



EUROPEAN CENTRAL BANK

EUROSYSTEM

**New technologies for
wholesale central bank
money settlement**

ICA-TF

ECB-UNRESTRICTED



4 October 2023

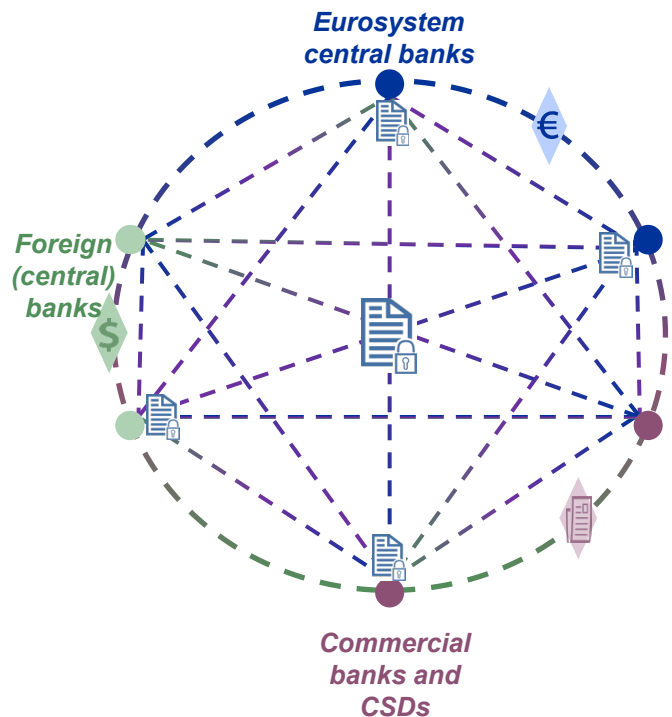
Mirjam Plooi

Overview

- 1 Rationale for Eurosystem exploratory work
- 2 Selected solutions for experiments and trials
- 3 Timeline
- 4 Annex

Rationale for Eurosystem exploratory work

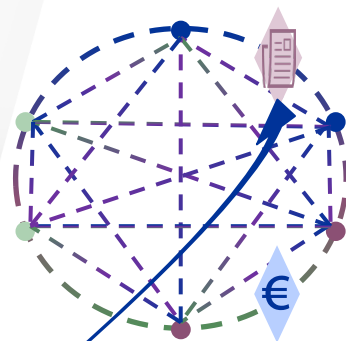
DLT – simplified overview



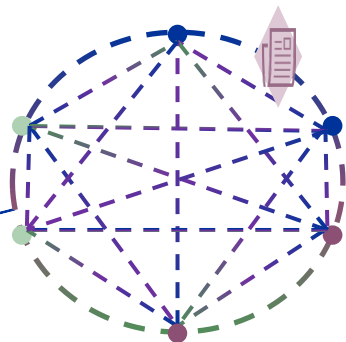
- 1 With distributed ledger technologies, money, securities or any other digital asset could be recorded on a shared network in the form of tokens
- 2 CSDs, central banks, and commercial banks jointly share the roles of book-keepers and operators of market infrastructures
- 3 Potential benefits put forward: atomicity, (decentralised) programmability and ease of reconciliation

Implications of industry DLT uptake

Current TARGET Services :
settlement of payments in € central
bank money as well as integrated
securities settlement in T2S



Market DLTs



- 1 With tokenisation, **securities** can be recorded and settled on Distributed Ledger Technology
- 2 **Risk of market fragmentation** if multiple DLT platforms co-exist in the long-term but lack interoperability
- 3 **Risk that central bank money loses relevance** as wholesale settlement asset if no (timely) solution is provided

Selected solutions for experiments and trials

Next step - further the analysis through *exploratory work*

PRESS RELEASE

Eurosystem to explore new technologies for wholesale central bank money settlement

28 April 2023

- > Exploration of potential solutions for central bank money settlement of wholesale financial transactions recorded on distributed ledger technology (DLT) platforms
- > New market contact group to foster dialogue and information exchange with industry

