



EUROPEAN CENTRAL BANK

EUROSYSTEM

# Eurosystem exploratory work on ntwCeBM settlement

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T2-CG meeting

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ECB



# Why an exploratory work?

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).

The Eurosystem aims to:

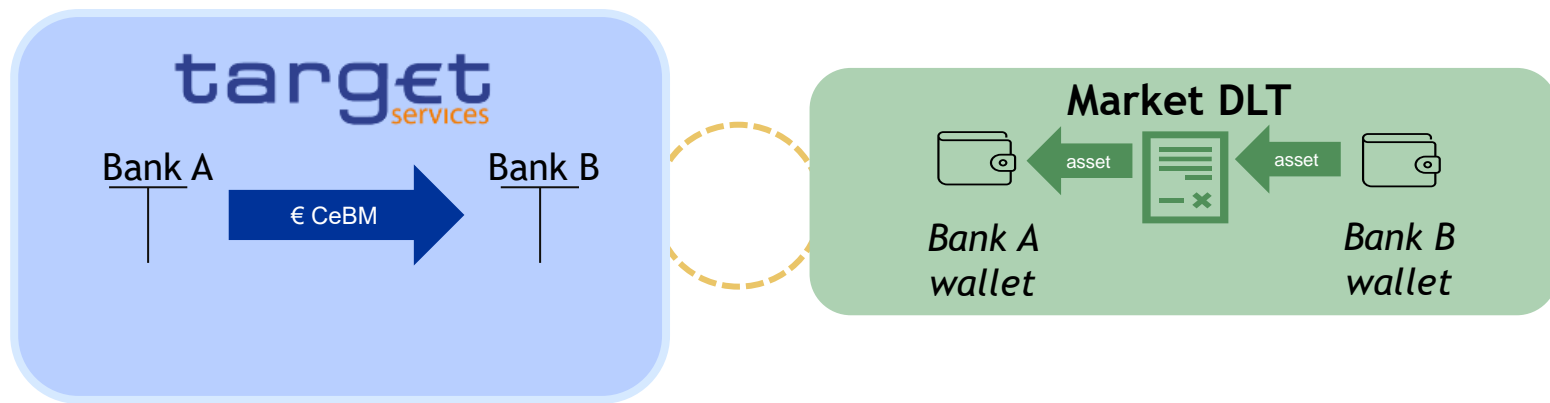
- Objectives**
- (i) consolidate and **further develop the ongoing work** of Eurosystem central banks in this area,
  - (ii) gain insight into how different solutions could **facilitate interaction** between TARGET Services and DLT platforms, and
  - (iii) meet **market demand** for central bank money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

The Eurosystem has set up a dedicated contact group to support and to facilitate an active dialogue with financial market stakeholders – read more about **New Technologies for Wholesale settlement Contact Group (NTW-CG)** [here](#).

# Focus on interoperability-type solutions

Different theoretical approaches possible for providing wholesale central bank money (CeBM) settlement using new technologies.

The Eurosystem decided to put in place **practical work to explore interoperability-type solutions: cash and assets on two different ledgers.**



# Design principles



Exploratory work relied on the **existing regulatory, functional and operational framework of TARGET Services** (i.e., not a sandbox approach)



Settlement of the cash leg of transactions in central bank money (CeBM) happened with **no changes to the current rules for access to CeBM** (same participation as current TARGET Services)



Exploratory work **ran from May 2024 to November 2024**

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 DLT-related changes to its current infrastructure

