

AGE Platform Europe feedback on the four elements presented at the technical session on 10 November 2022

### **Advanced functionalities: Cross-currency (item 3.1)**

- *Do you agree that the digital euro should prioritise first the needs of the domestic market?*

Yes, if 'domestic market' is understood as meaning the Euro Area. Since this was confirmed during the ECB exchange with consumers, we would like to recommend that the term 'Euro Area (EA)' is used on all slides and documents – instead of domestic market - to facilitate understanding by those who are consulted for the written procedure but do not participate in the technical sessions.

- *What is your view on the feasibility of facilitating remittances & e-commerce payments for cross-currency transactions?*

Since this will depend on the development of other CBDCs, this possibility should remain open for discussion in the future but the D€ should before all be developed for the EA and then open up to non-EA SEPA countries as soon as they develop their own CBDC.

Option 2 is currently presented as more realistic. Since some non-EA SEPA countries (Sweden, Denmark and Norway) are interested in joining TIPS to settle instant payments in their respective currency, and given that there are ongoing discussions on possibly reusing TIPS Dedicated Cash Account (DCA) to support the D€ 24/7 funding and defunding functionalities, we wonder if a shared single system (adaptation of TIPS) could be envisaged for cross-currency CBDC payments within the SEPA.

- *What challenges do you see in achieving cross-currency interoperability under the various use cases?*

On slide 8, the use cases on the left include X2G and G2X but in the right column (cross-currencies transaction), we do not understand why it is mentioned 'Not in scope for cross-currency'. Why leave aside cross-currency CBDC payments from and to public authorities? What about pension cross-border portability between EA countries and non-EA EU countries: citizens might wish their pension rights to be paid in cross-currency CBDC. It might also be handy for D€ holders to pay traffic fines, local taxes or TV taxes for a second residence in another CBDC, etc. ? The D€ should be developed also for use by public authorities at national and local level, including in cross-currency situations. Cross-currency transactions should not only be explored in P2P and C2B (and B2C for refunds), but also X2G and G2X as we can expect public authorities to be actively encouraged to accept and pay in digital public money in all countries as soon as they have launched their CBDC.

- *What obstacles do you see to the provision of cross-currency payments in digital euro? Which ones would the Eurosystem need to address concerning the provision of cross-currency payments in digital euro?*

As for any cross-currency payment, the issues of which conversion rate will apply and who will decide on potential conversion fees will arise. If conversion fees are applied by intermediaries, will they be optionally chargeable the payer or to the payee (depending on the specific use case)?

For the moment CoBM cross-currency payments of low value between EA and non-EA countries can be very costly to consumers even within the SEPA. This is a real problem faced by many consumers/workers involved in cross-borders activities. The D€ should try to bring a solution to enable residents in EU (SEPA?) non-EA countries to have access to cross-currency payments in CBDCs free of conversion fees or at least not more expensive than CoBM cross-currency SCT/SCTInst.

### 3.2 Programable payments

The questions on programable payments are too technical for end users. Below you will find some remarks and questions on the presentation and suggested programable payments.

- Presentation: We would like to share our deep concern about the first sentence of the conclusions presented on slide 13 : *“Supervised intermediaries know best the market dynamics and the needs of end users.”* The underlined wording sounds very paternalistic toward consumers who read it as meaning that their views are anecdotal and of no value in such discussions. We would like to recommend to the ECB to avoid using such sentences in presentations and documents as they do not bring anything to the discussion on the future D€/retail payments and give consumers the feeling that their consultation is tokenistic in ECB/ERPБ debates that are relevant for them. This would avoid raising undue concern among consumers consulted for the written procedure after each technical session.  
To support financial inclusion of vulnerable groups of consumers, we would like also to recommend that the 2<sup>nd</sup> focus group meeting with consumers should include some older (aged 65-79 y.) and very old (aged 80+) consumers or advocates.
- Proposed programable payments: we expect that some consumers may wish to make programable payments in D€ in the future but it is too early to have a clear idea on consumers' demand. We do not think that such functionality is essential and should be part of the basic D€ features that will be available to all when the D€ will be launched. If deployed later, programable payments should remain optional and easy to set/cancel by the payer. They should also not be indirectly imposed on consumers through marketing practice. At this very early stage we expect that the same use cases will apply to programable D€ payments as to programable low value payments currently made in CoBM.

### 4.1 Scheme access criteria and supervised intermediary distribution

From the beginning the ERPБ consumers representatives have indicated they would favour an end-to-end distribution model as being the one that will deliver best to consumers especially in terms of financial inclusion. Since the scheme approach was selected and the interface with end users is going to rely exclusively on commercial PSPs, it is logical to restrict access to the D€ scheme to all PSPs designated in the PSD2.

That said, we continue to fear that entrusting the D€ distribution and end user interface exclusively to commercial PSPs may lead to problems with onboarding of some applicants and an uneven consumer experience both within and across the EA. Below you will find several related questions for which we have not found answers yet:

- Is the aim of the chosen scheme approach that intermediaries will be expected to compete with each other through marketing the additional/innovative services they will develop around the D€, and to use their D€ offer to attract new clients?
- How will PSPs perform the KYC on potential applicants attracted by their D€ offer but about whom they know nothing since these applicants do not have/wish to have a bank account with them? Will this not lead to uneven onboarding consumers experience and/or financial exclusion within MS and across the EA?
- It is too early to know whether onboarding practices applied by intermediaries will ensure that all eligible applicants (fulfilling the AML/CFT rules) will be accepted by the intermediary they have chosen. We would like to know if intermediaries be able to select the D€ applicants based on their assessment of the applicant's interest in the additional (more lucrative) functionalities the PSP is offering?
- What measures will be put in place to guarantee that consumers will have the right to choose their supervised intermediary and not the other way around as this would lead to

financial exclusion if this is allowed even indirectly through untransparent KYC practices or marketing practices.

- What will happen if a PSP decides not to grant onboarding to a D€ applicant? Will the PSP be required to explain why to the rejected applicant? Will the rejected applicant have alternative options to open a D€?
- For inclusion purposes basic D€ account should be offered at no extra cost as an optional service to all basic bank accounts holders. This will be helpful for those who have access to a basic bank account but should not restrict their choice of intermediary. MS have not all implemented the PAD the same way. In some countries basic bank accounts are not mandatorily distributed by all banks but only accessible through one designated PSP which has a mandate of public interest.
- What will happen if an intermediary decides to stop their contract with a D€ account holder for whatever reason (PSPs have the right to unilaterally close customers' bank accounts without having to provide an explanation)? How will the D€ account holders continue to have access to their D€ until they can find another intermediary that accept them?
- Enabling funding/defunding of D€ in cash at ATMs/bank branches will be essential to support financial inclusion. PSD2 does not require PSPs to support access to cash nor to maintain face-to-face end users services. Yet for the D€ to deliver for all, it will be important to ensure that an efficient cash infrastructure and cash distribution network is maintained across the EA. This is also necessary to guarantee that both cash and offline D€ can be used as back-up in case of technical problems with other digital payments or power cuts. Will it be mandatory to all intermediaries to ensure access to ATMs/local branches or will they be free to only offer funding/defunding through digital means? Will measures be taken to ensure that end users willing to fund/defund their D€ holding with cash will not meet the same challenge that end users face to fund/defund their CoBM account due to the ongoing reduction of cash access points (cf. work done by the ECB on Cash and ERPB Report on access to and acceptance of cash)?
- What will happen if an intermediary goes bankrupt? Will their clients' D€ holdings be included in the 100.000€ capped deposit guarantee? Logically no because the liability for all D€ holdings will lie with the Eurosystem and, if we understood correctly, will not be registered in the PSP ledger. For customers, activating the deposit guarantee and being refunded can take some time. Meanwhile D€ account holders will need more than ever to be able to fund/defund their D€ holdings (which might be all liquidities some will still have). Provided they can still ask to change intermediary, it may take a while for another PSP to process their application (will a new KYC procedure be needed?) How can access to one's D€ be guaranteed until they find another intermediary that accept them? Will D€ account holders have the possibility to request to defund all their D€ holdings in cash at once through the NCB? How could this be organised if the intermediary is bankrupt, since the Eurosystem will not know who owns the D€ holdings managed by the failing PSP (this is information that only the intermediary will have)?

#### **4.2 Form factor options and delivery approach for the digital euro consumer interface**

We agree with the proposed approach for payment initiation through a harmonised and standardised technical interaction between payer and payee presented on slide 4. We also agree with the flexible form factor approach for authentication proposed on slide 7 provided that it will deliver a genuinely standardised authentication outcome and will not lower consumer protection.

Will the same SCA limits apply to D€ transactions as for CoBM transactions?

While QR and NFC are form factors worth exploring to facilitate UX, we would like to stress the urgency of addressing also the need of consumers who do not use smartphones and would like to be able to make transactions in D€ using a PIN card both at local POIs and for e-commerce purchases. Financial inclusion should be tackled from the very beginning of the discussion on form factors and not left for future development phases. For that reason we would like to strongly recommend to include Internet via introducing card PAN in the prioritised technologies for payment initiation since this technology is currently the most accessible one for many persons with disabilities and older persons.

If other form factors are developed to ensure financial inclusion of consumers with low digital skills, they should receive equal attention and prioritisation in the debates and be developed to ensure that D€ end users with functional limitations will have equal access to the D€ (the European Disability Act implementation deadline is June 2025).

We welcome the proposed simple app as this will be an easy-to-implement solution that will save lots of time and resources to intermediaries. All supervised intermediaries should be encouraged to use it to foster a consistent UX across the EA. It should be designed to be easy to connect with future optional functionalities that intermediaries may wish to develop to improve their D€ service offer.

### **Concluding remarks**

Finally we would like to raise the growing concerns we have about the way the D€ discussions are advancing. On the D€ webpage, the ECB stated: *“A digital euro would offer an electronic means of payment that anyone could use in the euro area. It would be secure and user-friendly, like cash is today. As central bank money issued by the ECB, it would be different from “private money”, but you could also use a card or a phone app to pay with digital euro.”*

These plain language sentences and in particular the underlined words were understood by older consumers as meaning that one of the main objective of the D€ is to support financial inclusion including of those who do not use a smartphone to pay. The D€ is also presented as being different from ‘private money’. This approach was very welcome by older consumers.

But the current discussions and options taken so far on the D€ have ignored consumers views on the distribution model, and it becomes difficult for consumers not to feel that the project is drifting away from its initial objectives of financial inclusion and developing a CBDC (public money) for all residing in the EA. As said earlier, consumers favoured an end-to-end distribution model to ensure that it would be inclusive-by-design. The more we advance in the debates, the more threat we see on financial inclusion, and we fear that dealing with inclusion as a separate strand toward the end of the project development process will be very challenging and counterproductive.

Financial inclusion issues should have been mainstreamed in all discussions and certainly before important decisions were made on some options which now might result (unintentionally) in financial exclusion. Trusting PSPs to know best end users’ needs is a wrong approach if the purpose is to develop a digital ‘public money’ payment instrument to offer citizens an alternative to CoBM. PSPs cannot speak on behalf of consumers on a proposal that will be competing with their own digital payment offer and which may lead to conflict of interest.

We therefore look forward to the upcoming call for applications to be involved in the development of the Rulebook on Governance where financial inclusion issues are expected to be addressed, hopefully not too late to achieve real progress for consumers with challenges.

## **BEUC response to ERPB written procedure on digital euro following ERPB technical session of 10<sup>th</sup> November 2022**

### 1. Advanced functionalities: Cross-currency

Do you agree that the digital euro should prioritise the needs of the domestic market?

Yes, most transactions issued/received by European consumers take place in the domestic market (= eurozone area). Therefore, priority should be given to developing a digital euro meeting the needs of EU consumers for domestic payments. This includes for instance the objectives of inclusiveness and privacy which should not be compromised when setting up interoperability models with third countries.

Given the characteristics of consumers' payment flows and the similarities in for example privacy law, other EU countries/EU Economic Area (e.g. Swedish eKrona) should be prioritised when selecting possible partners for cross-currency projects.

What is your view on the feasibility of facilitating remittances and e-commerce payments for cross-currency transactions?

On the possible use cases, from a consumer perspective, all three use cases mentioned in the slides (P2P, e-commerce but also paying a merchant outside the Euro Area) are relevant. Paying a merchant at the physical point of sale with currency conversion, should be part of the exploration as this is a relevant scenario e.g. journeys to another (EU) country and the digital euro could bring added value here by offering an alternative to the use of international card schemes.

When currency conversion takes place, the conversion rate must be transparent to the consumer.

What challenges do you see in achieving cross-currency interoperability under the various use cases?

Cross-currency interoperability requires common standards e.g. as regard the data protection requirements. One major challenge will be that other jurisdictions have lower requirements as regards data protection and privacy (*see for instance European Court of Justice cases Schrems I and II on the US-EU Safe Harbor Agreement and the EU/US Privacy Shield, respectively*). Where cross-currency interoperability is explored, the feasibility of achieving the same level of privacy for domestic and cross-currency payments should be carefully assessed at an early stage of the cooperation process.

There is also a use case for payments to public authorities abroad (e.g. paying a traffic fee or local taxes for consumers with a second residence, posted workers). This use case should not be excluded.

What obstacles do you see to the provision of cross-currency payments in digital euro?  
Which ones would the Eurosystem need to address concerning the provision of cross-currency payments in digital euro?

For credit transfers outside the SEPA area, consumers are usually exposed to fees. One possible obstacle for cross-currency payments in digital euro will therefore be the level of fees charged on consumers.

## 2. Programmable payments in digital euro

(= the ability to initiate a payment automatically when pre-defined conditions are met e.g. car paying the charging station automatically once battery is charged)

BEUC supports ECB in focusing on programmable payments and discard work on programmable money as this would indeed question the legal tender of the euro and be detrimental to the economic freedom of individuals.

Which key use cases do you see for programmable payment services in the area of retail?

BEUC did not come across strong use cases for consumer payments so far with the exemption of charging (electric) cars. The challenge is that the completion of conditions must be clearly measurable (i.e. has the service been completed to the consumer's satisfaction? / did the good arrive at the right destination?).

Whether/to what extent do you see a need for support to the market to provide programmable payment services (e.g. common standards, back-end settlement functionalities)

Programmable payments are so far not foreseen in the consumer protection framework for payments. For example, will they be considered to be a credit transfer or a direct debit when it comes to refund rules? BEUC supports the application of the refund rules of direct debit as similarly to direct debit, the payment transaction is not initiated by the consumer and therefore additional protection in terms of refund rights are needed.

In the absence of sound consumer protection, consumers will be reluctant to use them. With the automaticity of the payment transaction, consumers lose control over the payment which is particularly relevant in situations where the fulfilment of the conditions is disputable (has the service really been provided as foreseen in the contract?).

In addition, there needs to be strong safeguards that consumers are not nudged into programmable payments against their interest.

Which core capabilities could a back-end IT architecture for settlement of payments offer to facilitate programmable payment services?

BEUC supports ECB in its statement that higher cyber risks, personal data processing and overhead on settlement performance must be avoided.

