

AGE Platform Europe feedback on the analysis of the funding and defunding functionalities for a digital euro ([item 3](#)) 21-09-2022

d€: digital euro

CoBM: commercial bank money

basic bank accounts: as defined by the PAD)

Remarks on the overall concept of a d€ we feel relevant for funding/defunding issues:

D€ for low value payments only: If the d€ is expected to complement cash and offer more or less the same advantages as cash notably in terms of privacy, it should be designed to facilitate low value payments nationally and across the euro area rather than aim at supporting payments of high value for which existing private money instruments are better suited in terms of transparency and traceability of both payers and payees. Allowing high value payments/ would require more complex (and costly) functionalities to meet the AMLFT legal requirements.

D€ to be accessible by design from the beginning: The d€'s concept of end user's experience from the front-end to the back-end, as well as the end-users' interfaces and d€ payment instruments should be designed to be easy to access/use for persons with disabilities and older persons. As mentioned in the [ESCB stock-take report on Accessibility to retail payments in the EU](#) presented to the ERPB last July, accessibility will facilitate take-up among this fast growing group of citizens and will become mandatory for all retail payments instruments in the EU as of June 2025 (cf. European Accessibility Act). Given the timing of the d€ project, the first version of the d€ that will be offered to consumers should already be accessible-by-design and usable (interoperable) across the EU. Retrofitting would be very costly and could delay take-up of the d€ among large groups of citizens. This means that d€ end users interfaces should be designed to be accessible to persons with disabilities and anyone with limited digital skills who does not use a smartphone for retail payments.

Remarks on take-up, informed decision-making and financial inclusion:

Public supervised intermediaries: To reinforce the image of the d€ being public money guaranteed by the Eurosystem, and be accessible to all including the unbanked, eligible applicants should have the possibility to choose a public or non-for-profit supervised intermediary.

Free of charge d€: To support a rapid take-up of the d€ among the general population residing in the euro area, access to and funding/defunding a d€ account should be free of charge.

D€ should be part of basic bank accounts optional services: To support financial inclusion, the option to open a d€ account should be added as a free optional service that comes with all basic accounts. The decision whether to open a d€ account should however be left to the basic bank account holder.

End users' pre-contractual information is needed: To support informed decision-making, all applicants should be informed by the supervised intermediary at the time they request to open a d€ account, that it is not necessary for them to link their d€ account to a commercial bank account. They should also be informed that they can move to another supervised intermediary at any time and this will not affect their d€ account.

What are your views on the pure funding and defunding functionalities (manual and automatic)?

Manual funding and defunding:

The d€ design should be developed to function without being connected to a bank account and thus support funding/defunding functionalities that would work for both banked and unbanked end users.

Funding through cash deposit at till: Manual funding through cash deposit was presented at the last meeting as the only funding option for the unbanked. Since ATMs coverage is shrinking across the euro area, we would like to recommend to explore whether the d€ could be designed to enable funding through cash deposit at till (some sort of 'reverse cashback').

Use cases: End user pays extra cash at the till when paying for their purchase and the merchant credits their d€ account with the difference through the POI.

In addition to cash-in-shop that already offers the option to deposit cash at a merchant, 'reverse cashback' deposits might also become very convenient for merchants located in areas where there are no cash servicing facilities nearby where they can easily access the € bank notes and rolls of coins they need for their daily business. This would have a positive impact on merchants cash management and would enable them to continue to offer cashback to their customers.

The unbanked will have more funding options than cash deposit at ATMs: In our views, the unbanked will also be able to fund their d€ account through handing over cash to a trusted third party (for ex. a trusted person or services dealing with homeless people, asylum seekers or other very vulnerable groups, etc.). The trusted party will then transfer the cash amount to the d€ account of the unbanked end user through a P2P transaction or social service POI. (Going through a third party is already used by the unbanked to pay their bills or make payments which cannot be paid cash.)

End users should be able to be refunded on their d€ account by a merchant when they return goods they have paid with their d€ instrument (returned goods are usually refunded by merchants via the payment instrument used by the payer).

Automatic funding/defunding:

Automatic funding/defunding could be useful for some but only within the holding limit (see below remarks on waterfall and reverse waterfall).

What are your views on the functionalities associated to a payment (waterfall and reverse waterfall)?

Waterfall functionality:

A waterfall functionality is indispensable to enable payees to receive incoming payments even when the transaction would result in the payee's holding exceeding the limit.

End users should have the possibility to:

- Opt for an automatic waterfall functionality that will be activated as soon as their holding exceeds the limit.
- Program the waterfall functionality to be activated as soon as the holding reaches a certain % of the holding limit.

A waterfall functionality will however not work for the unbanked for whom another solution will be needed, such as being alerted that the incoming payment will exceed the holding limit and being given the choice to direct the excess funding on their offline device and/or to get the excess amount in cash.

Reverse waterfall functionality:

We do not understand why it would be a problem if an outgoing payment is rejected when the amount of the transaction exceeds the available funds on the payer's d€ online position or offline device. This is happening with all other payment means whether you pay cash or with a CoBM digital mean. The payer is informed about the lack of liquidities and is invited to pay (or top up) with another payment instrument (cash or digital mean).

If the envisaged reverse waterfall functionality is implemented, the amount pulled automatically from a CoBM account should only be allowed to top up the payer's d€ position up to the holding limit. No temporary deviation above the holding limit should be allowed.

Use case: Ms. B. has 1.500 d€ on her d€ account. She wishes to pay/transfer 2.500d€. Since the holding limit is 3.000d€, her payment will be able to go through after the missing 1.000€ are pulled from the CoBM account she has chosen.

For payments exceeding the holding limit, the payer may be able to top-up the payment with cash or using another digital payment instrument if the payee's accounting system allows split payments for a single bill (common in shops but not for online payments). If the payee's accounting system does not allow split payments, the transaction will fail and the payer will have the option to first fund his d€ account or use another payment means. This happens what happens currently when shopping on site and online regardless of the payment means used.

Use case: Mr. C. has 1.500d€ on his d€ account. He wishes to pay/transfer 3.500 d€ but the holding limit is 3.000d€. The waterfall functionality will pull 1.500d€ from his linked bank account and he may be able to top-up the payment with 500 € in cash or using another payment instrument if the payee's accounting system allows split payments for a single bill. If not, the payment will fail and he will have the choice to pay the full amount with another payment mean or to remove some items from his basket in order to lower the transaction to 3000€.

In our views the d€ reverse waterfall functionality cannot function as the overdraft facility of a commercial bank account. Allowing deviations from the holding limits would not be a solution: transactions above the holding limit + the maximum allowed deviation would continue to be rejected.

If end users would have the option to instantly pull higher amounts of CoBM into their d€ account regardless of the holding limit, this would create a potentially (very) high and difficult amount to assess for which the Eurosystem would be liable since the total amount would be treated as d€ throughout the transaction process.

We think that the Eurosystem liability will be much easier to assess and monitor if it is based on the two following elements:

- The Eurosystem maximum 'potential' liability = the maximum holding limit multiplied by the total number of d€ accounts recorded by the Eurosystem at a given time
- The 'realised' liability = the total amount of d€ available on all d€ online positions as recorded by the Eurosystem + the total estimated amount of d€ available at the same given time on offline devices (for ex. calculated as a % of the total amount of d€ online positions or a % of the upper limit allowed on offline devices multiplied by the total number of d€ accounts in the registry, if a upper limit is introduced for offline devices).

The only limited "internal" reverse waterfall functionality we would find useful would be to allow an online transaction to go ahead as a single transaction if there are enough d€s stored on the payer's

online position + offline device to cover the whole amount. For the payer, this would solve the problem of having to pay in 2 transactions (first online, then offline for the balance). This would require that both the online and offline devices be accessible at the same time from the same support at the ATM or POI (for ex. card fitted with an integrated offline wallet/chip).

Possible use cases: When paying at a POI or ATM, the end users could be able to decide whether they want to activate the internal reverse waterfall functionality to enable them to either:

***pay online** for a transaction by pulling the missing amount from their offline device/wallet. The transaction will be considered to be online.*

***pay offline** by pulling the missing amount instantly from their online account to their offline device. The transaction will be considered offline but the amount of the transaction might be limited by the offline device limit if a limit below the holding limit is decided for offline devices/wallets.*

What is your feedback regarding the options for funding and defunding the offline device?