# Solutions in scope for exploratory work

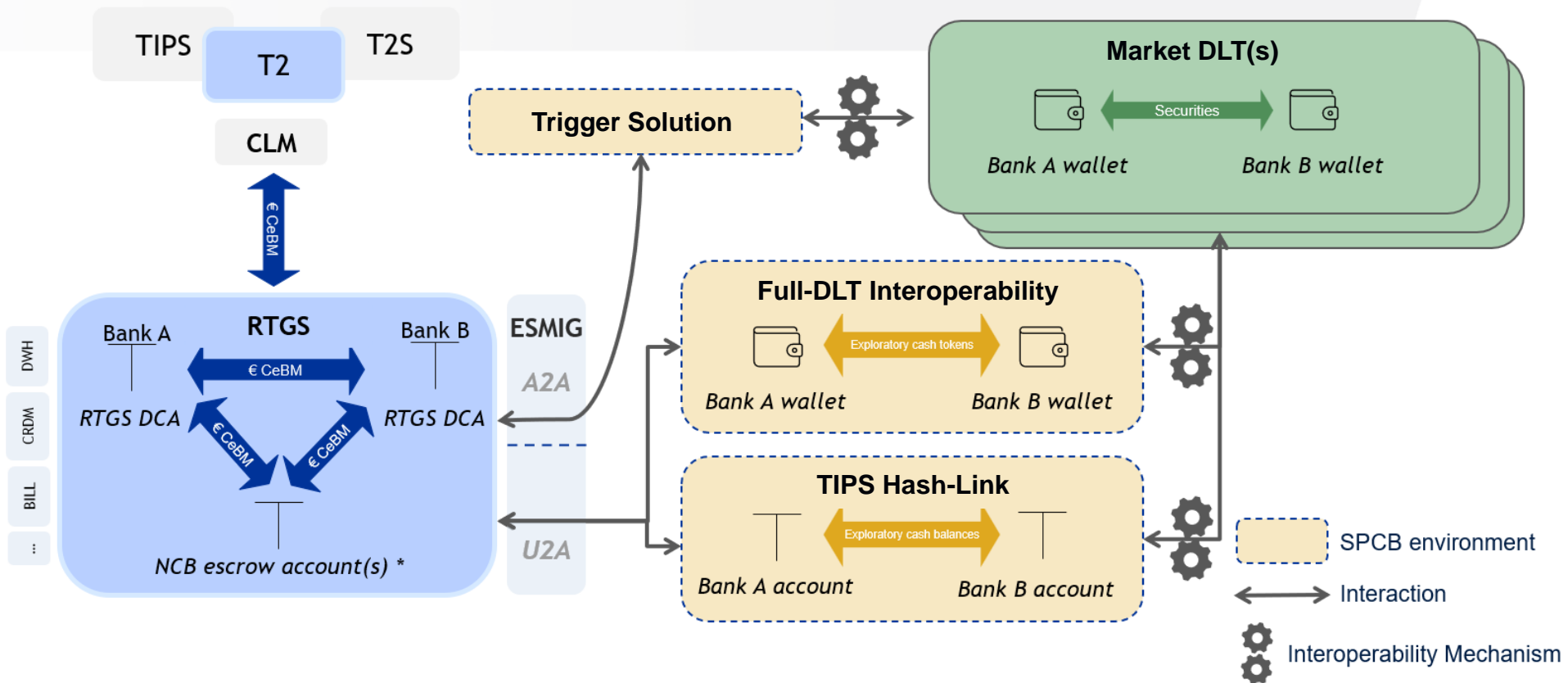
The exploratory work focused on the **three interoperability-based solutions of the Solution Provider Central Banks (SPCBs)**:

- **Trigger Solution** by Deutsche Bundesbank - [link](#),
- **TIPS Hash Link** by Banca d'Italia – [link](#),
- **Full-DLT Interoperability** by Banque de France – [link](#)

The Eurosystem conducted jointly with the market:

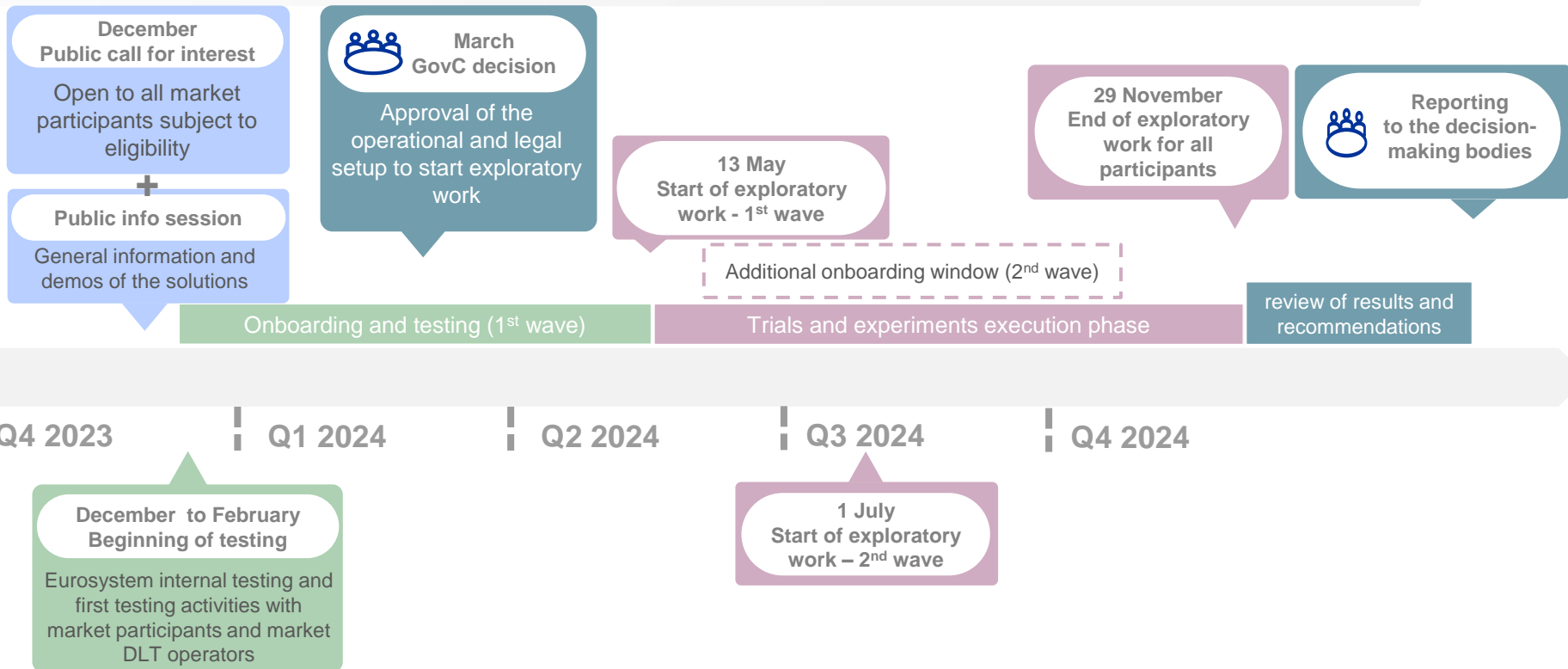
- **trials** (settlement of real transactions with CeBM) and
- **experiments** (settlement of mock / test transactions)

# Exploratory work setup for trials

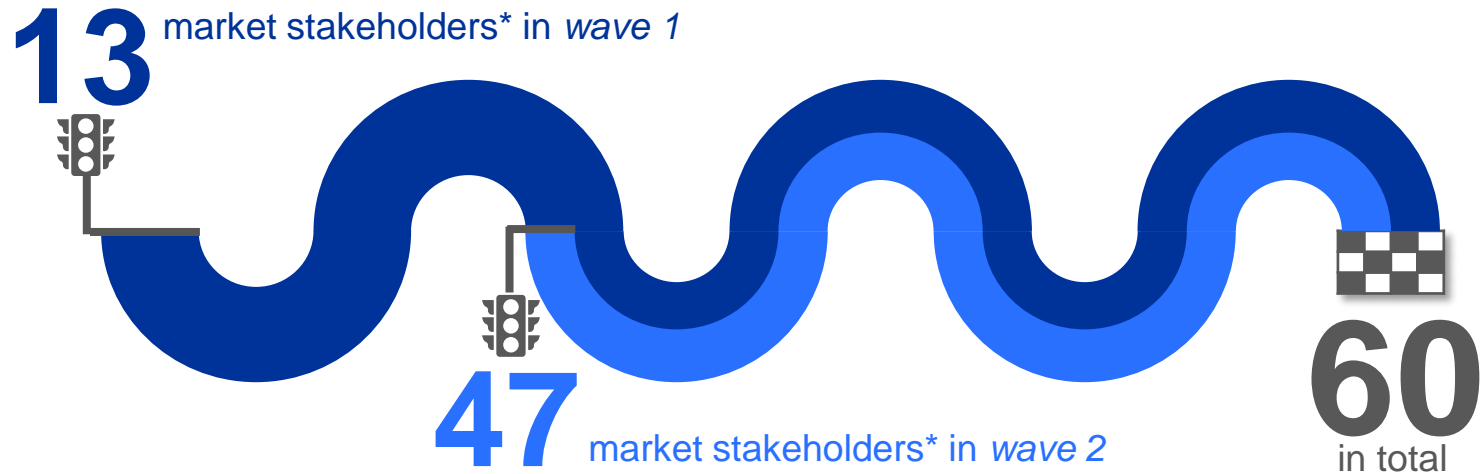


\* RTGS Dedicated Cash Accounts (RTGS DCAs) and/or RTGS Central Bank Accounts (RTGS CB Accounts)