### 3. Scheme access criteria and supervised intermediary distribution

BEUC questions why key objectives of the digital euro are not reflected in the access criteria, e.g. contributing to strategic autonomy and/or to financial inclusion. This should be reflected in the responsibilities for intermediaries if they wish to offer the digital euro. As regards financial inclusion, BEUC supports footnote no 6 on slide 7 saying that all intermediaries (i.e. all PSPs under PSD2) have to offer consumers access to a digital euro account with basic features, similar in nature to the basic services that credit institutions are to provide under the Payment Accounts Directive. BEUC supports these accounts to be offered free of charge.

Do you agree that PSPs as designated in the PSD2 would be best placed to distribute the digital euro? And do you agree on the proposed services to be provided by the different categories of PSPs?

BEUC has expressed preference for a distribution via central bank intermediaries. Especially, in view of the objective of financial inclusion, central banks would be better placed than commercial banks (and other PSPs) to ensure that all consumers have access to the digital euro. We fear that charges for access to cash and basic banking services will be replicated when the digital euro is distributed by commercial banks/PSPs.

As regards the participation of the different payment service providers. One question would be how payment institutions could distribute the digital euro without the possibility according to PSD2 to hold funds (e.g. funding and defunding). For electronic money institutions, BEUC agrees to add them next to credit institutions provided that the regulatory regime for payment institutions and electronic money institutions is aligned. For instance, consumers should be granted the same level of protection of their funds in case the e-Money institution goes bankrupt.

As regards Account information service providers, BEUC opposes the participation of the digital euro system in Open Banking/Open Finance Systems. One of the key challenges for open finance, is that necessary safeguards in terms of data protection are not in place. There is currently a contradiction between the General Data Protection Regulation (GDPR) and PSD2 as regards the definition of consumer consent, purpose limitation and data minimisation. As a result, the infrastructure (or more figuratively: the pipes) for extracting and processing sensitive data was created, whilst rules and oversight of data flows keep lacking behind. This jeopardizes consumers' privacy.<sup>1</sup> Even if the forthcoming proposal on Open Finance brings additional protections in this regard, there is still the risk of incomplete enforcement or data leakages due to systemic mistakes. A digital euro should like cash guarantee full privacy without systemic risks outside the control of the Eurosystem.

In addition, consumers will less and less have the opportunity to opt out of open banking. This is already the case for some providers where a payment method

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<sup>1</sup> For further reading, please see BEUC position paper on the interplay between GDPR and PSD2: [https://www.beuc.eu/sites/default/files/publications/beuc-x-2019-021\\_beuc\\_recommendations\\_to\\_edpb-interplay\\_gdpr-psd2.pdf](https://www.beuc.eu/sites/default/files/publications/beuc-x-2019-021_beuc_recommendations_to_edpb-interplay_gdpr-psd2.pdf)

based on open banking has been presented as the only payment method.<sup>2</sup> Consumers are thus often presented with take it or leave it options: if you want to use the service, you need to share your data. This put consumers in a weak position and prevents them from protecting their privacy.

It would be thus a major advantage of the digital euro for consumers to have a payment method which is not integrated in open finance/banking infrastructure. Meaning that similarly to cash, for privacy sensitive payments, the digital euro could be used instead of commercial bank money. For example, when issuing a payment where payment transaction data reveals sensitive information such as political or religious affiliation, sexual orientation or ethnic origin of themselves or a silent party, consumers would not like to share these payment transaction data within the framework of open banking/open finance and as a consequence can use a digital euro which is not part of the open banking/finance framework.

In addition, open banking has been developed to have more competition. It seems that payment institutions and e-Money institutions should get direct access to the digital euro without the need to use indirect access via credit institutions. As a consequence, there is no systemic need for integrating the digital euro into the open banking framework.

Do you see any drawbacks in the proposed approach and if so, how could they be overcome?

As expressed already on several occasions, BEUC reiterates that there are significant drawbacks in the distribution model for financial inclusion. The objective of financial inclusion is unlikely to be achieved better than with the current banking system if the same entities are responsible for the distribution of the digital euro. The role of central bank intermediaries should not be discarded at this stage but further investigated, in particular for vulnerable consumer groups which are currently not served/poorly served by the commercial bank system as regards access to cash and in the future digital cash. This includes for instance people without access to a bank account, people with disabilities, digitally illiterate consumers and elderly people.

#### 4. Form factor options and delivery approach for the digital euro consumer interface

General remark:

Cash is so far the only means of payment for many vulnerable consumers. A digital Euro must be inclusive by design to offer all consumers a viable, but complementary option to cash. Form factor choices should be carefully tested with vulnerable consumers. This includes a payment device which is easily and safely useable for all consumers and the right to a digital Euro account without any pre-conditions. Like cash withdrawals, transferring money into a digital Euro wallet should be feasible without owning a smartphone or a computer and must be based on a dense network of access points. Furthermore, many consumers use cash as

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<sup>2</sup> See for instance: <https://www.vzbv.de/urteile/bgh-staerkt-kundenrechte-beim-bezahlen-im-internet>



it allows for easier household budget management; a digital Euro user interface should support consumers in this.

Would you consider to prioritise any other payment initiation technologies for the initial release of the digital euro in light of end-user experience and merchants preferences?

BEUC supports the selection of payment initiation technologies foreseen for the initial release. In line with the general remark above, should there be a prioritisation, a solution with no/low technical requirements (e.g. accessible for consumers not owning a smartphone) should be prioritised to achieve financial inclusion.

This holds also true for online payments. Currently consumers often need a credit card to participate in e-commerce while some might not have access to credit cards (creditworthiness assessment!) or prefer not to use them (e.g. to facilitate budget management).

In view of financial inclusion, it would be also important that all the payment initiation technologies (QR code, NFC, internet via an alias/proxy) are offered free of charge and are part of the basic services offered to consumers.

What are the major considerations for rolling out QR-codes in all prioritised use cases by 2026, including the impact on merchants acceptance?

QR-codes need to be secure for consumers, the ECB should thus cooperate with the ERPB working group on standards for QR-codes (MSG MSCT) to ensure that the standard is available for the release in 2026. The legal tender of the digital euro should imply that the basic payment initiation technologies (NFC, payment by proxy and QR-code) are accepted by all merchants.

How an Euro Area wide rollout for Near Field Communication at the Point of Sale by 2026 could be achieved? Which NFC standard option do you believe would better contribute to strategic autonomy and to the European retail payments market integration, while minimising costs for market participants?

BEUC has preference for the use of a European standard (option A: adopt European specifications/C: develop a new kernel for the digital euro). The option chosen should be independent from international card schemes to allow for a strengthened competition between different payment methods and prevent any dependencies (objective of strategic autonomy!).

What would be the potential drawbacks of the prioritised delivery approach and how could they be overcome?

Integrating the digital euro into the existing end-user interfaces and wallets might bring convenience for consumers but at the same time, the difference between the digital euro and commercial bank money will be very blurry for consumers. One risk is that PSPs will have a limited interest to promote the digital euro via their interfaces as compared to their commercial payment options or try to sell consumers value-added services which might not need. If it is difficult or costly for

consumers to use the digital euro via these interfaces, they will simply not be able to use the digital euro.

The design of the interface/branding of the digital euros must allow consumers to easily differentiate between paying with central bank vs. commercial bank money. It must be also made clear to the consumer which rights/protections apply to the different payment methods.

As expressed in previous comments, from a privacy perspective is unclear how enhanced privacy/anonymous transactions can be offered for a digital euro when it is linked to the commercial bank account.

BEUC strongly supports the initiative to set up a digital euro app. It would give consumers the possibility to easily distinguish between private payment solutions and the digital euro as central bank money. In addition, the digital euro app seems to offer an alternative for consumers who do not want to link their digital euro account with their commercial bank account for privacy reasons.

Given the concerns mentioned above on interfaces developed by PSPs, BEUC supports the development of the digital euro app as the only app for the digital euro which all intermediaries are then obliged to use. This would also avoid challenges as regards the interoperability with other apps and facilitate the dissemination of the app. The ECB should work on a dissemination strategy for the digital euro app as consumers will otherwise not be made aware of its existence. PSPs will have limited interest to promote an independent app which stands in competition with their own user interfaces, especially if they are allowed to develop their own apps etc.

There are some technical questions remaining: It was expressed during the session, that this would be a very light application. In the forthcoming process, it should be clarified what the basic functionalities of the app are, to avoid that consumers have to compromise between convenience and privacy. Further it should be clarified, how this app contributes to financial inclusion (as spelled out on the slides): Will the app be designed in a way that reflects in a particular way the needs of vulnerable consumers? As the back-end infrastructure would be still provided by PSPs, the question would be under which conditions (e.g. additional charges) consumers could use this app without linking it to their commercial bank account or when doing the onboarding via a different supervised intermediary than their home bank.



## Digital euro

### EACB feedback to ECB

Supervised intermediaries and scheme access criteria  
Form factor options and delivery approach for consumer interface  
Programmable payments  
Cross-currency architecture

02/12/2022

#### **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%.

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The EACB welcomes the opportunity to provide input to the ECB following 4th ERPB technical session on digital euro on 10 November 2022. The consultation covers the following aspects of the digital euro project:

1. Distribution model: Supervised intermediaries and scheme access criteria
2. Distribution model: Form factor options for a digital euro and delivery approach for the digital euro consumer interface
3. Advanced functionalities: Programmable payments
4. Advanced functionalities: Cross-currency architecture for digital euro payments

The EACB's views on the consultation questions are presented below.

### **1. Distribution model: Supervised intermediaries and scheme access criteria**

Before answering the questions below, we would like to raise again concerns related to the issuance and supply of the digital euro with regard to financial stability. The creation of a new form of money (alongside cash issued by central banks and "book money" created by commercial banks, the digital euro would constitute an additional form of money) – simply by arbitrary design – bears risks for the banking industry as a whole. As stated in our recent consultation responses, in order to maintain economic vitality, the issuance of the digital euro should be phased in gradually in order to prevent adverse impacts on financial stability. The risk factor amplifies especially for cooperative banks dependent on their client's deposits (in comparison to capital market-oriented banks). In view of the far-reaching implications, it would be more than appropriate to carry out an impact assessment with cost-benefit analysis before considering launching a digital euro.

*Question 1. Do you agree that PSPs as designated in the PSD2 would be best placed to distribute the digital euro?*

In our opinion, the possibility to distribute digital euro should be limited to those PSPs that:

- are allowed to serve accounts and hold funds under the PSD2. The rationale for this is that the PSD2 purposely put limits to the institutions that can open accounts and hold funds as the capacity to do so is directly linked to the prudential requirements that are required to secure the holding of such funds. This means that PISP and AISP should not be allowed to distribute the digital euro.
- have an account at the ECB or at a national Central Bank so as to allow enabling of funding/defunding digital euro holdings.

PSPs allowed to distribute the digital euro should perform all the duties related to that activity (such as onboarding, KYC, AML monitoring, sanctions screening and counter terror financing) and not be able to rely on other parties to do that unless that is contractually agreed between them.

One of the main rationales behind the digital euro project is strengthening Europe's strategic autonomy. An additional point to consider in the reflection on what kinds of intermediaries should be allowed to distribute the digital euro is whether it is desirable to open this possibility up to parties that operate from non-EU jurisdictions or whose headquarters are domiciled outside the EU. We believe that, in line with that objective, the potential digital euro should only be distributed by truly European PSPs. Otherwise, there is significant risk that the digital euro ecosystem will be increasingly dominated by



non-European actors such as BigTechs and the “strategic autonomy” objective will not be achieved.

Besides the question of which intermediaries would be allowed to distribute the digital euro, we would welcome clarification on whether the distribution would be mandatory or optional. We believe that distribution of the digital euro should be optional.

**Question 2. Do you agree on the proposed services to be provided by the different categories of PSPs?**

The ECB proposal on services provided by different supervised intermediaries (slide 7 of the ECB presentation) is too general for a valuable answer. More granular definitions of services would be needed. We have the following comments and questions in that respect:

- It is necessary to remain in the current field of PSD2: only credit institutions are authorized to provide accounts to customers. TPPs are only authorized to provide account access and payment initiation services through APIs. The distribution of the other services not included in the PSD2 field remains to be discussed but must not in the end contribute to competing with the existing means of payment and ultimately destabilizing bank intermediation, which has proved its effectiveness in the application of AML rules.
- What does “Provide digital euro account” mean?
- With reference to ‘basic services’, it is explained in footnote 6 on slide 7 that “*Digital euro basic services are yet to be defined but should be similar in nature to the basic services that credit institutions are to provide under the Payment Accounts Directive (PAD)*”. Since basic services under the PAD are only provided by credit institutions, would it not be inconsistent to extend those services (digital euro basic services) to other PSPs? As already stated above, the possibility to distribute digital euro should be limited to PSPs that have account at the ECB or at a national Central Bank.

Related to the above points as well as to Q1, another important question is: with all the requirements and related costs to the services offered by intermediaries, what would be the compensation for them by the ECB and the business model for the digital euro?

**Question 3. Do you see any drawbacks in the proposed approach and if so, how could they be overcome?**

See answer to Q1 and Q2.

**2. Distribution model: Form factor options for a digital euro and delivery approach for the digital euro consumer interface**

General comment on the ECB proposal: It appears that the ECB proposals on the form factor options mirror very closely private payment solutions currently offered by banks. If that is the case, a digital euro would directly compete with private payment solutions with the risk of crowding them out.

In case the ECB sets up a competitive payment scheme based on similar payments instruments, the resulting competition with the private sector should be avoided:

- A user should be allowed to open maximum one digital euro account/wallet.



- There should be low limits on digital euro holdings (maximum EUR 500).
- There should be a transaction limit (including the waterfall mechanism).

*Question 1. Would you consider to prioritise any other payment initiation technologies for the initial release of the digital euro in light of end-user experience and merchants preferences?*

When it comes to the technologies for payment initiation:

- The choice of exchange channel must strike a good balance between security and ease of use.
- We believe that, in line with the objective of strengthening Europe's strategic autonomy, the ECB should focus when it comes to form factor options on as much as possible re-using European and international open standards never having the risk of issues due to embargo or sanctions.
- Bluetooth Low Energy (BLE) should also be considered for payment initiation for full offline capability (faster than NFC) and more flexibility/enrichment of data exchange.
- NFC would also be a good option in terms of security and customer journey for offline transactions.
- When it comes to standards for messaging ISO standards should be re-used.
- As technology is evolving fast, the ECB should not be too prescriptive with regard to the technologies for payment initiation, finding a good balance between existing implementations of specifications all over Europe and a more harmonized usage of those.
- Question: How "alias/proxy" functionality would be compatible with privacy approach to the digital euro and who would be responsible for the correctness of the entries in the proxies?

*Question 2. What are the major considerations for rolling out QR-codes in all prioritised use cases by 2026, including the impact on merchants acceptance?*

QR Codes should also reflect a European Standard and the provision of a standard solution for merchants (especially SMEs) to easily generate their QR Codes.

*Question 3. How an EA wide rollout for NFC at POS by 2026 could be achieved? Which NFC standard option do you believe would better contribute to strategic autonomy and to the European retail payments market integration, while minimising costs for market participants?*

There are a number of constraints identified on the reuse of the current NFC interface (between a merchant terminal and a wallet on a cell phone) for another payment instrument than the card, such as instant payment and therefore the digital euro, if it is considered as a payment instrument in its own right. Indeed, this current NFC interface uses software components (called kernels) that belong in majority to international card schemes (Visa, MasterCard). Any reuse would require an agreement with these players if the digital euro is to be identified as a separate payment instrument from the card, i.e. on a separate scheme, with specific rules. There is an open access software initiative called CPACE by the ECPC<sup>1</sup> but the specifications remain on the card. The questions are:

<sup>1</sup> <https://europeancardpaymentcooperation.eu/>



- Would it be possible to reuse these card related specifications for transactions in digital euro?
- Will Apple allow it in the CPACE-HCE (Host Card Emulation) or even CPACE-SE (Secure Elements – still in planning?) variants?

