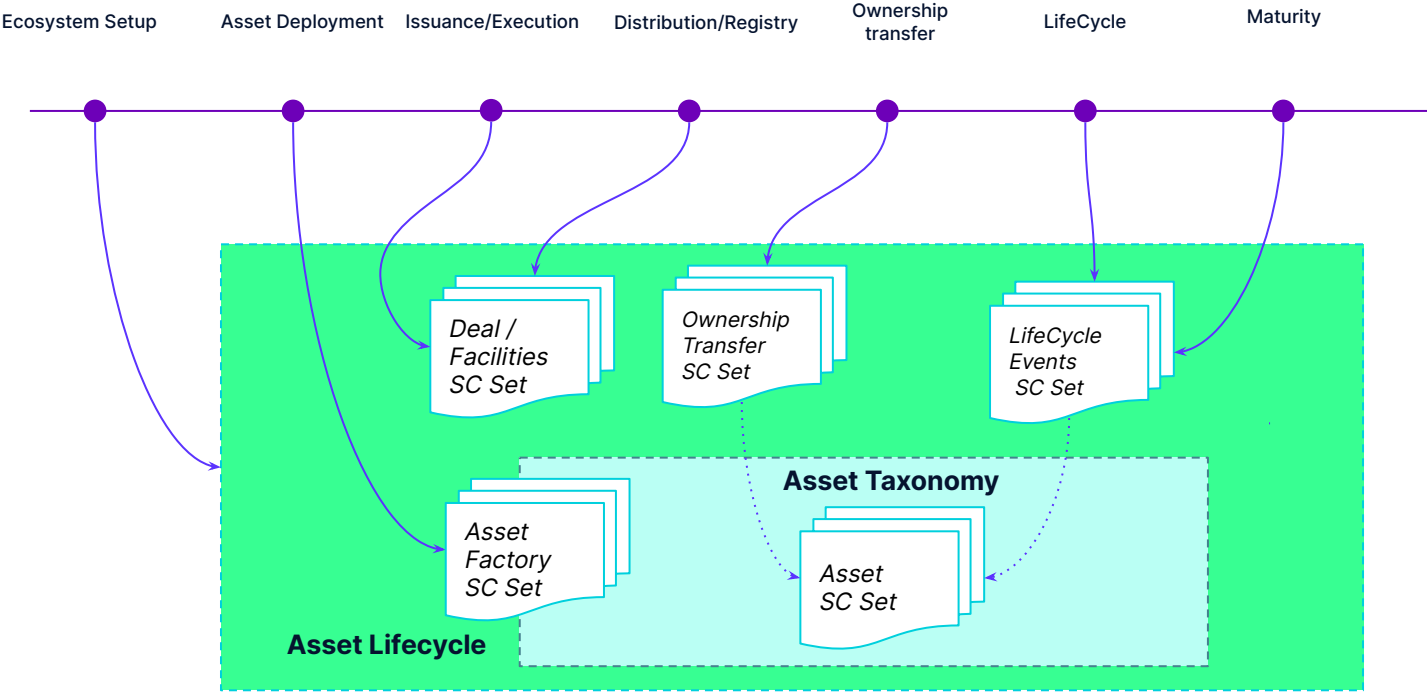
Asset Tokenization Blueprint

Asset taxonomy (+issuance)

- A base asset standard
- Per asset type data and rules definitions
- Common asset class characteristics
- Asset class specifics per biz market. Example: plain vanilla vs green/sustainable syndicated loan
- Jurisdiction and geography specifics



Full native tokenization approach



Main Functionalities Syndicated Loan Platform



Registry & distribution

Deals and its facilities can be configured, assigning the participation of different lenders.

On execution, tokens are distributed among them according to their level of participation.



Drawdowns & Amortizations

Automatizing administrative checks provide shorter settlement periods in drawdowns.

Once confirmed by lenders, funds are released and added to amortization calendar, allowing early payments under previously negotiated terms.



Covenants & Waivers

Covenants can be set, adjusting repayment conditions according to the borrower performance.

Borrower can request a waiver for a specific covenant, and lenders vote in favour/against the waiver.



Transfer of Participations

An agent bank can execute a transmission of ownership to a 3rd party are enabled according to the T&C, by transferring debt tokens from a lender wallet to another entity wallet.



Interest / Fees Calculation & Payments

Interest and fee payments are also included in the calendar. These amounts are calculated automatically based on the conditions defined in the contract, including the reference rate, frequency of payments, floor, etc.



