



EUROPEAN CENTRAL BANK

EUROSYSTEM

# New technologies for wholesale central bank money settlement

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## ICA-TF

ECB-UNRESTRICTED



4 October 2023

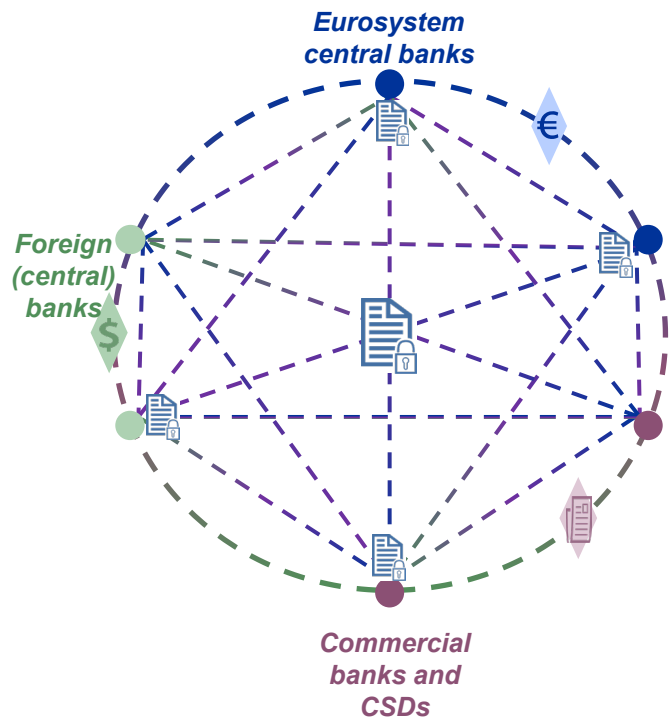
Mirjam Plooij

# 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

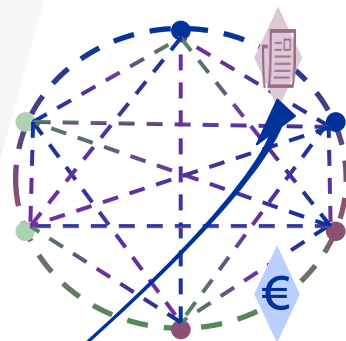
# Implications of industry DLT uptake

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

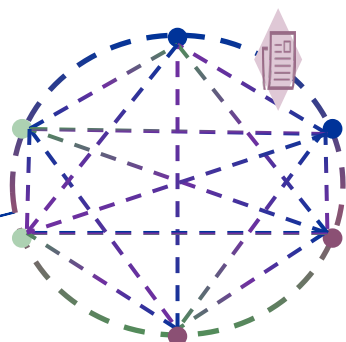
target  
services  
€  
target | T2S  
services