*Question 4. What would be the potential drawbacks of the prioritised delivery approach and how could they be overcome?*

In our opinion, the ECB's proposal to provide a "digital euro app with a homogeneous look and feel" goes too far as it interferes with the relationship between PSPs and their customers and is not in line with the goal of giving the market room to innovate. We would urge the ECB to refrain from putting forward any proposals that may distort market competition.

We recommend to provide key functions via an SDK (Software Development Kit), which can be embedded in private sector wallets/solutions.

In terms of financial inclusion, the advantages of digital euro are not very clear if it is to be distributed via wallets on smartphones and smartcards. Not everyone owns a smartphone and among the owners, not all want to use it for payment purposes or even for SCA purposes.

### **3. Advanced functionalities: Programmable payments**

*Question 1. Which key use cases do you see for programmable payment services in the area of retail?*

The EACB agrees with the ECB proposed distinction between programmable money and programmable payments and that digital euro should not be programmable money, especially when designed and implemented as competitive payment scheme to the private sector.

We strongly support the suggestion to leave programmability to market actors as part of their innovation project, as well as the fact that programmability would be an added value service. Intermediaries should be enabled to implement innovative functionality into their proprietary wallet solutions, to foster the acceptance of a digital euro, e.g. programmability for a time-based or trigger-based payments, based on non-programmable and universally accepted digital euro.

It is important to link the possibility of programmable payments to the agreement of a mutually consented contract or control by the user to overcome the question of intervention in private life and the way citizens deal with their finances.

Banks as trusted intermediaries could, in addition to their usual or innovative activities, manage government deposits, e.g. state aid, local authority aid, etc.

*Question 2. Whether/to what extent do you see a need for support to the market to provide programmable payment services (e.g., common standards, back-end settlement functionalities)?*



We see a need for standardisation. In order to overcome the lack of common standards, both scheme rulebook and possibly the back-end infrastructure are necessary to ensure common business and technical standards.

The system will have to support the sub-elements (sub-account or sub-wallet) in a standard way and facilitate their daily use. This is an important point that must be supported by the digital euro system. A technical nomenclature of sub-elements may be sufficient, but more secure solutions, e.g. based on certificates and private/public keys, need to be defined to allow all actors to offer a secure system. In any case, this list should be updated by the API and not fixed in the system documentation.

More important for innovative programmable payment solutions is a legal framework including those possibilities. For example, the PSD2 could be read as some needed functions, like pre-authorisation, are maybe only allowed for card payments. Furthermore, the delegation of account access to e.g. machines to automatically initiate payments face regulatory restrictions that actually harm innovation. Therefore, there is more a need for action on the regulatory side than on the level of the digital euro itself.

*Question 3. Which core capabilities could a back-end IT architecture for settlement of payments offer to facilitate programmable payment services?*

Standards for Data Syntax and Semantic, Logic and Interfaces/APIs.

Possibilities to provide triggers/events, which are intrinsically triggered by payment conditions between/across intermediaries. It is important to stress that the authorization of payments should be done distinct from the initiation from a technological and legal perspective.

The basic principle is that it is not the currency but the means of payment that is programmable, so it would be up to the account or wallet to take care of this. It is up to the intermediary – and not a central system – to provide programmability.

#### **4. Advanced functionalities: Cross-currency architecture for digital euro payments**

*Question 1. Do you agree that the digital euro should prioritise first the needs of the domestic market?*

*Question 2. What is your view on the feasibility of facilitating remittances & e-commerce payments for cross-currency transactions?*

*Question 3. What challenges do you see in achieving cross-currency interoperability under the various use cases?*

*Question 4. What obstacles do you see to the provision of cross-currency payments in digital euro? Which ones would the Eurosystem need to address concerning the provision of cross-currency payments in digital euro?*

We strongly agree that the digital euro should prioritise the needs of the domestic market, i.e. payments in euro. We consider that discussing cross-currency architecture for digital euro payments is not a priority at this stage.





Furthermore it is actually unclear what exactly is meant by “cross-currency”, because there are a lot of different combinations covered by this wording. In general, a currency (except physical cash) never could be hold outside the area the currency is distributed, which leads to further questions on international law in some cross-currency variants.

Furthermore, cross-currency use of the digital euro would be dependent on development of CBDCs by other central banks. Therefore, it is too early to even discuss its feasibility. Also, the fact that many other central banks focus on wholesale CBDC (Canada, USA) raises the question if a retail CBDC like the digital euro should take up such a role.

Besides that, there are already a number of initiatives on cross-currency transactions in commercial money under the framework of CPMI, so there is no need to add any initiative in digital euro.

Brussels, 5 December 2022

# **ERPB written procedure on digital euro 4<sup>th</sup> technical session EBF Response**

## **EBF Response to ERPB Written Procedure Digital Euro on Cross-Currency, Programmable Payments, Scheme Access Criteria and Form Factor Options**

### **Advanced functionalities: Cross-currency**

#### **1. Do you agree that the digital euro should prioritise first the needs of the domestic market?**

Yes, we agree that as a priority, the digital euro should be developed for retail customers for use in the domestic market. Developing cross-currency functionalities at the first stages would increase the complexity of an already complex project. Cross-currency and cross-border use cases should follow after a successful go-live. Also, the market for retail cross-currency use cases in digital form is limited.

Generally, we believe that the issue of cross-currency should be handled with great caution so as not to undermine the effectiveness of the individual central bank's monetary policy. The use of the digital euro should be limited to the EU (EEA) at the first stage as imbalances could be generated (i.e., weak currencies being exchanged by citizens into hard currency, or masses migrating to higher-rate CBDCs).

Having said this, it is important to engage with international standard setters, and particularly the BIS and other central banks to ensure the definition and commitment to harmonized interoperable protocols and standards of CBDC infrastructures as the individual national projects progress.

#### **2. What is your view on the feasibility of facilitating remittances & e-commerce payments for cross-currency transactions?**

We believe that implementing this at least in the first stages of a digital euro would increase the complexity of the project and it could drag on the design and implementation phases.

The potential value of CBDCs for international payments could materialize first in a wholesale environment, where efficiencies could be unlocked and agreement with other CBDCs could be reached more easily, and then in a retail environment that is the one of the digital euro projects, given the challenges that would be posed by non-resident holdings.

### **3. What challenges do you see in achieving cross-currency interoperability under the various use cases?**

There are many CBDC projects underway, and it seems not all have cross-border interoperability among their objectives. Therefore, to make the development of cross-currency functionalities possible in the future, the Eurosystem should try to follow common standards as much as possible.

### **4. What obstacles do you see to the provision of cross-currency payments in digital euro? Which ones would the Eurosystem need to address concerning the provision of cross-currency payments in digital euro?**

The obstacles we see:

- Cross-currency payments will only work if both jurisdictions agree on the general approach and a framework
- Much thought needs to be given on how to handle the cross-border element – considerations depend on the foreseen solution:
  - Direct exchange of one CBDC into another: if a US bank account holder wants to exchange and hold digital euro, does the US bank have to be set up to handle a EUR CBDC account? Do they have to partner with a European bank? This solution would replicate the currency exchange use cases for physical cash today and it needs to be decided if this is the prioritised desired outcome as it would neglect some of the benefit of a digital version of cash.
  - Independent national CBDC solutions: will foreign citizens be provided with a dedicated digital front-end (app) that is independent from other CBDC apps? This app would allow them to use the foreign CBDC through connecting it to their preferred account/payment method. The subsequent cross-currency processes will follow existing rails and no dedicated cross-currency infrastructure of a central bank will be needed.
- If central banks opt for a dedicated cross-currency solution between two currencies, any related FX services should be performed by duly regulated intermediaries from the private sector, responsible for bidding and market making.
- Any cross-currency considerations must be evaluated to achieve a minimum level of fragmentation of the CBDC infrastructures and not putting the stability of individual national currencies at risk.
- The Eurosystem would have to take into consideration the circumstances of a wide range of payment markets when developing the digital euro and take design or implementation approaches that would probably not be fitted to the European market. Therefore, we think the Eurosystem should focus on developing a digital euro usable in the EU.

## Programmable payments in digital euro

### **1. Which key use cases do you see for programmable payment services in the area of retail?**

The digital euro must become a complement to current forms of payment and the private sector must be able to create products on it. Hence, the digital euro should allow from the start of issuance for intermediaries to develop programmable payments. We agree with the ECB that programmability should not be understood as programmable money (e.g., indefinitely limiting the purposes for which money can be used) but rather as programmable transactions based on smart contracts. These services that can be built on top of the digital euro would allow to position it as a competitive tool that can keep pace with the services being offered by BigTechs and other digital currencies solutions as well as by other central banks. The competitiveness of the digital euro services is a fundamental condition for the instrument to be recognised as valuable by citizens and businesses and therefore used.

We envision that the opportunities for programmable payments – the possibility to automate the execution of service agreements, and to automatically and atomically execute payments when the conditions stipulated in the contract are met - shall be in the use cases prioritized by the ECB, but also in other types of payments, such as B2B, B2C or M2M.

In order for intermediaries to be able to develop innovative services based on programmability, the ECB should enable programmability in the design of a digital euro. In general, all existing use cases where an element of “basic programmability” is already included should also be possible for the digital euro i.e., recurring payments, standing orders, scheduled transfers etc.

It is important to underline that any examples of use cases for programmable payments are the result of what we can possibly imagine today on the basis of current technology and experience. The approach to programmability should be open to an incremental development in use cases, without the necessity to identify an ex ante list of features.

A digital euro that natively provides for programmability would allow for innovative payment dynamics such as the possibility of initiating a payment towards multiple beneficiaries (either all payments go through, or the digital euros are not transferred to any beneficiary) or provide for logics based on the conditionality of payments. Other innovative services include possible changes of underlying economic interactions, such as machine-to-machine transactions and a growing number of Internet-of-Things devices, as well as the streamlining and simplification of processes (e.g., request to pay) that could also be achieved in a much more complicated manner without native programmability functionalities.

However, it is not possible to spot a ‘killer use case’ at this stage. Some examples of what we can envisage at this stage include:

- Split payments: marketplace, vendor, merchant but also tax authority could receive automatically their share of the money that is spent by the consumer at e.g., an e-commerce merchant.
- Consumer credit – BNPL / installments,
- Recurring payments, subscription, direct debits
- Pay-per-use triggered by an external entity
- Automatic VAT settlement in the payment process
- Management of conditional payments limited to be spent only on allowed product categories (if a user tries, for example, to spend for forbidden product categories, the transaction fails). The money exchange logic,

the spending rules and payments are all managed in the smart contracts.

- M2M payments allowing drivers to auto pay for fuel, parking, and food from the car's display unit with the payment capability.
- Pay & Split aiming at managing the revenue sharing for products on consignment in a "short chain" through the use of the "split transaction" function (atomic, instantaneous breakdown of transactions) for immediate routing of the payments to the seller of the bundled product and the various producers included in the production chain.
- Safe Return - a process whereby consumers may return a purchase made via e-commerce via interaction with an escrow account.
- Executing multiple payments required when purchasing a property, including where a mortgage is taken out. The peculiarity of the case lies in the execution of multiple payments in a single transaction allowed by programmability.

At the same time, we do acknowledge that the mechanics of and rules for programmable payments need further investigation and work.

## **2. Whether/to what extent do you see a need for support to the market to provide programmable payment services (e.g., common standards, back end settlement functionalities)?**

Given the use cases that the ECB is currently prioritizing, it seems reasonable that programmability is facilitated by the digital euro scheme but developed in an additional layer by the private sector. The rulebook should be flexible enough and allow for the integration of programmability features that would be developed by the private sector as a value-added service.

We agree with the ECB that it should be the private sector that should lead in the development of programmable payment services. Given the options described by the ECB in slide 10, we would support the solution where the private sector could program and execute programmable payments to boost innovation for the future.

We do not yet have a view as to what precisely is needed from the ECB to enable the private sector develop programmable payments. We would suggest creating a working group, also able to run experimentations, within the context of the digital euro project with industry experts to assess how this programmability should be designed and what is needed to incorporate in the settlement layer or in the rulebook. It is also important that programmability is not limited to the digital euro alone but enabled for commercial bank money as well; the work should explore how these could work together.

## **3. Which core capabilities could a back end IT architecture for settlement of payments offer to facilitate programmable payment services?**

This issue needs further analysis. It is clear that the end goal should be that programmability is enabled for the digital euro from the start, and that programmability is mainly built by the industry, but the precise requirements from the back-end architecture for settlement need to be further assessed. In general, technology must allow the evolution of services to be simple and cost-effective and leave intermediaries free to differentiate their offerings.

The ECB should enable the possibility for intermediaries to build on top of the infrastructure to create a programmability layer and use cases and therefore rely on the private sector for the development of programmability features.

At the very least, the back-end infrastructure should enable putting “holds” on the digital Euro for contingent payments. These holds can be initiated by the intermediaries which help to create programmable payment processes.

## **Scheme access criteria and supervised intermediary distribution**

### **1. Do you agree that PSPs as designated in the PSD 2 would be best placed to distribute the digital euro?**

We agree that only regulated and supervised Payment Service Providers (PSPs) authorized to offer payment accounts should be able to intermediate the digital euro, i.e. holding digital euro accounts and providing related services to end users. All eligible intermediaries must be licensed and supervised in the EU. It is important to highlight that the services provided will depend on the payment services they are licensed to provide under the PSD2. For example, PSPs that do not have access to central bank accounts will be able to leverage on funding/defunding services provided by credit institutions to provide payment services, as it happens today with existing payment means.

However, no PSP or type of PSP should be obliged to distribute the digital Euro.

If the distribution of digital Euro would require a direct access to the Eurosystem infrastructure to PSPs that currently do not have such access (payment institutions and e-money institutions), it is key to set the criteria for such access. This challenges the current regulatory framework where access to central bank money on ECB TARGET services is allowed for direct participants as defined in the Settlement Finality Directive. SFD was originally designed to reduce systemic risk in payment and securities settlement systems. When defining the scope of eligible intermediaries, the ECB together with the European Commission should therefore carefully consider possible risks to the stability and resilience of the overall infrastructure when granting non-bank PSPs the role as intermediary. Direct access to central bank settlement systems of non-bank PSPs could be introduced only if coupled with capital requirements and other risk reducing measures commensurate with the risks they would introduce in these systems. It should be ensured that all intermediaries for the digital euro with direct access to the digital euro infrastructure are subject to the same level of stringent rules and obligations and supervisory practices to mitigate the risk of destabilization of the infrastructure.

Further, PSD2 defines the roles and obligations for Third Party Providers (PISP/AISP) when accessing accounts held by banks – as intermediary for the digital euro. These should also be applicable for access by TPPs to accounts/wallets in digital euro.

