



EUROPEAN CENTRAL BANK

EUROSYSTEM

# Shaping the digital euro

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Civil Society  
Seminar Series

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# Agenda

- 1 Why issue a digital euro?
- 2 Product features/design: potential use cases
- 3 Privacy
- 4 Interaction with stakeholders
- 5 Technological considerations
- 6 Financial inclusion
- 7 Comparison with crypto assets

# 1

Why issue a digital  
euro?

# Majority of central banks are working on CBDC



- **Nine out of ten** central banks are exploring CBDCs,
- **More than half** of the central banks develop CBDC or run concrete experiments,
- **More than two thirds** of central banks consider it likely or might possibly issue a retail CBDC in short or medium term.

## Reasons behind the increased work on CBDC



The **emergence of cryptocurrencies and the Covid-19 pandemic** accelerated the work on CBDCs.

In the advanced economics, **financial stability** has increased in importance as a motivation for central banks to get involved in CBDCs.

CBDCs could **alleviate limited operating hours of current payment systems** and the **length of current transaction chains** according to central banks.

Source: 2021 BIS survey on central bank digital currencies (2022) of 81 central banks.

# Why issue a digital euro?



The digital euro as **monetary anchor** would preserve public access to central bank money being **widely accessible to prospective users in all euro area countries**



A digital euro would defend the **strategic autonomy** by of the euro area by increasing the independence from non-European payment solutions and would increase **economic efficiency** as the (latent) competition from central bank money to private money providers can curb market-abusive behaviour.

# Definition and scope

*The **digital euro** is a **digital central bank liability** for **retail payments** of **citizens and businesses** in the **entire euro area**.*

- **Complementing**, not substituting, cash and wholesale central bank deposits
- Supervised intermediaries (e.g. banks and Payment service providers, PSPs) will facilitate **the distribution** of a digital euro
- Digital euro as **source of innovation and public good**, shall not crowd out banks nor hinder innovation in payments

# Timeline – a long and winding road

Tentative - subject to change

**July 2021**  
Governing Council  
decision to launch  
investigation phase

Use case prioritisation  
Report on focus groups with  
citizens and merchants



Design options to moderate take-up  
Distribution model



Compensation model  
Access to ecosystem  
Value added services  
Advanced functionalities

Prototyping results



Selection of service provider(s)  
for possible project realization  
phase

Decision making document  
including advice on potential  
issuance digital euro, its design  
and implementation plan



Q4-2021

Q1-2022

Q2-2022

Q3-2022

Q4-2022

Q1-2023

Q2-2023

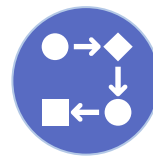
Q3-2023



Project team on-boarding  
Governance set-up



On-line/off-line availability  
Data privacy level  
Transfer mechanism



Settlement model  
Amount in circulation  
Role of intermediaries  
Integration and form factor  
Prototype development