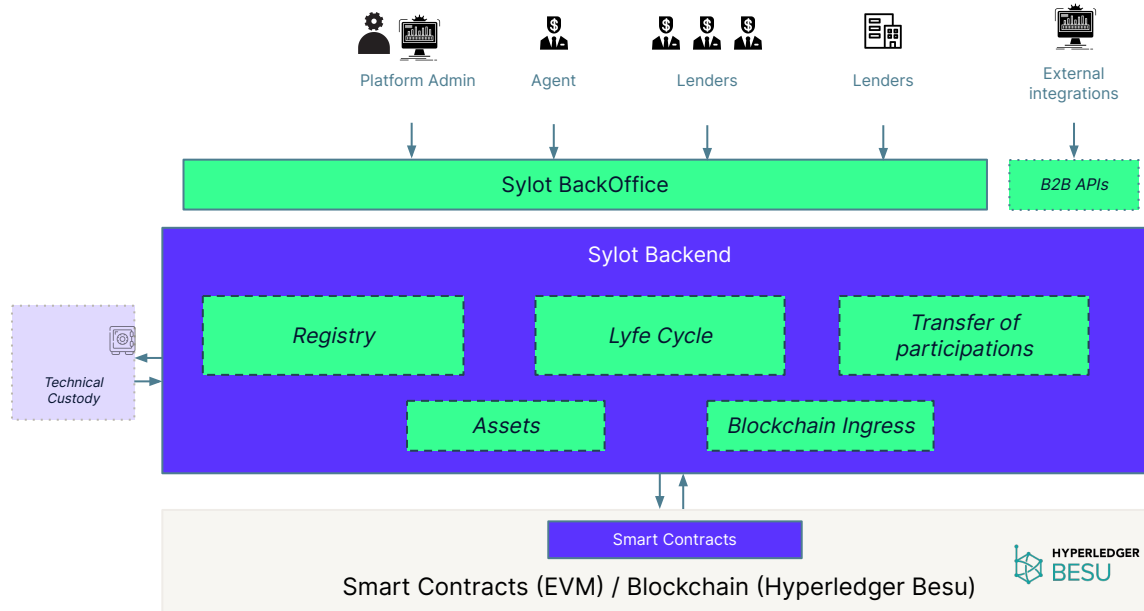
Terminations & Extensions

Facilities are terminated once they are fully paid: capital, interests and fees. Contract extensions can be negotiated through the platform.

It contemplates distressed events such as delays, defaults, restructuring, etc.

Syndicated Loans Platform: Summary

Through our model, we can record the initial ownership of each lender's participations in the SL, register changes in ownership records for each lender's participations in the SL derived from the transfer of participations between lenders & manage events related to the end-to-end SL lifecycle from issuance, to drawdowns, interest payments, covenants or waivers among others.



Sylot uses Hyperledger Besu as a DLT client

Ethereum technology was chosen due to the many different tools and software developed by the blockchain community to support tokenization. The network is implemented using Hyperledger Besu.

HYPERLEDGER BESU

- Open source
- Public & Private
- Variety of consensus algorithms
- Privacy and permissioning mechanisms
- Broad community support



MAIN CHARACTERISTICS



Private permissioned network



Reduced processing time per transaction

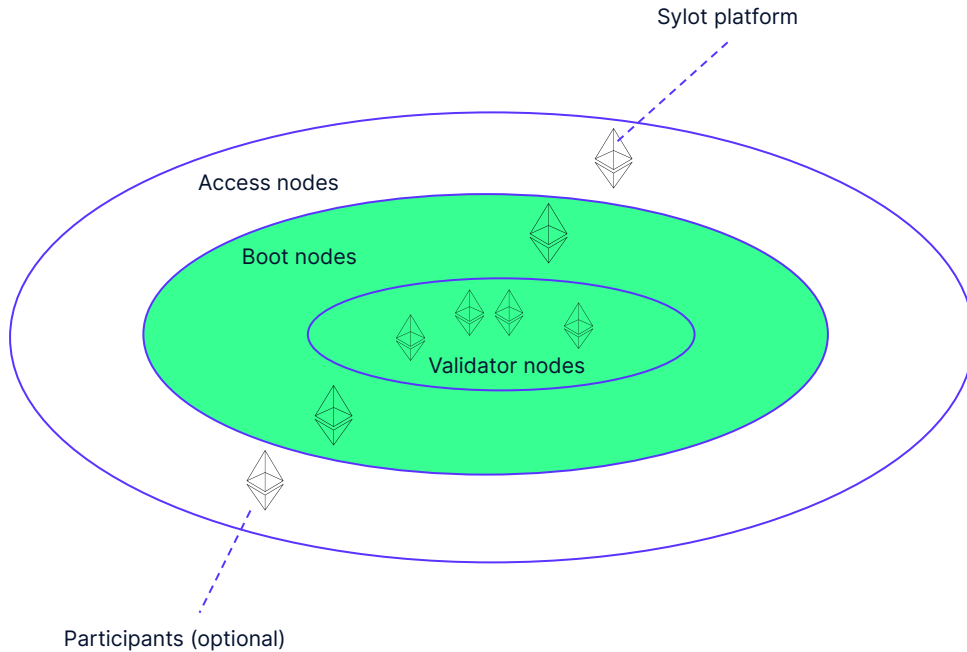


Free gas network



IBFT2 Consensus algorithm (PoA)

