Funding and defunding functionalities

Market Advisory Group
Where do we stand?

Tentative - timing subject to change

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

**Q4-2021**
Project team on-boarding
Governance set-up

**Q1-2022**
Use case prioritisation
Report on focus groups with citizens and merchants

**Q2-2022**
Design options to moderate take-up
Distribution model

**Q3-2022**
Compensation model
Access to ecosystem
Value added services
Advanced functionalities
Prototyping results

**Q4-2022**
Funding and defunding
Prototype development

**Q1-2023**
Settlement model
Distribution of amount in circulation
Role of intermediaries
Integration and form factor

**Q2-2023**
Selection of service provider(s) for possible project realisation phase
Decision making document including advice on potential issuance digital euro, its design and implementation plan

**Q3-2023**
User requirements
Preparation for possible project realisation phase decision making

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

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

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

Tentative - timing subject to change
Objective of today’s exchange

Present foreseen funding and defunding functionalities of the digital euro

Invite your feedback on the minimum set of functionalities identified by Eurosystme (followed by written procedure) as input for Eurosystme preparations of final decisions on these functionalities by Governing Council in Q4 2022
What this decision is about

The **set of basic technical functionalities for funding and defunding** the end users’ digital euro positions that the Eurosystem will make available to intermediaries to:

• facilitate a **convenient and customisable experience** for the end user while ensuring the **applicability of tools** to control the amount of digital euro in circulation
• support a **successful uptake of the digital euro**: a smooth funding/defunding process is a key step in a smooth end user experience necessary to facilitate digital euro adoption and usage
• ease the use of the digital euro as a **means of payment** rather than store of value
• enable intermediaries to **offer additional services**
Funding and defunding flows
**Process flow: funding**

**Funding:** the process of increasing the holdings on an account or wallet held by the end user. In the digital euro project context, this process involves converting end user provided liquidity (commercial bank money or bank notes) into retail CBDC holdings.

1. **Funding request**
   - A digital euro holder wants to fund digital euro holdings

2. **Source selection process**
   - The funding source is selected among cash or commercial bank money through different payment instruments

3. **Transfer of digital euro**
   - The funding amount is deducted from the supervised intermediary’s central bank liquidity and added as newly issued digital euro to the end user holdings

4. **Digital euro funding process**
   - The funded digital euro becomes available to the end user

5. **Confirmation to the digital euro holder**
   - The supervised intermediary makes the new digital euro holdings visible/available to the end user

*Note that this investigation is currently work-in-progress.*
Defunding: the process of reducing the holdings on an account or wallet held by the end user. In the digital euro project context, this process involves converting end user provided retail CBDC holdings into commercial bank money or banknotes.

End user wants to defund digital euro holdings

Defunding process is initiated via intermediary

Digital euro holdings of end user are transferred to intermediary’s liquidity at the central bank

The intermediary makes the CoBM available in the account of end user

The intermediary presents the new balance on the digital euro holdings and CoBM account to the end user

Note that this investigation is currently work-in-progress.
Functionalities for the online position
# Pure funding and defunding functionalities

<table>
<thead>
<tr>
<th>Manual funding / defunding</th>
<th>Automatic funding / defunding</th>
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<tbody>
<tr>
<td>The end user manually starts the conversion of commercial bank money or cash into digital euro and vice versa</td>
<td>A digital euro position is automatically funded from / defunded to a linked commercial bank money liquidity source</td>
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<tr>
<td>Only possibility available to the unbanked end users</td>
<td>Triggered by an event defined by the end user (position going below/above a threshold) or time recurrent (e.g. fund at end of month)</td>
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<tr>
<td>Require access to commercial bank money and are activated upon the end users’ request either upon onboarding or at a subsequent point in time</td>
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Functionalities associated to a payment

**Waterfall – incoming transaction**

It works as an event-driven automatic defunding, to ensure end users can receive a payment even if post-transaction position exceeds individual holding limit.

After the transaction is completed in digital euro at its full value*, exceeding liquidity is pushed to the linked end-user commercial bank money liquidity source.

Financial stability and monetary policy considerations to avoid excessive digital euro holdings are acknowledged, while user convenience is leveraged as any incoming payment can be settled.

**Reverse waterfall - outgoing transaction**

It works as an event-driven automatic funding, to ensure end users can make a payment even if its amount exceeds their current digital euro funds.

Additional liquidity is pulled from the linked end user commercial bank money liquidity source, then the transaction is completed in digital euro at its full value.

May come with a cost in terms of transaction speed: rules and minimum requirements to meet (including processing times) to be defined within the digital euro scheme.

*This may imply short temporary deviations from the holding limit.
Functionalities for the offline position
Funding and defunding the offline device

- Inherent differences with respect to the online position: the offline digital euro device needs to be online for funding and defunding, while not for transacting.

- Event-driven functionalities would require online connectivity to reach the linked liquidity source.

- It could be funded and defunded either from/to the online digital euro position, commercial bank money or cash.
Way forward and discussion
Conclusions

All functionalities part of the minimum set are to be implemented, so to ensure a baseline homogenous payment experience irrespective of the intermediary selected by the end user.

Event driven functionalities should require the end users’ explicit consent.

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

Both the Eurosystem and intermediaries are interested in an efficient conversion process between commercial and central bank money, also to ensure the applicability of tools to control the amount of digital euro in circulation.
Way forward

Further investigation on aspects including transactions greater than the holding limit and semi-automatic functionalities for offline consultation of Eurosystem committees.

Outreach to external stakeholders

Finalization of Eurosystem views in Q4 2022 based on the outcome of Eurosystem committees’ consultation, discussions with external stakeholders and further internal analysis.

Review of combined design decisions (“Bringing it all together”) in Q2 2023 and feedback by stakeholders on overall design prior to Governing Council decision making thereafter.
We invite **reflections on all aspects of the analysis**, including the following questions:

- What are your views on the **pure funding and defunding functionalities** (manual and automatic)?
- What are your views on the **functionalities associated to a payment** (waterfall and reverse waterfall)?
- What is your feedback regarding the options for **funding and defunding the offline device**?
- What are your views on the **ease to implement** such functionalities on your side?
Thank you