



EUROPEAN CENTRAL BANK

EUROSYSTEM

Update on digital euro

Euro Retail Payments
Board

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Where do we stand

Where do we stand?

Tentative – timeline subject to change

July 2021
Governing Council
decision to launch
investigation phase

- Prioritisation of use cases
- Report on focus groups with citizens and merchants



- Design options to control take-up
- Distribution model



- Compensation model
- Access to digital euro ecosystem
- Value added services
- Advanced functionalities
- Prototyping results



- Selection of service provider(s) for project realisation phase
- Decision-making document including advice on the potential issuance of the digital euro, its design and implementation



Q4-2021

Q1-2022

Q2-2022

Q3-2022

Q4-2022

Q1-2023

Q2-2023

Q3-2023



- Project team onboarding
- Governance set-up



- Online/offline availability
- Data privacy level
- Transfer mechanism



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



- Finalise user requirements
- Prepare for project realisation phase

September 2023
Governing Council
decision to launch
realisation phase

Interactions with the ERPB on the design decisions



Last update on progress of the project in Euro Retail Payments Board

Eurosystem assessment on online/offline, transfer mechanism, privacy and tools to control amount in circulation discussed in ERPB tech sessions in H1/2022 and confirmed by GovC in 09/2022 (see [summary report](#))

Eurosystem assessment on distribution model, role of intermediaries, settlement model, funding & defunding discussed in ERPB tech sessions in Q3/2022 to be confirmed by GovC in Q4/2022

Eurosystem assessment on remaining key design decisions programmability, cross-currency, scheme access, form factor, delivery approach, compensation model, core & value added services, end user onboarding, allocation of amount in circ, issuance & redemption, back-end interaction requirements

Eurosystem assessment of high-level digital euro design: “bringing it all together”

Governing Council decision whether to launch the realisation phase of the digital euro project

ECB Governing Council approved design choices

(P2P, Consumer-to-business, Payments-to-government)

Online / Offline

- Develop an offline peer-to-peer validated solution 

- Develop an online solution validated by a third-party 

- **Exclude** the development of an online peer-to-peer validated solution for the first releases (too experimental) 

Privacy principles

General

- respect personal data
- follow highest levels of privacy and all legal requirements

Intermediaries

- See transaction data needed for AML/CFT
- excl. lower value payments from AML/CFT checks (to be checked with co-legislator)

Eurosystem

- Minimise dealing with personal data as much as possible
- Use privacy-enhancing techniques

Tools to control amount in circulation

Holding limit options

- Waterfall defunding to a configurable amount to linked commercial bank account
- Different limits for online and offline use
- Short deviations allowed

Remuneration

Two-tiered remuneration

- Step 1: 0% or positive
- Step 2: possibly negative

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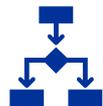
Design options to be
confirmed by
Eurosystem

Scheme approach supported, call for strong market involvement



Supervised **intermediaries will play a key role in distributing** the digital euro.

Intermediaries responsible for **onboarding of consumers, anti-money laundering checks** and **consumer-facing services**.



The Eurosystem pursues a **payment scheme approach** to distribute digital euro:

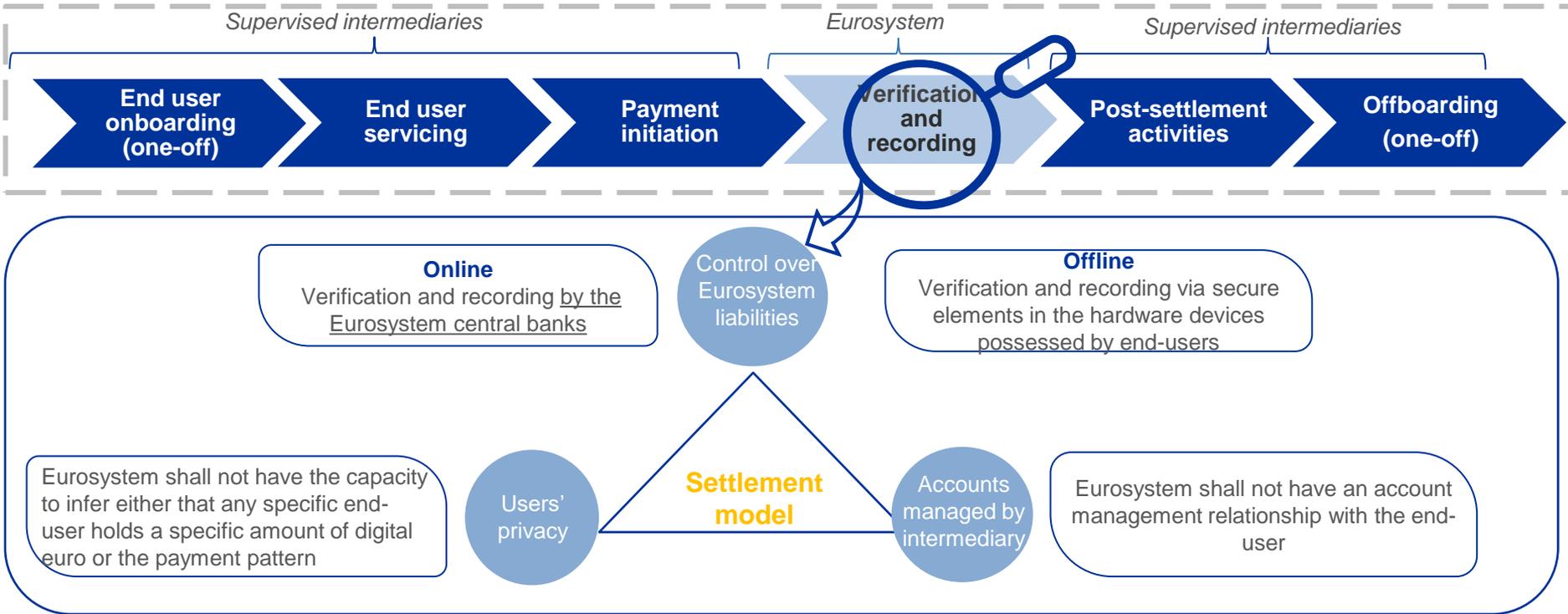
- Scheme would define a set of **common rules, standards and procedures** which would ensure **pan euro area reach**.
- Promote a **harmonised** end-user payment experience

