



EUROPEAN CENTRAL BANK  
EUROSYSTEM

# Tokenisation of financial instruments and central bank money settlement

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# Central bank money at the core of the financial system

**A financial market infrastructure should conduct its money settlements in central bank money where practical and available**

Central bank money settlement

- reduces risk
- establishes trust
- safeguards financial stability



# Central banks must stay at the forefront of technology

Ensuring that central bank money remains an attractive means of settlement...



for retail payments



digital euro



for wholesale  
financial transactions



solutions for settling transactions  
recorded on DLT platforms

# Retail and wholesale complement each other

## Retail payments



Central bank money now only available in physical form



Great variety of stakeholders: consumers, merchants, payment service providers, legislators...



Day-to-day payments: typically lower values, higher volumes

## Wholesale transactions



Digital central bank money has been available for decades

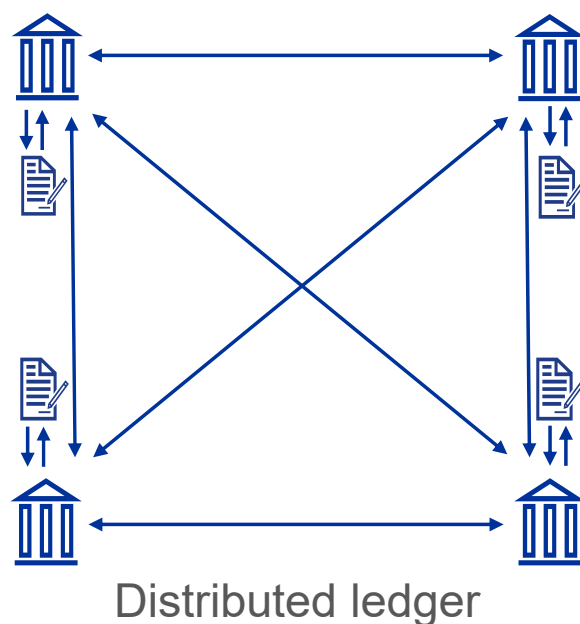
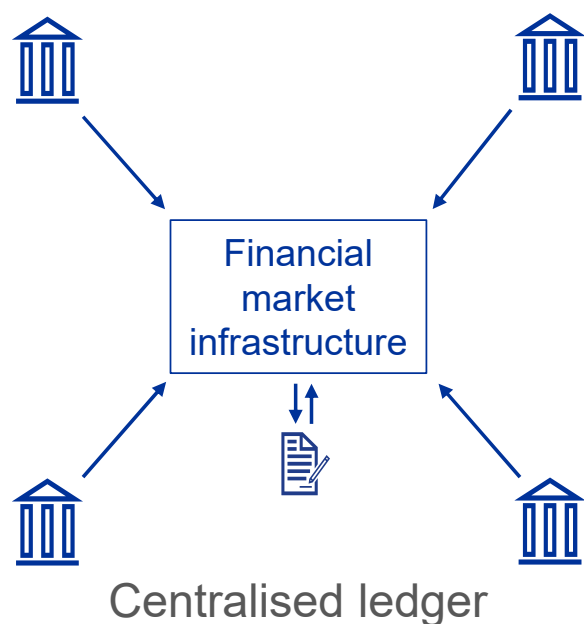


Narrower set of stakeholders, mainly from (existing/new) financial sector



Securities settlement, interbank payments: typically higher values, lower volumes

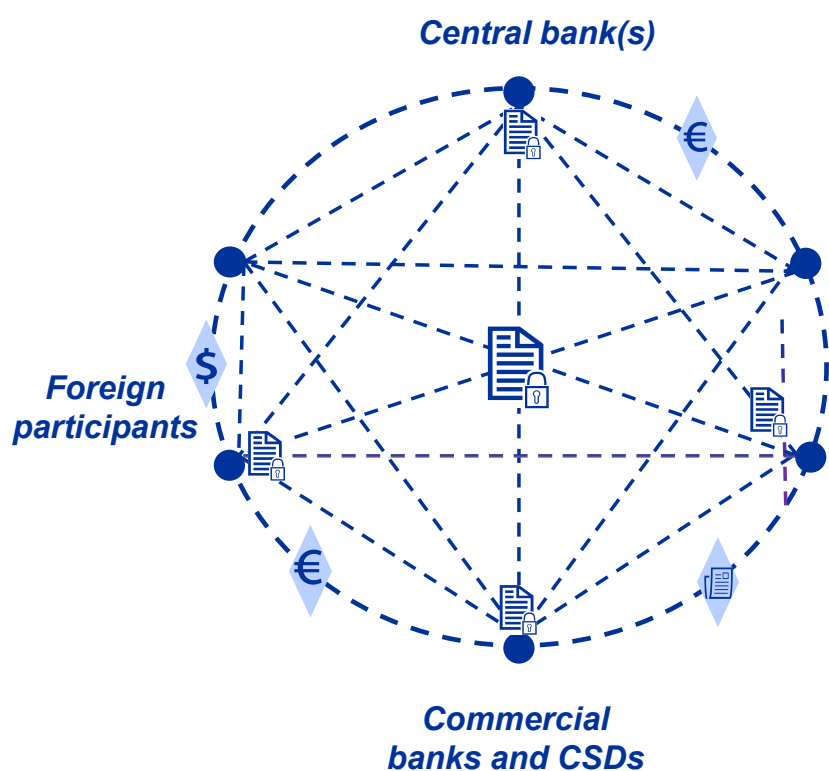
# Industry is exploring distributed ledger technologies



With the aim of...