In order to fulfil the aim of European strategic autonomy, ways to deal with the challenges and risks that would arise if foreign players play significant roles in the digital euro ecosystem, should be devised. Given that one of the main policy objectives of the digital euro is supporting EU payments sovereignty, there should be sufficient controls and safeguards in place to avoid the risk linked to non-EU companies playing a significant role in the digital euro value chain. Rules should be put in place to ensure that the main intermediaries and distributors are *de facto* European companies. Different ways to mitigate those risks should be analysed, such as requiring significant non-EU players to set up a subsidiary in the EU (following the approach of DORA).

#### **4. Do you agree on the proposed services to be provided by the different categories of PSPs?**

In order to answer this question, it should be clarified what the basic services would be.

From our point of view, the basic services should be onboarding, funding and defunding of the wallet, waterfall link with bank account and digital euro transfers.

#### **5. Do you see any drawbacks in the proposed approach and if so, how could they be overcome?**

We agree on the proposed approach, but a careful analysis of the costs and benefits of each functionality and the necessary business model should be made in order to ensure all intermediaries can bear the cost of implementation and distribution.

### **Form factor options and delivery approach for the digital euro consumer interface**

#### **General comments:**

- We are committed to working together with the ECB/Eurosystem to devise the best possible digital euro. We are however concerned that a direct role of the ECB/Eurosystem in providing client-facing services would inevitably restrict the scope for market participants.
- To ensure a similar user experience across the euro-area, the ECB together with the private sector should agree on certain minimum standards for digital euro front-end solutions.
- This could also include aspects related to updating the acceptance network for digital euro, and also some common features that would enable final users to recognise they are paying/receiving digital euro.
- However, the ECB should refrain from actually building any part of the technological solutions and should leave it to the private sector intermediaries to either build a dedicated front-end or integrate functionalities for the digital euro by adhering to agreed minimum standards.
- Additionally, the ECB and the private sector should integrate these minimum standards into a scheme which will be managed and further developed based on market demand by the private sector - ECB should have an observing role.
- The rationale for a stand-alone ECB app is questionable in terms of financial inclusion which is the stated objective of such proposal. Indeed, considering that according to the ECB *i)* the contractual relationship with a digital euro holder will stay with intermediaries *ii)* the ECB will not take care of any onboarding nor of AML/CFT compliance and *iii)* the ECB app will in any case need to be linked to a payment account for funding/defunding digital euro and for any of the above mentioned checks, we conclude that it will not be meet the expectations of someone who wishes to remain unbanked. EU banks already take care of financial inclusion and do a lot on this front. We are fully cognizant of the issues related to financial inclusion in the digital euro project and willing to discuss them in depth



when the digital euro project envisages that the topic is duly addressed in all its facets.

- At the same time, an obligation for digital euro intermediaries to support/interface the stand-alone wallet would increase the cost and complexity of the project, without any benefits. On the contrary it will even displace mobile payment/wallet solutions based on instant payments already in place or planned as well as the offer of innovative services and companies, including many banks and EU Fintechs which are specialised in manufacturing and offering simple and easy-to-use banking apps.
- An ECB digital euro app would add unnecessary complexity to the distribution model of the digital euro, as it would be an additional ECB layer on top of the distribution services of the intermediaries, which would in turn function over the ECB digital euro infrastructure. Such a 3-layer mechanism could make it more complex for end-users to understand who is responsible for what within the digital euro ecosystem.
- It would be preferable for intermediaries to integrate digital euro into their own apps, so that they can develop more attractive solutions for end-users, allowing also smaller players to benefit from competitive offers from other market players (e.g white label front end applications).
- Usability and user experience is key for a successful adoption of the digital euro. The ECB should work with existing payment service providers that leverage QR codes or NFC technology for transactions rather than reinventing the wheel.

### **1. Would you consider to prioritise any other payment initiation technologies for the initial release of the digital euro in light of end user experience and merchants preferences?**

For in-store payments, NFC technology is superior to QR codes in terms of user experience, seamless use, time of payment, offline usability and security. Also, NFC technology is already widely deployed and is the de facto standard for in-store payments in many European markets. Therefore, it would require lower adaptation costs for both merchants and intermediaries compared to the deployment of QR-codes, which are not so extended in Europe.

However, we recognise some of the challenges related to NFC, for instance the available standards and the difficulty to gain access to the NFC functionality on all smartphones.

### **2. What are the major considerations for rolling out QR codes in all prioritised use cases by 2026 including the impact on merchants acceptance?**

Taking into consideration what has been stated in the previous answer, the rolling out of QR codes in all European merchants would involve significant implementation costs. Therefore, it should be a merchant's decision to rely on one or more payment initiation technologies, depending on its specific circumstances and needs. Given the type of POS spread across Europe we consider that the adoption of QR codes could raise some issues.

Upgrading/replacing all POS in order to be able to handle QR codes would be costly and would take a long time. Therefore, we consider that a full impact assessment of the costs for both PSP, technical providers as well as PSPs should be carried out before a decision is taken.

The three payment initiation technologies should be included in the first release at the same time, with no prioritization among them. In our view, an initial rollout based on QR-

code, with no NFC implementation, risks undermining the success of the digital euro project.

In any case the ECB should leverage on the work being done by the EPC on QR code standards.

**3. How an EA wide rollout for NFC at POS by 2026 could be achieved? Which NFC standard option do you believe would better contribute to strategic autonomy and to the European retail payments market integration, while minimising costs for market participants?**

We would use current technologies that allow customers to pay via their preferred device.

The EU existing POS infra is built on EMV standard and NFC messaging and an attempt to create a different solution will be expensive for the PSP industry and also for the merchants.

In terms of standards, CPACE should be the new standard for NFC payments in Europe.

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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

# EDPIA feedback to the ECB following the 4<sup>th</sup> ERPB technical session on the digital euro held on 10/11/2022

05<sup>th</sup> December 2022

## ADVANCED FUNCTIONALITIES: CROSS-CURRENCY

### **1. Do you agree that the digital euro should prioritise first the needs of the domestic market?**

The term “domestic market” in a European context is not necessarily clear (meaning whether it refers to the eurozone, EU, or some other region).

This highlights the reality that cross-currency functionalities are important even within the EU.

Achieving mass adoption in the domestic market (which we take to mean the eurozone) should be the first priority for a digital euro. After all, it is a digital version of the currency aimed at that region.

Nonetheless, customer expectations are not necessarily the same for cash currency and for digital payment tools. Today, customers can expect to use certain digital payment tools outside of the region where the currency itself is used so there is a question regarding whether a digital euro should also match those functionalities (also in terms of mass adoption).

### **2. What is your view on the feasibility of facilitating remittances & e-commerce payments for cross-currency transactions?**

The management of remittances is a complex process. It is subject to specific regulations and is handled by a limited number of operators able to govern the end-to-end process. Typically constrained by the so-called “last mile”.

Regarding cross-border eCommerce payments, the key point is that merchants should not be required to hold accounts in different CBDCs to manage payment flows.

### **3. What challenges do you see in achieving cross-currency interoperability under the various use cases?**

Technical, regulatory and operational challenges are identifiable.

Risk is to have a plurality of technological islands governed by multilateral agreements, adding complexity.

Need of an interoperability layer with the issue of identifying the entities responsible for implementing the interoperability layer, as well as who is the oversight authority and under which regulatory framework.

Finally, a proper management of FX exchange should be considered.

We can make a parallel regarding the situation today with dynamic currency conversion (with regulation on the display of conversation rates).

We can foresee the expectation to display FX for digital currencies in a similar manner. This has a logic from the perspective of unifying the user experience across different instruments (and the same protective rationale that applied to regular payment instruments also holds for digital currencies). However we have already seen technical challenges with this regulation in practice. If similar requirements apply to digital currencies then systems should be harmonized and reusable as far as possible.



**4. What obstacles do you see to the provision of cross-currency payments in digital euro?  
Which ones would the Eurosystem need to address concerning the provision of cross-currency payments in digital euro?**

Low level of maturity of CBDC solutions at national level and consequently of possible interoperability solutions, which will be duly addressed when national systems have reached an appropriate level of maturity and adoption. The approach will necessarily have to be as global as possible.

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## PROGRAMMABLE PAYMENTS IN DIGITAL EURO

### 1. Which key use cases do you see for programmable payment services in the area of retail?

Our answer takes in consideration ECB's definition of programmability of payments as **the ability to initiate a payment automatically when predefined conditions are met**.

Programmability features to restrict usage to specific types of goods and/or services or only within certain period/geography have been dismissed.

Numerous use-cases will take advantage of programmability ; most of which being currently addressed by existing digital payment instruments.

- **Blocked deposits** (inc. expiring payments)

An amount is blocked until a party (or several) agree(s) to settle fully, partially or to cancel the transaction, similar to cards pre-authorizations but which scope could be extended.

*Examples: car rental deposits, rental guarantee (real estate), self-service fuel pumps, etc*

- **Pay on delivery**

The transaction is initiated in the system at a given time but settlement takes place later, triggered when the product is delivered or when the service is offered.

*Examples:*

- *e-commerce transaction settled when the buyer confirms reception of the good*
- *Airline tickets settled only when the flight takes off, which could be easily (partially) refunded if needed.*

- **Pay-per-use**

The use of a product or service is measured and customer is charged an amount linked to its actual usage.

*Examples:*

- *Cloud computing charged based on resource usage (e.g. gigabyte)*
- *Car rental charged based on distance driven or time used.*

- **Subscription model & recurrent payments**

Customer authorizes a merchant to charge repeatedly on a pre-arranged schedule.

- **Scheduled and deferred payments**

Schedule a payment to be executed at a specified date in the future, or operationally delay payment in conditions agreed date by parties. This may involve application of agreed penalties if a party doesn't meet its commitment.

*Examples: reimburse a creditor in instalments, application of penalties for delayed instalments, ...*

- **Machine-to-machine payments:** transactions between connected devices where minimal or no human intervention is needed. These may become more and more important in the future.

*Examples:*

- *Connected vehicle paying for gas or parking*
- *Smart home and grid trading power & energy*

- **Multi-payment:** one transaction split in several smaller transactions.

*Example: split the bill between friends at a restaurant.*

- **Micro-payments:** transactions involving a very small amount of money, usually taking place online. These could also be triggered by IoT/connected devices. The cost structure of CBDC should probably support the development of micropayments in the future ; which can be expected to take full advantage or programmability features mentioned above.

Although not complying to the definition, a few additional use-cases pertaining to social inclusion may also be considered (e.g. all kinds of vouchers, government support for refugees within geographical boundaries, restrictions to buy some types of goods depending on wallet holder's demographics and merchants category, etc)

## **2. Whether/to what extent do you see a need for support to the market to provide programmable payment services (e.g., common standards, back-end settlement functionalities)?**

The scheme rulebook shall support the market by defining the standards and functionalities available for their interactions. The business logic should be left to intermediaries.

We have no preference on programmability standards, and are keen to share some general high-level considerations:

- A programmability framework relying on RESTful open APIs, building on PSD2 open banking layer.
- Usage of ISO20022 for API payments and as settlement standard on the back-end side.

This is suggested to align with existing widespread standards for payments.

It is important to consider that programmability is not necessarily the most important success factor of the digital euro when compared to features such as efficiency, performance, privacy, security and usability.

## **3. Which core capabilities could a back-end IT architecture for settlement of payments offer to facilitate programmable payment services?**

- An escrow capability, allowing to freeze funds until a trigger executes or cancels the settlement. Parties should be able to easily create and unambiguously agree on a set of transaction conditions. The trigger executing the payment may be defined in conditions but the system shall also support external triggers (from payer, payee or 3rd-party). Offering this flexibility comes with risks that should be carefully framed, especially if several conditions can be combined which may lead to undesired effects. Boundaries, limits, safeguards should be implemented.
- Time-bound payments: being able to schedule payment(s) in the future or set expiry date when defining conditions or if the payment is not triggered.
- The transaction data frame shall offer a variety of fields to optionally include additional information in order to facilitate value-added services by intermediaries. Examples could include a "priority" flag, whether a payment notification must be sent to the payer/payee, or contextual data or information (e.g for AI payments). We note again that the private sector should have the leading role in determining whether and how to use these options.
- A reconciliation feature of payment orders (ACK): ensure that all parties can make sure that settlement has occurred in order to reconcile.

Core capabilities supported by the back-end should be driven by the market and adapt to its evolution.

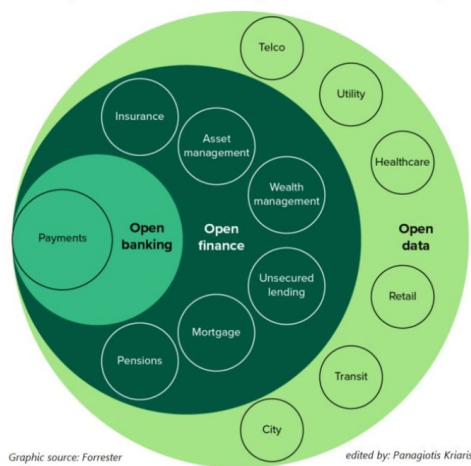
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## SCHEME ACCESS CRITERIA AND SUPERVISED INTERMEDIARY DISTRIBUTION

### 1. Do you agree that PSPs as designated in the PSD2 would be best placed to distribute the digital euro?

Based on the ambition of the EU Commission to move to the open finance, we do agree that PSPs as defined in PSD2 are best placed today to propose digital euro services related to the holding of digital euro account and related payment services – but it is also important that PSD2 remains up-to-date with market developments in the future. Today the list of payment services in the annex of PSD2 does not for example cover digital wallet services, operating payment schemes, or various other services touching the sector. New kinds of actor may in the future also propose digital euro services, on the basis of a level playing field with PSD2 as the starting point.

The diagram below illustrates the multiplication of future usages introduced by open finance: with PSD2 (as voted in 2015), the regulators introduced the ecosystem of open banking. According to the timeline for digital euro, the first applications are expected in 2026/2027. To make a comparison with have witnessed new actors emerging with the development of crypto assets, which can be seen by the services attached to the French Digital Asset Service Provider (DASP) or similarly the EU Crypto-Asset Service Provider (CASP) licence under MiCA.<sup>1</sup> Without confusing crypto-assets and central bank digital currencies, we might similarly see new actors emerging with the growth of the CBDC ecosystem. Again it will be important to maintain a level playing field with appropriate rules for each actor.



A specific attention point should be reserved to the suppliers of the front end solutions, i.e. the supplier of digital wallet on commercial off-the-shelf devices, the supplier of POS devices or E/M-Commerce payment solutions already accepting other existing payment means and to be adapted for acceptance of the digital euro.

For instance, there could be a need to reach agreements with suppliers of the commercial off-the-shelf devices to access the secure element (e.g. for off-line payments) or the NFC connection. In this context, the governance body of the digital euro scheme would have a role to play as this would be required on all targeted commercial devices and this for digital wallets of all certified PSPs holding a digital account.

A similar observation could be made regarding POS devices, where POS suppliers could be expected to develop payment applications (or components, e.g. payment kernel) for digital euro to be used by different certified PSP's providing payment services.

This means that the suppliers of front end solutions should be clearly identified as actors of the digital euro ecosystem.

The governance body of the digital euro could envisage through the scheme rulebook

- To define security and minimal functional requirements applying to front end devices
- To develop a certification and approval framework for front end devices and applications, also relying on accredited certification labs which would verify the compliance

<sup>1</sup> See here for example: <https://www.amf-france.org/en/professionals/fintech/my-relations-amf/obtain-dasp-authorisation>



- And therefore to consider the providers of the front-end solutions as technical actors involved in the digital euro scheme (with a concept of technical license / agreement also defining the obligations of those providers, e.g. certification / approval framework, right of audit, ...)

