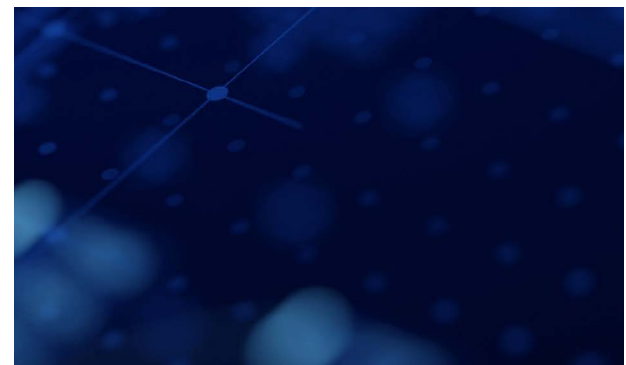
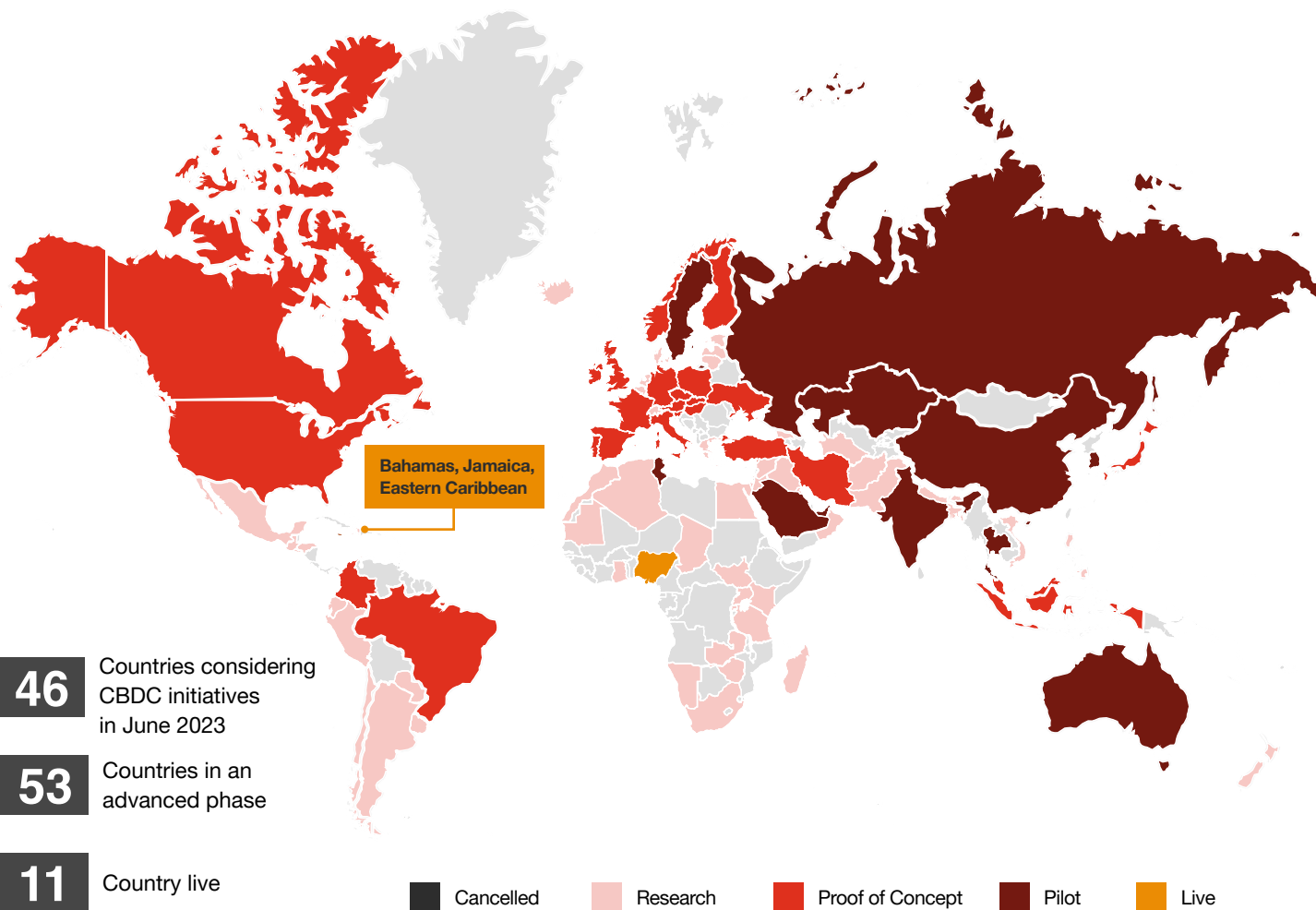