We agree with the three points presented at the meeting. In addition we would like to recommend that :

- All ATMs and POIs should support both offline and online d€ funding/defunding from a d€-specific (no co-branding) single device (for ex. card with chip as mentioned earlier).
- Funding/defunding of offline devices should be available 24/7/365 from all ATMs and cash points that support cash withdrawal and deposit and are accessible 24/7/365.
- Clarification by the Eurosystem of the legal tender and mandatory acceptance of both cash and digital euro will be necessary to ensure that funding and defunding offline devices will be easy from all ATMs and merchants' POIs across the euro area.

- **What are your views on the ease to implement such functionalities on your side**
N.A.

AGE feedback on the analysis of the roles in processing digital euro payments and settlement options ([item 4](#)) 22-09-19

d€: digital euro

CoBM: commercial bank money

Basic bank accounts: as defined by the PAD)

General remark and questions on supervised intermediaries

We understand that the profiles and requirements that will be applied to supervised intermediaries have not been defined yet. We would like to express concerns that opting for private profit-making market actors only might deter or prevent some citizens from applying for a d€ account, not only the unbanked. Applicants should have the possibility to opt for a non-commercial supervised intermediary. If there are no existing national public entities which could fulfil that role, the Eurosystem should examine whether a new public entity could be established to take care of the interface with end users who do not wish to access their d€ account through a commercial supervised intermediary.

Will supervised intermediaries be regularly checked for compliance with the rules/requirements that will apply to their role, including on the protection and confidentiality of end users' data which they should not be allowed to share with others except when required by the relevant public authorities for AMLFT purposes? Will end users and potential applicants be informed when a supervised intermediary is no longer fully compliant to enable them to look for another intermediary?

What are your views on the digital euro payments processing flows and the roles of supervised intermediaries within them? (slide 6)

- Request to open a digital euro account/wallet:

If the final decision will be that supervised intermediaries will include only private market actors and they will be given the entire responsibility for interface with end users, to support inclusion we recommend that end users should at least have the possibility to opt for a supervised intermediary mandated with a specific mission of public interest (for ex. the special mandate that some national postal banks have with their NBC to facilitate access to cash for all including in remote areas).

- End user onboarding (including KYC process)

At this stage it is proposed that all interface with end-users, including key responsibilities such the KYC procedure and fraud prevention will lie with the supervised intermediaries. At the same time the liability for all d€s stored on end users' d€ positions and during transactions will remain with the Eurosystem. In case of mistakes, hacking or fraud resulting from poor KYC or fraud prevention processes applied by supervised intermediaries, who will carry the liability for the damage that end users may suffer? Will this not result in a potential high risk for the Eurosystem's liabilities?

- Holdings opening and Confirmation of opening

We believe that end users should only be allowed to open one d€ account. Using the e-ID provided by the European Commission would greatly facilitate the coordination between intermediaries and the repository operator to ensure that only one d€ account is opened per end user across the euro

area (or the whole EU if residents in non-euro area EU Member States will be allowed to open a d€ account in their country or in a euro area country (as non-resident EU nationals).

➤ Definition of payment instrument

The end user should decide what type of payment instrument(s) they wish to use for their d€ account, not the payment instrument issuer (as mentioned the slide 6). The issuer will then link the selected payment instrument(s) to the end user d€ account.

Will there be also a prototyping exercise to explore various technical solutions for the development of the d€ end users payment instruments? Key criteria for payment instruments should be: accessibility by design, not relying on smartphones only but also offering instruments that are easier to use by vulnerable groups such a d€-dedicated card with a chip which supports both online and offline payments. All d€ payment instruments should be branded as d€ only (no branding) and should be harmonised and interoperable including in cross border situations.

➤ Linking the d€ account to a CoBM account

The end user should decide whether he wants to link his d€ account/wallet to one of his CoBM accounts, not the user manager. Linking one's d€ account/wallet to a CoBM account should remain optional and easy for the end user to cancel/modify online.

Do you see any issue in the Eurosystem central banks validating and recording transfers of its own liability (digital euro) while supervised intermediaries would take care of access/payment initiation/information and value-added services?

Since the payment scheme approach has been selected rather than the end-to-end approach favoured by consumers, the proposed division of roles between the Eurosystem CBs and the supervised intermediaries is logical: validating and recording all transfers in d€ can only be done and coordinated by the Eurosystem NCBs since they carry the liability.

We would welcome more information about how the value-added services will be developed, distributed and compensated and hope that consumers will be consulted in this discussion from the beginning, including if charging costs to end users for these services is envisaged.

What would be your views on the Eurosystem's ability to have full reassurance that no mistakes outside its control will happen, during validation and recording, affecting its own balance sheet in case supervised intermediaries were to take care?

The only way to ensure the Eurosystem will keep full control of its liabilities during the validation and recording processes is to keep these tasks exclusively for the Eurosystem (no outsourcing of even part of the technical/operational/supervision tasks related to validation and recording), and to cap outgoing payments to the amount of d€ available on the payer's d€ position at the time of the transaction. For end users who have opted for the reverse waterfall, a first transaction will need to be initiated, validated and recorded to top up the payer's d€ position (pulling CoBM from the bank account selected by the end user). This will need to be completed before the out-going payment can be processed. Since we recommend not to allow reverse waterfall to exceed the holding limit, to avoid unintentional overdraft of a d€ position as this may jeopardise the Eurosystem's liabilities, the end user interfaces run by the supervised intermediaries must not allow several transactions from a single d€ position to be processed at the same time. (See also AGE response to question about waterfall and reverse waterfall functionalities in the written procedure on funding/defunding functionalities)

BEUC response to ERPB written procedure on digital euro following ERPB technical session of 1st September 2022

Preliminary remarks

In its written comments following the technical session on 5th July, BEUC expressed preference for a distribution model based on an end-to-end solution. The ECB explained that the payment scheme solution was given priority. BEUC reiterates its concerns expressed on this option (see comments on 5th July meeting). To BEUC it is essential that the digital euro is designed to replicate the same characteristics of cash which ensures privacy by design and by default. From BEUC perspective, only a bearer instrument will allow for anonymous payments as explained in the comments following the meeting of 4th May 2022. The choice of the distribution model and the foundational design options in terms of privacy will determine whether the digital euro will bring an added value for consumers.

1. Funding and defunding functionalities

A key question from a consumer perspective will be the costs associated to funding and defunding:

- Will the funding and defunding be available free of charge for consumers?

If the payment scheme solution is chosen (i.e. distribution of the digital euro by commercial banks), similarly to cash where withdrawal at ATMs is no longer offered free of charge, consumers are likely to be exposed to costs for the funding and defunding. For commercial banks, it is in their interest to disincentivise the use of the digital euro as compared to payment solutions based on commercial money. This conflict of interest is likely to impact the cost structure i.e. higher costs to use the digital euro as compared to other payment solutions if costs and fees remain unregulated.

Functionalities of an online position

BEUC has expressed a strong preference for a bearer instrument instead of an account-based solution (see comments on meeting in May 2022). The presentation already foresees that for online transactions (e.g. e-Commerce, payments to government) only an account-based solution will be available. A bearer instrument is not presented as an option for online transactions despite the fact that technologically-wise it could be developed for online payments as well.

To ensure that all options remain open, it should be investigated how these functionalities can be implemented with a bearer instrument. From a consumer perspective, this has strong influence on whether the payment will be anonymous (bearer instrument) or whether transaction data will be available (account-based solution). If the account-based solution is chosen, the digital euro will look very similar to already existing payment options (credit transfer, card payment) and

will as a consequence lose one of its main added values from a consumer perspective, being privacy.

What are your views on the pure funding and defunding functionalities (manual and automatic)? And what are your views on the functionalities associated to a payment (waterfall and reverse waterfall)?

BEUC has reservations about the presented functionalities from a privacy perspective:

- Automatic transfers to a commercial bank account should be possible only if the consumer has given explicit consent to this kind of transaction. If the consumer rejects linking the digital euro account to a commercial bank account for privacy reasons, other solutions must be available to ensure that the payment transaction can go through: e.g. a negative interest rate applying above a certain ceiling paired with an immediate notification of the consumer so that he/she can manually transfer the money received to a commercial bank account/withdraw it in cash.

Funding and defunding should be convenient to use for consumers to make the digital euro an attractive payment options:

- With instant payments becoming the new normal, and soon to be regulated under EU law, funding and defunding functionalities must be available 24/7/365 basis and take place instantly. Regarding the comment on the transaction speed in the presentation, BEUC emphasises the importance of offering the digital euro as an instant payment solution similarly to cash.
- For manual funding, funding/defunding points must be easily accessible. A solution must be found allowing consumers without access to computer/mobile phone to easily charge their digital euro card.¹
- For both manual and automatic funding and defunding, a wide range of payment instruments (physical card, e-wallet on a computer/mobile phone) should be available to ensure digital inclusion;

What is your feedback regarding the options for funding and defunding the offline device?