Of course it will also be important to be clear and aligned between the scheme and PSD2 itself.

As a conclusion, we can identify three layers where different combinations of actors might participate: firstly opening an account, secondly supplying the form factors, third to offer services. For example an acquirer might offer the account, the form factor might be supplied as a telecommunications device or by a terminal manufacturer, and different services could be offered by a wide variety of different actors.

PSPs as currently defined in PSD2 are certainly well-placed today to distribute the digital euro. And PSD2 should be the starting point for the regime whereby actors who participate in the digital euro ecosystem do so in a regulated manner and on a level playing field. Nonetheless, PSD2 may need to be adapted in future to keep up with the evolution of the market.

## **2. Do you agree on the proposed services to be provided by the different categories of PSPs?**

Some aspects could be clarified.

For instance, we propose to make a split between

- (a) PSPs holding a digital account and
- (b) PSP's providing digital account based payment services

We suggest to clarify that for PSP's providing digital account based payment services not all the described services are mandatory, e.g.

- It is not mandatory to provide / hold digital euro account
- The 'Access to digital euro settlement mechanism to carry out (de)funding' can be performed directly or indirectly via an agreement with a certified PSP offering this service

Regarding the capacity to offer basic digital euro services, we suggest some clarifications:

- Replace 'basic' by 'mandatory minimum services according to their role as PSD licensee'
- Therefore the list of services depends on their role, see comment made above for PIs and the suggestion to make a split between PSP's holding a digital account and the ones offering payment services

It is further worth noting that PSPs will only be able to provide to AISP's access through APIs to information held on their systems (with the consent of the customer). For access to any information recorded exclusively on the Eurosystem's back-end, it will have to be the Eurosystem that sets up appropriate APIs.

Regarding the front-end solutions, we recommend to consider the answer to the previous question, and specifically the fact that a certified PSP could use solutions (POS, E/M commerce acceptance layers) developed by specific manufacturers – being understood that those solutions could be used by several PSPs and should therefore be certified / approved according to a process under the control of the governance body of the digital euro scheme.

EDPIA firstly believes that different kinds of PSP should be able to provide basic services (and not only banks). It is also not clear that the basic service will be equivalent to the PAD and this will also depend how the digital euro is distributed and what it looks like. As mentioned above we can see a variety of different actors playing a role in different layers that might each make up part of the overall service.

## **3. Do you see any drawbacks in the proposed approach and if so, how could they be overcome?**

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Please see our comments in the answers to the two previous questions.

Another important aspect to consider is the important role of the 'governance body' of the digital euro scheme. As previously mentioned it will be key to be clear and aligned between what is in the scheme and what is covered by PSD2 (and to avoid uncertainties or frictions in this regard).

Beside the production of the scheme rules, several other operational aspects will have to be considered (and for which the process, solutions and operational activities must be defined, developed and deployed). Please find below some topics to consider (not exhaustive list):

- Dispute management process (between PSP's and potentially between users)



- Risk and payment guarantee policy, also for complex transaction types (e.g. reservation of funds to be followed by a later confirmation triggering the effective settlement)
- In the context of complex payment transactions (e.g. later payment after delivery), need to define a process between Payer's and Payee's PSPs for
  - o (a) approval and authentication by the Payer of the content of this complex transactions and
  - o (b) the related obligations of the PSP's (e.g. validity period of an authorization, obligation for Payer's PSP to honor a payment confirmation from a Payee's PSP previously approved).Such mechanism is for instance available in the domain of card payments with the EMVco-based 3D Secure authentication process and the related rules defined by the card schemes
- Certification / Approval of some components of the infrastructure (e.g. merchant acceptance layer, consumer wallet), see comments made above.

To conclude on this point, we remind that EDPIA is an alliance of payments institutions and e-money licensed entities. Therefore, we do insist on the importance to carve out the process of opening a digital euro account and the services offering. Each side on the payment value chain will have different expectations : so it is not possible to mandate the delivery of all services attached to a license of digital euro provider. As usual, devil is in the details.

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## **FORM FACTOR OPTIONS AND DELIVERY APPROACH FOR THE DIGITAL EURO CONSUMER INTERFACE**

### **1. Would you consider to prioritise any other payment initiation technologies for the initial release of the digital euro in light of end-user experience and merchants preferences?**

A digital wallet can serve as the main form factor.

Technologies such as NFC have become widespread, with QR-codes also gaining some traction.

EDPIA considers that it is important to remain open to both options from the perspective of principles such as technology neutrality.

In more practical terms, we would suggest that NFC should be prioritized in POS payments as it offers prospectively the best elements of user experience:

- Already proven good user experience
- Available on the majority of acceptance terminals
- Faster transaction time
- Similar to current payment methods
- Security

QR-code could be deployed in parallel with NFC, as an interim solution in specific countries or for specific use cases (e.g. in e-commerce or to overcome terminal limitations).

Overall we therefore support both NFC and QR codes with a preference for NFC where possible, and reiterate that remaining open to different options will be important.

One point we would raise regarding NFC technology is that device manufacturers may limit access to the antenna itself. While this issue may be addressed by the forthcoming implementation of the digital markets act, the final outcome remains to be seen. The debate around opening private infrastructure arguably takes on a new light if that infrastructure becomes the de facto gateway to central bank money.

Generally speaking, EDPIA believes that market interventions such as opening access to private infrastructure must be well considered and address exceptional problems (given that the payment market is generally competitive and functions well). Nonetheless, this does highlight the importance of supporting a diverse set of methods over time.

Furthermore, the solution should not require an overhaul of the acceptance network (i.e. the rollout of many new terminals) as this would hinder uptake.

### **2. What are the major considerations for rolling out QR-codes in all prioritized usecases by 2026, including the impact on merchants acceptance?**

In POS payments preference should be given to dynamic QR code in merchant presented mode, for it provides the best user experience for both merchants and consumers.

Merchant presented static QR-code would be easier to deploy, however it would provide a worst user experience, adding complexity and potentially inducing errors on consumer's side.

Merchant scan solutions (either with static or dynamic QR codes) present the worst experience from merchant's point of view and are challenging to be deployed because of the need of camera equipped acceptance devices.

In e-Commerce applications the QR is widely adopted and easier to deploy compared to alias/proxy, not requiring a proxy lookup service.

### **3. How an EA wide rollout for NFC at POS by 2026 could be achieved? Which NFC standard option do you believe would better contribute to strategic autonomy and to the European retail payments market integration, while minimizing costs for market participants?**

Massive deployment of a new POS acceptance solution (regardless of the technology) requires, based on previous experiences:

- Preparation Phase is: 6-12 months
- Rollout Phase: 3-4 years to get 100% of terminals upgraded

To complete the process by 2026 is therefore quite an ambitious target.

Strong collaboration with device manufacturers and card schemes to manage software availability and re-certification of terminals is required.

Public fund support would definitely allow accelerated roadmaps, with specific timelines dependent on technical decisions today not available, to cover for capex outcomes for replacement of old terminals.

Any consideration about the best NFC standard to adopt should start from the specific functional requirements of the solution, in particular for what concerns security (for which no details are yet available) and the need to accept on the same terminal multiple contactless payment methods.

Relaying on existing standards will require less effort for development and certification.

Developing a new standard would bring some advantages, such as complete independence and the ability to respond to specific needs, but with will be onerous and with uncertain timeframe.

#### **4. What would be the potential drawbacks of the prioritized delivery approach and how could they be overcome?**

Consumers are expected to rely on financial intermediary they already have a relation with to get access to the digital euro, preferably as an add-on option to the applications they are familiar with.

For intermediaries, the opportunity to integrate digital euro access into existing digital properties enables them to optimize investments and provide their customers with a better user experience.

A white lable digital euro app provided by the Eurosystem, in addition to casting doubts on the appropriateness of the Eurosystem entering a competitive space, would entail for the Eurosystem itself the burden of providing technical support activities, corrective and evolutionary maintenance, etc.

Subject: [EXT] EMA response to DE Technical session of 10 Nov 2023

Dear Digital Euro (“DE”) Secretariat

Thank you for elaborating the EuroSystem’s thinking. We have set out below a brief response to the questions posed.

1. Cross currency: we concur on the need to identify the requirements and design a product that meets the needs of the domestic market. The design criteria can however contemplate future interoperability, and make choices that will increase the ability of the DE scheme to be interoperable with other CBDC schemes or even non central bank payment systems.

These could include use of standards, both technical and operational as well as functionalities that could enable clearing and settlement between payment systems and schemes.

2. Programmable money vs programmable payments: we concur with the proposal to build the business logic for automation at the regulated intermediary level (i.e. programmable payments as opposed to programmable money). This recognises the diverse functionalities and business needs that are likely to emerge over the coming years, and the innovation that will likely be required to meet them. It makes sense for such functionality to be developed by scheme participants and associated technical service providers, rather than being developed as a design feature of the DE. We acknowledge however that design features at various levels may promote programmability at the payment level, and this objective is worth keeping in mind throughout the process.

In order to bring such functionality about, there may however be a need for interoperability on certain functional elements, say for example direct debit-like 'pull' functionality or future dated payments, or micro transactions that may be smaller than the smallest unit of currency. Such basic elements of functionality could be developed as interoperable service calls at a scheme level.

Further functionality that uses such services within programmed solutions can be elaborated by individual scheme participants, developing solutions for business needs and integrating payment services into various commercial arrangements. We would regard these options to be consistent with the notion of programmable payments.

3. Participation as regulated intermediaries: this would be expected to be on a level playing field for all PSPs, whether credit, payment or electronic money institutions. Resolving the barrier to entry that is currently created by the limited scope of the Settlement Finality Directive (98/26/EC) is key, and not only for the DE but as part of a broader competition objective in relation to all designated payment systems. Criteria can be developed, which if appropriately calibrated, could be implemented to enable institutions of different regulatory status to participate on a level playing field. At the same time we believe participation of institutions of different regulatory status to be critical and of key importance for the adoption of the DE and hence ultimately the success of the DE.

4. Form factor

Whilst there is a dependence on the regulated intermediaries' deployment of IT infrastructure to deliver and enable transactions in DE, it is not clear what the role of the ECB/Eurosystem will be in overseeing the infrastructure. In the case of devices for example, will there be a type approval/homologation process, or for infrastructure, a common security policy etc? Would such a relationship take the form of an outsourcing arrangement or another type of contractual agreement? How will the ECB's role be defined this regard?

We would be grateful for clarification in this regard. Will this additionally have an impact on the role of the ECB as overseer of the payment system? How will this impact the compensation model?

Thank you for the opportunity to engage and comment on the ongoing DE assessment process.

Best regards

Thaer

Dr Thaer Sabri

Chief Executive

Electronic Money Association

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# ERPB technical sessions on digital euro

EPC informal summary feedback  
for 29 November 2022  
sectoral exchange



# Caveat

- The EPC has a well-defined mission and purpose hence scope
- Its feedback on digital euro topics is constrained by this mission and purpose (and scope)
- Policy, business or technical matters are left to direct market players (and/or their associations)
- Feedback expressed in this short deck is informal, of a high level nature and in PowerPoint format





# Four topics recently raised by the ECB

- Cross-currency
- Programmable payment services
- Scheme access criteria and supervised intermediary distribution
- Form factor and delivery approach

# Cross-currency



- The EPC has no view on the policy, business or technical aspects of this topic
- The EPC has been for some years developing a one-leg out (OLO) instant credit transfer scheme with the other (incoming or outgoing) “leg” being a “euro leg” in SEPA
- Subject to EPC Board “go” decision (in November 2022) and final approval, a first OLO scheme Rulebook will be published in March 2023

# Programmable payment services



- The EPC has no view on the business or technical aspects of this topic
- The EPC has been developing a SEPA Payment Account Access (SPAA) scheme, at the invitation of the ERPB
- Version 1.0 of the SPAA scheme Rulebook is planned to be published by end-November 2022 , subject to EPC Board approval
- SPAA scheme is an API-based messaging scheme facilitating payment initiation and access to payment account data beyond PSD2 (see Annex)
- SPAA is “currency agnostic”
- Dynamic future-dated payments are one of the “services” to be supported by SPAA
- How does the ECB see potential interactions between the digital euro and the SPAA scheme?

# Scheme access criteria and supervised intermediary distribution



- The EPC has no policy or business view on this topic
- EPC schemes' eligibility criteria are driven by their scope and applicable law (e.g. PSD2), and clearly described in the various scheme Rulebooks
- EPC letter of 19 October 2022



# Form factor and delivery approach

- The EPC has no view on the business and technical aspects of this topic
- The EPC has been working on several subjects related to the interoperability of (instant) credit transfer-based mobile payments (“MSCT”) at the POI, at the invitation of the ERPB - e.g.:
  - QR-code standardisation (with a document for MSCT published in June 2022 and a “fast track” procedure on a generalised specification recently been initiated at ISO level)
  - NFC and BLE standardisation (with a draft document expected to be submitted to a 3-month public consultation around the end of 2022, subject to EPC Board approval)
- Does the ECB intend to rely on existing industry standards?

# Annex - SPAA scheme offerings (SPAA Rulebook v.1.0)



## Transactional Assets

1. One-off payments
2. Future dated payments
  - a. Warehoused with defined execution date
  - b. Dynamic
3. Recurring payments
  - a. Warehoused with same/fixed amount
  - b. Dynamic
4. Payment to multiple counterparties
5. Personal Finance Management (PFM) automated transfers
6. Refunds

## Premium Features

- A. Payment certainty mechanism request
- B. Request for supporting account information
- C. SCA approach preferences
- D. Request to not apply SCA exemption
- E. Account replacement during SCA
- F. Open topic: Mechanism to request a payment with transaction fees not borne by the payer

## Data Assets

1. List of payment accounts
  - a. List of current accounts
  - b. List of current accounts with credit line
  - c. List of saving accounts
2. List of payment account transactions
3. List of cards
4. List of credit card transactions
5. SCA exemptions and delegations implemented

Evelien Witlox  
European Retail Payments Board  
60640 Frankfurt am Main  
Germany

5 December 2022

## EPIF input to the ERPB 4<sup>th</sup> industry session on the digital euro

Dear Evelien,

EPIF very much welcomes the opportunity to provide written feedback to the ERPB on the different design options that are being discussed for the digital euro. We would like to reiterate our support for the ECB's efforts to continue to contribute to the smooth operation of payment systems, also in the digital age. Importantly, we fully align with the ECB commitment to respond to the shift in preferences of European consumers to more electronic and immediate means of payment.

We understand that the ECB is currently exploring the design options with regards to the access criteria to the digital euro Scheme and the options on form factor and consumer interface. More advanced functionalities are also starting to be considered, such as the cross-border elements of central bank digital currencies (CBDCs) and programmable payments. EPIF generally supports the exploration of these elements and sees the benefits in including such functionalities in the design, of course conditional on the final design choices to be agreed by October 2023.

Our views of the aforementioned discussion points is further explored below.