Digital Euro

The evolution of the European Central Bank Digital Currency



Overview on the status of CBDC initiatives



China: e-CNY (digital YUAN)

Pilot launched in 2020, the digital Yuan is issued by the central bank and distributed through a **hybrid** model in which authorised operators manage the e-CNY. Also a **cross border wholesale** project has been developed.



Nigeria: e-Naira

Live project since 2021, the e-Naira adopts a **hybrid** distribution model for **retail only** use cases. **Offline** transactions are being tested whilst 13 million wallets are being used for **online** transactions.



Jamaica: JAM-DEX

Live project, the JAM-DEX is the retail CBDC issued by Jamaican central bank for **retail** use cases. It adopts a **hybrid** model enabling **online** transactions only.

Source: <https://www.atlanticcouncil.org/cbdctracker/>

The main policy goals of Retail and Wholesale CBDCs

Main CBDC Policy Goals

Retail



Financial inclusion



Access to payments



Making payments more efficient



Ensuring resilience of payments



Reducing illicit use of money



Monetary sovereignty



Competition

Wholesale



Differently from retail CBSDs, **wholesale CBDC already exists*** and the debate is **whether improving** and **modernizing** services.

ECB Digital Currency Objectives



Retail Digital Euro

1. Protect the **uniqueness of the currency** and the **integrity of the financial system**.
2. Maintain the **strategic autonomy** and economic **efficiency of the euro**.
3. Create a public digital currency to **decrease the use of cash** and **support innovation in the payments market**.
4. Ensure the **highest level of privacy** for citizens.

Wholesale Digital Euro

1. Ensure market participants systematic **settlement** of **wholesale** liquidity and securities transactions with central bank money.
2. Ensure the **role** of central bank money as **monetary anchor**.
3. **DLT as a new technology** to improve cross-border & cross-currency transactions, overcoming some frictions of correspondent banking.
4. Provide **state-of-the-art infrastructures** as a basis for private actors to develop their innovative services.

Source: Behind the scenes of Central Bank Digital Currency, International Monetary Fund (2022) – Countries involved are Bahamas, Canada, China, ECCU, Sweden, Uruguay

(*): The Eurosystem already offers banks the possibility of settling wholesale digital transactions through its TARGET Services using a centralized ledger