BEUC thus strongly supports the functionality of peer-to-peer validated transactions and would like to see this functionality to be developed also for online transactions so that consumers can use it for all presented use cases including online payments. Any person or company with access to the payment transaction data of the consumer can learn a lot of information about their financial and personal life, for example about the consumer's political and religious affiliation, sexual orientation, health conditions, personal relationships etc. This is why privacy in the field of payments is a major issue for consumers and thus a requisite for a digital euro as an alternative to cash.

¹ This challenge represents some similarities with ATM availability for cash.

What are your views on the ease to implement such functionalities on your side?

To develop a digital euro with a strong added value for consumers ensuring namely financial inclusion and privacy, an innovative approach is needed. The investigation phase should be guided by these objectives and remain open to different options, for instance a bearer instrument for online transactions. Against this background, we would also like to raise our serious concerns about the decision of the ECB to outside the development of a prototype of the digital euro for e-commerce payments to Amazon. We have written together with the AGE Platform to the ECB to express our concerns (please find the letter attached hereto).

Roles in the processing of digital euro payments

What are your views on the digital euro payments processing flows and the roles of supervised intermediaries within them?

BEUC has already commented on the process flow in its comments related to the meeting on 5th July and would like to reiterate these comments here.

Do you see any issue in the Eurosystem central banks validating and recording transfers of its own liability (digital euro) while supervised intermediaries would take care of access/payment initiation/information and value-added services?

In view of a secure and risk-free payment instrument, BEUC supports ECB's views that the settlement of central bank money should be in the hands of the Eurosystem.

For the reasons expressed in the comments on the meeting of 5th July, BEUC prefers a solution where also the interaction with end-users is provided by central banks (i.e. creation of establishments dedicated to this activity which would be more or less subsidiaries of national central banks).

What would be your views on the Eurosystem's ability to have full reassurance that no mistakes outside its control will happen, during validation and recording, affecting its own balance sheet in case supervised intermediaries were to take care?

See reply to question above.



Digital euro
Funding and defunding functionalities
Roles in processing and settlement choices

EACB feedback to ECB

21/09/2022

About the EACB:

The **European Association of Co-operative Banks** ([EACB](https://www.eacb.coop)) is the voice of the co-operative banks in Europe. It represents, promotes and defends the common interests of its 27 member institutions and of co-operative banks in general. Co-operative banks form decentralised networks which are subject to banking as well as co-operative legislation. Democracy, transparency and proximity are the three key characteristics of the co-operative banks' business model. With 2,700 locally operating banks and 52,000 outlets co-operative banks are widely represented throughout the enlarged European Union, playing a major role in the financial and economic system. They have a long tradition in serving 214 million customers, mainly consumers, retailers and communities. The co-operative banks in Europe represent 85 million members and 705,000 employees and have a total average market share of about 20%.

For further details, please visit www.eacb.coop

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Introductory comments

The EACB welcomes the opportunity to provide input to the ECB on the roles in processing digital euro payments and settlement options as well as the funding and defunding functionalities for a digital euro, following third ERPB technical session on digital euro on 1 September 2022.

But before answering the consultation questions, it is worth reiterating our general position on a digital euro as several fundamental questions remain unanswered until now:

- In our view, the added value of a retail digital euro from a pure consumer perspective would be limited. Today's commercial banks' payment and account offer fulfils almost all needs already. With the implementation of Instant Payments the speed of SEPA payments increased drastically. Making payments is possible now at any time and the customer knows if the execution has been successful within seconds. For payments going outside the European Union SWIFT developed SWIFT GPI which allows also the real-time tracking of international payments. Another very customer friendly feature will be implemented with Request-to-Pay (RTP). Request-to-Pay will make the payment process for customers much more convenient and also bring essential advantages like better liquidity management for those sending the RTPs. For easy payments nearly all banks also implemented wallet solutions. Furthermore payment systems like IDEAL, Giropay or EPS are common in Europe which offer secure and convenient payment options for purchases on the internet. To increase financial inclusion the Basic Bank Account was introduced some years ago with a price limitation to allow also customers with very low income to open an account.
- For a retail digital euro to add value, it would have to be developed as a fully-fledged payment solution, this would, however, mean it would be an instrument that enters into competition with solutions of the private sector, lead to disintermediation of banks, a significant drop in commission income from offering payment services, and reduce the maturity transformation capacity of retail banks.
- Should a retail digital euro be launched, necessary safeguards need to be put in place to avoid the negative impacts on macro- and micro financial stability, deposits and funding costs of banks, and competition in payments market.
- Besides that, a digital euro should be introduced only if there is a strong business case. The business model for a digital euro should be market driven, transparent and competitive.

Funding and defunding functionalities

1. What are your views on the pure funding and defunding functionalities (manual and automatic)?

- Funding and defunding with cash would be very costly. Currently the cash service delivery is already costly. In our view, it must be possible to allow intermediaries to charge fees to users for this service, comparable to the current way of working with exchange of commercial bank money into cash or vice versa (ATM usage).



- In our view, it is not possible for the unbanked to use commercial bank money (also not in the manual one). So for them the only option is cash. We do not see how to deliver services to unbanked people for digital euro, because we do not have enough information to execute the mentioned pre-settlement activities as mentioned in the ECB's Annex slides, such as AML / CFT and fraud checks and end-user authorisation and authentication.
- The automatic funding and defunding are doable. But it depends on the detailed requirements and options around limits, thresholds, number of accounts, etc. It could improve the customer journey because all is done automatically. Adding multiple options to avoid the use of the linked commercial bank account balance adds more complexity and costs for the intermediary, but also risk and potential investigations if something goes different than the account holder expected.
- In our opinion, for end user questions about funding would be very difficult.
- How would the end user always know the account balance?
- Which intermediary would be responsible for automatic funding? How should onboarding work from a customer perspective? What about usage of more than one intermediary at the same time, e.g. more than one online wallet per user?

2. What are your views on the functionalities associated to a payment (waterfall and reverse waterfall)?

- These functionalities require always a single account with a commercial bank. Does this mean that using digital euro implies that every digital euro account has a linked commercial bank account? Would it be possible to link one digital euro account to multiple commercial bank accounts because it is stated that the ECB aims for one digital euro account per citizen? Or does every linked digital euro account have one commercial bank account, which also means one intermediary per digital euro account. Or should it be a multi-intermediary and multi-digital euro-account-relation?
- Waterfall and reverse waterfall could be useful functionalities for customers. But banks provide many payment products. Not only credit transfer, but also direct debit, debit card, credit card, etc. Let us assume a client receives a direct debit request for his/her newspaper subscription. Would s/he want that the direct debit takes place if the balance of digital euro holding is below the direct debit amount? Maybe not.
- With waterfall and reverse waterfall options the cap on digital euro holdings could be very low, because each amount of digital euro transactions could be processed (within the limits of the linked account). But does the ECB also foresee a cap on transaction limit? In case every payment can be done via digital euro, it could impact the revenues of banks when the fees for digital euro are lower (or zero) than the current transaction fees. With waterfall and reverse waterfall options, a digital euro account would be similar to current accounts and would directly compete with commercial banks. Furthermore, the retail digital euro would at the same time become a wholesale digital euro for settlement under the user's control and would create much more than one additional infrastructure next to the existing private or the ECB infrastructures and would lead to additional costs for the economy. This raises several fundamental questions beyond funding and defunding.



- Furthermore, not only the green cases need to be kept in mind. How should the defunding work if a commercial bank money account is closed? Would a commercial bank account closure mean closing the digital euro account too? How should the deregistering of the reference account work? How will the ECB know that the intermediary is not responsible anymore for defunding if a payment arrives?
- How to deal with holding limit changes? Would a limit decrease immediately lead to a responsibility for defunding? And whose responsibility would that be? Should the intermediaries be responsible to track the balance of the digital euro account? It should be stressed that the EACB is in favour of low and strict holding limits set by law, which could not be easily changed e.g. in times of financial crisis.