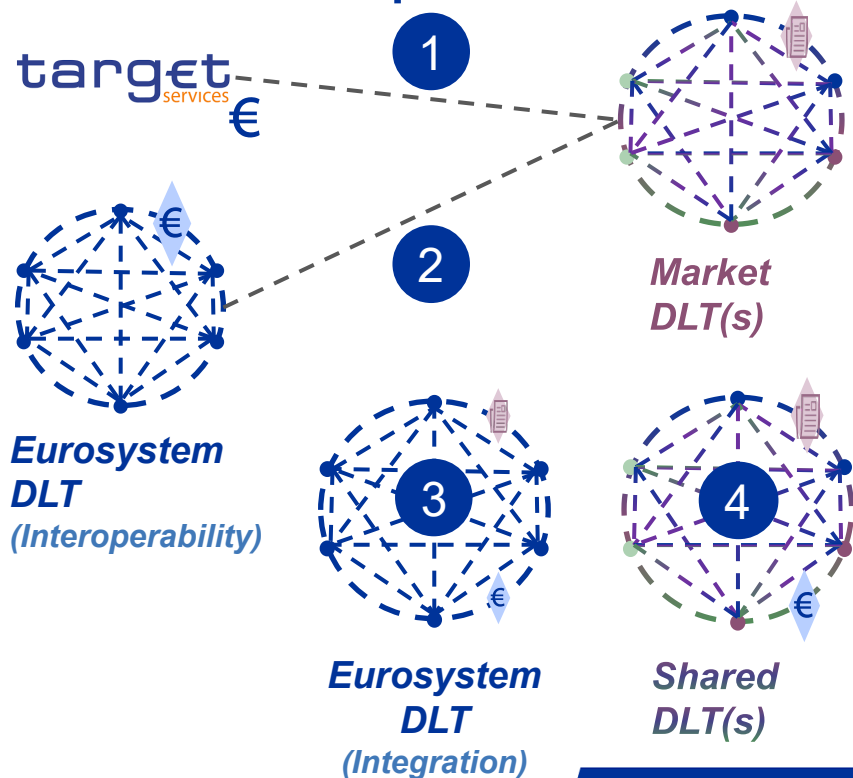
Ad hoc limited trials and experiments

↓
Settlement
of transactions in live
(PROD) environment

↓
Settlement of transactions
in test (UTEST) environment

- Exploratory work would focus both on **Delivery-versus-Payment** and **Payment-versus-Payment**
- The Eurosystem will **minimise any potential impact** of the exploratory work on TARGET Services

CeBM cash leg for settlement of transactions on DLT – five conceptual solutions



1. CeBM settlement in current TARGET Services through adding a *Trigger / Bridge* component

2. CeBM settlement on Eurosysteem DLT interoperable with market DLTs (*Interoperability*)

3. CeBM and **securities** settlement on own Eurosysteem DLT (T2S DLT) (*Integration*)

4. CeBM and **securities** settlement on DLTs shared between Eurosysteem and other stakeholders (*Distribution*)

Achieving the Eurosystem objectives vis-à-vis meeting market demand

Balanced approach to achieve Eurosystem objectives

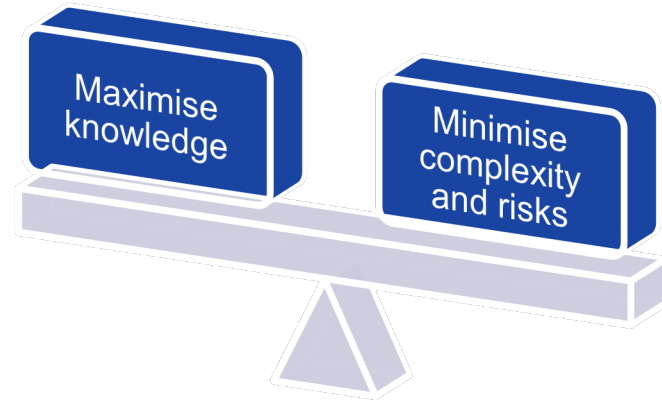
- Improve the Eurosystem's knowledge of the different solutions
- Gain consistent and coordinated market feedback
- Meet market demand for CeBM solutions during the DLT Pilot Regime
- Avoid DLT ecosystems being built around stablecoins only