- **Scheme access criteria and supervised intermediary distribution**

As communicated in previous written input to the ERPB, EPIF members see benefits in the creation of a scheme for the digital euro insofar as a level playing field between the bank and non-bank sectors is assured. This level playing field is of course dependent on the drafting of the Scheme Rulebook. Nonetheless, our members observe a very positive development in the Scheme access criteria, with the non-bank payment sector, i.e., payment institutions (PIs) and e-money institutions (EMIs) under the Payment Services Directive (PSD2), now recognized as a potential player to distribute the digital euro. This clarification from the ERPB is very much welcomed.

We also agree with the designation criteria and the list of services that are proposed by the project team. However, certain complexities and questions remain. Our current understanding is that PIs and EMIs would not be able to provide the same services as other payment service providers (PSPs) which creates unnecessary exclusions for the non-bank payment sector. If only account servicing payment service providers (ASPSPs) that offer payment accounts can distribute the digital euro were to be able to distribute the digital euro, the non-bank sector will be faced with the constraint that different Member States have different interpretations of what constitutes a payment account. For example, only France and Sweden qualify credit cards in the definition of payment accounts. Not only would this create arbitrage and uncertainty on the distribution of digital euros, such conditionality would also exclude a large portion of PIs from participating in the digital euro distribution through the Scheme. Against this background, EPIF would recommend that the distribution of the digital euro not to be dependent on the offering of payment

accounts and simply recognize that all APSPS can distribute the digital euro, allowing truly all PSPs to participate in the Scheme.

While we agree with the proposed list of services, we note that the access to such services by PIs and EMIs remains unclear. The non-bank payment sector must have direct access to the intra-bank payment system for the provision of all the services. Otherwise, PIs and EMIs will be at a competitive disadvantage vis-à-vis the bank sector. Therefore, we maintain our position that access to the intra-bank system should be extended to allow direct participation by PIs and EMIs, granted that the necessary conditions required by the ECB are fulfilled. Our preferred option would be to do so through an amendment to the Settlement Finality Directive (SFD). Should this not take place, we would call on the ECB to advance on alternative options, such as not defining the digital euro as a payment system.

Additionally, EPIF would appreciate clarifications with regards to some of the services, notably on whether the digital euro account would make the distinction between custodial and non-custodial wallets.

- **Form factor options and consumer interface**

Firstly, at a general level, EPIF would like to reiterate that the digital euro should remain technologically agnostic. It is imperative that the ECB, through its design choices for the digital euro, does not create unintended hierarchies for the use of certain technological solutions and alternatives.

Against this background, our members question why the digital euro, like other currencies, could not co-exist within the existing form factors. We would recommend that the ECB not separate the development and deployment of such solutions. Developing new form factors would also have implications in delaying the deployment of specific form factors and therefore dramatically delay the implementation of the digital euro. Our members therefore oppose the deployment of a bespoke regime for form factors and the divergence from existing standards for QR-Codes and NFC. The digital euro could be integrated within the existing accounts and form factors without the need to create new ones.

As a final point, EPIF members would be keen to better understand how the ECB and the European Commission plan on interlinking the ongoing discussions on the eIDAS with the digital euro. Electronic identities can have a very important role in directly connecting to digital euro accounts and supporting KYC and due diligence. Our current understanding is that such linkage could be made through sectoral legislation in the scope of the horizontal eIDAS proposal, but further clarity on this matter would be appreciated.

- **Programmable payments**

EPIF is very supportive of the ECB's efforts to incorporate programmable payments into the functionalities of the digital euro. As previously observed in the first written input to the ERPB in July 2022, the digital euro will have to bring added-value to its end-users and this implies developing in areas where gaps might still persist within the private sector. Nevertheless, this does not imply that a vacuum exists in the market regarding use cases for programmable payments (e.g., direct debit, MIT, recurring bills). Therefore, and similar to our position vis-à-vis the form factor options, we question whether creating a separate process from other payment solutions would be the right way forward. Moreover, we also call on the ECB to ensure that there is a set of harmonised rules and processes for merchant initiated transaction, recurring billing and programmable payments.

- **Cross-currency functions**

Concerning the cross-currency functionalities of the digital euro, EPIF fully agrees with the ECB that while interoperability must be observed the priority should be the development of an efficient domestic CBDC. In this regard, we entirely support the ECB efforts to align with the international developments on cross-border and cross-currency CBDCs, especially the work done by the G20 in scope of the Roadmap to Enhance Cross-Border Payments and the work of the Bank for International Settlements (BIS) with different cross-currency projects.

Therefore, EPIF would agree to maintain a strong dialogue with other jurisdictions on their own CBDC projects and reserve this possibility for future releases of the digital euro.



EPIF looks forward to further engaging with the ECB on these important questions. Please allow us to reiterate once more that EPIF will be in a better position to make concrete recommendations once the design and unique contribution to the existing European payment landscape is better known.

Best regards,

Yours sincerely,



Nickolas Reinhardt, Head of the EPIF Secretariat



## **4th ERPB technical session on a digital euro**

### **ESBG input on advanced functionalities and**

ESBG welcomes the opportunity to provide feedback to the ECB on the various topics discussed at the 4<sup>th</sup> ERPB technical session. Given the relatively short deadline, ESBG decided to prioritise its feedback by rather focussing on the two topics that are considered as most critical at this stage of the digital euro project. Therefore, our input on the cross-currency functionality and on programmable payments will be more high-level, while the feedback will try to tackle issues connected with a possible scheme and with the customer interfaces and form factors.

#### **Advanced functionality: Cross-currency**

##### **1. Do you agree that the digital euro should prioritise first the needs of the domestic market?**

Yes, we agree: a digital euro should prioritise the need of the euro area. The project should start on a small scale and focus on low value transactions. Other approaches would not be successful, as the objective in the first phase of deployment should be to reach a high adoption in the euro area. Technical solution should be interoperable with the current bank infrastructure, including transaction handling rules and currency exchange. At the same time, any domestic retail CBDC must be adapted to fit the requirements of a specific member state.

Finally, the development of a digital euro should be done by building on the existing infrastructure and payment solutions in order to avoid overlapping and additional investments.

##### **2. What is your view on the feasibility of facilitating remittances & e-commerce payments for cross currency transactions**

Although facilitating remittances is a goal for the G20, especially in terms of reducing fees, we consider that to ensure maximum uptake of digital euro it is important not to make any large alterations to the current system as consumers need to feel comfortable with using their money. Joint security rules, currency exchange processes and customer protection rules need to be in place for both legs of the transaction, meaning for both CBDCs involved in the exchange. In



this context, it should be further evaluated whether there is the need for new infrastructure for P2P cross-currency payments and which challenges might come along with that. Indeed, cross-border transactions are mostly hampered due to different regulatory frameworks, rather than technical challenges. It is necessary that different CBDC systems and infrastructures speak the same language and have common guidelines to ensure the smooth processing of cross-currency payments and to grant interoperability between the different CBDCs.

In this respect, we would consider a better approach to use current distribution channels including already established industry schemes. These, in combination with current legislation such as PSD2, cross-border payments regulation, and the IFR, already provide good solutions for these challenges. Further, checks on identification, AML/CFT and fraud, should be the responsibility of the account provider. It should not be a problem as already today remittances can only be sent back to the card or account where the money originated – just maintain the same requirement.

Overall, a digital euro can improve the current situation in cross-currency payments, when its technological and legal setup creates additional value for its users:

- An additional value for cross-currency payments could be that users send cross-currency payments through supervised intermediaries that are instantly settled without the need of having an account.
- By providing standardized APIs between different CBDC systems the conversion of currencies when paying abroad, could be a major advantage when using a digital euro based payment solution.

We believe that in the international debate, the ECB should especially advocate for interlinked systems. Moreover, it has to be further assessed whether centralized systems (like the ones that are provided and currently tested by SWIFT for example) grant an additional value for the cross-currency payment and settlement processes.

### **3. What challenges do you see in achieving cross-currency interoperability under the various use cases?**

Although it is a bit too early to answer this question, especially as we do not know the concrete design that a digital euro will have, on a general note we see the following challenges:

- Different speed in ongoing CBDC-projects, with timelines that are not synchronized.
- Usage of different technologies might complicate the (communication) processes (DLT-/token-based CBDCs vs. centralized-/account-based ones).



- Policy objectives may differ from central bank to central bank, so granting interoperability to enable cross-currency payments might not be in other jurisdiction's interests.
- Different business models might make it unattractive to develop adequate solutions based on the cbdc networks, private (blockchain-based) solutions might be in place before.
- Differences in the legislative frameworks may also play a role.

Finally, cross currency interoperability requires setting of FX rates between currencies. Currently, FX rates are set by the market (for bank transfers) or by card schemes (for card payments). Therefore, we believe the market should continue its participation in the setting of FX rates.

#### **4. What obstacles do you see to the provision of cross currency payments in digital euro? Which ones would the Eurosystem need to address concerning the provision of cross currency payments in digital euro?**

As previously stated, it is a bit too early to answer this type of question, especially as we do not know the concrete design that a digital euro will have. However, on a general note we see the following obstacles:

- Risk management with a non-European issued digital currency and possibly very different rules on what entities are considered intermediaries and what type of transactions are allowed.
- Further alignment necessary on (i) sanction lists and consequences of breach; (ii) customer protection measures; and (iii) business model rules. This could be solved by a common Rulebook.
- Validation of peer to peer transactions and roles in processing the transaction, including who is in charge of the validation of a transaction, initiation of transactions from multi-CBDC front end solutions, different standards for the authentication of a user, etc.
- Interoperability of different CBDC-systems (especially token-based against account-based systems).
- Back-end: Who is responsible for the operation of a central/connecting backend and in charge of the definition of common communication standards to ensure interoperability between different systems.
- Settlement mechanisms: how to settle transactions between two parties from different CBDC systems, how to ensure the instant settlement
- Increasing of the complexity due to implications for not only the FX-conversion but also the conversion between central bank money and commercial bank money (waterfall models).
- Different tools to manage the amount of digital euros under circulation: different limits with possibly different funding/defunding-mechanisms (regarding the waterfall models).
- Various distribution models: while a CBDC can be quite regulated (e.g., through a payment scheme), there are also projects ongoing where



central banks published their code to work jointly on the issuance and the operation of a digital currency. The different types of distribution models might force conflicts of interest.

More in general, we expect many conceptual challenges for cross-currency payments with implications from the front end towards the technological setup (the back end). Possible cross-currency use cases and solutions heavily rely on the infrastructure of each CBDC system, so the discussion today is rather hypothetical. To dig deeper into the practice and analyse both the business opportunities and the challenges, CBDC concepts worldwide need to develop further and concrete specifications need to be defined.

## **Advanced functionality: programmable payments**

### **5. Which key use cases do you see for programmable payment services in the area of retail?**

First of all, it should be highlighted that programmable payments already exist in some form. This is the case for instance of recurring payments and direct debits. Moreover, a key issue to be solved before implementing them will be clarifying how to initiate them without the user consenting and authorising the initiation of the individual payment, and the liability framework in case anything goes wrong.

That said, we consider the following potential use cases for programmable payments:

- Savings plans directly with brokers/exchanges when certain thresholds are reached.
- Recurring (private) payments to family members, friends, etc, when certain requirements are met.
- Europeanwide standardized solution for pay per use models in B2C-business models, e.g. car sharing or Similar.
- Delivery-vs-payment or payment-vs-delivery-models in eCommerce for B2C transactions, granting a payment for the merchant to initiate the payment and vice versa.
- Automatic purchase reimbursement.
- Subscription: Recurring payments until an expiration date or a number of repetitions.
- Prepaid budget: recurring payments until an amount is exhausted.
- Split payments: a payment from various peers contributing funds for a trip, pooled funds, a restaurant bill, etc.
- Prepaid Card: the user can top up automatically the prepaid card when the balance is below a X amount
- Machine-to-machine subscriptions (e.g., a printer automatically requests ink cartridges when these are almost exhausted).



Finally, we consider that another potential use case would cover government grants (i.e., social security contributions, especially when targeting individuals which are currently non-banked). This however will be very difficult to achieve in the initial phase since it would require much more development and testing to be reliable enough. Therefore, we consider it should be kept simple in order not only to allow customers to understand and assess associated risks, but also to ensure that governments have the capacity to develop the necessary infrastructure.

**6. Whether/to what extent do you see a need for support to the market to provide programmable payment services (e.g., common standards, back end settlement functionalities)?**

Although we do not consider this as a basic functionality that is frequently required by customers for the time being, we agree with the ECB's assumption that supervised intermediaries know best the market dynamics and therefore the needs of the end users. It is therefore a logical conclusion that supervised intermediaries are also the best positioned to provide the infrastructure for programmable payments and corresponding services. In theory, to provide a good and unique customer experience, it is important that a digital euro is not only supporting programmable payments but also the various solutions from different supervised intermediaries (similar to current multibank solutions). Therefore, we believe there should be at least a common standard for defining and setting up solutions and services for programmable payments.

However, there are still open questions around the legislative framework and how an automated payment initiation through programmable payments or smart contracts can be ensured. Furthermore, it is unclear how solutions can have multi-banking features in situations where a consumer has various banking accounts.

One of the main questions to answer would be where the initiation of the payment takes place. Other aspects to investigate are related to liability, money laundering, terrorism financing, fraud, and cyber security. Therefore, to ensure a long-term solution with the flexibility of making adaptations to future requirements it is essential establishing a private/public scheme and limit legislative requirements as this could create challenges mitigating future threats and gaining from future opportunities. We also believe it should be carefully assessed whether a DLT system would be ready for large scale and high-volume retail-based payments.

Furthermore, programmable payments may bring more complexity for PSPs and payers in circumstances where the payer has not enough digital euro at the programmed payment time. If so, the PSP would have to make a reverse waterfall from the customer account to the digital euro one, resulting in additional complication in booking, information to the payer/payee etc. And if there is not enough money on the customer account, it will not be possible to



make the payment, exactly as today. Therefore, at least in the first phase, digital euro payments should be limited to the equivalent of current cash-payments.

### **7. Which core capabilities could a back-end IT architecture for settlement of payments offer to facilitate programmable payments?**

If the ECB will decide to use blockchain technology, the central bank should maintain an enterprise blockchain approach more than a public blockchain approach. The settlement should be the same, regardless of the type of digital euro (account based or token based). For enabling the programmable functionalities, it could be necessary to build a trust centre for (smart) contracts. Moreover, a standardised API for multi-banking/wallet solution may be necessary to initiate programmable payments.

On the other hand, if the ECB decided to use TIPS, changes would be easier to implement.

### **Scheme access criteria and supervised intermediary distribution**

### **8. Do you agree that PSPs as designated in the PSD2 would be best placed to distribute the digital euro?**

PSPs as defined in the PSD2 might meet the scheme access criteria as they are described in the slide deck. However, considering the wider definition of PSPs in PSD2, we do not consider all of them should be able to distribute a digital euro. Indeed, only ASPSPs are able to fully comply with the legal requirements and they not only provide front end and back-end solutions, but also a broad range of additional services for their clients. Moreover, not only the rules applying to different PSPs, but also the supervision of ASPSPs largely differs. Therefore, the processing of transactions should only be performed by ASPSP, while TPPs would only initiate payments on the ASPSPs infrastructure. The current payment system has been developed over a very long period of time, in a way that costs are minimised while efficiency is maximised. For all these reasons, we believe the task to distribute the digital euro should only belong to ASPSPs, just as they are tasked with distributing cash. This would be crucial to ensure secure payments and combatting anti money laundering and terrorist financing. Moreover, the principle 'same activity, same risks, same rules' should be followed also in this context.