DLT Network topology



→ Technology:

- Ethereum enterprise - Hyperledger Besu

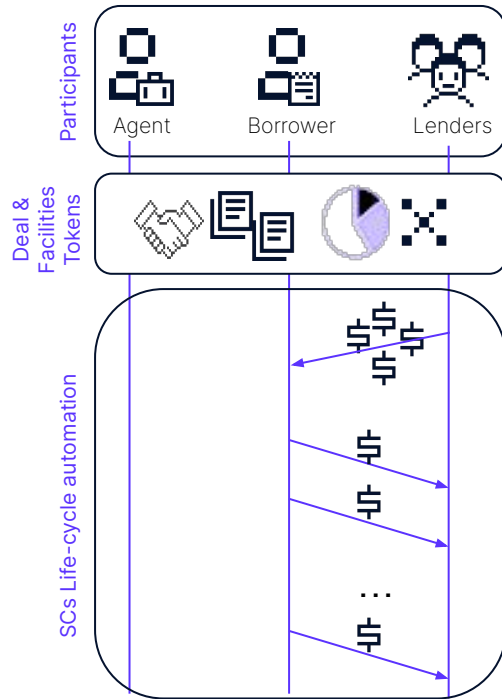
→ Consensus mechanism:

- IBFT2

→ Topology:

- 4 validator nodes
- 2 boot nodes
- Access node (syLOT platform)
- (Optional) 1 access node per participant

Syndicated loans structure



→ **Participants:** Syndicated loans involve different roles:

- **Agent**
- **Lender**
- **Borrower**

→ **Deal / Facilities:** Represented as fungible **tokens**:

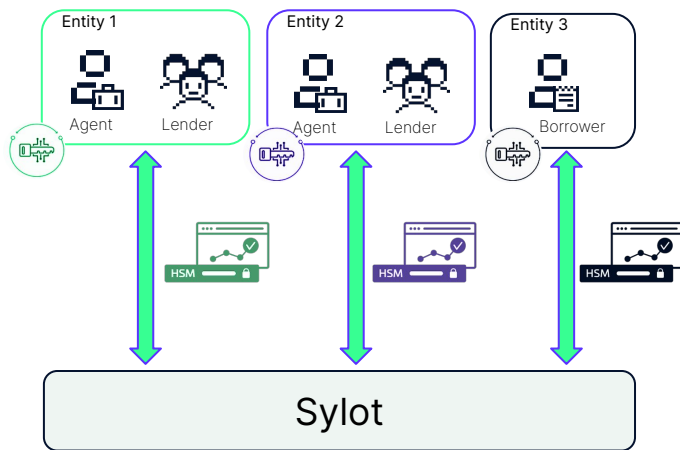
- Currently, Term Loan and Revolving Credit facilities (RCFs)
- Tokens are distributed among lenders

→ The **SCs orchestrate the life-cycle process**:

Once the borrower draws the committed amount, the loan life-cycle starts triggering the obligation of repayment (plus fees and interests) from the borrower to the lenders:

- Each repayment implies an update in the token status (partitions)
- Every payment is distributed among lenders according to their respective participation in the loan and the corresponding tokens (i.e. the credit rights)
- Change of ownership is possible by transferring the tokens to a 3rd party

Syndicated Loans participants



→ Each **participant is responsible** for:

- Agent: able to create deals/facilities (SCs owner, tokens minting and distribution)
- Lenders: manage the participation in the loan (own the debt tokens)
- Borrowers: able to perform life-cycle functionalities in a facility through SCs execution
- Admin: overall infrastructure management

→ **Participants may have several representatives.** These representatives are users of the infrastructure with different roles who have specific permissions.

- Every user action that interacts with the DLT underneath is assigned with one unique participant key

Considerations:

- Sylot infrastructure only offers custody alternatives
- Participants need to engage with custody providers on a bilateral basis

Custody approach:

- Participant keys: Bring your own custody/3rd party custody providers

Why are we using ERC-1400 standard?

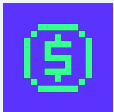
ERC-1410 extends ERC20 capabilities with operations like: forcing transfers, dividing tokens into partitions, and adding metadata to transfers.

