



EUROPEAN CENTRAL BANK

EUROSYSTEM

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

ECB OMG



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Paul Gardin, DGMIP

Overview

- 1 Feedback of market outreach activities on DLT uptake
- 2 Possible approaches for CeBM settlement of DLT-based transactions
- 3 Eurosystem exploratory work

Feedback of market outreach activities on DLT uptake

The Eurosystem reached out to the market on the use of new technologies for wholesale financial transactions



**The
Eurosystem
sought market
feedback on...**

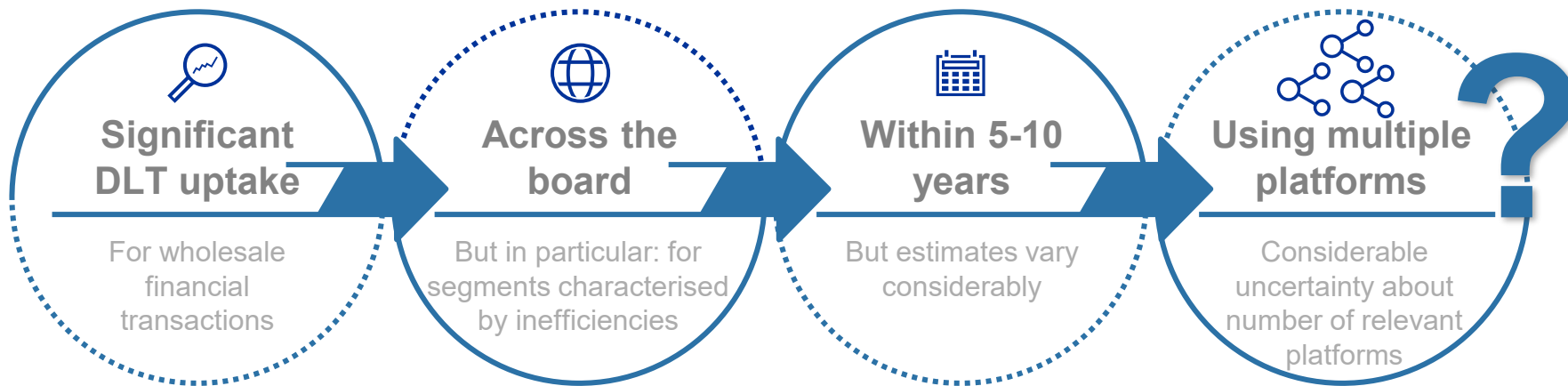
Market interest in the Eurosystem potentially providing wholesale central bank money settlement via new technologies, such as DLT

Market needs/merits/use cases that might justify the use of new technologies for wholesale central bank money settlement

Suitability of existing technologies, such as those used in current TARGET Services, to achieve the same results

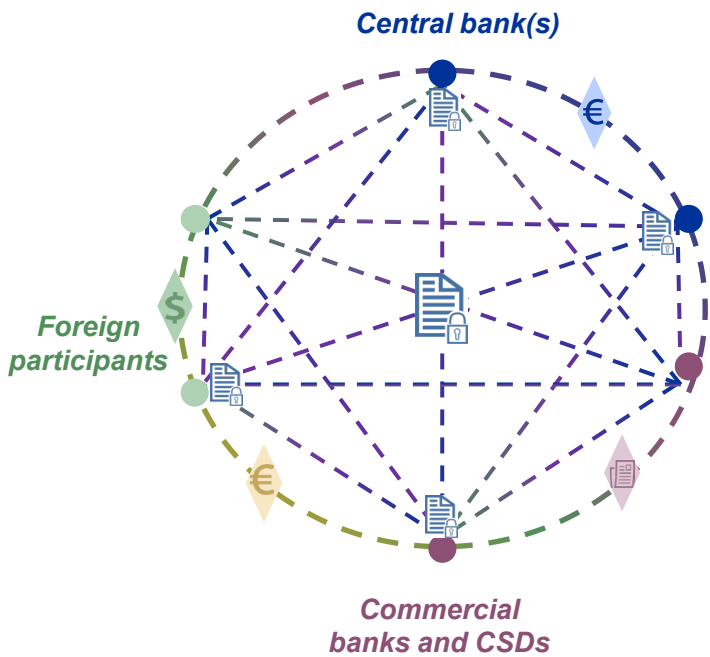
Key takeaways from market outreach

Market stakeholders* expect...