# Timeline



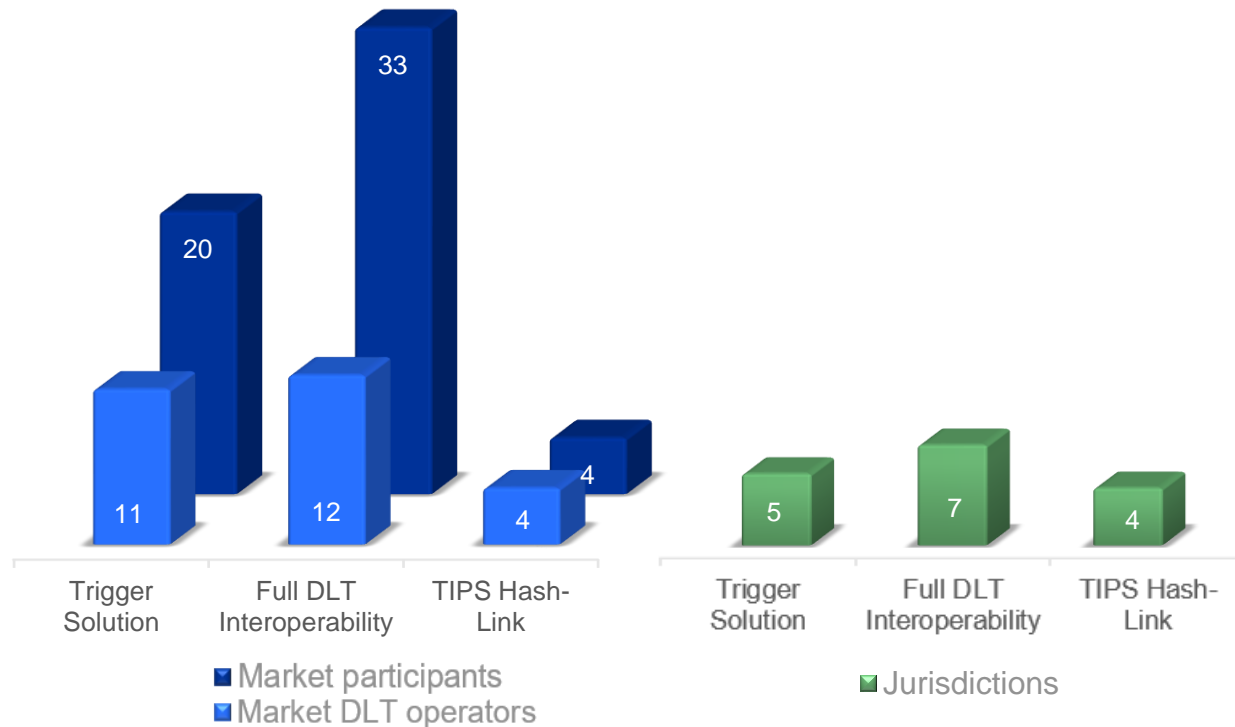
# Overall participation



\* including market participants and market DLT operators – see list of participants [here](#)

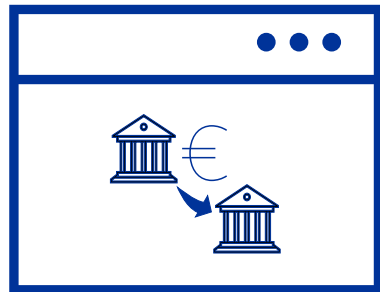


# Participation types from market stakeholders



\* market stakeholder can participate with both the roles of market participant and market DLT operator

# Amount settled



during around **6 months** of activity

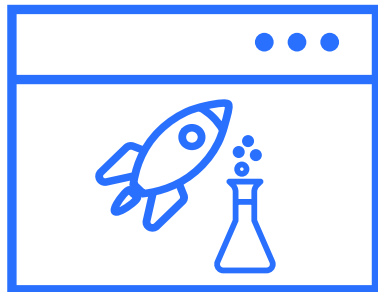


with **60 stakeholders**  
(including market participants and  
market DLT operators)

**~ 1.6B €**

settled with real transactions in CeBM

# Use cases explored



**+40**  
trials and experiments

Primary issuance of bonds and settlement with Delivery-versus-Payment (DvP)

Lifecycle management of securities (e.g. coupon payment and redemption)

Secondary market transactions

Margin calls

Cross-currency Payment-versus-Payment (PvP) transactions with another central bank