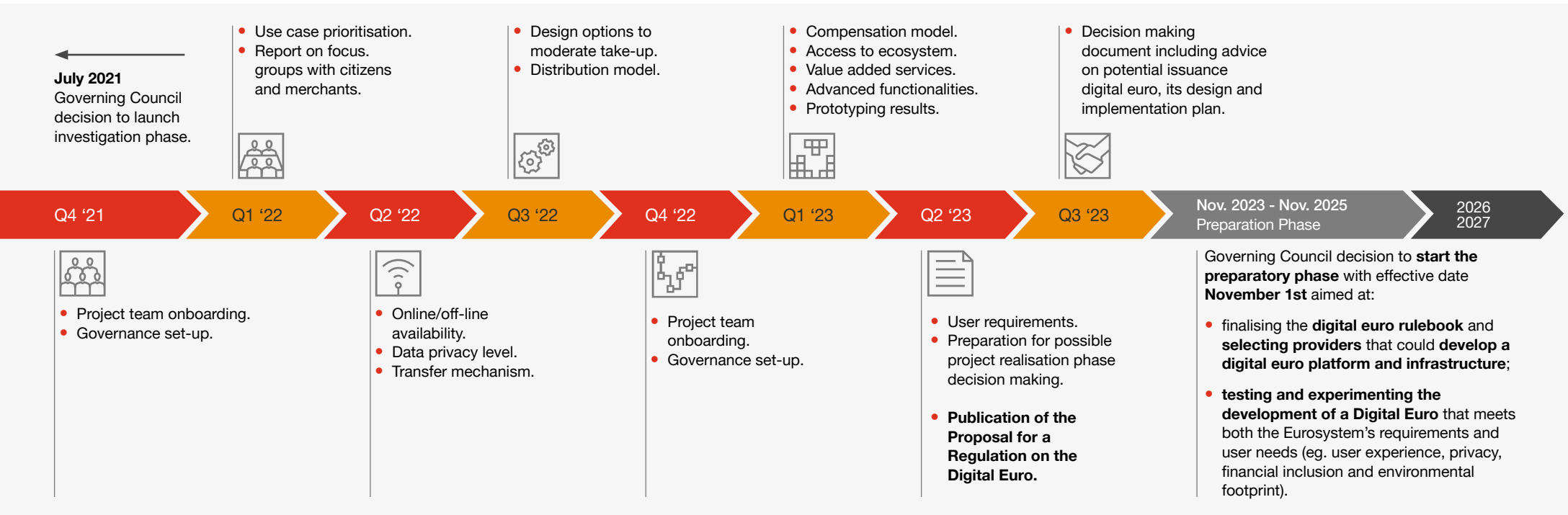
01

The EU Retail CBDC: Digital Euro



Digital Euro: objectives and timeline identified by BCE

Sostituire lo statement iniziale con il seguente: The ECB launched the program for the design of a European CBDC at the end of 2021, with the aim of **evaluating the potential characteristics and features of a Digital Euro**. On **November 2023**, the **Preparation Phase started** with the aim of finalizing the **Digital Euro Rulebook** and **testing the development of a Digital Euro**.



Source: ECB

Regulation on the establishment of the Digital Euro

Objective of the Regulation

- Ensuring that central bank-issued money with **legal tender** remains readily **available** to the **general public**.
- Offering a **state-of-the-art** and **cost-efficient** payment methods.
- Guaranteeing a **high level** of **privacy** in digital transactions.
- Ensuring **financial stability**.
- Promoting **accessibility** and **financial inclusion**.

Scope of the Regulation

- **Person-to-person**.
- **PoS** (Point-of-Sale Payment): a payment for goods or services purchased in a physical store.
- **E-commerce**: a payment for goods or services purchased online via e-commerce.
- **Government payments**: payments to the government (X2G, e.g., taxes) and by the government (G2X, e.g., allowances and subsidies).

Consistency with other Union Policies

The digital euro will support the key existing policies pursued by the Union:

- **GDPR & EUDPR**.
- **European Accessibility Act & Payment Accounts Directive**, in terms of financial inclusion and accessibility.
- **PSD2**.
- **AML package**, i.e., anti-money laundering and countering the financing of terrorism legislative package.
- **Digital Markets Act Regulation**.

Scope of the Regulation

- **Propose of European Regulation** on the establishment of the **Digital Euro** published on **June 28, 2023**.
- **Feedback period** from 30/06 to 08/09 to receive **inputs and comments from the market**.
- Regulation **enter into force twenty days** following the **publication** in the **Official Journal of European Union**.



Key principles of the Proposal for Digital Euro Regulation

01

Legal Tender

The Digital Euro would be endowed with the **status of legal tender** thus requiring its **mandatory acceptance** in payments by all payees. For this reason, the Digital Euro should also be a **direct liability for the ECB**.

06

Compensation model

A **remuneration model** will be identified for the **payment value chain actors**, including a **merchant fee** (on the acquiring side) and an **inter-PSP fee** (on the issuing side) to provide **sufficient compensation for the distribution costs**. These **fees** will be monitored by the ECB.