* Views expressed by majority of surveyed stakeholders (see presentation at [joint AMI Pay/AMI SeCo Dec 2022](#))

DLT: implications for central bank money settlement

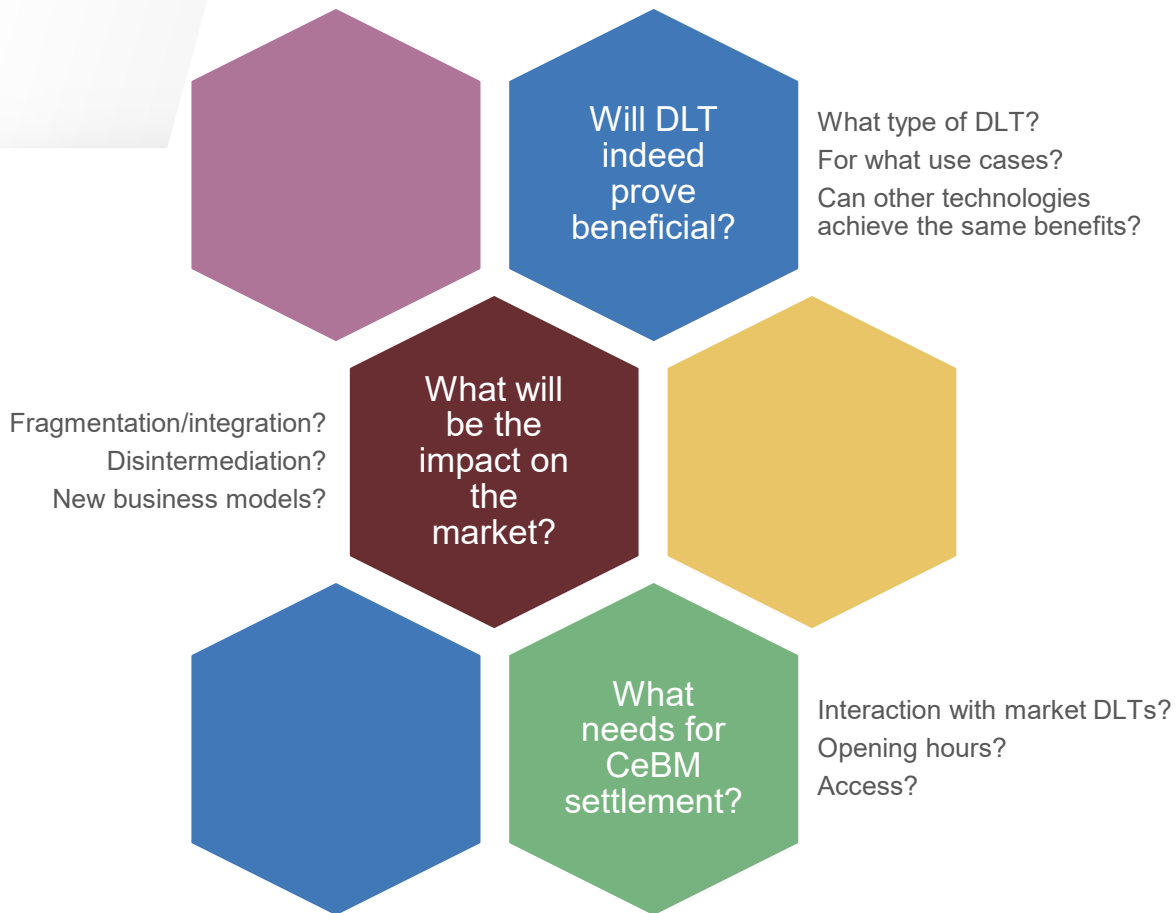


- 1 Money, securities or, other digital asset recorded as tokens on a shared network
- 2 Benefits expected by market: atomicity, decentralised programmability, ease of reconciliation (and disintermediation)
- 3 Central bank money settlement needed to reduce risks and as enabler; attractive business and use cases/ efficiency gains to be created by the market
- 4 Absent full migration to DLT by all, coexistence with and settlement also for existing technologies