Moreover, we believe that to maximise the probability of success and uptake of a digital euro, changes to the system of distributing money should be as little as possible. Otherwise, there is a risk of market failure which in turn could affect the long-term viability of the digital euro. Therefore, with a base in the current PSD2 and a future scheme such challenges, including compensation, can be resolved.



To guarantee a wide adoption of the digital euro amongst citizens, a private public partnership where the Eurosystem and the supervised intermediaries go hand in hand, will be essential. We believe that credit institutions can fulfil the required demands for supervised intermediaries best. To further assess this topic, it is necessary to deepen the current state of work and the use cases of as well as the related services around a digital euro.

**9. Do you agree on the proposed services to be provided by the different categories of PSPs?**

Yes, we agree. The services provided with regards to a digital euro should mirror those offered pursuant to PSD2. Accordingly, we consider that APIs should be provided by the account holder who shall be compensated by the scheme. However, it has to be further evaluated how the suggested services would work with the intended technology for the implementation of a digital euro (accounts/wallets, tokenized, restrictions, tools to manage digital euro circulation, funding/defunding mechanisms and so on).

If the waterfall principle is to be managed according to the current regulatory framework (e.g., AML/CFT, sanctions screening, SEPA regulation, PAD, etc), the payer and payee PSPs need to be the ASPSP of the end user.

**10. Do you see any drawback in the proposed approach and if so, how could they be overcome?**

We highly recommend increasing the conceptual work towards the use cases and features first before discussing in more detail the distribution model, as that discussion is currently based on a wide variety of assumptions. Moreover, we believe additional rules should be put in place to regulate what role – if any – will be left to BigTechs in the context of a digital euro. If there is a separation of the ASPSP and the payer / payee PSP to different institutions, it will be very difficult to manage a controlled and trusted payment business. However, a digital euro scheme could help overcome this challenge.

**Form factor options and delivery approach for the digital euro consumer interface**

**11. Would you consider to prioritise any other payment initiation technologies for the initial release of the digital euro in light of end-user experience and merchant preferences?**

From the current state of work, it is difficult to assess whether there might be other relevant technologies for payment initiation. In general terms:

- At the POS, rather than using CPACE, we consider the best way forward would be an EMV based NFC messaging standard from a secure payer





device or an EMV chip card to an EMV capable secure merchant payment device allowing for SCA.

- For e-commerce there is the need for a secure payment application that allows the payer to perform SCA.
- Alias/Proxy could also be done by means tokenisation.

Regarding the end-user experience, as well as the merchant preferences, we believe more research is necessary. QR-based payment solutions (among all use cases) have a way smaller adoption than NFC/card-based at the POS and than alias/proxy in eCommerce and P2P payments. In this respect, Request to Pay could help facilitating frictionless payments, as the user would not need to manually type the card PAN.

## **12. What are the major considerations for rolling out QR-codes in all prioritised use cases by 2026, including the impact on merchants acceptance?**

Although some terminals are already enabled to read QR codes, there will be a lot of work to integrate QR codes with all POS terminals (mobile or not), e-commerce and other systems used by merchants. In some cases, this will involve also the integration with cash registers (e.g., in supermarkets). Moreover, also the mobile app of customers will need to integrate this solution. Much will also depend on whether it will be only payee initiated QR code or if it will include also payer initiated QR codes and whether the QR code will be linked to the amount of the purchase.

On the other hand, we consider that QR codes should not be used for higher risk transactions, like for cash access and gambling. There is also a risk that QR codes will be a redundant technology by 2026. It should also be noted that QR codes require a camera and a display, all requirements that may exclude some part of the population. In terms of inclusion, the advantages of a digital euro are not very clear if it is to be distributed via wallets on smartphones: not everyone owns a smartphone and among the owners, not all want to use it for payment purposes or even for SCA purposes.

Therefore, we would welcome a more thorough assessment and would prefer QR-codes as one of the possible technologies to pay in digital euro, rather than mandating their implementation in all POI terminals. Indeed, current solutions for POS are mostly based on digital cards and NFC technology, while QR codes are mostly used for additional value programmes of solution providers (e.g., payback pay, e-commerce, etc.). However, the use of NFC technology is quite expensive to be integrated and it will be also compared with the solutions from Apple and Google that can control all the ecosystem and provide a prime user experience.

Looking at P2P transactions, we notice that people are used to the combination of the IBAN and the name of the payee to initiate a transaction, which is (coming from a user perspective) more convenient than scanning a QR code and double checking the underlying data for example. It can be discussed whether that's just a matter of daily usage and therefore a developed habit or whether people actually prefer the alias/proxy solution over QR codes. On the



other hand, the QR code solution can be used to share and split the bill between different people without knowing the alias (e.g., at a dinner where not all people know each other).

**13. How an EA wide rollout for NFC at POS by 2026 could be achieved? Which NFC standard option do you believe would better contribute to strategic autonomy and to the European retail payments market integration, while minimising costs for market participants?**

It has to be explored how the European market for payment acceptance devices is distributed and whether the available devices can be updated easily. There can be different outcomes but from our point of view a European-wide distribution of NFC at POS can probably be achieved more easily than with QR code. It should also be considered that the existing POS infrastructure is built on EMV standard chip card and NFC messaging and an attempt to create a different solution will be expensive not only for the PSP industry, but also for merchants. To avoid risks connected with non-EU manufacturer dependence and software security, a possible option would be to issue a chip card application based on EMV and ask ASPSPs to deploy it on debit cards that thus would offer dual payment application.

However, we consider very hard to meet the requirements for a possible launch date in 2026 – it is roughly 36 months and almost all the issues that need be developed for a well-functioning market are still outstanding.

Another obstacle is represented by the currently restricted NFC antenna access for iOS Devices, while QR codes could already be integrated in proprietary market solutions. Despite the mandatory access to the antenna, it will be very difficult to provide the same user experience as Apple or Google, as they have the full control of the ecosystem and all the variables. However, current developments and payment habits imply that people today are not too open-minded towards the so called mPOS-devices.

**14. What would be the potential drawbacks of the prioritised delivery approach and how could they be overcome?**

All the approaches discussed are more or less based on digital solutions. Therefore, it is not clear how this will ensure financial inclusion and accessibility for all citizens. Moreover, it should be clarified how people who do not want to have a bank account, would be willing or able to use the Eurosystem's app that has basic functionalities that are performed by supervised intermediaries.

Close cooperation with the ASPSPs of the end users will be a key factor to ensure a digital euro works for POS, e-commerce, P2P and bill payments. To bring along other parties in the early days will complicate the value chains and demand an extensive rulebook. For the same reason, also programmable payments should wait until the digital euro is up and running and end users



understand its basic functionality. A future proof business model is paramount for the success of its distribution and trusted use.

As to the digital euro app developed by the Eurosystem, there are many questions left open regarding: which intermediary is performing the services and why? Is it a single time “agreement” or a “contract” for a certain time span? How do the services in this app differ from the integrated end user interfaces regarding the costs, speed and other factors?

Finally, we would like to understand why - if the Eurosystem thinks the integrated end user interface variant is the more likely one to be used by people - a separate application might be necessary (since the Eurosystem would not be in the back-end of the services itself). If there is the need for a reference commercial banking account to fund and defund the digital euro wallet, there will always be the access channel of the home bank that will then be in competition with the Eurosystem solution. It is questionable whether that is the goal of the digital euro.

**ETPPA response to  
ERPB technical session #4 on a Digital Euro (questions from 10-Nov-2022)**

Once again, we would like to stress 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.

Whilst it has been stated repeatedly that everything proposed so far does not determine whether the D€ shall be account- or token-based, we must say that we do not have that impression. To the contrary, many of the suggested design features seem to assume an account-based version and all the issues we have identified and fed back to you in our previous responses are basically linked to that. This is no different for this new set of functionalities proposed:

**1) Cross-currency**

Your reflections, suggestions and prioritisations of the various options and use cases make sense, but only when assuming an account-based D€, because only that opens the door, and the Pandora's box, of sending and receiving D€ across borders. This would then be in competition with the various existing forms of cross-border and cross-currency electronic payments and would then have to address and overcome the many known issues with that in similar ways.

If instead the D€ would stick to the current form of central bank money, i.e. mimic cash digitally, using tokens in a wallet, we could just continue to apply the existing and well-known principles of using or sending cash abroad. In most countries, there are established limits on how much bearer value, e.g. cash, can be taken out of one country and brought into another, which are typically beyond the concern of the average citizen or tourist. Furthermore, most would exchange their cash/tokens into the foreign currency shortly before or after crossing a border.

Sending digital cash/tokens remotely might have more (and more secure) options than sending physical cash, but that is generally not a good idea. It should not be encouraged and not be enabled from within the D€ design.

Cross border payments are still leaving a lot to be desired, but that is being fixed as we speak and the advent of instant payments is opening up new possibilities in this area, e.g. [Nexus](#). An account-based D€ would not have any advantage by itself and would also have to resolve the same issues faced by other account-based electronic money when trying to cross borders and currencies.

## 2) Programmable payment services

Programmable payments have been part and parcel of commercial banking for a very long time, at least in some basic forms, e.g. direct debits or standing orders. Of course, there is more to come, e.g. dynamic/variable recurring payments or smart contract payment triggers, and we agree that there is a lot of room for innovation, which should best be left to the private sector. So, we fully agree with your proposal for that.

Please note though, that this highlights the need for any D€ scheme to stay at the technical level like SCT or SCT Inst, and not venture into the commercial space above. Programming payments is a value-added service above the technical level, and it would be beneficial for everybody if this can be done independent of any individual payment instrument at the technical level below. Standing orders, for example, should be implemented once and available in the same way for instant, non-instant and any other, incl. D€, money transfers. Hence, yes, there should not be any “dedicated programmability platform layer” for D€ payments.

That said, and you are right with highlighting that the programming of payments can be facilitated by underlying functionalities in the technical (back-end) layer, for example by stipulating appropriate data fields in the rulebook, which allow the linking or referencing of individual payments, e.g. for refunds or instalments. Generally speaking, any functionality which can be useful for many commercial schemes or VAS should be implemented at the technical layer so that it must not be replicated again and again in the competitive space.

We also agree that “programmable money” is a whole different ball game and that it should generally not apply to the D€ for all the very good reasons you have mentioned. Where we disagree, however, is with your suggestion to de-scope it altogether. Programmability is arguably the biggest opportunity of digital money and likely to be the most revolutionary aspect of it, which will surely be in the focus of interest and innovation world-wide. Admittedly, programmability also has some worrying aspects, but we should not stick our head in the sand and leave this space to non-European players and countries. That would repeat the mistakes we made in the early days of the internet, and with many other new technologies for that matter, where Europe tends to focus more on the threats than the opportunities, and thereby opens the doors for foreign bigtechs whilst stifling the development of our own.

### 3) Scheme access criteria and supervised intermediary distribution

We agree that PSPs as designated in the PSD2 are best placed to distribute the D€.

If there was an account-based variant of it, this should be open to all ASPSPs in the same way, i.e. with direct access to all the necessary information and accounts. We hope that your work with the Commission on “legally facilitating” that will be successful and that you can remove the caveat in footnote #5 on slide 7 for this section.

We assume that D€ accounts managed by ASPSPs would automatically fall under PSD2 and would therefore be accessible to TPPs in the same way as existing payment accounts, which would allow new use cases and increase the innovation potential around the D€ substantially. What would be even better though is providing PSD2-like access to all D€-related infrastructure, including TIPS, along the lines of Banca d’Italia’s suggestions under section 3.2.2.1 in their contribution to the discussion on technical design choices<sup>1</sup>. This is how a lot more innovation would unfold.

So far, your suggestions for the involvement of TPPs (PISPs and AISPs) are not very detailed, hence we cannot comment much more on that for the time being. Naturally, this is the area we are mainly interested in, so we are looking forward to learning more about your thoughts on the role of TPPs in and around account-based D€s.

However, and as you know, we very much favour a token-based D€ for many reasons, as detailed in our previous responses. An important one of these is that pure TPPs, which are not PIs or EMIs, are looking forward to new token-related opportunities like offering wallets or token management services. We are hoping that the distribution of the D€ would allow us to become Wallet Servicing PSPs (WSPSPs) or Token Servicing PSPs (TSPSPs), which would open a whole new range of services for innovation without having to go as far as becoming ASPSPs and all the legacy that comes with it. It could be very attractive to then build innovative value-added TPP services directly on top of our own wallet/token services and thereby become more competitive compared with similarly bundled products of CIs, PIs and EMIs.

### 4) Form factor and delivery approach

A lot of groundwork, relevant for this section, has been done by the EPC MSCT Multi-stakeholder group and subgroups over recent years. You are correctly referring to this with regard to QR-codes and the development of a European non-proprietary standard for that.

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<sup>1</sup> Banca d’Italia, A digital euro: a contribution to the discussion on technical design choices, [https://www.ecb.europa.eu/paym/digital\\_euro/investigation/profuse/shared/files/deexp/ecb.deexp211011.en.pdf](https://www.ecb.europa.eu/paym/digital_euro/investigation/profuse/shared/files/deexp/ecb.deexp211011.en.pdf)

Unfortunately, from our TPP perspective, there is a fundamental flaw being built into this standard, as it will not allow the QR-code to contain all the data needed to initiate a payment via the existing PSD2 API standards. The ERPB secretariat is aware of this issue, the details behind it and our ongoing escalations about it. Assuming that this can and will be resolved, we are otherwise fully supportive of the MSCT work in this area.

Actually, so much so that we can only recommend you to look very closely at the work of the MSCT NFC & BLE subgroup as well, which is still ongoing, but has already identified most of the pros and cons and various use cases around these two technologies. The PISP use cases we have contributed are designed to a) maximise the end-to-end security, incl. a dynamically linked SCA, whilst minimising any friction in the payment flow, b) allow self-checkout (not requiring queuing up to a cashier or terminal) and, very importantly, c) allowing “offline payments” without network coverage for the consumer/payer device.

The underlying technical sophistication of our use cases requires a good enough proximity network reach and bandwidth, which is available today via Bluetooth Low Energy (BLE) and, in the near term, via Ultra Wideband (UWB). Unfortunately, NFC does not provide the same.

Of course, one could cut corners and reduce the security requirements to those of existing NFC-based payments, but we doubt very much that this would be appropriate for the D€. As a minimum, it would require to build a similar back-end infrastructure as provided by card networks to complement the front-end shortfalls of NFC. But even then, payers could not be shown the amount and payee before they have to authenticate the payment (dynamic linking) without requiring a second tap to the merchant’s terminal.

Also, if the D€ would be identity-based, which is what we believe you are suggesting, NFC would not have enough bandwidth to support that. Mutual authentication of payer and payee would not be possible, and offline use for P2P would also require a different proximity network protocol.

Leveraging the existing NFC infrastructure is of course very attractive, but that would not work out of the box in any case, if at all. Once the required changes/amendments have been established in detail, one must carefully consider the pros and cons of going down that route. Also, creating a European version of NFC/EMVCo standards would take quite an effort and one should consider more future-oriented technologies in parallel and with the same priority. Therefore, we would recommend adding at least BLE into your picture for POS and P2P.