02

Financial stability

Introduction of **limits on the use of Digital Euro as a store of value** to preserve the stability of the euro area financial system. The **limits** would be set on both **holding and conversion** of Digital Euro.

07

Technology

The **technical design** of the Digital Euro platform will **determine the balance between performance and scalability**, ensuring the highest level of **security of the ecosystem**.

03

Service Distribution

All **payment service providers**, as defined by PSD2, may **provide Digital Euro** payment services without **any additional authorisation** from their competent authorities, while **banks** should be **obliged** to offer the service.

08

Settlement

Settlement of **both online and offline Digital Euro transactions** should be **performed in a few seconds** under normal circumstances. Final **settlement of online transactions** should occur when the Digital Euros of both parties are **recorded in the ECB settlement infrastructure**, while for **offline transactions** when **updating the records of the local storage devices**.

04

Financial inclusion & Accessibility

Regulated intermediaries will need to **offer self-custody wallets to citizens**, interoperable with each other and **consistent with the European Digital Identity Wallet** for identity verification. The **Eurosystem** would **provide access to and storage** of the Digital Euro **through its own front-end**.

09

Privacy and data protection

Appropriate measures will be taken to ensure that the **collection, storage, access, and processing** of users' **personal data are safeguarded and restricted**. Different **level of privacy** will be provided **based on the type of transaction** (online vs. offline) and its value (low value vs. large transactions).

05

Functionalities & value added services

Regulated intermediaries should allow end users to **access Digital Euro basic functionalities** (essential services for the use of Digital Euro) **for free, with the possibility to provide value added services** (e.g. conditional payments). Digital Euro should **not be a form of programmable money**.






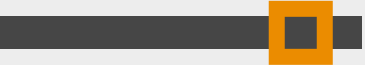




10

AML / AFC

AML rules will therefore **apply to the Digital Euro** in the **same way as for cash and other forms of money** (e.g. digital money). Establishing **limits for payments** becomes **essential for mitigating the risks of financial crimes** regarding offline payments.