The partial fungibility feature allows us to have the tokens status implemented as a partition.

	ERC-1404	ERC-1400	ERC-3643	ERC-1155	ERC-3525	CAT-20
Transfer Rest. (on-chain)						
Transfer Rest. (off-chain)						
Failure Semantic						
Partial Fungibility						
Issuance Controls						
Document Mgmt						
Token/Wallet Freezing						
Delegated Control						
Batch Transactions						

Syndicated Loans tokens

The representation of a syndicate loan uses EIP 1400 adding partial fungibility w/ per partition, operators, transfer restrictions + failure semantics, issuance controls, document management & delegated control (incl. clawback).



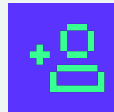
ERC-1410: Partially fungible tokens

The ability to divide a token holder's balance into partitions, each with separate metadata, enabling to add new dimensions to balance holding.



ERC-1644: Controller Token Operation

Since tokens are subject to regulatory and legal oversight this standard enable to retain the ability to force, stop control, transfer tokens between addresses



ERC-1594: Core Security Token

The ability to provide data (e.g. signed authorisation) alongside transfer, issuance and redemption functions allows tokens to more flexibly implement transfer restrictions without depending on on-chain whitelists exclusively.



ERC-1643: Document Management Standard

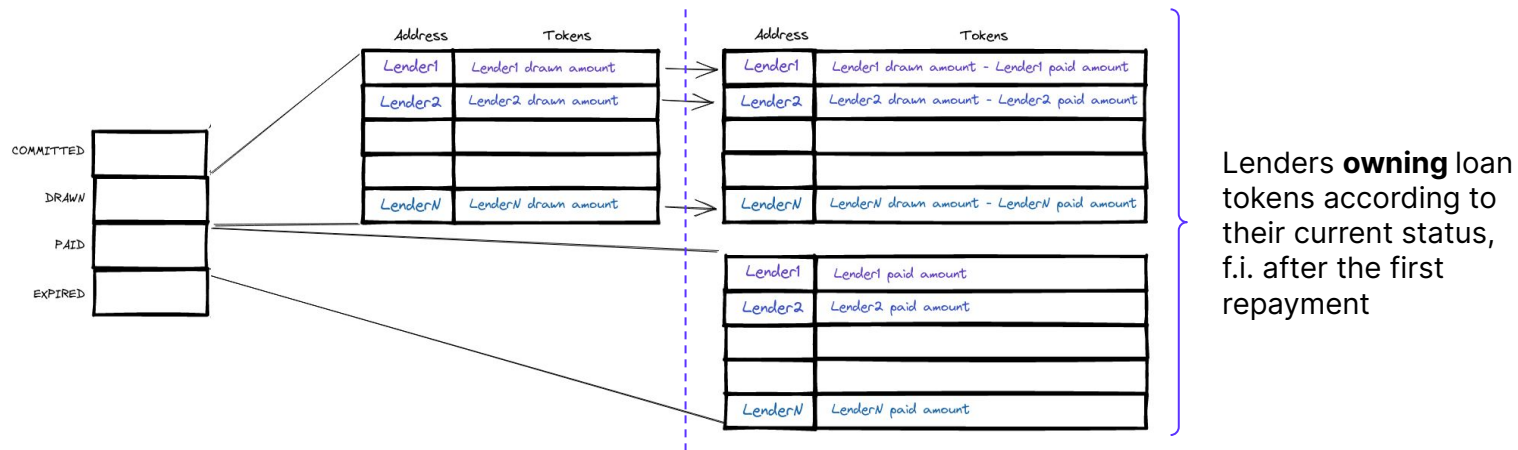
Capability to reference unique external documents linked to the token such as original agreements signed.

Token status representation and ownership

ERC 1410 introduces the concept of partitions used as token status such as committed, drawn, paid, ... Within a partition, tokens are similar to ERC-20's: there's a registry of who owns how many.

Partitions are defined according to the balance status:

Term Loan	Revolving Credit	Condition
COMMITTED	COMMITTED	When deal/facility created or in RCF, when a borrower repays
DRAWN	DRAWN	When borrower disposes the loan
PAID	-	In term loan, when a borrower repays
UNPAID	UNPAID	(Out of PoC)
EXPIRED	EXPIRED	When the deal matures/expires



Value proposals



Improving efficiency

by standardizing lifecycle management and reducing back office costs using sylot as single source of truth.



Providing liquidity

to Syndicated Loans markets by providing a secondary market.



Shaping the future

by enabling new business models in RWA tokenization.