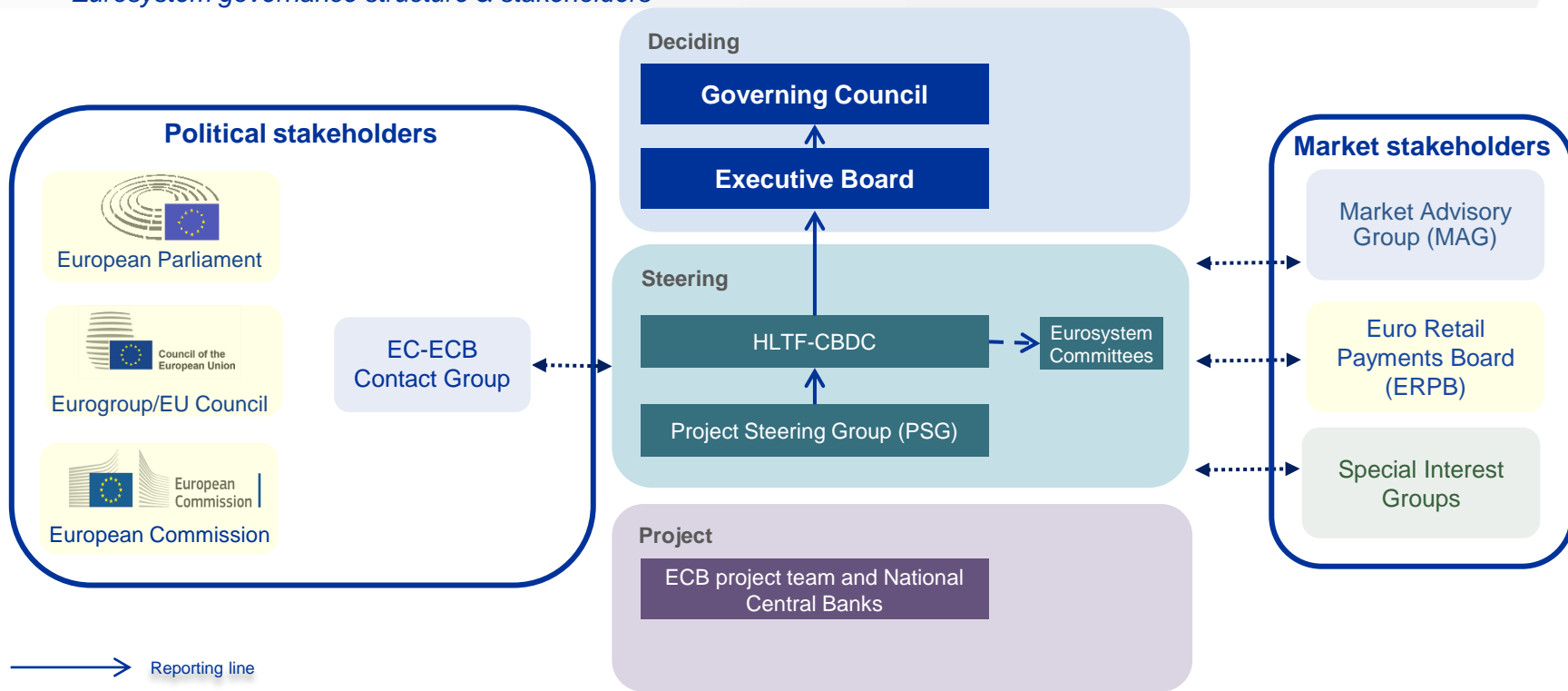
User requirements

Preparation for possible  
project realisation phase  
decision making

**September 2023**  
Governing Council  
decision to possibly launch  
realisation phase

# Digital Euro project governance & stakeholder management

## Eurosystem governance structure & stakeholders



- Reporting line
- - - - -> Internal to Eurosystem information/ consultation line
- .....> Information/consultation line



# 2

Product  
features/design:  
potential use cases

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# Product features/design: Digital euro use cases

A digital euro use case describes a common payment scenario

- **Person-to-person** (P2P): a payment between two individuals
- **Consumer-to-business**: a payment for goods or services purchased in a **physical store** (point-of-sale payment) or online via **e-commerce**
- **Business initiated payments**: a payment from a firm to another firm (B2B) or to an individual (B2P, e.g., wages)
- **Payments to the government** (X2G, e.g., taxes) and **by the government** (G2X, e.g., allowances and subsidies)
- **Machine-initiated** (M2X): a fully automated payment initiated by a device and/or software based on predetermined conditions.

3

Privacy

# Privacy options (from user perspective)

## Anonymity

identity of users is unknown when they access services; no KYC during onboarding.

## Non-transparent to third party

KYC during onboarding; **holdings/balances and transaction amounts are not known to intermediary and central bank**