- increasing automation of conditional transactions
- reducing reliance on intermediaries
- increasing transparency

# Potential benefits of DLT for the market



Efficiency gains through potential for:



- **trading, settlement and custody** on the **same ledger**
- automation via **smart contracts**
- **24/7** operation → overcoming time zone differences

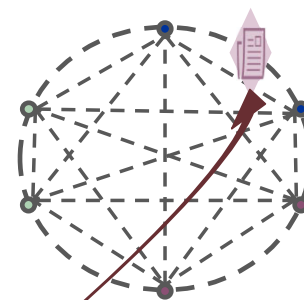
Opening up new avenues:

- for financial instruments **not currently serviced by financial market infrastructures**
- for SMEs to **access capital markets**

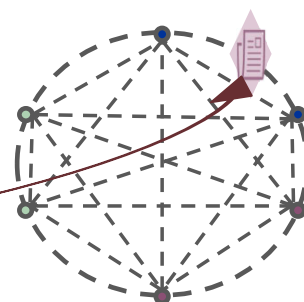
# Implications for central bank money settlement

## Current TARGET Services:

- settlement of payments in  central bank money in T2
- integrated settlement of  securities in TARGET2-Securities (T2S)




Market DLTs



 With tokenisation, securities can be recorded and settled on distributed ledger technology platforms

 **Risk of market fragmentation** if multiple DLT platforms co-exist in the long-term but lack interoperability

 **What is the best way to enable central bank money settlement of the cash leg?**

# Multiple options for central bank money settlement

## Trigger/bridge approaches

Central bank money settlement in non-  
DLT infrastructures; interoperable with  
market DLTs



### Interoperability solutions



## Full DLT approaches

Central bank money settlement on DLT  
platforms

	€ central bank money	Other assets		€ central bank money	Other assets
Trigger solution	On T2 (RTGS)	On external DLT	Interoperability	On Eurosystem DLT	On external DLT
TIPS Hash-link	On TIPS-like platform	On external DLT	Integration	On Eurosystem DLT	On Eurosystem DLT
			Distribution	On external/shared DLT	On external/shared DLT



# Eurosystem exploratory work

**Practical work** with **market stakeholders** planned from **May to November 2024** focusing on **interoperability solutions**:

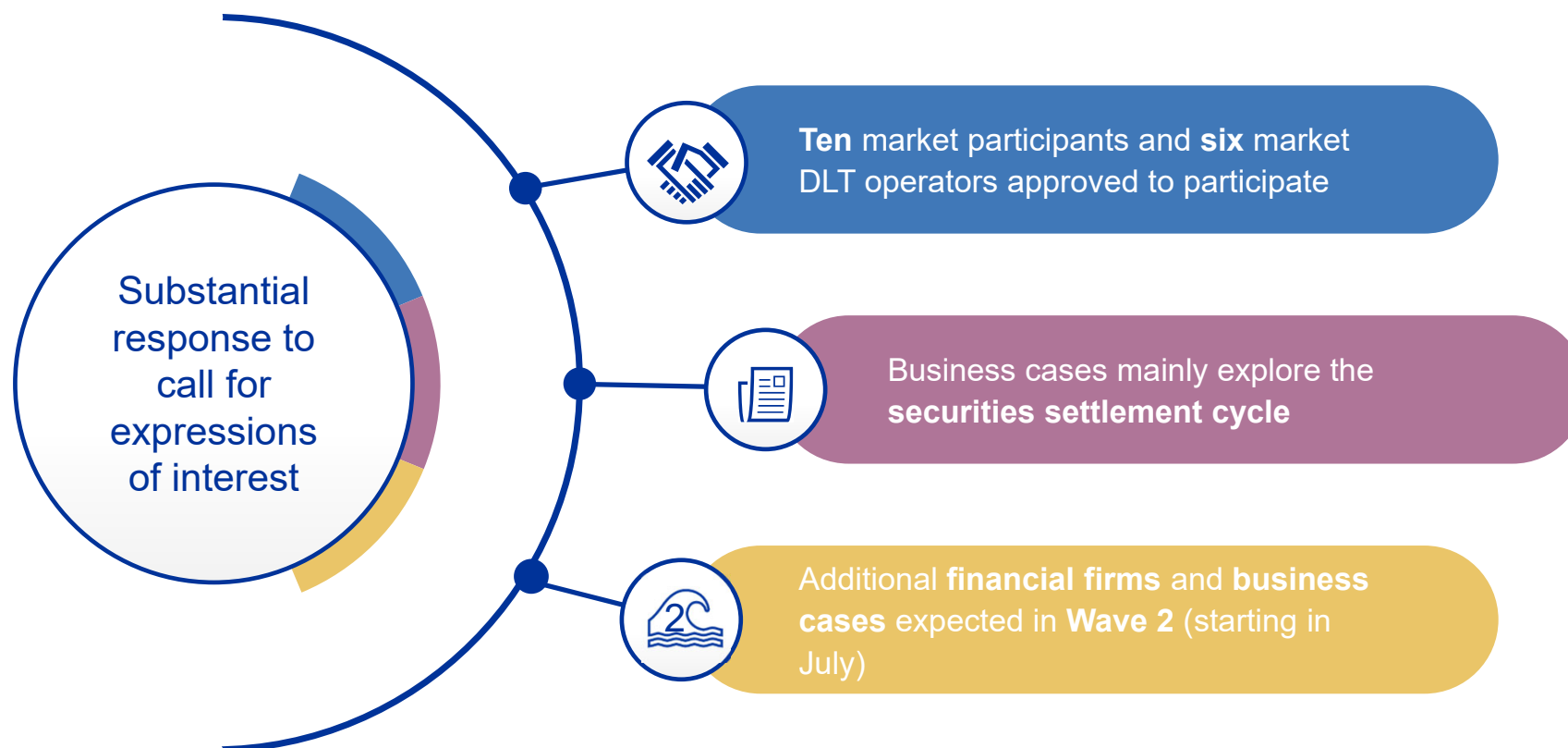


- **Experiments:** mock settlement of the cash and asset legs in test environments
- **Trials:** actual settlement of transactions in central bank money in a limited setting for a limited period of time

▶ **We are among the first advanced economies to go beyond experimentation**

N.B. the Eurosystem's exploratory work does not constitute a commitment by the Eurosystem to provide any steady-state solution(s) in the future or to make any changes to its current infrastructure.

# First wave of exploratory work starts on 13 May

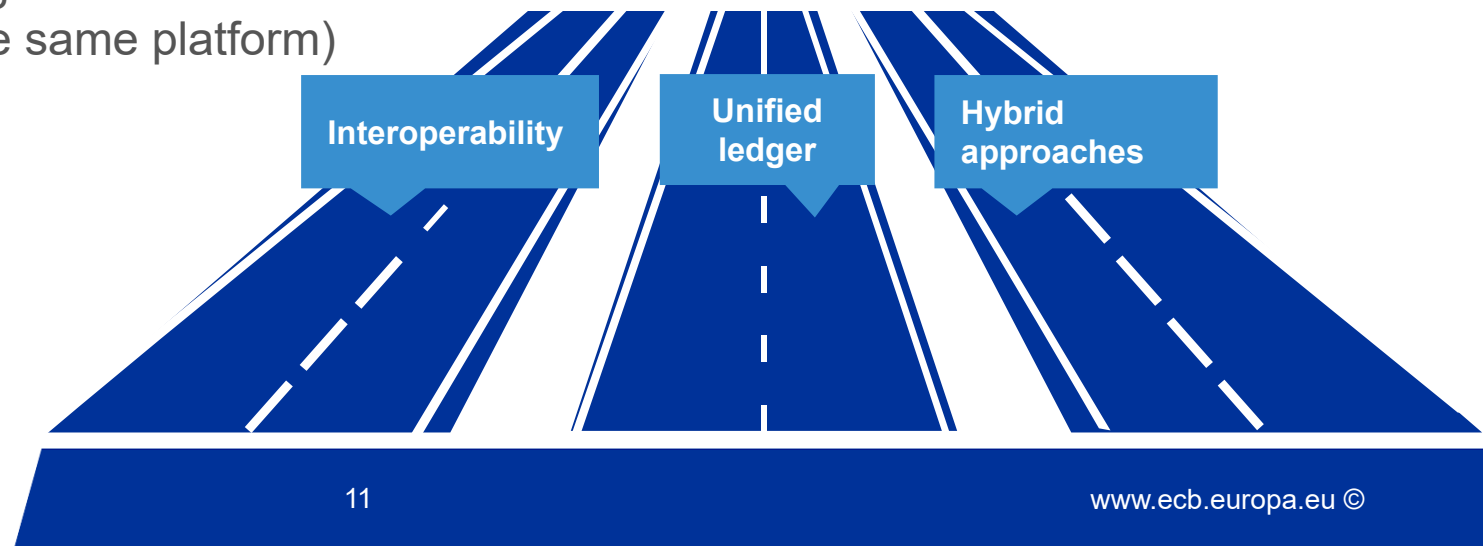


# Work on a longer-term vision

## Key objectives:

- ✓ Preserve the stabilising role of central bank money
- ✓ Strengthen the efficiency of European financial markets
- ✓ Avoid re-fragmentation

Analysis of “unified ledgers” will continue  
(cash and assets on the same platform)



# Related documents

- [Speech: Modernising finance: the role of central bank money](#)
- [ECB Economic Bulletin article: Central bank money settlement of wholesale transactions in the face of technological innovation](#)
- [Focus session: Potential use of new technology for wholesale central bank money settlement](#)
- [News item: Participants chosen to explore new technologies to settle wholesale transactions in central bank money](#)
- [Exploratory work on new technologies for wholesale central bank money settlement](#)