Questions remain

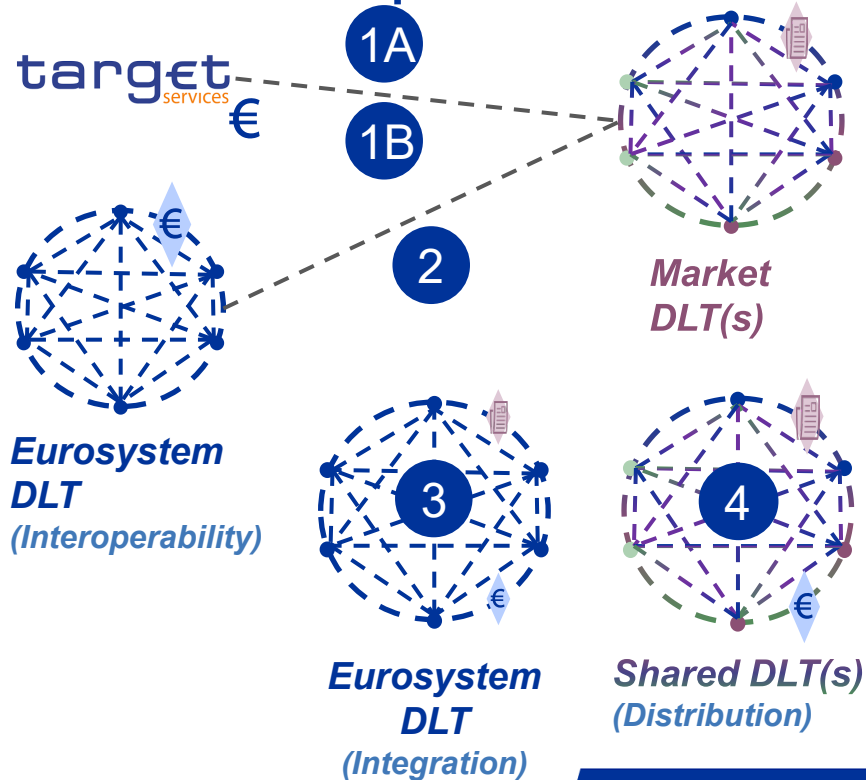
Due to:

- Market maturity (experiments/pilots/PoCs ongoing)
- Limited experience with potential CeBM settlement solutions
- Uncertainty about future legal framework (DLT Pilot Regime provides temporary framework)
- Evolving technology



Possible approaches for CeBM settlement of DLT-based transactions

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



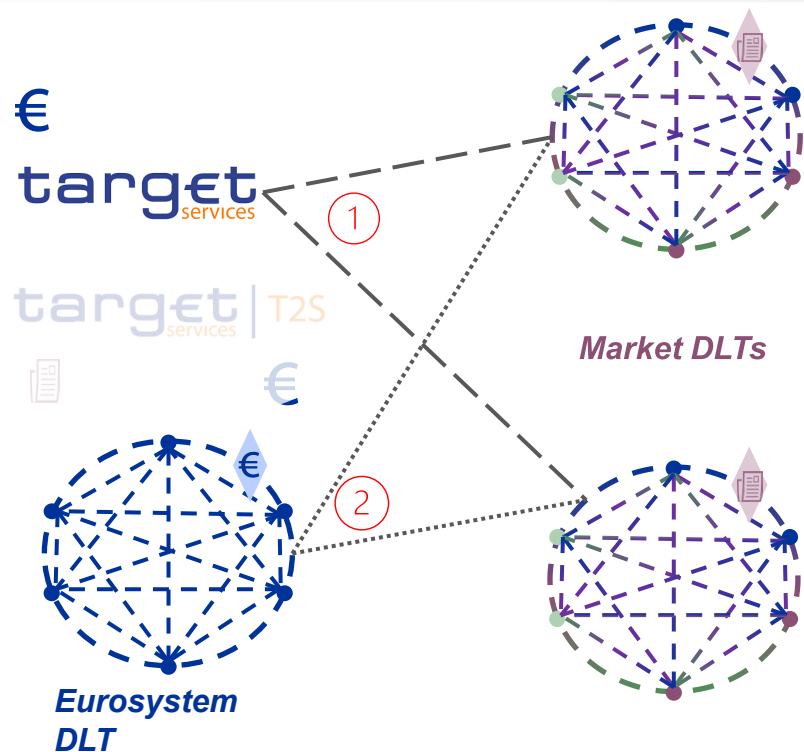
1. CeBM settlement in current TARGET Services through adding a (A) *Trigger component to T2* or (B) *Bridge component to TIPS-like platform*