Focus on the Interoperability-type solutions

- with cross-platform settlement

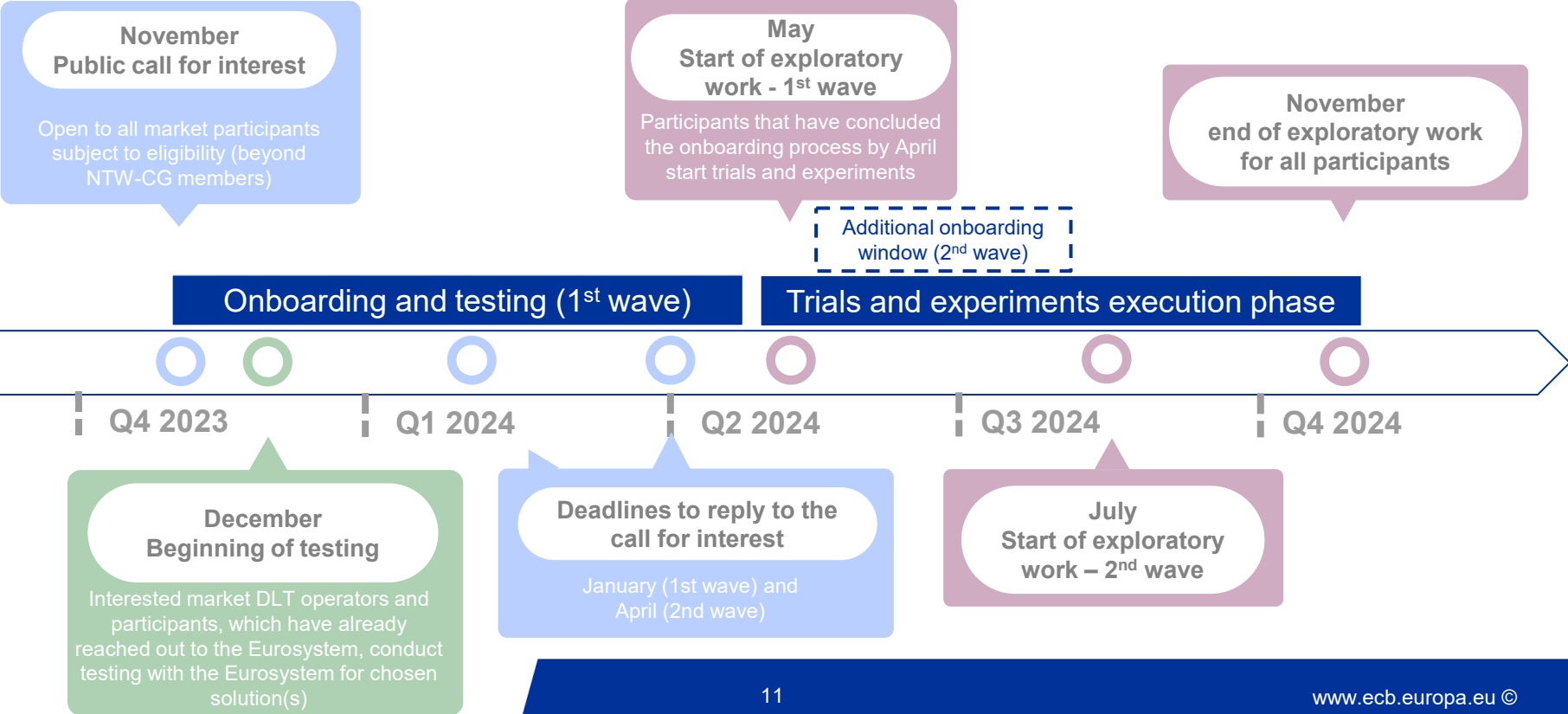
Ad hoc limited trials and experiments

- intraday only, limited volumes and values settled
- without committing the Eurosystem to adopt a long-term response



Timeline

Draft timeline for 2024 exploratory work



Annex: Operational aspects & further info on solutions

Further information on interoperability-type solutions

In scope of Eurosystem exploratory work:

- Trigger solution of Deutsche Bundesbank ([link 1](#); [link 2](#))
- TIPS Hash-Link solution of Banca d'Italia ([link](#))
- Full-DLT Interoperability solution of Banque de France ([link 1](#); [link 2](#))

Interoperability solutions in trial design

