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ECB EXPLORATORY WORK ON WHOLESALE CBDC: LEONIDAS AND OTHER EXPERIMENTS

Salone dei Pagamenti

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— How the Italian Banking Sector met DLT

The key features of DLT, **immutability, security and transparency**, enable significant value added among several sectors. This drove us to identify a suitable and relatively **easy use case to test its effectiveness**. We thought that the interbank reconciliation process (“**Spunta**”) was an excellent opportunity to embark upon this journey.

Key drivers

Small and niche process: the Spunta process is small, even in terms of business, with small benefits and, as an internal process, it doesn't involve final customers

The Italian Banking Association is the issuer of the **self-regulatory agreement** that rules the Spunta process (independency)

"Natural" ecosystem: all Italian banks already have a reconciliation process; we did not have to "create" the ecosystem from scratch



From experimentation to the mature and reliable ABILabChain infrastructure

ABI Lab

Operational since March 5, 2020!

ABILabChain in figures

BREADTH AND PERVASIVENESS OF THE INFRASTRUCTURE

87 existing nodes

NUMBER OF USERS

600+ users daily involved on the DLT platform

SCALE OF THE DLT ECOSYSTEM

1500+ people involved

SPEED AND VOLUME MANAGEMENT

900+ million transactions

8,6 Terabyte data on the ledger

380+ million movements between banks

NUMBER OF INTERRELATIONS

524 Peer to Peer relationships

DISTRIBUTED NETWORK OF NODES

9 different points of access in Italy

ENERGY CONSUMPTION

0.000129~ TWh/year

— Leonidas: The Milano Hub Experience

ABI Lab launched the Leonidas project in 2023, in collaboration with ABI, NTT, R3 and a group consisting of 17 banks. The initiative was selected as part of the second Call for Proposals - focused on the use of DLT for banking and financial services - of "Milano Hub", the innovation center created by Banca d'Italia to support the digital evolution of the financial market.



LEONIDAS

Liquidation

Effective

ONchain

Dlt

Asset on

Spunta



— Leonidas' goals for Milano Hub Call for Proposals

01

Test the **settlement of liquid balances** within a distributed infrastructure using a **wCeBM** implemented and issued on the **ABILabChain**, deploying the Full-DLT model as interoperability solution.

02

Perform a **comparative analysis** with respect to the current settlement process.

03

Implement within the interbank Spunta process, **programmable logics** also during the value transfer phase between banks.

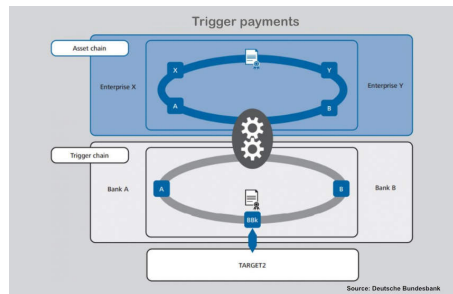
04

Develop **additional programmable logic**, even outside the Spunta reconciliation process, that involves **value exchange between banks**.

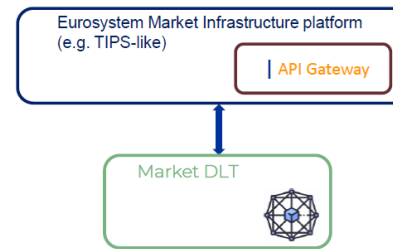
— Eurosistem work on wCBDC – Interoperability solutions

As a part of the activities carried out by the Eurosystem regarding **wCBDC**, three main possible interoperability solutions have been identified, studied and designed by three different National Central Banks.

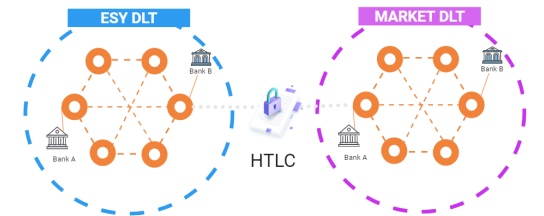
Trigger Solution



TIPS Hash-Link



Full DLT



— One step further: Leonidas and the Eurosystem Exploratory Work



Following the conclusion of the experimental work within the Milano Hub and leveraging the participants' willingness to contribute to the ECB's initiated Exploratory Work, ABI Lab, with the support of the Innovation Office of ABI, has applied for the Call for Interest along with 8 banks and has been selected for the experimentation phase.



The use case presented is the **settlement of liquid balances** resulting from the reconciliation process, in continuity with the work carried out at the Milan Hub, which is the Full DLT interoperability solution developed by Banque de France.



APPLICANT



OBSERVER

Banca MPS
BNL
Banco BPM
BFF Bank
BPER Banca
Crédit Agricole
Intesa Sanpaolo
Unicredit

Banca Mediolanum
BPS
BPPB
Banca Sella
Cassa Centrale
Cassa Centrale Raiffeisen
Cedacri
Credem
La Cassa (CSE)
Iccrea Banca
Mediobanca

— The rationale behind the choice of the Full DLT solution

The decision to delve into the use of **DLT solutions** is consistent with what has been agreed on by the **Italian banking sector** when the first public consultation on this topic has been carried out. The associative stance has been to explore and deepen the benefits brought by distributed ledger technology, in line with by the positive experience with the paradigm at the industry level.

Our use case starts from **Spunta**, a DLT-based solution. Testing a **DLT-based interoperability solution** allows us to achieve the **maximum benefits** brought by the technology **streamlining the benefits** to the last phase of the **reconciliation process** (without having to go through traditional channels).

Among the benefits brought by an **end-to-end process on DLT**, the main ones in the field of wCeBM are **greater atomicity** and the **possibility of using programmability** logics using smart contracts on both legs of the settlement.

Being able to directly interact with the Banca d'Italia, we have **already delved into one of the solutions** proposed by the Eurosystem, namely TIPS-Hash link, we have assessed that it would be **more useful** for Italian banks to **explore a different solution**, in order to enhance knowledge on the subject and to experiment with different approaches.

– Takeaways and what's next



Not only DvP use cases benefit from distributed technology: the **programmability** associated with smart contracts can also bring **great benefits to automated wholesale payments** and, regardless of the use case, where there is an **exchange of value** between banks



It is not about applying new technologies to old processes, but to **transform processes thanks to new technologies** to achieve **end-to-end** process and reap the **maximum benefits from technology itself**



The **evolution of infrastructure** can greatly benefit from the **use of DLT**, and it is, in our view, **the direction to take.**



Dialogue and collaboration between the **market and institutions** are of fundamental importance. It will be necessary to **understand together** what the next steps will be. **The Italian banking sector is eager to play an active role in this adventure!**