- Provides the **flexibility** to respond to local preferences and user habits.
- Allows for the most degrees of **freedom** for the market to distribute the digital euro and develop **innovative front-end solutions**



Work on **draft rulebook** will start beginning of 2023

Role of intermediaries and settlement model



[*See summary of feedback](#)

Funding and defunding



Supervised intermediaries shall offer **manual funding and defunding** options (in both the **online and offline solution**) and **automated funding and defunding** options (including waterfall and reverse waterfall functionalities **for the online solution**)



Event-driven functionalities should be activated upon the **end users' choice**



Funding and defunding functionalities should be available on a **24/7/365 basis** and take place **instantly**



Deviations from holding limits shall be **short-timed**

The **(reverse) waterfall** can make the digital euro a convenient payment instrument mitigating the impact of holding limits on user experience

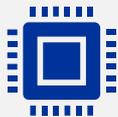


[*See summary of feedback](#)

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Design decisions in
discussion with
market stakeholders

A set of design decisions is in discussion with market experts and stakeholder associations



Advanced functionalities

Cross-currency payments of CBDC with FX conversion

Programmable payment services in digital euro



Distribution model

Scheme access and eligible **supervised intermediaries**

Form factor and delivery of **consumer interface**

The digital euro to allow for innovation by the market on programmable payments

Programmable **money** \neq programmability of **payments**



Supervised intermediaries know best the market dynamics and the needs of end users. They are **best placed to develop programmable payments services**, including dedicated programmability platforms.



Digital euro solution will support programmable payments, **enabling** the provision of such services by supervised intermediaries if necessary.



The **Eurosystem** can support programmable payment services by the market via standards in **the scheme rulebook** and/or adding **functionalities to the settlement layer**, supporting programmable payments use cases identified by the market.

Payment service providers (PSPs), as defined in PSD2, meet the scheme access criteria

Supervised intermediaries →	CIs / EMIs / PIs
Services ³ ↓	
Offer digital euro payment services	✓
Provide digital euro account ⁴	✓
Make APIs to digital euro accounts available	✓
Offer digital euro basic services ⁵	✓

  **PISPs** and **AISPs** could provide payment initiation and account information services based on the digital euro account APIs.

 Eurosystem works with the Commission on legally facilitating the digital euro distribution by the different types of intermediaries.

3: The full list of services provision is shown in the PSD2.

4: Implementation of funding and defunding services might differ between different types of PSPs.

5: Digital euro basic services are yet to be defined but should be similar in nature to the basic services that credit institutions are to provide under the Payment Accounts Directive (PAD).

Enabling end-users to pay in digital euro

Delivery approach

Integrated end-user interfaces

- Supervised intermediaries could **upgrade their existing channels** to offer digital euro services/ functionalities **for all use cases**

Digital euro app

- a **“digital euro app”** would be provided **to access the digital euro services** of supervised intermediaries
- **Homogeneous “look and feel”**, increase choice for end-users and intermediaries (e.g. smaller ones) and contribution to **financial inclusion**

Form factor

The following technologies should be **prioritised** for the **initial release**:

- **“Alias/proxy” functionality** for person-to-person (P2P) and e-commerce
- **NFC** for Point-of-sale (POS)
- **QR-codes** for person-to-person, e-commerce, and Point-of-sale



NFC



QR-codes

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Prototyping exercise

Prototyping the digital euro distribution



Call for expression of interest launched in April 2022.



Collaborative exercise between the ECB and external companies to pay with a digital euro. External providers develop **prototypes user interfaces** against a digital euro back-end (Eurosystem).



Aim: test integration of digital euro back-end with front-end prototypes. **No real payments will be processed** in the prototyping exercise (a digital euro has not been issued, so we are merely conducting simulations).



Results will be published and are expected in Q1 – 2023. The exercise serves as a **learning activity** and there are **no plans to re-use** the prototypes in the subsequent phases of the digital euro project.



Important: full ecosystem is included, to ensure that **European citizens** can pay at merchants with a digital euro. The selection ensures a representative sample of all the types of market players.