03

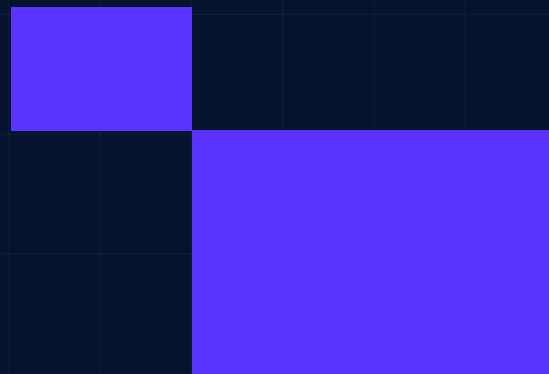
Q&A

Thank you!

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Web io.builders



Annex

Our Use Cases

1. Investment Funds

Tokenization of fund shares, market transfer orders, settlement and integration with T1 players.

A pioneering digital bond platform built for a large regulated CSD, using blockchain, and enabling DvP.

2. Digital Bonds

3. MTF for Alternative Markets

One of the first EU-based MTFs under the DLT Pilot Regime focused on bringing liquidity to alternative markets.

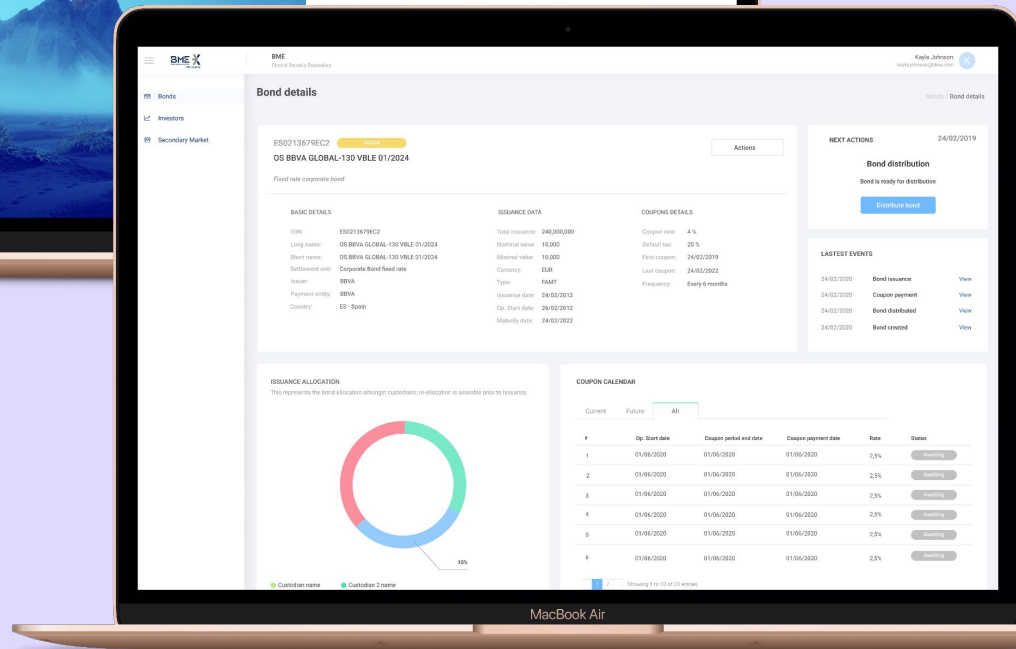
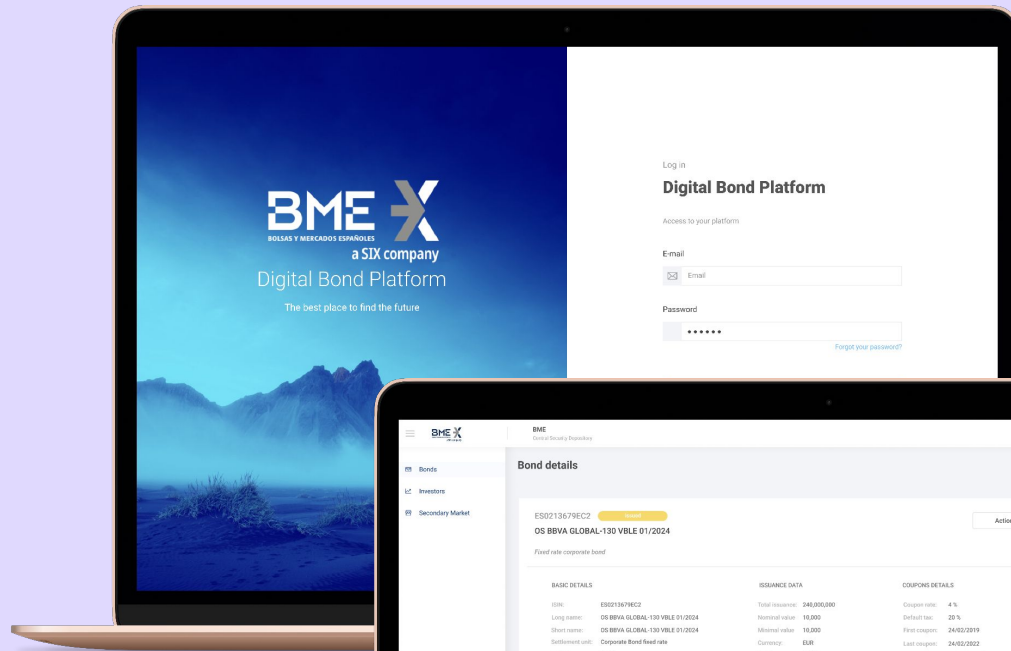
A new digital marketplace to issue, manage and trade Private Equity fund shares under a regulated framework (WIP).