3. What is your feedback regarding the options for funding and defunding the offline device?

- In our opinion, funding and defunding offline is possible (ECB slide 12). The ECB reasoning only applies when both devices (payer and payee) are offline. In case at least one device is online, the one online could do the funding/defunding for the offline device.
- Furthermore, when both devices are offline:
 - either the linked CoBM accounts could be used offline and used for funding/defunding.
 - or a running offline balance could be also applied with some (higher) limits to enable full functionality especially in crisis mode (blackouts, catastrophes, etc.).
 - not to circumvent limit structures and furthermore AML, payments maybe need to be declined, like today with cash if receiving "more coins than able to be carried."
 - Warnings as a wallet function and distinction between holding limit and receiving limit could be an additional helpful feature. Example with a holding limit of EUR 500: the user could get warnings if holding is higher than 75% of limit to get online and defund. Or another option: holding limit is EUR 500 but receiving a one-time additional payment of up to e.g. EUR 750 is possible, like a "last transaction possible" with an additional limit.

4. What are your views on the ease to implement such functionalities on your side?

- Implementation of the automatic funding and defunding is strongly dependent on the detailed requirements and complete scope of the digital euro. This is not a standalone issue; all the other elements have to be taken into consideration. It is important to ensure that the digital euro and its various functionalities do not result in losing deposits, unclear responsibilities (e.g. more than one intermediary with the same citizen), additional liability, high costs and decreased revenues for intermediaries.

Roles in processing and settlement choices



1. What are your views on the digital euro payments processing flows and the roles of supervised intermediaries within them?

- Part of the process is the KYC activities. Based on the funding and defunding part it looks like that an account with an intermediary is necessary. If that is the case, we assume that customer only wants to open a digital euro account via the intermediary of the (to be) linked account. This means that the KYC process has already been carried out. In case there is no customer relationship, KYC activities should be limited, until there is confirmation that the customer is allowed to open a digital euro account (does not exceed the limit of number of accounts) before executing all the other KYC related activities. But commercial-wise spending on KYC activities to a non-(potential) customer is not logical. There may be additional topics, depending on the ECB processes and household data needed to prevent circumvention of any kind of limitation methodology.
- Pre-Settlement/Authentication is necessary also for the payee, not only the payer (ECB slide 8).
- User-initiated change, exit and removal flows are missing (ECB slide 6 on user management). Also, if person would pass away, who could initiate these flows?
- In general, a reference to the EU eID initiative would be far-sighted and helpful.

2. Do you see any issue in the Eurosystem central banks validating and recording transfers of its own liability (digital euro) while supervised intermediaries would take care of access/payment initiation/information and value-added services?

- The intermediary of the payer has to deliver among others the intermediary identifier. Where would the relations account identifier and intermediary identifier primarily be stored and how could an intermediary get those data (compare to IBAN only routing in SEPA)?
- Which data would be part of the notification from the Eurosystem to the intermediaries? How would the data needed be in line with privacy requirements?
- In case of interest on digital euro holdings, who would be calculating the amount and initiating the payment to pay or debit the interest (on the digital euro account of maybe another one – choice of the account holder)? How is it by the way possible to use interest in compliance with privacy rules?
- Clarification is needed regarding a use case where the validation and recording is done by Eurosystem central banks: A digital euro account holder receives or has to pay a digital euro amount above his/her actual digital euro limit / below balance. The waterfall and reverse waterfall option is there (automatic funding or defunding principle). How is this possible?

3. What would be your views on the Eurosystem's ability to have full reassurance that no mistakes outside its control will happen, during validation and recording, affecting its own balance sheet in case supervised intermediaries were to take care?

- The distinction between the roles and pre-validation, settlement and post-settlement paired with liability is the most complex way of interaction. Without a lot more information on a deeper technological and conceptual level it is impossible to answer this question.



4. What would be your views on the cost dimension of different settlement model options–i.e. Eurosystem providing a single shared component vs. supervised intermediaries building their own validation and/or recording systems adhering to standards set by the Eurosystem?

- It is too early to answer this question. It could be that when both validating and recording are done by the Eurosystem, is cheaper for banks, but not necessarily. Banks would have to connect with the Eurosystem, change their current processes with other current accounts (there banks are doing both activities), at least as the ECB slides with the distinction between account management system and booking system are mostly only theoretical and only known in credit cards space, working in a fully different way, than with accounts.

Brussels, 22 September 2022

ERPB written procedure on digital euro funding and de-funding and settlement models

22 September 2022

EBF Response to ERPB Written Procedure Digital Euro Funding and De-Funding and Settlement Models

1. What are your views on the pure funding and defunding functionalities (manual and automatic)?

The functionalities identified are comprehensive and seem to cover all the potential (de)funding needs of users. Nevertheless, the implementation of these functionalities will depend strongly on the overall model finally decided by the Eurosystem and specific aspects, such as role of intermediaries, AML/CFT checks, number of digital Euro positions per citizen/ business, etc. In addition, most of these functionalities depend on the availability of a service that allows an intermediary to check the digital euros that a specific user holds at a given moment and the efficiency and reliability of this service.

Any funding/defunding functionality of a digital euro must be compliant with existing regulatory obligations that are applicable to all other payment solutions. The digital euro should not be subject to a preferential regulatory treatment.

In general, we agree with the ECB's basic ideas on making funding and defunding the digital euro wallet as easy and as automated as possible, while also enabling intermediaries to offer additional services. To optimise the digital euro's use mainly as means of payment (instead of store of value), any automatic funding/ defunding is preferred from commercial bank point of view. It is important to note however, that in our view for any of those functionalities to work in a seamless, safe and resilient manner, a commercial bank account needs to be connected with the digital euro wallet at all times. Automatic funding requires a connection to a source of liquidity in commercial bank money and waterfall approaches are not feasible without this connection.

However, we strongly feel that cash funding/defunding needs further analysis. Any funding or defunding functionality that involves cash entails a high level of additional complexity, cost and burden. It is not clear how it would be possible to purely convert cash into digital euros without the involvement of a payment account. On a more general level, we wonder whether an unbanked person can remain unbanked and own digital euro, because any funding/defunding action would imply a contact/relationship with a regulated intermediary for the performance of the AML/CFT/KYC checks. Additionally, continuous (24/7/365) funding through cash is not appropriate i.e., this key requirement of the Eurosystem should only apply to digital funding procedures.

2. What are your views on the functionalities associated to a payment (waterfall and reverse waterfall)?

We see the automated waterfall functionality (automatic defunding for post-transaction amounts exceeding holding limit) as crucial in terms of effectively implementing a holding limit for the digital euro. A holding limit is a foundational requirement in support of the financial and monetary stability as it prevents uncontrolled deposit outflows into the digital euro. From an end user perspective, especially for merchants receiving a lot of digital euro payments, automated defunding back into their connected commercial bank money account is important.

While the reverse waterfall functionality (automatic funding for amount exceeding current digital euro funds) is not mandatory, it is an important aspect for users and will make the digital euro much easier to use in day-to-day transactions.

3. What is your feedback regarding the options for funding and defunding the offline device?

In general, we believe that funding and defunding is basically only possible when a device is online or connected to an online ATM. If a device malfunctions and cannot be brought back online, there must be processes to either defund the device at a bank branch or at specific ATMs with a technical module being able to communicate/read the offline device. We support that in general two devices could be offline and still be able to make basic transactions, which is important to make the digital euro resilient also in times of network outages among others. However, we agree that the (de)funding of offline devices has to be done online to ensure the digital euro in circulation is accurately known at each moment. The offline devices would need to be online at specific intervals to run background checks to make sure no fraudulent operations were executed on the device. As any offline transaction bears a much higher risk of fraud, it needs to be also analysed how high the maximum level for offline transaction amounts and offline transaction volume should be until an online connection is required (the wallet could go into lock state until then). There should be an upper limit for offline usage of the digital euro that should differ from the cap on holdings. In this context, the conclusion drawn from the analysis conducted by the workstream 4 of the Eurosystem experimentation (Research workstream on hardware bearer instrument, conducted by the Bundesbank) should be kept in mind. The work concluded that the state-of-the-art technology is not able to perform an indefinitely long chain of consecutive offline payments in a secure way (i.e., ensuring that no double spending of funds occurs).

In the offline mode it should be foreseen to work with intelligent tokens with holding limits and transactional limits as well as a time restriction forcing the end user to go online after a set period. This will guarantee a clear view on the total amount of digital euros in the economy.

While the transaction requiring automatic defunding (waterfall) could in theory be processed also on an offline device with the exceeding digital euro amount being blocked and defunded when back online again, transactions requiring automatic funding (reverse waterfall) could only be processed while the device is online. In this case, the blocked amount cannot be used for payments, but must be unblocked only with a waterfall (transfer towards a linked source of liquidity). Otherwise the cap on holdings could be circumvented via a series of offline payments.