€



*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

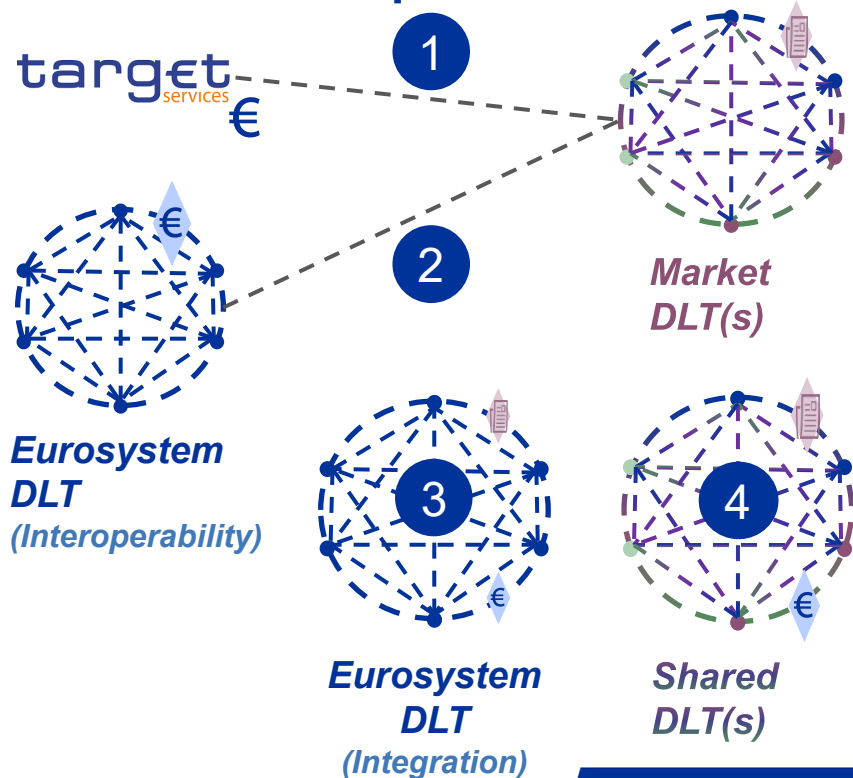
Ad hoc limited trials and experiments

↓  
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

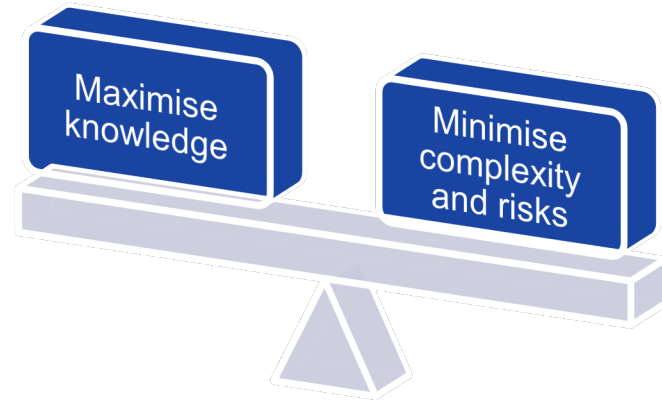
- Improve the Eurosystem's knowledge of the different solutions
- Gain consistent and coordinated market feedback
- Meet market demand for CeBM solutions during the DLT Pilot Regime
- Avoid DLT ecosystems being built around stablecoins only

## Focus on the Interoperability-type solutions

- with cross-platform settlement

## Ad hoc limited trials and experiments

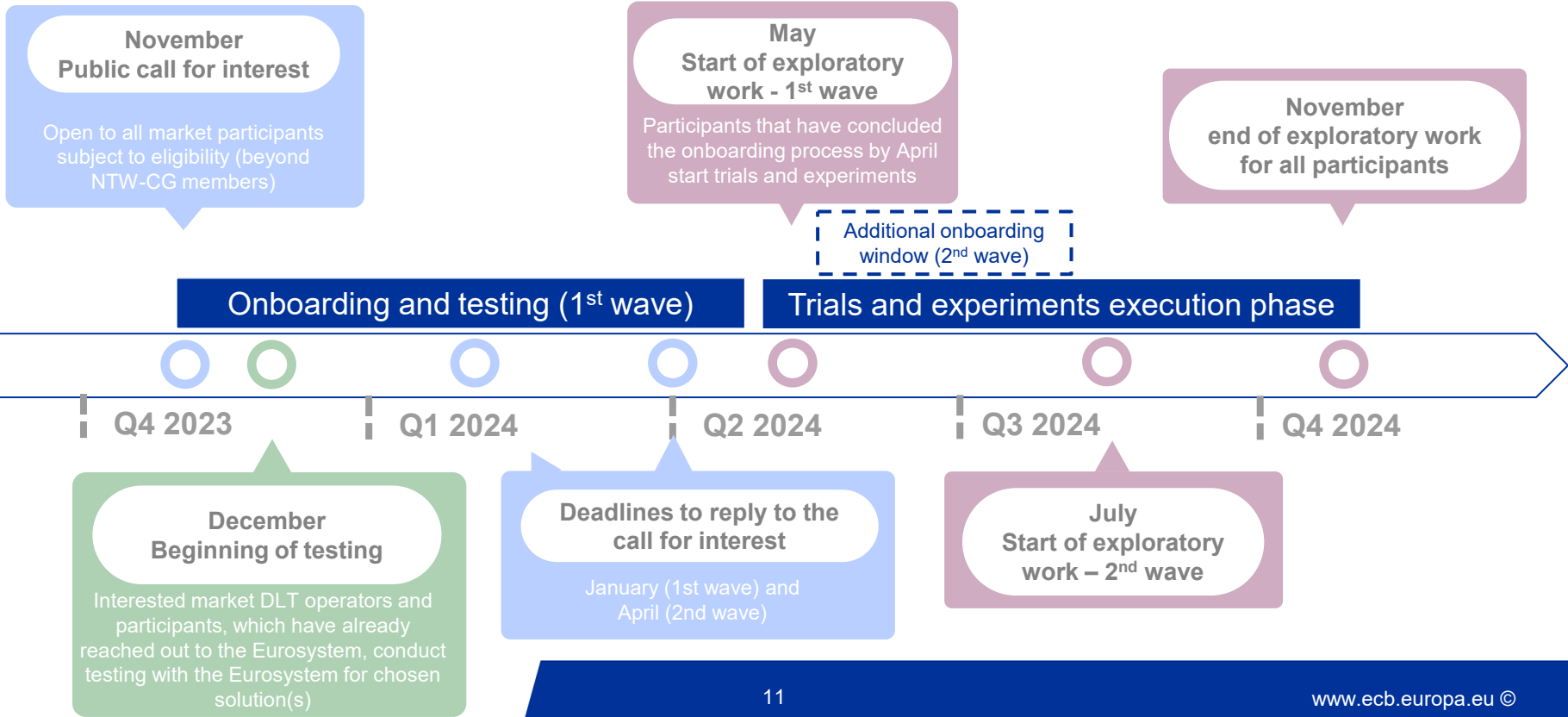
- intraday only, limited volumes and values settled
- without committing the Eurosystem to adopt a long-term response



# Timeline

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# 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