4. Private Equity

5. Syndicated Loans

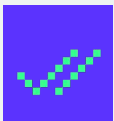
Full end-to-end platform / middleware to manage the entire lifecycle of syndicated loans using DLT. Built to boost 'originate to distribute' CIB models.

Digital Bond Platform for a CSD



Use Case: Digital Bond Platform for a CSD

Overview: Implementation of a native tokenized bond, denominated and settled on tokenized cash (full lifecycle on blockchain, including issuance, coupons, principal repayments, and DVP settlement). First digital bond registered under a regulated CSD, supervised by the Spanish market supervisor (CNMV).



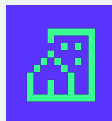
Problems to be Solved

- **Process Efficiency:** Bond issuance processes are lengthy, with T+2 settlement times and imply a high degree of manuality during the maintenance of the registry.
- **Real Delivery vs Payment.**
- **Real end-to-end digitalisation:** streamlining bond listing, issuance and distribution.



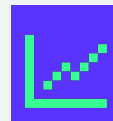
Our Role and Solution

- **ioBuilders developed the full end-to-end platform /** technology stack covering the full life cycle of the bond from issuance to management and trading. We used job tokenization solutions to develop these capabilities enabling the DvP between the tokenized security and the tokenized cash.
- Detail of the solution provided in the next slide.



Regulatory Context

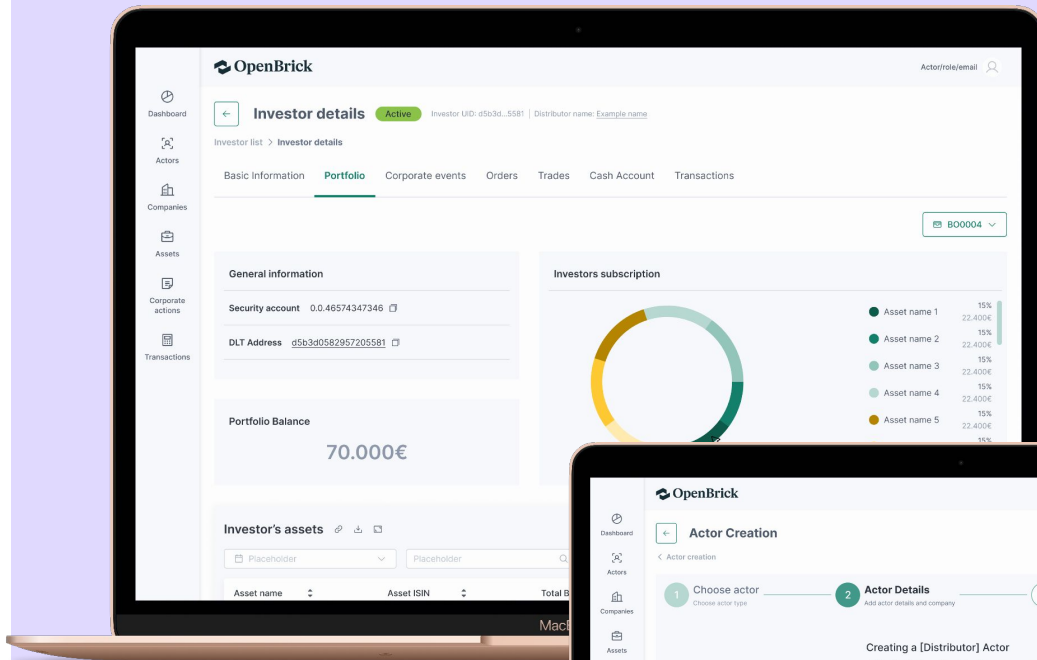
- **Regulatory Context:** the digital bond platform was delivered using the existing regulatory framework as it did not apply any new exception and follow existing end-to-end processes.
- **The project was built for the spanish CSD/CCP,** part of Six Digital Exchange Group