Further, if the offline device is targeted for catering the needs of unbanked people, for cost and organisational reasons, it is very difficult to imagine that an offline device could be funded/defunded 24/7/365 at the premises/ATM of an intermediary. As mentioned above, cash funding cannot be performed 24/7/365. Only online funding with commercial bank money could be possible, and therefore it would presuppose that a payment account exists in the name of the holder.

It would be essential to understand the AML/CTF rules that would apply to offline devices and any additional checks that would have to be performed in connection to funding and defunding. Finally, considering the possibility to defund via cash, it is fundamental to assess if this option would undertake higher AML/CTF risks.

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4. What are your views on the ease to implement such functionalities on your side?

Implementing all the above-mentioned funding and defunding functionalities in a safe and resilient way, also taking into account measures to prevent money laundering and fraud as well as digital, automatic and personal customer support point in terms malfunction or potential loss of devices, will mean significant investments for intermediaries into an entirely new infrastructure. Technical solutions should be identified and developed in a strong partnership between the private sector and the Eurosystem, making the solutions in use easy to implement, understand and interoperable as well as lowering the investment costs for each individual intermediary.

As already said above, the implementation of these functionalities also depends on the availability of a service that allows an intermediary to check the digital euros a specific user holds at a given moment and the efficiency and reliability of this service as well as on other design decisions made by the Eurosystem.

The key aspects needed in order to assess the ease of implementation are:

- Whether each individual and business will have only one digital euro position at the Eurosystem
- What is the relationship between an individual position, the tool with which the digital euros are made available (account, wallet, device) and the linked source(s) of liquidity in commercial bank money
- If/which/by whom/how limits are to be checked on the tools mentioned above
- Whether it is possible that a user has a payment account with one intermediary and a digital euro account/wallet/device provided by another intermediary. In this case the time, organisation and security required for funding/defunding as well as for the waterfall functionalities would likely be higher
- The flexibility and frequency of the users' choices
- Whether intermediaries would have to propose to the users an array of different payment instruments to fund/defund. In this respect, there is a clear preference for leaving this aspect to the market, depending on each intermediaries' customer base and vocation.

The implementation of the waterfall functionalities will depend strongly on the availability and features of the service to check all the digital euro holdings of a specific user while implementing automatic functionalities will depend on the complexity of the events and the frequency to be considered for triggering a (de)funding.

Please also consider the answer provided to the question n.3 regarding offline functionalities.

5. What are your views on the digital euro payments processing flows and the roles of supervised intermediaries within them?

The building blocks of the processing flows and each process steps are reasonable in general. Clearly the details of each step deserve analysis and may have implications for several other processes, and more importantly for the overall role of the supervised intermediaries, which cannot be assessed only on the basis of the descriptions under each step. Therefore, this acknowledgement cannot be understood as a validation of the content of each step.

Also, the allocation of tasks between the Eurosystem and the intermediaries takes into account the strengths and experience of each party. For instance, the Eurosystem is in charge of settlement validation and recording, and authorisation and supervision of intermediaries, tasks that it already undertakes in TARGET2 or TIPS.

Nevertheless, some clarification on the following topics is needed:

- Role of the Eurosystem in post-settlement activities: from our point of view, intermediaries should be always in charge of the interaction with payers and payees and, therefore, this activity should be exclusively undertaken by intermediaries.
- Check of limits: the ECB presentation only includes a building block in the user management flow that hints that the repository operator will have information on the of digital euro accounts and wallets each user has. It should be clarified who the repository operator would be and whether it will also hold balance information and which mechanisms will be implemented to allow these checks to be performed. In order to ensure a high degree of privacy and avoid an excessive concentration of the process in a single party, we think that this repository should be implemented and kept separated from the settlement infrastructure as well as have its own rules and operator.
- User wallets and sources of liquidity: for waterfall (de)funding to function, wallets shall be automatically linked to a liquidity source that can be debited/credited in case a transaction amount exceeds the wallet balance or the holding limits. It should be made clear that a same source of liquidity can be linked to more than one wallet and that linking wallets to a source of liquidity is an optional feature and not a mandatory one.
- It appears necessary that exception handling should also extend to the settlement validation phase, for any misalignment that may occur there. Therefore at least settlement option 1 may require the Eurosystem to handle part of the exception processing.

6. Do you see any issue in the Eurosystem central banks validating and recording transfers of its own liability (digital euro) while supervised intermediaries would take care of access/payment initiation/information and value-added services?

We note that the ECB expresses a clear preference for a highly centralised validation and settlement model. Generally speaking, this repartition of roles corresponds to the concept of central bank money, and the fact that the Eurosystem is responsible for its own liabilities. However, we see several crucial points, which at least cover the following aspects, which we expect the Eurosystem to duly consider and illustrate:

- Scalability, performance, operational risk and resilience: especially with regards to the “validation function” we question whether a highly centralised model (even though shared among NCBs) is a good choice in terms of the mentioned items.
- Maintaining control over its balance sheet: achieving full transparency over the amount in circulation, even differentiated between “real” circulation and intermediary’s holdings, could also be achieved in a more decentralised model. By comparison, transparency for the Eurosystem would always be much higher than in the case of physical cash.
- Efficiency: a continuous settlement of central bank money could raise operating costs for both the Eurosystem and intermediaries.
- Prudential framework and governance: a highly centralised approach could be in conflict with both legal and supervisory principles that aim at addressing commercial and operational adverse effects resulting from a concentration of tasks, such as: Commission Delegated Regulation (EU) 2018/72 regarding card payments and the separation of scheme and processing, or the potential conflict of interests

resulting from a single body both managing and overseeing a payment infrastructure as discussed in the CPMI-IOSCO PFMI.

- Whatever the settlement option, the construction would be very burdensome in terms of investment in infrastructure and security: each and every transaction, including those that today qualify as “on us” will have to be transferred to the Eurosystem and back to the supervised intermediary; in addition, in options 2 and 3, increased security requirements and liabilities vis-a-vis the Eurosystem would be put on intermediaries. All in all, option 1 appears to balance better the performance of functions with responsibilities for and control of central bank money issuance.
- Privacy concerns could arise by the fact that information sent for validation and settlement are sent to the Eurosystem: advanced methods should be devised so as to simultaneously protect privacy and allow intermediaries to fully perform their role and be able to build services on top of the settlement phase in an effective manner, exactly as they do today. A different perspective that deserves to be taken into consideration is the possibility for users to trust the level of privacy deployed at technical level when each transaction is recorded at the Eurosystem: even though sophisticated techniques may solve the problem, the perception of the end user may remain different and this is also relevant.
- Another key point of attention is about communication to, and perception of, users and intermediaries’ liability and reputation: if a part of the very complex process flow does not work properly for whatever reason, and specifically the part which is in the hands of the Eurosystem, the user will always have the intermediaries as “first port of call” (and probably “unique port of call”) and will blame them for any friction or mistake concerning digital euro holdings/funding and defunding/settlement. Today any delay or issues in Target services impinges on participants but is more or less transparent to users, certainly it is transparent to the general public. With digital euro this might not be the case, and any issues will be directly perceived by the general public and have reputational repercussions. The intermediaries shall not be “blamed” for processes that are not under their full control just because the users have their relationship only with them. The three settlement options should be gauged also in this perspective.

Without prejudice to a definitive preference for a distinct model, we ask for a more profound analysis taking all relevant factors into consideration.

7. What would be your views on the Eurosystem’s ability to have full reassurance that no mistakes outside its control will happen, during validation and recording, affecting its own balance sheet in case supervised intermediaries were to take care?

In any event, intermediaries will have to respond for any error made as a result of a wrong action in the same way as they do today when they execute or process a payment incorrectly.

Indeed, payment services in the EU, whether executed in public-owned payment infrastructures or in private ones, are currently highly resilient thanks to the wide range of regulations setting operational and security requirements and the deep expertise of market players in offering services meeting those requirements and beyond.

Therefore, in order to reduce the likelihood of intermediaries to make mistakes, the digital euro should be subject to similar security and operational resilience requirements as any other payment service currently available.

8. What would be your views on the cost dimension of different settlement model options –i.e. Eurosystem providing a single shared component vs. supervised intermediaries building their own validation and/or recording systems adhering to standards set by the Eurosystem?