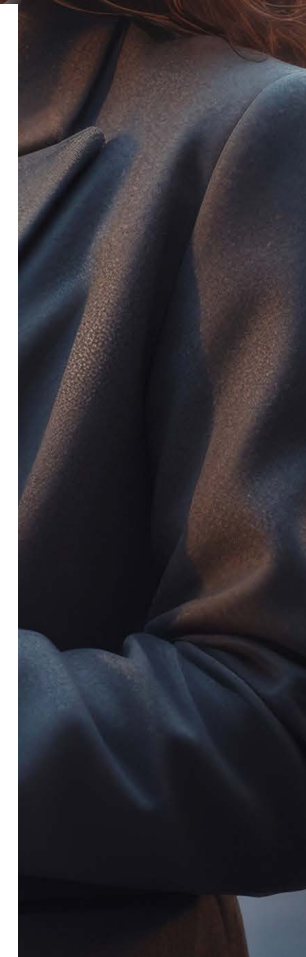
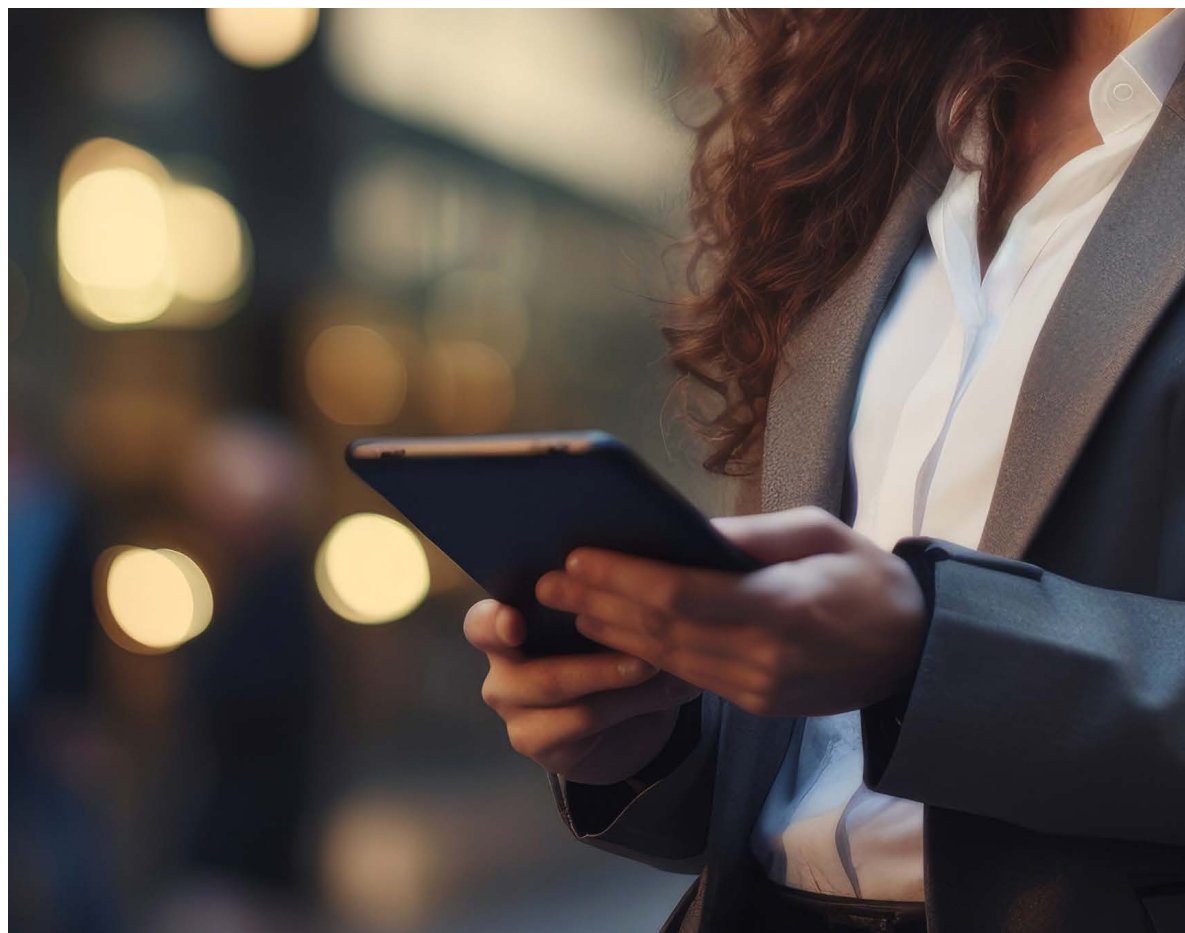
Main challenges for Banks in the adoption of Digital Euro