Impact & Value Provided

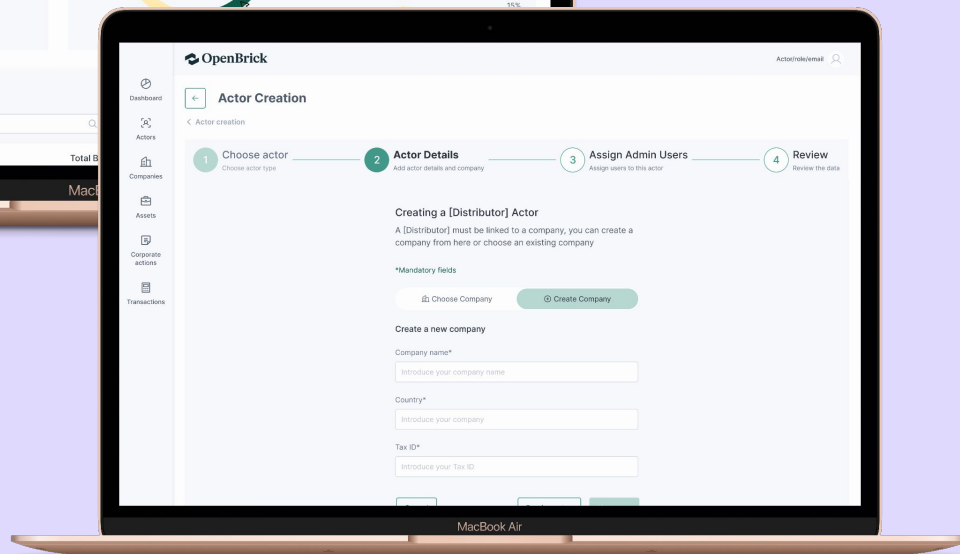
- **Pioneering** the issuance of a listed digital bond, denominated in digital money, using a DLT.
- **Implementing a real bond issuance within existing regulatory frameworks.**
- **Increased efficiency and automation.**
- **Attracting institutional investors** to trade using this technology.

MTF for Alternative Markets



The image shows a laptop displaying the OpenBrick 'Investor details' page. The page is titled 'Investor details' and is marked as 'Active'. It features a navigation menu on the left with options like Dashboard, Actors, Companies, Assets, Corporate actions, and Transactions. The main content area is divided into several sections: 'Basic Information' (with tabs for Portfolio, Corporate events, Orders, Trades, Cash Account, Transactions), 'General information' (Security account: 0.0-46574347346, DLT Address: d5b3d0582957205581), 'Investors subscription' (a donut chart and a table of assets), and 'Portfolio Balance' (70.000€). A dropdown menu shows 'BO0004'.

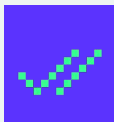
Asset name	Value
Asset name 1	15%
Asset name 2	22.400€
Asset name 3	15%
Asset name 4	22.400€
Asset name 5	15%



The image shows a laptop displaying the OpenBrick 'Actor Creation' page. The page is titled 'Actor Creation' and is part of a multi-step process: 1. Choose actor, 2. Actor Details, 3. Assign Admin Users, 4. Review. The current step is 'Actor Details', which includes a sub-section for 'Creating a [Distributor] Actor'. Below this, there are input fields for 'Company name*', 'Country*', and 'Tax ID*', each with a placeholder text. There are also two buttons: 'Choose Company' and 'Create Company'.

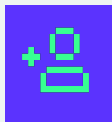
Use Case: MTF for Alternative Markets

Overview: Creation of a **Multilateral Trading Facility System for Alternative Markets**, supervised by the European securities regulation authorities (CNMV and ESMA). The market allows the issuance, management and trading of securities in primary and secondary markets.



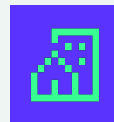
Problems to be Solved

- **Limited access** to alternative markets from issuers and investors and high-costs of entry.
- **Illiquidity** of alternative assets such as real estate, infra or renewable energies.



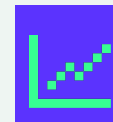
Our Role and Solution

- **Technology Partner and Co-founder** of the regulated MTF in a JV with an EU-based T2 FI.
- **Developed a full tech stack** leveraging our digital assets solutions Asseto for tokenized cash and securities and enable DvP.
- Detail of the solutions provided in the next slide.