It is difficult to think of the cost dimension of the different options irrespective of the technology, as it is mentioned in a footnote, and without any detail on the assumptions for the infrastructure. We wonder whether technology could influence the degree of implementation difficulties that one or the other options might involve and whether a DLT-based system could imply different roles. Therefore we suggest that each model is thought in association with different technologies to prove which model appears to be more feasible/less costly.

In general, the set-up costs will depend on the ability to adapt existing technical elements and infrastructures for the operation of the digital euro infrastructure. Moreover, in order to ensure the development of efficient processing mechanisms, competition in these activities should be promoted by the Eurosystem.

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About EBF

The European Banking Federation is the voice of the European banking sector, bringing together national banking associations from across Europe. The federation is committed to a thriving European economy that is underpinned by a stable, secure, and inclusive financial ecosystem, and to a flourishing society where financing is available to

Distribution model for a digital euro – EDPIA feedback to the ECB following the 3rd ERPB technical session on the digital euro held on 01/09/2022

22 September 2022

FUNDING & DEFUNDING

1. What are your views on the pure funding and defunding functionalities (manual & automatic)?

The funding and defunding functionalities seem fit-for-purpose to ensure a convenient user experience in common cases.

At the same time, additional clarifications are needed around the overall model:

- It remains at this stage unclear whether the digital euro will flow directly from central bank to the end-users or whether the system will involve intermediaries;
- If intermediaries are involved, two further areas should be clarified:
 - o A role for debit or credit cards should be thought of as funding relying only on bank accounts excludes payment service providers' from providing services.
 - o A role for ATMs should be thought of to fund digital wallets as it could help extend the access to individuals who do not have access to the banking system.

EDPIA also suggests to design and implement a funding source selection process allowing users a simple experience.

2. What are your views on the functionalities associated to a payment (waterfall & reverse waterfall)?

EDPIA here would like to raise the question of whether there is a solution for individuals and entities which do not have access to the banking system.

EDPIA representatives would also point out that waterfall and reverse waterfall are services that could be provided by the private sector aiming at, among others, frictionless flows and limited actions (e.g. via automation) to boost usage

3. What is your feedback regarding the options for funding & defunding the offline device?

Devices need to be synchronized on a regular basis, e.g. to prevent the risk of fraud/counterfeiting, whilst user experience must remain convenient and secure.

EDPIA suggests not prioritizing fully offline devices.



4. What are your views on the ease to implement such functionalities on your side?

EDPIA believes that if the account is held at central bank level, there should be no issue for payment service providers to offer online functionalities and exploit market best practice.

There would however need to be further clarification around the management of data involved in the transactions.

ROLES IN THE PROCESSING OF DIGITAL EURO PAYMENTS

5. What are your views on the digital euro payments processing flows and the roles of supervised intermediaries within them?

To address possible concerns from certain Member States, the process of opening an account/wallet at the central bank should be structured so that the eurosystem has no visibility of the association between account/wallet and citizen identity.

EDPIA believes in the importance of setting rules and responsibilities allowing the highest standards of performances the processing of digital euro payments, at any time and under any condition (e.g. peaks and blackout included).

EDPIA would like for example to raise the question of the technical challenges that come with maintaining a single central ledger for around 350 million Eurozone area citizens and millions more of Eurozone area merchants. This could notably raise issues on transactions around peak times of the year. An alternative could be to have a Tier-1 infrastructure held by the ECB and accessed by intermediaries. Intermediaries are then to provide a Tier2 privately held infrastructure where end-users are connected. Of course, while Tier-2 adds scalability, EDPIA does recognize the complexity in transactions between end users of different intermediaries.

6. Do you see any issue in the Eurosystem central banks validating and recording transfers of its own liability (dEuro) while supervised intermediaries would take care of access/payment initiation/information and value-added services?

EDPIA believes that leaving pre-settlement activities to intermediaries is a sharable way forward, allowing them to invest on offering to boost adoption and scalability.

In this scenario, EDPIA would like to raise the question on how to deal with end-users who hold several accounts while the digital euro holding limit is individual.

7. What would be your views on the Eurosystem's ability to have full reassurance that no mistakes outside its control will happen, during validation and recording, affecting its own balance sheet in case supervised intermediaries were to take care?

If intermediaries are to take the settlement role, they need to implement a set of rules and tools to ensure and monitor that the transactions are properly executed.

Issues to take into account:

- For offline transactions, checks are to be done when money comes back online to ensure no counterfeiting/fraud. In the same way that bank notes have serial numbers, it could make sense that offline digital currency should integrate a means of identification, e.g. Tokens with unique identifiers).
- Intermediaries should report on exceptions and the unique identifiers of offline money.



8. What would be your views on the cost dimensions of different settlement model options – i.e. Eurosystem providing a single shared component vs. supervised intermediaries building their own validation and/or recording systems adhering to standards set by the Eurosystem?

EDPIA recommends having mixed governance to manage the cost dimension of the different settlement options.

EDPIA suggests a system whereby supervised intermediaries compete and offer the market privately held infrastructures bringing the necessary efficiency and reduction of cost to the market.

From: EMA

Subject: EMA response to Eurosystem presentation of the 1st of September on the Roles in processing of digital euro payments and settlement choices

Date: 22 September 2022

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1. The EMA values engagement with the Digital Euro team, and the opportunity to provide feedback on the proposed digital euro product proposition. We have set out below feedback on the latest technical session of the 1st of September, addressing roles in the processing of digital euro payments and alternatives for the settlement of payments.
 2. Whilst the presentation discussed the merits of the alternative payment structures, we have chosen to focus on the impact of the models on the electronic money and payment institution (EMI & PI) sectors, as the proposed approach, irrespective of the role of the different parties, appears to exclude EMIs and PIs from participating as supervised intermediaries.
 3. This is because, supervised intermediaries are required to purchase digital euro using central bank accounts that they hold with the Eurosystem and EMIs and PIs, as a consequence of the narrow provisions of the Settlement Finality Directive (Directive 98/26/EC), appear to be excluded from access to these accounts. We would be grateful for further information on this issue, with a view to finding a means of resolving this issue.
 4. We wonder if other arrangements might be contemplated for the DE product, which may not have the same outcome for EMIs and PIs.
 5. This brings us onto issues related to competition; all of which are likely to contribute to a better outcome if addressed as part of the product development process.. These relate to competition within the PSP sector on the one hand, and to competitive factors more generally on the other. The latter will inexorably arise when implementing a new payment product that operates within an existing market place.
 6. Unlike cash which has limited competition in its own sphere, the DE will compete in a busy electronic payment market place that is already crowded with competing products that seek to meet user needs whilst operating within a viable business case.
 7. We have set out below some of the facets of competition issues that will arise which, we believe, warrant consideration and are sufficiently significant to merit the development of a competition work stream comprising principles that will be adhered to, and which will be referred to as the project evolves.
 8. The competitive issues include the following:
 - The possible substitution of the DE for existing and future privately issued payment products
 - The opportunity cost for industry in investing in the DE infrastructure for PSPs, both in terms of financial and human resources. These will necessarily be resources that cannot be deployed into the existing or new business ventures.

- The absolute cost of participation and the extent to which different PSPs will be able to meet the cost and in the given timescales.
- The extent of the functionality that will be proscribed, and which PSPs will have to offer, and how these will match the needs of their customers.
- The extent of the functionality also has an impact on the degree of innovation that will be part of the product and of the business of the PSPs.
- The relative roles of different PSPs, credit institutions versus other PSPs, ensuring a level playing field.
- The manner in which the product design could favour some technologies over others, and hence participation by different stakeholders
- The impact of Eurosystem priorities that may be driven by strategic objectives on the payments marketplace.
- The role of the ECB as a payment service provider, having potentially conflicting interests related to the ECB's objective of successfully delivering on its arguably most high-profile and prominent project to successfully introduce the DE product on the one hand, and, on the other hand, its strengthened responsibilities – given the implementation of the PISA framework - , for the oversight of Euro-area payment systems and arrangements.

9. We believe that a standalone function whose purpose would be to address these and other competitive issues would add to the effectiveness of the project and further ensure its success.

Thank you for the opportunity to make this submission and we hope we can engage with the DE team on these issues.



3rd ERPB technical session on a digital euro

ESBG input on funding and defunding and on the role in the processing of digital payments

ESBG welcomes the opportunity to provide feedback to the ECB on the funding and defunding and on the role in the processing of digital payments for a digital euro the Digital euro project team is considering.