Automated wholesale payments

Interbank deposit token transfers with related settlement in central bank money

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# Data and figures



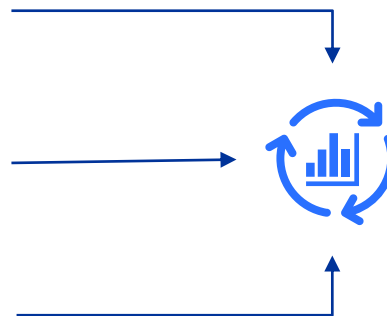
quantitative data from the **Solution Provider Central Banks (SPCBs)** – e.g. latency



quantitative and qualitative data from **market stakeholder** on **KPIs** via survey on the solutions tested - e.g. ease of reconciliation



results of **experiments conducted internally** by the Eurosystem



# Annex 1 – the Eurosystem learning objectives

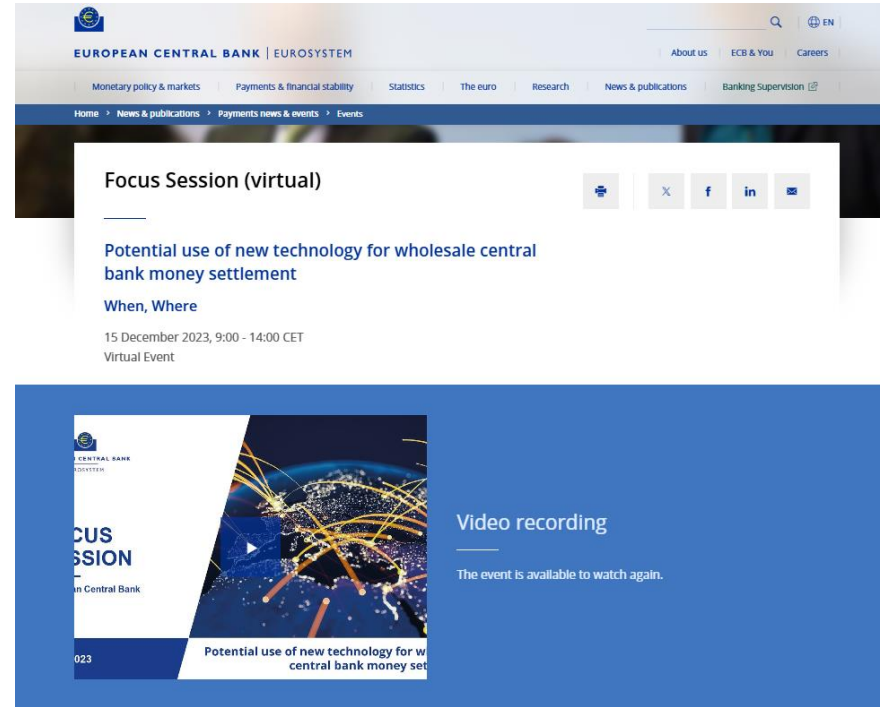


The Eurosystem defined the [learning objectives](#) for the exploratory work, organised in [high-level themes](#) to improve the Eurosystem knowledge on the interoperability solutions and DLT technologies

- *Settlement performance and efficiency*
- *Liquidity management and 24/7*
- *Reliability and safety*
- *Integration of interoperability-type solutions with existing environments*
- *Integration of interoperability-type solutions with new environments (market DLTs)*
- *Preliminary and qualitative cost analysis*
- *Information management and reconciliation*
- *Automation features*
- *Energy consumption*

# Annex 2 – focus session

In December 2023, on the [ECB website](#) a virtual focus session on *Potential use of new technology for wholesale central bank money settlement* (with demo of the different solutions) was hosted.



The image shows a screenshot of the European Central Bank (ECB) website. The top navigation bar includes the ECB logo, the text "EUROPEAN CENTRAL BANK | EUROSYSTEM", and links for "About us", "ECB & You", and "Careers". Below this is a secondary navigation bar with categories: "Monetary policy & markets", "Payments & financial stability", "Statistics", "The euro", "Research", "News & publications", and "Banking Supervision". A breadcrumb trail reads "Home > News & publications > Payments news & events > Events".

The main content area features a white box with the following text:

- Focus Session (virtual)**
- Share icons for print, close, Facebook, LinkedIn, and email.
- Potential use of new technology for wholesale central bank money settlement**
- When, Where**
- 15 December 2023, 9:00 - 14:00 CET
- Virtual Event

Below this is a blue banner with a video recording player. The player shows a thumbnail with the ECB logo and the text "FOCUS SESSION in Central Bank". The video title is "Potential use of new technology for wholesale central bank money settlement". To the right of the player, it says "Video recording" and "The event is available to watch again."