Regulatory Context

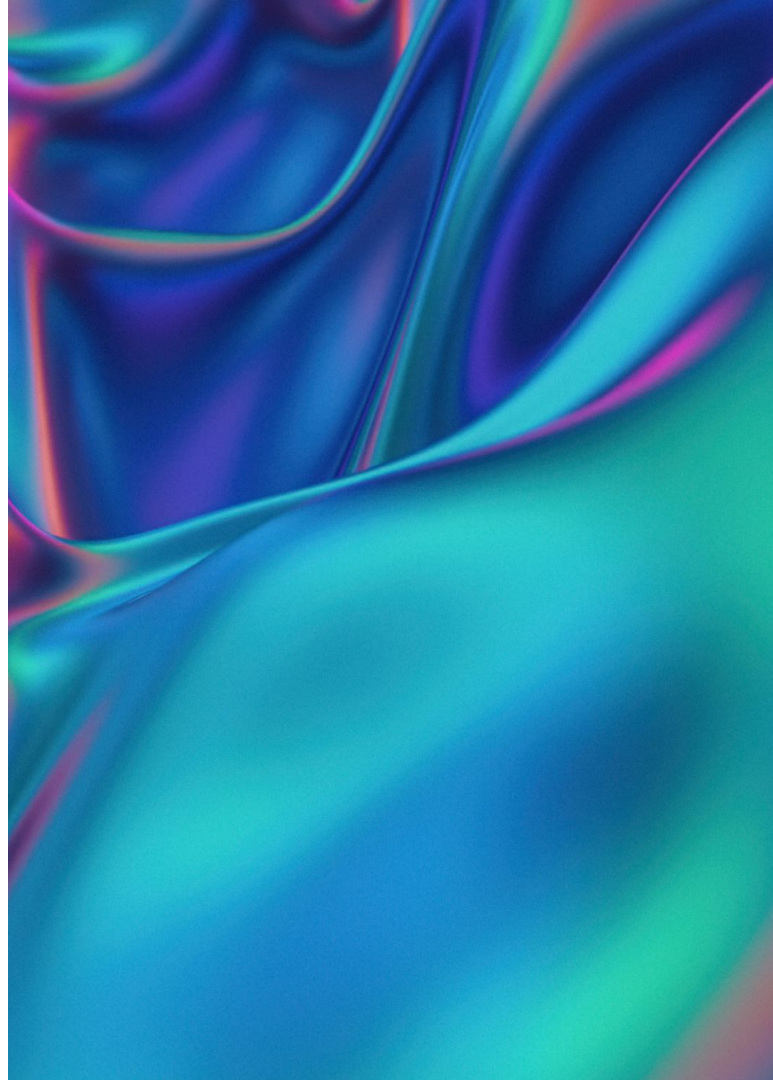
- **Part of the EU DLT Pilot Regime** and applying to several exemptions including transparency, transfer orders, recording of securities in book-entry form and securities accounts, segregation of assets or CSD responsibilities.
- **Supervised** by CNMV and ESMA (Spanish & European Regulators).



Impact & Value Provided

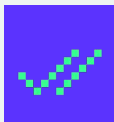
- **First DLT-based market infrastructure in Spain** (and one the first in the EU).
- **Providing liquidity** to traditional illiquid assets such as real estate vehicles.
- **Lower access cost** for issuers and investors.
- **Attracting all kind of investors** to access new alternative products.

Use Case: Investment Funds (UCITs Funds)



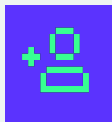
Use Case: Investment Funds

Overview: Working since 2020 for the largest funds distribution entity in Europe in the development of their blockchain-based products, including investment funds tokenization, market order/transfer management, settlement and smart contract dev.



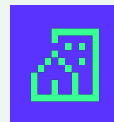
Problems to be Solved

- **Process Efficiency:** Funds distribution platforms need to reduce issuance, transfer orders & fund servicing processes and the manuality implied + reduce their op. risk.
- **Increased Margin:** Financial distributors needed to increase their operating margin by reducing their back-office costs.



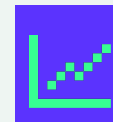
Our Role and Solution

- **Technology Partner** providing support in a diverse range of initiatives: tokenization engine, client integrations, sandbox support & market order transfers automation including subscriptions, redemptions and switches.
- Detail of the solutions provided in the next slide.



Regulatory Context

- **Regulatory Context:** current securities regulatory framework and Spanish Sandbox.
- **Funds platform operator** with financial licence, we did not use a CSD or CCP.



Impact & Value Provided

- **Improved efficiency and transparency:** The new platform provides a more streamlined & secure process for managing transfer funds and reduce manual reconciliations.
- **Attracting large financial players in the EU and US:** T1 FIs and AMs integrating their operations in production environments.