PRELIMINARY

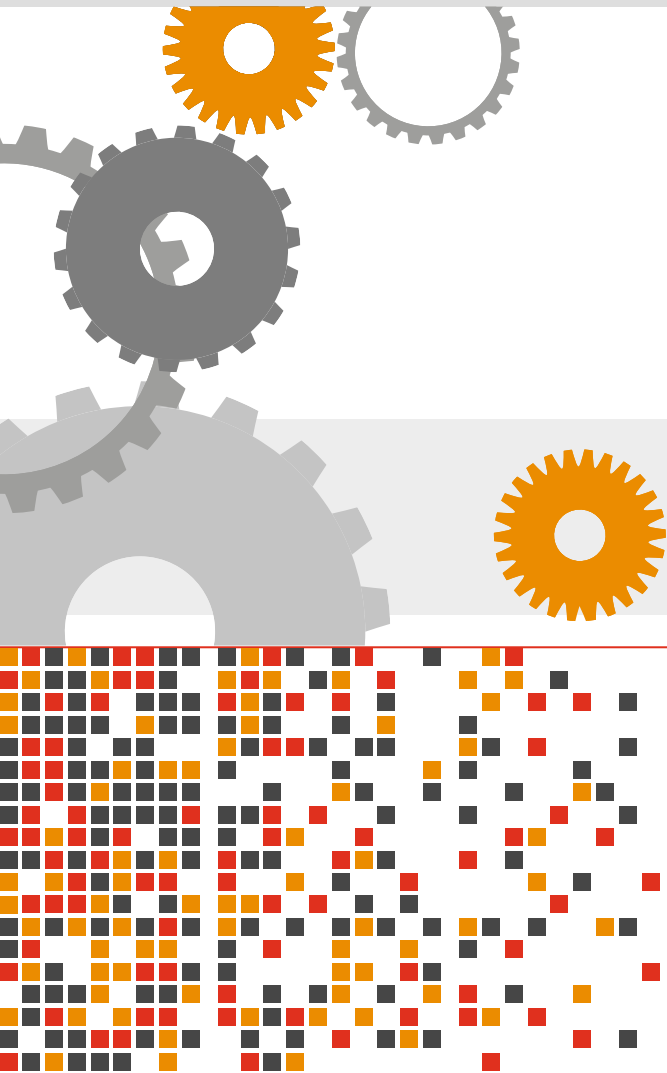
Banking areas	Potential main challenges	Estimated impact
Business 	<ul style="list-style-type: none"> Identify a value proposition for retail and business clients, by evaluating value added services on top of basic usage. Define a pricing model in line with the ECB rules paying attention to a potential cannibalization of actual payment instruments. 	
Operations 	<ul style="list-style-type: none"> Adapt and review processes and procedures to manage clients onboarding, payment transactions, accounts management. Design and implement processes and procedures to manage holding limits, conversion to/from Euro and the portability of Digital Euro accounts to/from other players. Design and implement processes and procedures for support activities (eg. refund, fraud management). 	
IT 	<ul style="list-style-type: none"> Transform Payments application to allow handling the new schema and adopt a new Disputes solution. Evolve Cards/ATM solutions in place and Digital Channels to enable the target Customer Journey for sales and operations. Implementing a new Orchestration Layer or evolving an existing one could streamline the integration with Digital Euro platform. 	
CFO Area 	<ul style="list-style-type: none"> Design and implement processes and instruments to manage liquidity inflows and outflows from/to Digital Euro and Euro accounts (eg. funding / defunding). Design and implement solutions to manage waterfall and reverse waterfall in case of lack / excess of liquidity on the Digital Euro account. 	
Legal, Compliance, Risk, AML 	<p>Adapt procedures and controls in line with the Regulation to guarantee:</p> <ul style="list-style-type: none"> AML requirements for onboarding and both online and offline payments; adequate level of privacy, differentiated for online and offline payments; contractual relationship with end users. 	

02

The EU wholesale CBDC



A look beyond retail digital euro: tokenization of financial instruments and wholesale digital euro leveraging DLT



