Update on digital euro

Euro Retail Payments Board

21 November 2022
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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

**Q4-2021**
Project team onboarding

**Q1-2022**
Governance set-up

**Q2-2022**
Online/offline availability
- Data privacy level
- Transfer mechanism

**Q3-2022**
Settlement model
- Amount in circulation
- Role of intermediaries
- Integration and form factor
- Prototype development

**Q4-2022**
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

**Q1-2023**
Finalise user requirements
- Prepare for project realisation phase

**Q2-2023**

**Q3-2023**

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

- 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
Interactions with the ERPB on the design decisions

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

**Eurosysterm 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)

**Eurosysterm 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

**Eurosysterm 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

**Eurosysterm 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
Design options to be confirmed by Eurosystem
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

*See summary of feedback*
Role of intermediaries and settlement model

Supervised intermediaries

End user onboarding (one-off)

End user servicing

Payment initiation

Verification and recording

Post-settlement activities

Offboarding (one-off)

Supervised intermediaries

Control over Eurosystem liabilities

Users’ privacy

Settlement model

Accounts managed by intermediary

Eurosysterm shall not have an account management relationship with the end-user

Verification and recording via secure elements in the hardware devices possessed by end-users

Verification and recording by the Eurosystem central banks

Eurosysterm shall not have the capacity to infer either that any specific end-user holds a specific amount of digital euro or the payment pattern

*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*
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 ≠ 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 Eurosysteem 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

<table>
<thead>
<tr>
<th>Supervised intermediaries →</th>
<th>CIs / EMIs / Pls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offer digital euro payment services</td>
<td>✓</td>
</tr>
<tr>
<td>Provide digital euro account⁴</td>
<td>✓</td>
</tr>
<tr>
<td>Make APIs to digital euro accounts available</td>
<td>✓</td>
</tr>
<tr>
<td>Offer digital euro basic services⁵</td>
<td>✓</td>
</tr>
</tbody>
</table>

**PISP**s and **AISP**s 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.

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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

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QR-codes

NFC
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.