Funding and defunding

1. What are your views on the pure funding and defunding functionalities (manual and automatic)?

Both solutions would be possible. However, we believe much depends on whether the accounts in digital euro will be linked to a 'regular' bank account. Indeed, if this were not the case, an automatic funding/defunding functionality would not be possible. In addition, it would depend on whether the accounts/token have an offline functionality.

2. What are your views on the functionalities associated to a payment (waterfall and reverse waterfall)?

As a preliminary remark, these functionalities can only work if the digital euro account is linked to a 'regular' bank account, as otherwise there would be no means to convert the digital euro in commercial bank money and vice versa. We consider the waterfall and reverse waterfall mechanism as a crucial tool to manage the amount of digital euro in circulation. However, we strongly believe that these mechanisms should be accompanied by a fixed limit to individual holdings of digital euro. These functionalities would also strengthen the link with bank accounts and thus enhance the role of intermediaries. Moreover, ensuring a (reverse) waterfall mechanism would also help the uptake of a digital euro for retail payments.

However, it can be a complex solution if users hold more than a wallet in different supervised entities and even more if the waterfall features of each wallet are different.



Overall, we are of the view that these mechanisms should be considered as 'premium' services that banks can implement on a competitive basis. Therefore, the related rules could be diversified depending on basic/advanced use cases.

3. What is your feedback regarding the options for funding and defunding the offline device?

It should be noted that offline transactions bear a much higher risk of fraud. Therefore, it should be set a lower limit for offline transaction until an online connection is required (the wallet could go into lock state until then) in order to ensure the digital euro in circulation is accurately known at each moment. In the offline mode it should be foreseen to work with intelligent tokens with holding limits and transactional limits as well as a time restriction forcing the end user to go online after a set period. This will guarantee a clear view on the total amount of digital euros in the economy.

It would be essential to understand the AML/CTF rules that would apply to offline devices and any additional checks that would have to be performed in connection to funding and defunding, especially if these devices are designed to be always offline.

4. What are your views on the ease to implement such functionalities on your side?

In general, it seems that implementing a manual funding/defunding mechanism is less complex than implementing waterfall and reverse waterfall mechanisms. The implementation of the waterfall functionalities will depend strongly on the availability and features of the service to check all the digital euro holdings of a specific user while implementing automatic functionalities will depend on the complexity of the events to be considered for triggering a (de)funding. The development of these functionalities should be optional for supervised intermediaries. Therefore, it should be considered as a premium service offered by the intermediary.

Roles in the processing of digital euro payments

5. What are your views on the digital euro payments processing flows and the roles of supervised intermediaries within them?

Before answering this question, we would welcome more clarity, especially on the concrete decentralisation envisaged by the Eurosystem.



Nevertheless, we consider that:

- Supervised intermediaries should be always in charge of the interaction with payers and payees; and
- There should be a central repository if the user can have more than a digital euro wallet / account in different supervised intermediaries, in order to check if a payment would exceed the holding limit would be needed.

Moreover, the liability framework should be clearly regulated. This especially considering that the payment in digital euro will be final and non-reversible. Without a clear liability regime, the uptake of digital euro in e-commerce will be very low. In this respect, we consider the list of roles within the ecosystem should be enhanced to deal with fraudsters.

6. Do you see any issue in the Eurosystem central banks validating and recording transfers of its own liability (digital euro) while supervised intermediaries would take care of access/payment initiation/information and value-added services?

We believe that issues related to scalability, performance, increased risk of having all transactions in one system should be properly assessed before coming to a conclusion.

7. What would be your views on the Eurosystem's ability to have full reassurance that no mistakes outside its control will happen, during validation and recording, affecting its own balance sheet in case supervised intermediaries were to take care?

Intermediaries are already responsible for mistakes made as a result of a wrong action, therefore the consequences could be similar. It should also be considered that the Eurosystem should put in place a system to correct those errors by removing the mistakenly 'issued' digital euro, in the same way it currently destroys soiled or damaged banknotes.

8. What would be your views on the cost dimension of different settlement model options - i.e. Eurosystem providing a single shared component vs. Supervised intermediaries building their own validation and/or recording systems adhering to standards set by the Eurosystem?



The operating costs will highly depend on the possibility to reuse existing technical elements and infrastructures for the operation of the digital euro infrastructure. Building from scratch a new payment infrastructure (e.g., based on blockchain technology) would definitely imply huge costs. Moreover, in order to ensure the development of efficient processing mechanisms, competition in these activities should be promoted by the Eurosystem.

Therefore, the cheapest and fastest option would be to make use of TARGET2 and/or TIPS for settlement purposes and to leave the processing of digital euro payment to (existing or new) CSMs and specialised payment processors.

**ETPPA response to
ERPB technical session #3 on a Digital Euro (questions from 1-Sep-2022)**

Once more, we would like to highlight our appreciation for the opportunity to participate in the ECB's design phase for the Digital Euro (D€) via the ERPB technical sessions and the possibility to provide written feedback. It is of essential importance for us to explain our preferences and to highlight any material issues for our sector of the industry.

As explained in our feedback to the first and second session, we are increasingly concerned about the extension of the format, scope and privacy impact of Central Bank Money (CeBM), which the ECB is suggesting. Our expectation was for the D€ to have a similar format (tokens in a wallet), a similar scope (P2P and POS payments), as well as similar privacy protections (anonymity) as the non-digital Euro, which everybody knows and loves. We can understand the monetary policy related rationale for the ECB's proposals, but they are in stark contrast to what we believe the public would be likely to adopt and in addition these have obvious potential to jeopardise the investments and growth of European payment solution providers into electronic payments based on private commercial bank- or e-money.

Many of these issues relate to the account-based approach the ECB seems to favour, because this results in a duplication of the existing account-based private money infrastructure. Apart from the resulting competition problem, consumers will find it rather confusing to then having two different, but similar accounts (current account and D€ account) and two different, but similar payment methods (SCT/Inst and D€ transfers).

The ECB's proposals on the subject of the third technical session (funding/de-funding and settlements) seem to aggravate our concerns as they appear to add further problems from our perspective. If we understand correctly, the distribution and funding/de-funding would require an ECB liquidity account, which is currently only available to credit institutions (CIs). As the ECB is not suggesting to change that at the same time, but just refers to the possibility of using indirect access instead, we would like to highlight that such indirect access for non-bank PSPs has been the source of numerous competition issues for many years already, and should certainly not be the starting point for the design of a new payment instrument. This situation of being "un(central)banked" must come to end and not get reinjected with new life.

This would be very disappointing even for those of our members, which are not PIs or EMIs, but pure TPPs, because they were looking forward to new opportunities around a token-based D€, for example in offering wallets or token management services, i.e. in becoming “WSPSPs” or “TSPSPs” rather than entering the crowded space of ASPSPs and all the legacy that comes with it. Moreover, it would be extremely attractive to then build their innovative value-added services directly on top of their own wallet/token services and thereby become more competitive with similarly bundled products of CIs.

Talking about bundling, the ECB’s suggestions for automatic funding and de-funding from linked accounts would not just allow, but force CIs into bundling their existing services with their new privileged position in the distribution of D€ giving them direct access to ECB D€ liquidity accounts. Non-bank PSPs would clearly be in a secondary position, if able at all, to play such an intermediary role.

Addressing the downsides of setting hard limits for the holding of D€ by such linking to commercial bank money accounts and then using the proposed “waterfall” and “reverse waterfall” processes to allow the spending and receiving of D€ above the set threshold, would result in an even less levelled playing field.

Additionally, one could easily imagine many security issues with such automatisms, which would be very difficult for the account holder to control. So far, losing a wallet was bad enough, but at least the damage was limited to the cash it contained. It would be much worse if a digital wallet would risk not just the D€ it contains, but the whole balance of the current account linked to it.

The ECB is correctly highlighting the importance of CeBM as the monetary anchor ensuring that a euro is a euro, and that people can trust their ability to exchange any type of euro (and any form factor) into another at any time, no matter whether it was privately or publicly issued. However, key to this is that a) private and public euros do not look the same, but have different form factors, b) that the holding of D€s is not limited in principle, and c) that there is no automatic conversion back (waterfall) into private bank euros when someone actually wants to use that monetary anchor (CeBM).

Hence, sustaining the monetary anchor function of central bank euros would require addressing these issues by a) keeping a different form factor of central bank euros, i.e. tokens in a wallet, and b) using tiered remuneration to discourage, but not forbid, the holding of too many D€s.