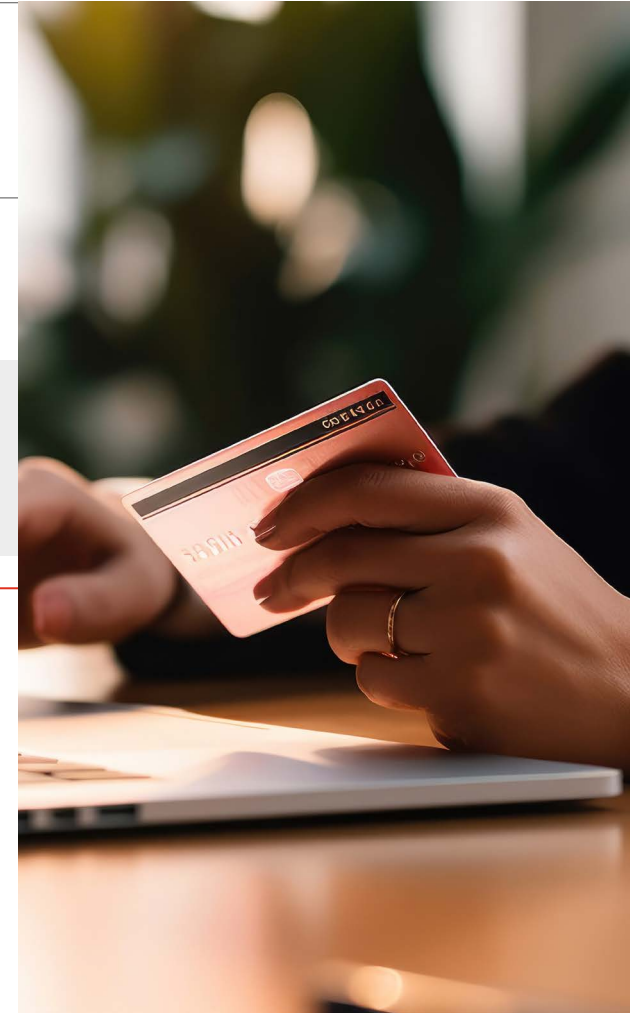
Security Tokenization, the process of digitalizing tangible and intangible assets using blockchain-based tokens, has gained significant attention in the financial industry. **97% of institutional investors** believe that **tokenization will revolutionize** asset management and foster efficiencies in the industry¹.

The **DLT pilot** Regime, effective from Q1 2023, aims to accompany the **secondary market development** with the adoption of DLT in the area of **trading and post-trading of tokenized financial instruments**.

A positive assessment by European institutional bodies of the pilot scheme, coupled with a possible issuance of Digital Euro Wholesale, could bring the EU-wide (secondary) **market capitalisation of securities in tokenized form close to € 2 Tn** at the end of 2032².

Wholesale CBDC (w-CBDC) could promote **innovation in the financial markets** in two ways:

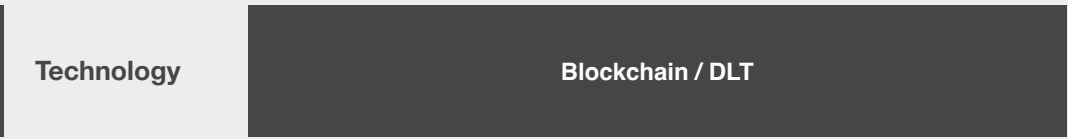
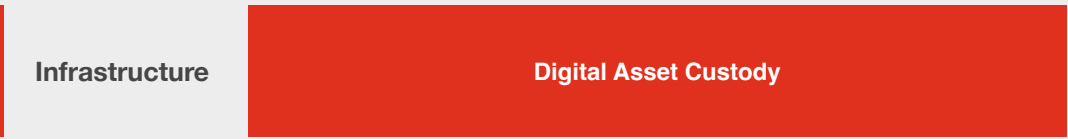
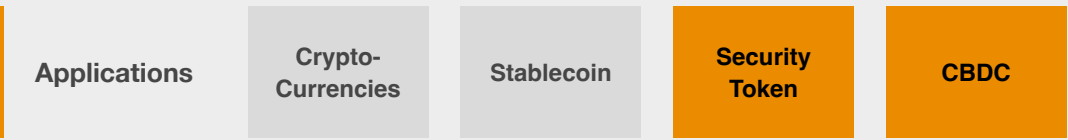
- could help ensure the safe **development of tokenized financial markets**, preserving the fundamental role of central bank money and eliminating counterparty risk when using stablecoin as a means of payment.
- could help improve cross-border transactions and **cross-border/currency payments**.



1. BNY, Mellon, 2022
2. PwC, 2022

The core of the upcoming new digital capital market ecosystem

The **application of a W-CBDC** requires the interaction with the core components of the Digital Asset based capital market, meaning **Tokenization and Custody services**.



CBDCs are expected to provide **digital cash solutions** compatible with blockchain infrastructure **for the settlement of security tokens, as well as for PvP settlement models**.