Please note that the use of BLE is completely transparent to the payer, although depending on the shop, the exchange of a BLE identifier might be useful to facilitate connectivity without

hiccups. This could be done either via QR-code or an NFC tap, which would then be the only thing visible to the payer so that in this case a BLE-based payment would look the same as one based on QR-code or NFC, whilst being much more secure, and it would not require a second tap when allowing payers to see amount and payee before authorising the payment.

We agree that “alias/proxy” functionality is very relevant for the P2P use case, but unfortunately, there is also currently a fundamental problem from a PISP perspective, due to the EBA’s interpretation of PSD2 stated in Q&A [2020\\_5498](#). Hence, we hope that this can be rectified, or alternatively not be applicable for your implementation of P2P.

And once more, if the D€ was token-based, many of these use cases would look quite different. D€ tokens and payments could then be built into the upcoming EU Digital Identity Wallet (EUDIW) and the P2P and POS use case handled very easily and very similar to how consumers and merchants are handling cash today, just without all its downsides.

To conclude our feedback, we would like to reiterate that 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.

For all the reasons listed above and all 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) Bundled with EU Digital Wallets
- 4) Enforce low/no cost
- 5) Maximise usability, including offline use, and avoid any unnecessary friction

+++ END +++



## ERP technical session on digital euro

### Advanced functionalities: Cross currency

What is your view on the prioritized use cases for cross currency transactions?

The way consumers are shopping has transformed significantly since the emergence of mobile internet technology. The traditional split of e-com and POS can no longer be applied as merchants are striving to offer their customers an omni-channel checkout experience. Irrespective of the specific service or functionality in question, enabling functionalities for e-com but not for POS will not be compatible with the way merchants interact with their customers. We therefore suggest to secure that the cross currency functionality be also available for the physical POS use case.

What challenges do you see in achieving cross currency interoperability? And would you see any challenge specific to payments at the point of sale

A few questions need some careful consideration to guarantee the well-functioning of cross currency transactions. Already today payment services are available that allow a payer to initiate a payment in his home currency and the payee is credited in the different, local currency. Transparency has been a critical aspect as it has been scrutinised already by the European co-legislators and should also be in the centre of the EuroSystem's discussion.

Assuming that merchants will always be paid in their local currency, will there be a possibility for them to identify which transactions were initiated in a foreign currency by analysing their record of transactions? As this feature is labelled "advanced functionality", can one assume that merchants may choose *not* to accept payment transactions from customers that initiate the transaction in a foreign CBDC? Or will this functionality be part of the comprehensive list of basic services that licensed intermediaries provide to their client merchants? And to what extent will the settlement process on merchant side be impacted if cross currency transactions are permitted? Where possible, the cross-currency transaction should replicate as much as possible the mechanisms backing a domestic CBDC transaction in terms of settlement.

Another critical aspect evolves around the setting of FX rates and associated fees that might be levied. Is it correct to assume that the architectural setup and the associated interoperability model will ultimately determine which party will be responsible for setting the FX rate? Regardless of the entity in charge, it is important that the applicable FX rate, as well as all related fees be communicated both, to the merchant and the consumer. Ideally, this must be done in a way that allows both payer and payees to take an informed decision *prior* to the initiation of the transaction. How exactly can this be achieved? And will the merchant or the consumer be charged with any costs associated to the conversion?

When a shared single system is considered (for example in the EEA), then this will have to yield concrete benefits ranging from cost efficiency, securing the availability of digital currency in the region, to cross-border innovation capabilities on such platform. At the same time, we estimate that consolidating systems will increase exposure to security breaches to such vital infrastructure.

## ERPB technical session on digital euro

### Programmable payments in digital euro

Which key use cases do you see for programmable payment services in the area of retail?

Reiterating on main points made on previous programmability contributions, the following key use cases can be considered for programmable payment services:

- Recurring payments
  - Standing order, e.g. to pay monthly rent (push payment)
  - merchant-initiated transactions, e.g. subscription (pull payment)
  - Direct debits, e.g. for utilities (pull payment)
  - Instalment payment, BNPL, etc.
- IoT payments
  - EV charging
  - Smart devices/connected appliances
  - Walk-in/walk-out retail formats
- Smart contract/ Escrow functionality
  - Escrow functionality with access to third parties for final confirmation
    - E.g. e-commerce: parcel delivery service providers, (goods delivered at agreed pick-up point)
    - E.g. car purchase: Proof of insurance, proof of drivers license, etc.
- Market place
  - Platforms using multiple merchants but a single payment gateway
  - Consumers may shop with different merchants but only make a single payment
    - Split payments to allow different merchants of the market place to receive their share of the total payment amount
    - Such service may be built as a value-added service by PSPs, therefore may not require enhancement to the digital euro back-end infrastructure
- E-billing payment services

Whether/to what extent do you see a need for support to the market to provide programmable payment services (e.g., common standards, back end settlement functionalities)?

#### *Common standards*

A single commonly defined standard is the prerequisite of a successful payment system. If market participants will be in a position to market proprietary standards, then overall welfare will decrease as costs for implementing such proprietary standards will go up and interoperability across participants can no longer be guaranteed.

However, even if standards are essential for interoperability, they may do not guarantee it, as well-defined standards (3DS/Open Banking) may present enough variation as to require individualized provider

onboarding. The risk is therefore that their implementation will rely on merchants and/or processors to adapt their systems to the new standards, which will be done with a lack of consistency and at different timelines (e.g. PSD2/SCA). This will likely transfer the costs to merchants and will impact adoption. We therefore propose “primitives” as an enhancement. Primitives are concrete implementations on the core infrastructure layer (i.e. EuroSystem back-end) which can be invoked by participants via APIs – becoming ubiquitous to all. Primitives are more efficient and secure as they provide a “single source of truth” (or code) used by all parties, rather than guidelines for independent code creation.

Competition amongst intermediaries should therefore not be based on the development of proprietary standards but rather on (value added) services directly targeting end users.

Lastly, to enable true interoperability a rulebook, as well as implementation guidelines should be provided to market participants.

#### *Back-end settlement functionalities*

The back end of any future payment/digital euro system should support reservation services. This functionality will be essential for specific retail POS and e-commerce use cases like petrol retail, hotel reservation, or car hire.

This might be realised by conducting a pre-authorisation and subsequent blocking of funds during an agreed timeframe. In the case of automated funding mechanisms, a distinct agreement with the intermediary might be needed to block funds. Upon scenario, the preauthorisation will require updating to either:

- prolong of the period of amounts being blocked
- capture updated payment amount → exceeds preauthorised amount
- capture updated payment amount → below preauthorised amount
- Nullify preauthorisation

Once the final amount is known, the payment may then be initiated and executed.

Additionally, refund functionality for programmable payments for both, full and partial refund payments needs to be enabled, always establishing links to the underlying initial sales transaction. Whether such functionality will have to be embedded in the back-end settlement infrastructure of the digital euro or can be dealt with by the PSPs will depend on the final architectural design of the future digital euro scheme.

## ERPB technical session on digital euro

### Scheme access criteria and supervised intermediaries

Do you agree that PSPs as designated in the PSD 2 would be best placed to distribute the digital euro?

Yes, however a level-playing field needs to be in place across all licensed PSPs. A key objective of participating PSPs according to the information shared by the Eurosystem is the “access to digital euro settlement mechanism”. Under the proposed scheme access criteria, PSPs as designated in PSD2 will not be able to fulfil such objective as the settlement finality directive (SFD) restricts direct access to payment systems to credit institutions, investment firms, public authorities and publicly guaranteed undertakings. Direct access to clearing and settlement mechanisms is currently not granted to -money institutions (EMIs) and payment institutions (PIs)

Therefore, amendments to the SFD are necessary in order to allow EMIs and payment institutions PIs to participate. Credit institutions should not be privileged scheme participants compared to EMIs or PIs.

Do you agree on the proposed services to be provided by the different categories of PSPs?

Yes, it needs to be clear that neither payment imitation service providers (PISPs), nor account information service providers (AISPs) will be able to provide the list of services as outlined in slide 7. Although they fall under the category of PIs, they do not offer account services. PISPs and AISPs may *only* provide payment imitation and account information services – but none of the other services listed in the table.

Another aspect to consider is that many PSPs do not provide any consumer facing services, but only act as a service provider to merchants. Typically operating under Payment Institutions licenses, will such PSPs fall within the proposed access criteria be obliged to participate and provide digital euro services also to consumers even if they do not have any direct relationships with them?

Do you see any drawbacks in the proposed approach and if so, how could they be overcome?

The digital euro basic services will have to be carefully defined; this will likely have far-reaching impacts on the conversion of digital euro payments amongst payment service users. Additionally, APIs granting access to digital euro accounts should be standardised.

## ERP technical session on digital euro

### Form factor options and delivery approach

Would you consider to prioritise any other payment initiation technologies for the initial release of the digital euro in light of end user experience and merchants preferences?

The approach based on payment environment and technology is suitable. However, we recommend having a more granular approach based on key customer payment journey, such as Mass transit, indoor payment with attended, semi-attended, or unattended terminal, m-commerce, etc.

Any digital euro solution should be technology agnostic. It should be designed in such a way that it will be able to support in a flexible way any upcoming and relevant technology. A key principle to consider is to provide a seamless, convenient, and secure customer payment experience, while keeping technological limitations of customer devices in mind.

We may therefore foresee future technology which has not yet been addressed by the EuroSystem, such as Ultra-wideband radio technology. In addition, a combination of two technology could be envisaged such as QR Code for pairing Devices and BLE technology for the data exchange. Similarly, NFC peer to peer (based on ISO 18092) and BLE.

When considering m-commerce use case, it needs to be guaranteed that the payer is redirected seamlessly from merchant-app to digital euro/banking app and vice versa (this is currently not working on card payments, and it causes a lot of unfinished purchases). Such app-to-app redirection has not been covered by the proposed interfaces.

“Internet via an alias/proxy” technology could be extended to POS for certain scenario and merchant environments in a true omni-channel retail experience. This would be a similar development as P2P instant payment solutions being offered first to private users and then the services being extended to payments at merchant POI.

Nowadays, customers are expected to use their preferred payment instrument everywhere and at any time. As a consequence, the provision of digital euro payment services should be universal across all specific retail payment use cases, both POS and e-commerce, allowing to create a truly omni-channel checkout experience.

Whichever technology will ultimately be used, it needs to be assured that already existing infrastructure (hardware and potentially software) currently used to process electronic payments may be reutilised to initiate digital euro payments as to guarantee that necessary investments on merchant side remain as low as possible.

Clear functional, risk, and security requirements and tentative timelines of deployment will have to be clearly defined and communicated to allow merchants to evaluate the impact of the acceptance of digital euro payment at POI. Such impact assessment will be necessary to allocate the required

resources and budget and to decide whether any further developments on existing infrastructure and processes are required. The future digital euro scheme should therefore address functional, risk, and security requirements as soon as possible and potentially even develop specification and monitor the correct and compliant implantation based on those specifications.

What are the major considerations for rolling out QR codes in all prioritised use cases by 2026 including the impact on merchants' acceptance?

QR codes bear the advantage of guaranteeing a harmonious customer journey from an omni channel perspective, where the customer is able to utilise this technology both in-store and online. However, in specific time critical use cases like mass transit or grocery stores, QR code is not the most suitable technology – here we would strongly suggest to rely on more responsive technology such as NFC, as it's faster, more agile and usable for users.

Payee presented QR code is the most common User Experience. One identified issue concerns the protection of the Payee IBAN account /digital euro account identifier when a transaction is initiated by a PISP. For transactions initiated by ASPSP, tokenisation technology can be used to protect IBAN/digital euro account number. More concrete challenges may arise when the QR code cannot be captured by the consumer's mobile device camera because it is not functioning properly, or because light reflections are too strong.

Payer presented QR code would allow the payee to enable a consistent payment experience and support loyalty program rewards.

P2P payment could be initiated in payee or payer presented QR code mode.

Merchants may need to upgrade or renew their scanning infrastructure to support future European QR code specifications for (instant) credit transfers.

Additionally, both QR code experiences typically require internet connectivity from payers' mobile devices. This needs to be considered as many retail outlets operate in remote places without mobile internet connectivity or WiFi connection. In addition, processors or merchant incidents regarding connectivity are possible and must also be taken into account.

How an EA wide rollout for NFC at POS by 2026 could be achieved? Which NFC standard option do you believe would better contribute to strategic autonomy and to the European retail payments market integration, while minimising costs for market participants?

NFC technology is a relevant proximity payment initiation technology, especially for POS environments that require swift and seamless checkout processes, e.g., mass transit or grocery.

There are different NFC technologies and standards.

- NFC passive unidirectional transfer of data based on tag mode (ISO 14443)
- NFC bi-directional transfer of data (ISO 14443). This protocol is exchanging data in clear text without mutual authentication
- NFC peer to peer bi-directional transfer of data (ISO 18092) includes two communication modes, active and passive, which allow an NFC device to communicate with other NFC devices in a peer-to-peer mode

Major challenges with currently deployed NFC technology are

- 1) the accessibility of the device NFC antenna
- 2) Mutual authentication to verify both parties in a digital communications channel (PKI infrastructure required)
- 3) Payer IBAN data currently transmitted in clear text (based on EMVCO standard)

Currently, account-based NFC proximity technology can only use unidirectional data exchange. After having received the tokenised customer ID (IBAN, digital euro account number, etc.) the payee initiates a request to pay via the backend system, which appears on the payer's mobile device for payment initiation.

New contactless NFC specifications<sup>1</sup> would need to be developed and deployed in the market in order to use bi-directional data exchange. Timelines of such implementations are unknown and will likely consume a lot of resources.

Bi-directional exchange of data via NFC technology has not yet been addressed for account-to-account payments as the access to the antenna in iOS is restricted to card-based payments.

Card based NFC proximity technology is using bi-directional NFC mode based on EMVCo specification with the card details being presented by the cardholder in clear to the merchant POI and the merchant initiating a card transaction. However, what is valid for card-based payments may not be applicable for account-to-account or digital euro payments. It may therefore need to be considered that payer

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<sup>1</sup> Such as EMVCo C8 contactless kernel or CPACE specifications, or any other contactless protocol



presented account-based payment requires additional security technology and data protection (tokenisation, PKI infrastructure, etc.).

Already today, it is possible to use an instrumental PAN number as a proxy for the IBAN account (this PAN number is not visible for the user) so that the payment can be initiated at POS with a mobile wallet, leveraging the current NFC POS infrastructure. The user experience is therefore identical to cards.

In fact, this approach is currently being implemented by Bizum, the Spanish account-based payment solution with more than 22 million users, and Redsys, the Spanish payment processor. Bizum has developed a system that allows to complete NFC payments by using a proprietary NFC kernel (which is not Visa nor Mastercard) and the same mobile card payments user experience. This solution is going to be in the market in 2023. The private NFC kernel that is used currently may evolve over time to inter-industry specifications such as the European specification CPACE. Using an existing kernel provider could be a short-term solution for the first years, while European specification are being developed.

What would be the potential drawbacks of the prioritised delivery approach and how could they be overcome?

The proposed delivery approach appears to be logical and straight forward. When intermediaries develop and integrate digital euro payment services within their proprietary environment, it needs to be assured that these are based on single commonly defined standards to limit the risk of fragmentation of implementation specifications, APIs and SDKs to be offered to merchants at POI across the euro zone. Merchants expect digital euro payment services to behave identically independent of the provider of the payment app.