Furthermore, a token-based approach would also be of fundamental importance for the continuation of the acquiring/issuer ecosystem for electronic payments in retail commerce,

both online and in-store. Currently, CeBM maintains a monopoly position for the exchange of money peer-to-peer (C2C, B2B, C2B and B2C), which is well accepted around the world. Keeping that monopoly and in addition entering the space of account-based electronic payments, which is currently in the private domain would not just add unexpected competition there, but might jeopardise that private ecosystem altogether. This would be the case if the D€ shall be accepted everywhere, similar to cash today, which as you say is the ECB's intention, and which is of course very understandable. That would not be a problem if that acceptance remained based on the peer-to-peer exchange of tokens, because that does not interfere directly with the private ecosystem. An account-based D€, however, would interfere, and if it had to be accepted universally in addition, then this would undermine the acquirer/issuer business model for the following reasons:

In that business model, it is the merchant paying a fee to trigger the payment, either via a card or direct debit (pull) payment, or via requesting an account-to-account (A2A) credit transfer (push) payment via an A2A scheme, e.g. iDEAL, or a PSD2-licensed PISP. In all cases, this requires connectivity between the participating acquirers and issuers for making such an electronic payment work. Naturally, merchants can only accept a limited type of cards or A2A schemes or PISPs within this context. Payers without a card or account covered by the accepted options will not be able to pay electronically and will have to revert to cash in that case. The only way this could work electronically, is if not the merchant, but payers themselves would trigger that payment, e.g. by scanning a payee-presented QR-code containing the payload and the merchant's IBAN and then initiating a credit transfer (push) payment from their account to that of the merchant.

Hence, the only way to ensure that an account-based D€ would be accepted universally, no matter which bank and account it is coming from, would be to base it on payer-initiated (push) payments, which would not depend any more on the merchant's acceptance infrastructure and therefore bypass the current acquirer/issuer ecosystem. Only a token-based, peer-to-peer exchanged D€ would not have that impact if universal acceptance was desired.

Yet another fundamental reason for favouring a token-based D€ would be the potentially extraordinary innovation opportunities only available to the token variant, which we would miss out on otherwise. We believe that this would risk Europe falling behind other regions and leaving the door open to global players filling that gap and providing the most innovative services - once more - from non-EU territory.

The ECB's monetary policy objectives cannot be the only, and maybe not even the most decisive factors in designing the D€. Acceptance by payers and payees and the whole financial services

ecosystem should prevail and define at least the initial basic principles, which can then be fine-tuned to ensure that the most important monetary policies are respected.

Therefore, we would like to reiterate our view that for the reasons above, and for those described in our previous feedback, a Digital Euro should be designed along the following lines:

- 1) Focus on digital cash, i.e. tokens in a wallet - anything else would be hard to explain and create a myriad of competition issues
- 2) Anonymous up to legal limits and strong privacy thereafter
- 3) Bundle with EU Digital Wallets
- 4) Enforce low/no cost
- 5) Maximise usability, including offline use, and avoid any unnecessary friction

+++ END +++

EuroCommerce/Ecommerce Europe contribution to the ERPB technical session on the digital euro

Funding and defunding functionalities

What are your views on the pure funding and defunding functionalities (manual and automatic)?

The presented concept regarding manual or automatic funding and defunding functionalities appears logical and pragmatic at the same time. We understand that unbanked citizens will not be able to benefit from automatic funding capabilities but will only be able to manually convert physical cash into digital euro. Further information regarding how exactly such funding process (either automatic or manual) will look like in detail would be helpful to better understand the precise implication. It is unclear whether merchants will play a role in such conversion, similarly to cash-back services available already today.

What are your views on the functionalities associated to a payment (waterfall and reverse waterfall)?

From a merchant perspective, the presented concept of event-driven funding and defunding functionalities are greatly appreciated. The waterfall scenario will allow merchants to accept high-ticket items using digital euro in what appears to be a frictionless manner.

In order to be available across the eurozone, such mechanisms need to be supported by all intermediaries free of charge, for both private and commercial users of digital euro. Enabling such event-driven automatic (de)funding will have to be made available to users of the digital euro in a user-friendly and convenient way. It will be of great importance that the end-user will always be in control of enabling and disabling such waterfall funding mechanism in a transparent and easy way. It will be important to understand whether this service will be made available as a default service by the intermediaries to its customers, or whether end-users have to actively opt-in.

What is your feedback regarding the options for funding and defunding the offline device?

We do not have any major comments regarding funding and defunding offline devices. The presented content again appears logical and straight forward. We would appreciate harmonized rules in EU for offline and online limits with digital euro transactions.

What are your views on the ease to implement such functionalities on your side?

The heavy lifting sits with intermediaries who will provide the payment services to end users, linking consumers and corporates' current accounts to their digital euro account balances.

The ease of implementation on merchants' side will ultimately depend on the quality of service that will be provided by private intermediaries, offering digital euro payment services, including event-driven automatic funding and defunding functionalities. From an implementation point of view, merchants may need additional hardware and software to be able to accept digital euro payments at the POI. Already existing hardware may be used for the acceptance/initiation of digital euro payments. Single SDK and API for virtual and physical POI integration will be needed.

Operationally, merchants will have to be made available reporting and reconciliation tools, allowing them to uniquely identify each and every single transaction in the back-office. In a scenario where proceeds are settled in real time on merchants account in commercial bank money, line item reconciliation will be inevitable.

Roles in the processing of digital euro payments

What are your views on the digital euro payments processing flows and the roles of supervised intermediaries within them?

We support the proposed split of responsibility in the processing of transactions. We agree with the roles and responsibilities assigned to supervised intermediaries, both in user management process, as well as in transaction management process. A clear functional split in the roles also in the liquidity management process will be important.

Regarding the transaction management process, it will be important to understand whether pre- and post-settlement activities will be carried out strictly by supervised intermediaries or whether e-money institutions or Payment initiation service providers will have the possibility to participate. Furthermore, extra attention should be paid to exception handling flows – what scenarios are considered by the Eurosystem and how exactly does the Eurosystem foresee the split of roles and responsibilities for unhappy flows.

Do you see any issue in the Eurosystem central banks validating and recording transfers of its own liability (digital euro) while supervised intermediaries would take care of access/payment initiation/information and value-added services?

We do not see any issues with the proposed validation and recording carried out directly by the Eurosystem. We fully support the proposed split of responsibilities and follow the logic that for liability reasons only the Eurosystem may validate and record transfers on their own books. In addition, we believe that the proposed split may have the potential to strengthen the consumers' trust in digital euro payments.

What would be your views on the Eurosystem's ability to have full reassurance that no mistakes outside its control will happen, during validation and recording, affecting its own balance sheet in case supervised intermediaries were to take care?

We agree with the arguments brought forward by the Eurosystem's digital euro project team: the Eurosystem's ability of full reassurance cannot be guaranteed unless the settlement validation and recording are centralized. Adding unnecessary settlement and liquidity risks will impact the cost level to be recovered and therefore the business model of the digital euro. It will further negatively impact end-users' trust in the digital euro.

As explained, the Eurosystem already has in place infrastructure that will allow for such processes to be carried out. We therefore see no reasons why supervised intermediaries should be allowed to validate and record transactions on behalf of the Eurosystem.

What would be your views on the cost dimension of different settlement model options – i.e. Eurosystem providing a single shared component vs. supervised intermediaries building their own validation and/or recording systems adhering to standards set by the Eurosystem?

With the Eurosystem providing a single shared component for validation and recording, we estimate that basic payment services will be priced as close to 0 as possible. With TIPS already in place, the required infrastructure may be reutilized. Additionally, allowing *all* transactions to be validated and recorded within a single system will create substantial economies of scale.

Inversely, introducing validation and recording systems proprietary to supervised intermediaries appears to be inefficient, costly, while carrying a certain degree of risk. On the other hand, an active role of supervised intermediaries in such domain has potential to introduce competitive pressure on pricing over time. Timing will indeed be critical as supervised intermediaries will likely want to see a positive ROI in due time, which may be in direct conflict with the Eurosystem's ambition with respect to digital euro take-up.

The cost dimension of different settlement models is only one part of the total cost structure. As supervised intermediaries will play a critical role in providing standardized digital euro accounts/wallets solutions and seamless user-facing interfaces, the definition and setup of the technical and functional solutions as well as the related price structure for such service components should also be thoroughly oversighted to ensure End to End low costs, customer added values and market relevance.

In such scenario, it will be paramount the processes follow a predefined set of rules issued by the Eurosystem to guarantee interoperability.