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*)

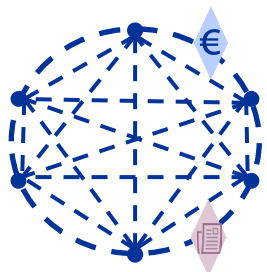
Possible central bank responses – interoperability



1 CeBM settlement in current TARGET Services through adding a (A) *Trigger component* to T2 or (B) Bridge component to TIPS-like platform for interoperability with DLT

2 Central bank DLT interoperable with market DLTs (*Interoperability*)

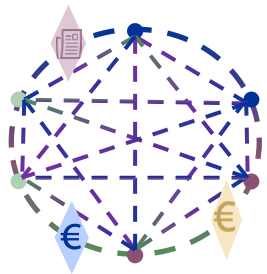
Possible central bank responses – multiple-asset platforms



Central bank
DLT

3

3 Central bank DLT for integrated securities settlement (e.g. T2S DLT) (*Integration*)



Shared DLT

4

4 Providing CeBM settlement onto shared DLT(s) jointly operated with other public and or private entities (*Distribution*)

Possible degrees of central bank involvement in the ecosystem

Trigger/bridge **Central bank DLT** *(Interoperability)*

Central bank standardises and offers cash leg on own infrastructure for wholesale financial transactions of institutions having access to central bank money

Market side manages asset and payment leg (e.g. CoBM) and develops its own ecosystem

Shared DLT(s) *(Distribution)* **Central bank DLT** *(Integration)*

With **other full-DLT solutions**, central bank offers cash leg and participates to own/shared infrastructure where other assets and payment transaction legs (e.g. CoBM) are settled:

- Strong central bank requirements for controlling CeBM,
- Higher central bank involvement in the governance of DLT platforms and standardisation
- **The central bank taking on a bigger role, would come with more requirements for the DLT ecosystem**
- **The DLT platform needs to be attractive enough to be used by market participants**

Eurosystem exploratory work

Exploratory work on new technologies for wholesale settlement of transactions in central bank money

Eurosystem is investigating **how central bank money settlement in euro could take place in the presence of new technologies** such as Distributed Ledger Technologies (DLT).
Dedicated [market contact group](#) set up to continue dialogue with the market.

Objectives

- (i) consolidate and **further develop the ongoing work** of Eurosystem central banks in this area,
- (ii) gain insight into how different solutions could **facilitate interaction** between TARGET Services and DLT platforms, and
- (iii) meet **market demand** for central bank money settlement during their own pilots for example under **DLT Pilot Regime**

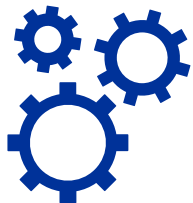
The exploratory work is **part of the Eurosystem's broader efforts** to:



- contribute to digital innovation in payments and securities settlement
- ensure central bank money to remain monetary anchor supporting stability, integration and efficiency of the European financial system

Eurosystem planned work

The Eurosystem will set up **practical work to explore different solutions** for cash leg settlement in CeBM of DLT transactions, planned from **13 May to 29 November 2024**, focused on the **Interoperability-type solutions**:



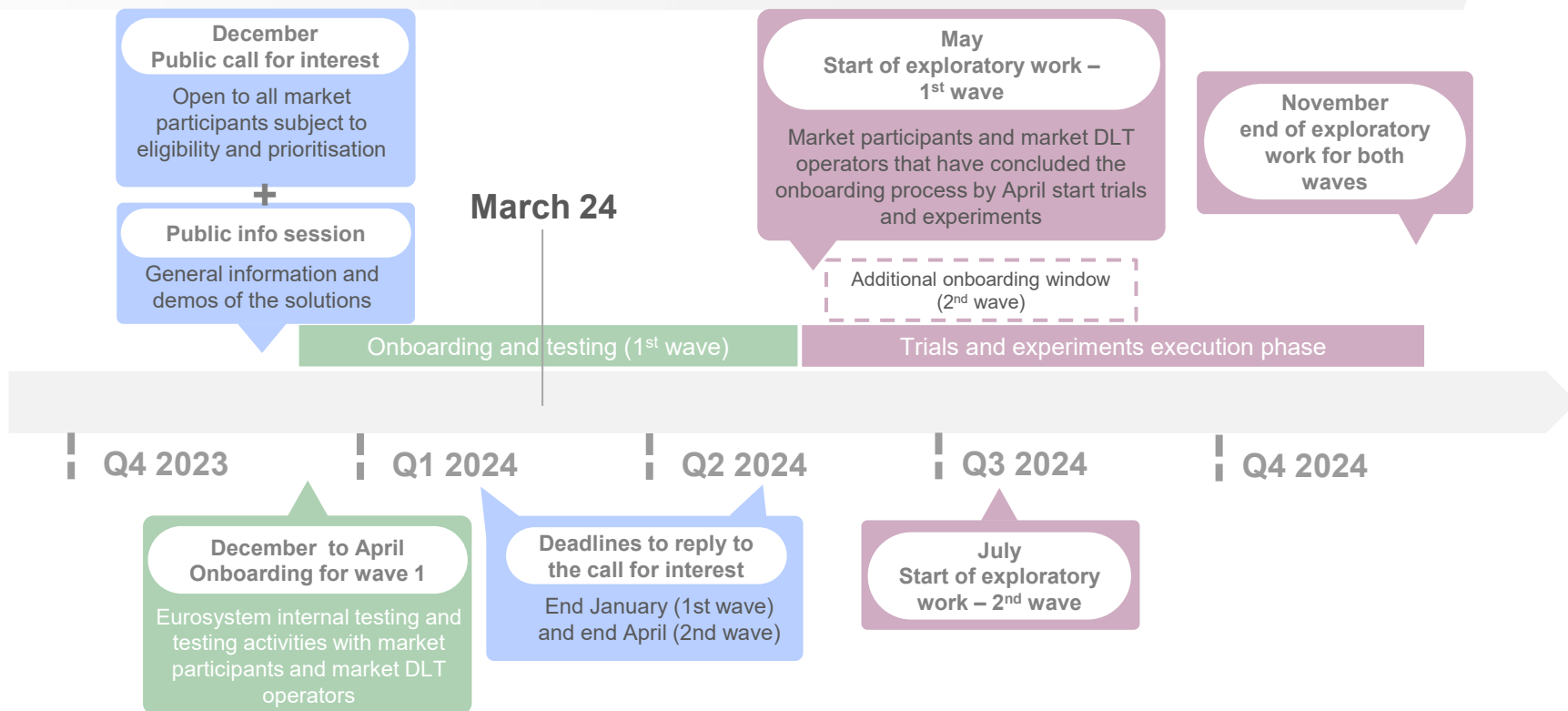
- **Experiments:** mock settlement of the cash and asset legs in test environments, jointly conducted by the Eurosystem and eligible participants at specific dates and times.
- **Trials:** actual settlement of transactions in central bank money in a limited setting for a limited period of time.

The formal call for **expressions of interest** was published on [ECB's webpage](#) and **remains open until 30 April 2024**

Solutions in scope for exploratory work

- The proposed Eurosystem exploratory work is focused on the **three interoperability-based solutions of the Solution Provider Central Banks (SPCBs)**:
 - **Trigger Solution** by Deutsche Bundesbank ([link 1](#); [link 2](#))
 - **TIPS Hash Link** by Banca d'Italia ([link](#))
 - **Full-DLT Interoperability** by Banque de France ([link 1](#); [link 2](#))
- **Focus on the cross-platform settlement approaches** (numbered 1 and 2, slides 9 and 10) with eligible market participants and eligible market DLT operators

Eurosystem's exploratory work – timeline



Related documents

1. To learn more on the Eurosystem's approach to new technologies for wholesale Central bank Money settlement

- [Economic Bulletin Article: Central bank money settlement of wholesale transactions in the face of technological innovation](#)
- [Speech by Executive Board Member Mr Cipollone: Modernising finance, the role of central bank money](#)

2. To receive practical information to participate to exploratory work

- [Focus session: Potential use of new technology for wholesale central bank money settlement](#)
- [Call for expression of interest: exploring new technologies for wholesale central bank money settlement](#)