## Transparent to intermediary

**KYC during onboarding;** transaction data and users' profiling data transparent to intermediary for AML/CFT purposes

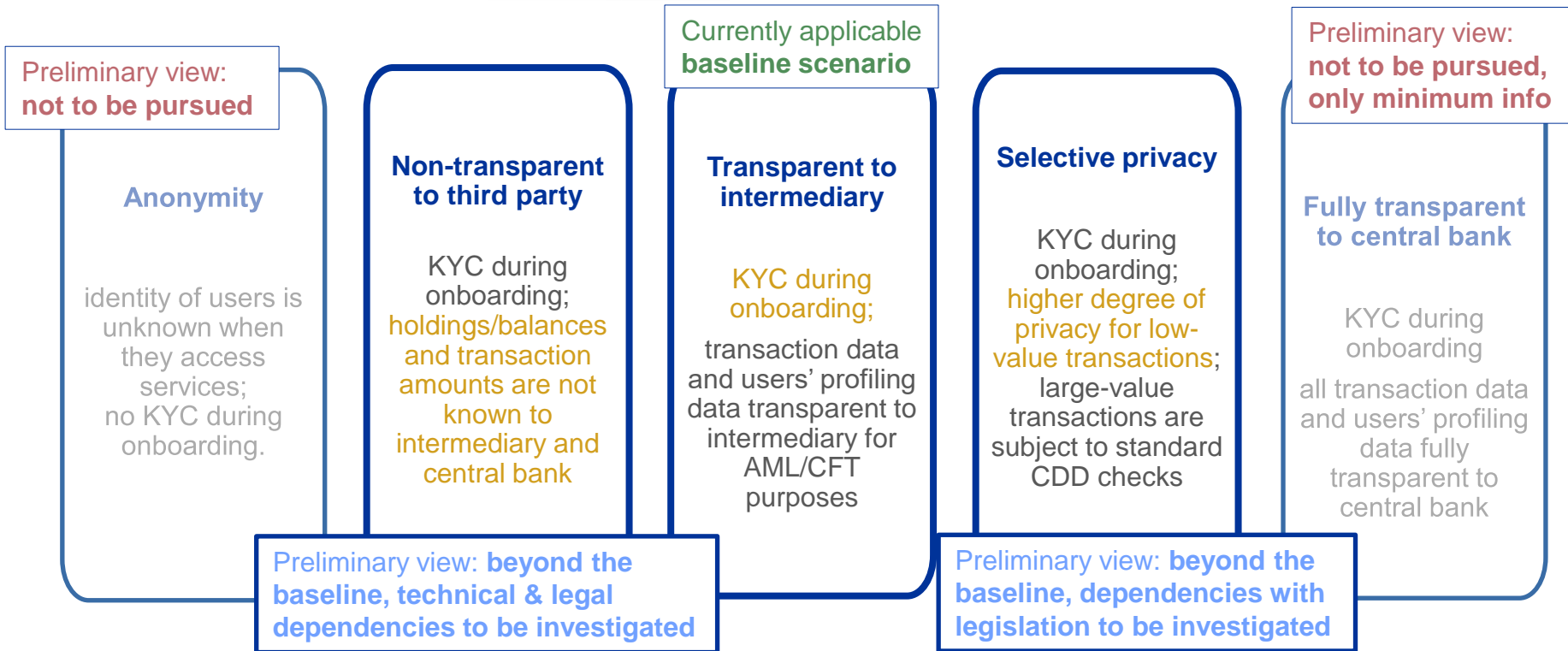
## Selective privacy

KYC during onboarding; **higher degree of privacy for low-value transactions;** large-value transactions are subject to standard CDD checks

## Fully transparent to central bank

KYC during onboarding  
all transaction data and users' profiling data fully transparent to central bank

# Privacy options (from user perspective)



# 4

## Interaction with stakeholders

# Stakeholder engagement

Engagement with stakeholders to facilitate the **appropriate specification** and **implementation** of a digital euro:

## Digital Euro Market Advisory Group (MAG)

- A market practitioner group
- Established by the Eurosystem
- Aims to take account of the views of prospective distributors of a digital euro
- Attempts to tap market intelligence and professional expertise in the design stage
- **The MAG will provide input on a strategic level for the product design and distribution**

## The Euro Retail Payments Board (ERPB)

- Forum for institutional dialogue on retail payments
- Will provide a broad assessment on digital euro design and distribution
  - Both from the demand and supply sides of the retail payments ecosystem
- **The ERPB will assess the preliminary design decisions from an industry perspective**

## The European Parliament and European Commission

- Close coordination with the Eurosystem on design and business model decisions.
- **The European institutions will also provide assessment on the design decisions**

## ECB Civil Society Seminars

- Seminars where ECB experts **present the work and exchange views** with representatives from European civil society organisations



# Focus groups

|                                      |  |
|--------------------------------------|--|
| <b>Objectives</b>                    | <ul style="list-style-type: none"><li>• Understand current payment habits of citizens of euro area Member States and their attitudes towards digital payment methods.</li><li>• User perspective on new digital payment methods and potential key features which could drive the adoption of a new digital payment means with a view to further informing the digital euro investigation phase.</li><li>• User habits and perspectives on digital payment means.</li></ul> |
| <b>Preferred features identified</b> | <ul style="list-style-type: none"><li>• Universal acceptance across the euro area</li><li>• Instant, contactless and open person-to-person payments</li><li>• One-stop-solution</li><li>• Easy to use, cost efficient, secure, reliable and fast</li></ul>   |
| <b>Remaining challenges</b>          | <ul style="list-style-type: none"><li>• Doubts about necessity for new and reluctance to adopt additional means of payment</li><li>• Customer demand – main driver for merchants</li><li>• Strong attachment to cash among unbanked</li></ul>  |



# 5

## Technological considerations

# Key learnings from experiments: no major technology restrictions; various design options possible



## Digital euro ledger

- *Up to 40k tx/sec*
- *Low environmental impact for settlement*
- *Possible to design multi-ledger (“how”)*
- *Offline is feasible, needs online synchronisation*



## Privacy and AML

- *Several privacy options*
- *Higher privacy if combined, but may raise AML concerns*
- *Offline untraceability and/or ex-post traceability possible*



## Limits in circulation

- *Possible to set limits on balances and transaction amount*
- *Transfer of excess amounts are feasible*
- *Remuneration is technically possible*



## End user access

- *Several solutions; existing infrastructure and technology can be reused*
- *Possible for centralised and decentralised e-ID*

# 6

## Financial inclusion

# Facilitating financial inclusion

## A digital euro

- can improve access to digital financial services (because of digitized value chains),
- can enhance the efficiency of digital payments and offer low transaction costs,
- can be used offline when there is no internet coverage,
- can facilitate the enrolment and education (via simplified due diligence and electronic know your customer), and
- foster interoperability (both domestically and cross-border)



# 7

## Comparison with crypto assets

# What is digital money?



## Liability of central bank

- i. **Cash:** physical form, to general public
- ii. **Central bank deposits:** digital form, limited access
- iii. **CBDC/digital euro:** Complement to cash and Central Bank deposits



## Liability of a private entity

- i. Commercial bank money
- ii. E-money
- iii. Some 'stablecoins' that entail a claim/liability on an identifiable entity



## Not a liability

- i. Crypto-assets

# A digital euro for the future



- A digital euro would be a **digital symbol of progress and integration** in Europe.
- Since the introduction of the euro, the ECB has been responsible for **preserving citizens' trust in our currency**.
- A digital euro would be **accessible to all and offer people greater choice** in how they pay.



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your attention!

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