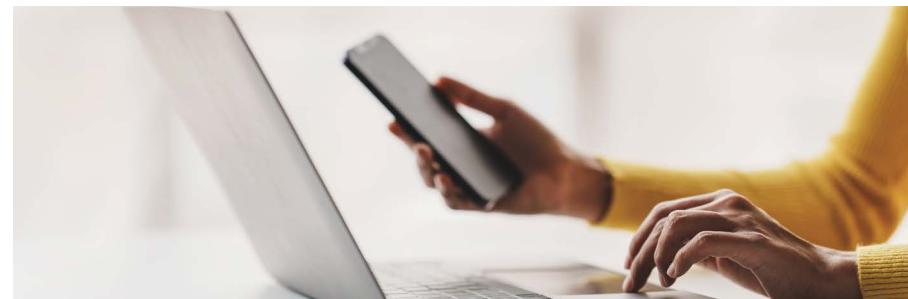
Custody, in the broader term, is expected to be the **key infrastructure** for providing clients with secure access to the world of Digital Assets and **represent the strategic evolution of the business**.

The **linkage and interoperability between different DLTs** (e.g. Permissionless and permissioned) will become crucial in reaching a global scale.

What the Eurosystem is doing with regard to w-CBDC

The ECB has established the New Technologies for Wholesale Settlement Contact Group (NTW-CG)* to investigate emerging technologies, particularly Distributed Ledger Technology (DLT), in wholesale financial markets. This group will offer expert insights and opinions on potential solutions, use cases, criteria and required arrangements to govern preliminary research on this field.

Indeed, the Eurosystem plans to conduct in 2024 an exploratory work that would consist of experiments (real settlement) and trials (mock settlement) with financial market participants to explore the potential of utilizing DLT in wholesale payments and securities settlement, aligning with initiatives like the DLT Pilot Regime Regulation or other legal frameworks facilitating the use of DLT for financial instrument settlement.



Use case type

Description

1

PvP
Payment Versus Payment



Cross-currency & cross-border payments - exact setup will depend on other partners (e.g. other central banks).

2

DvP
Delivery Versus Payment

Securities settlement & lifecycle management - market DLT platforms can connect to the NCB solutions for **settlement** of financial instruments available on those **DLT platforms**.



Type of transactions: DVP for **primary** and **secondary** market **operations** and other payments related to securities lifecycle (e.g. coupon or dividend payments).



Type of assets: **listed & unlisted** financial instruments available in market DLT platforms as either **digital assets** or **tokenized assets**.



Market DLT platforms: **DLT SS** or **DLT TSS** (under *Pilot Regime*), having an equivalent status in any other jurisdiction or a duly licensed financial institution, regular SSS with underlying DLT infrastructure.

* Composed by members of AMI-Pay/SeCo, Fintechs, Industry associations and Central Banks

Project timeline identified by BCE for the w-CBDC

November – Public call for interest: Open to all market participants subject to eligibility (beyond NTW-CG members).



December – March/April: Mandatory testing activities prior to the start of trials and experiments with the Eurosystem for the chosen solution(s).



Trials on a regular basis with a limited settlement window.

3 interoperability solutions to be tested in parallel or sequentially.

Participants provide **regular reporting** on the **results** of trials and experiments to the Eurosystem.

Experiments on predefined days with an experiment-specific framework.

— ONBOARDING AND TESTING (1° wave) — • — TRIALS AND EXECUTION PHASE — •

Q4 '23

Q1 '24

Q2 '24

Q3 '24

Q4 '24



Early October – Public Announcement:

- Objective & scope of exploratory work;
- Eligible criteria (for market participants and DLT operators);
- Eligible financial instruments;
- Timeline;
- Expression of primary interest.



Survey to gain a **better understanding** of the envisaged market contributions in terms of prospective **use cases** and **market DLT platforms**.



January (1st wave) - Deadlines to reply to the **call for interest**.



February – April: Signing of the legal **framework** between eligible market participants, eligible market DLT operator and the Eurosystem.



April (2nd wave) - Deadlines to reply to the **call for interest**.



May - Start of exploratory work (1st wave).



July - Start of exploratory work (2nd wave).



November - End of exploratory work for all participants.



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