Digital Euro Consultation Questionnaire
Your Views on a Digital Euro

User Perspective

1. How would you rank, in order of importance, the features that a digital euro should offer?
2. Do you envisage any challenges associated with a digital euro that would prevent you or others from using it? If so, what are they?
3. What user features should be considered to ensure a digital euro is accessible for people of all ages, including those who do not have a bank account or have disabilities?
4. There are two approaches we can take to make a digital euro work...

Financial, Payment and Technology Professionals' Perspective

5. What role do you see for banks, payment institutions and other commercial entities in providing a digital euro to end users?
6. What services, functionalities or use cases do you think are feasible and should be considered when developing a digital euro?
7. What requirements (licensing or other) should intermediaries fulfil in order to provide digital euro services to households and businesses?
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9. What technical solutions (back-end infrastructure and/or at device level) could best facilitate cash-like features?
10. What should be done to ensure an appropriate degree of privacy and protection of personal data in the use of a digital euro?
11. What is your assessment of these and other alternatives from an economic perspective?
12. What is the best way to ensure that tiered remuneration does not negatively affect the usability of a digital euro, including the possibility of using it offline?
13. If a digital euro were subject to holding balance limits, what would be the best way to allow incoming payments above that limit to be shifted automatically into the user’s private money account (for example, a commercial bank account) without affecting the ease of making and receiving payments?
14. What would be the best way to integrate a digital euro into existing banking and payment solutions/products?
15. What features should the digital euro have to facilitate cross-currency payments?
16. Should the use of the digital euro outside the euro area be limited and, if so, how?
17. Which software and hardware solutions (e.g. mobile phones, computers, smartcards, wearables) could be adapted for a digital euro?
18. What role can you or your organisation play in facilitating the appropriate design and uptake of a digital euro as an effective means of payment?
Dear Reader,

After years of debate, Central Bank Digital Currencies (CBDCs) are gradually being implemented across multiple jurisdictions. The European Central Bank is leading the implementation of the Digital Euro in the Single Market and issued a public questionnaire to gauge perception on the nature of this CBDC by the people who will use it the most.

In this document you will find the International Association of Trusted Blockchain Applications’ (INATBA) response to the questionnaire. INATBA brings together industry, startups and SMEs, policymakers, international organisations, regulators, civil society, and standard-setting bodies to support blockchain and Distributed Ledger Technology (DLT) to be mainstreamed and scaled-up across multiple sectors.

INATBA, consisting of 160+ member organisations, is focussed on supporting the development of the market for DLT and blockchain applications by establishing and maintaining public/private engagements, supporting the development and adoption of standards and governance models and contributing the insights and expertise of our members. INATBA is proud to submit this contribution to this significant project on the Digital Euro, which we believe will help shape the future of money and finance in the decades to come for the benefit of Europe and her citizens.

This response is a combination of perspectives from across INATBA’s membership, including feedback from ex-central bankers, technologists, financiers, government officials and stable value cryptocurrency experts. INATBA welcomes steps towards the issuance of the Digital Euro and stands ready to contribute towards the important work of the European Central Bank on this topic with expertise and insight from our broad base of members and experts..

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INATBA
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Your Views on a Digital Euro

The European Central Bank (ECB) and the national central banks of the euro area are together assessing whether to introduce a digital euro.

A digital euro would be an electronic form of central bank money accessible to all citizens and firms – like banknotes, but in a digital form – to make their daily payments in a fast, easy, costless and secure way. A digital euro would be introduced alongside cash; it would not replace it.

As part of the ongoing assessment, we want to hear the views of the public and of all interested stakeholders on the benefits and challenges of issuing a digital euro and on its possible design.

The following questionnaire is divided into two parts. The first part is aimed at the general public, while the second is targeted primarily at experts from the financial industry, technology companies and academia. However, respondents are welcome to provide feedback on any of the questions. The questions include references to the pertinent sections of the Eurosystem Report on a digital euro, which include additional details for the interested reader.

After the consultation period closes, all comments will be published on the ECB’s website. For details on how personal data and contributions will be handled, please see the privacy statement below.
User Perspective

We want to find out how people in the euro area would use a digital euro. We also want to understand the ways in which a digital euro could complement the existing payment methods you use. Your responses would help us design a digital euro that meets the needs of a broad range of users.

1. How would you rank, in order of importance, the features that a digital euro should offer?

A. I want it to be a secure means of payment.
B. I want my transactions to be completed instantaneously.
C. I want to use a digital euro without having to pay additional costs.
D. I want my payments to remain a private matter.
E. I want it to be easy to use.
F. I want to be able to pay even when there is no internet or power connection.
G. I want to be able to use it throughout the euro area.
H. I want to be able to use it with my smartphone and at payment terminals.
I. I want it to take the form of a dedicated physical device.

Do you have any further comments about the ranking that you have indicated above?
INATBA members suggest that multiple of the aforementioned options are mandatory for the long term success of the Digital Euro. Furthermore, financial protection is a highlight that is especially important now that physical will gradually diminish in use.

2. Do you envisage any challenges associated with a digital euro that would prevent you or others from using it? If so, what are they?

INATBA Members believe that challenges are bound to emerge in the design and initial implementation of a Digital Euro. Firstly, five key challenges need to be addressed, namely trust, scale, privacy, inclusivity, and interoperability.

Transacting in cash has immediate settlement finality. The digital-analog of cash must, therefore, also have immediate settlement finality. Otherwise, the instrument would carry counterparty risk, again undoing some of the benefits of introducing a CBDC. Scalability is key for a seamless user experience, which, in turn, is key for the adoption and acceptance of the new payment instrument. Settlement delays of even a few seconds can invalidate or limit CBDC use cases, but INATBA members believe that a combination of payment systems, like cash, can complement any such CBDC limitations.

Privacy is another necessary condition for broad adoption, and as such it is paramount to carefully balance consumer privacy with the regulatory need to
ensure transactions are KYC/AML compliant, particularly so in retail CBDCs. This requires a layered approach to privacy with adjustable limits for fully private, partially private, and fully transparent transactions. Importantly, authorities, in partnership with issuing central banks, must have control over the privacy thresholds and clear guidelines on how and why transaction privacy thresholds can change.

For a payment instrument to be near universally accepted and trusted, it needs to be available to everyone in a country. Achieving full inclusivity is crucial for retail CBDCs, but faces two related challenges: identity and access. In their 2016 paper “A Blueprint for Digital Identity,” the World Economic Forum highlights the importance of building digital identity infrastructure for the future of financial infrastructure. The ECB will have to seek broad stakeholder engagement to solve the digital identity and access challenges.

The hardest part of designing new financial infrastructure is developing the protocols and processes in a robust and resilient way. They are compatible not just with legacy systems but also with future requirements.

However, from a macro-prudential view, a known challenge is the disintermediation of banks and particularly its impact on the loan-deposit ratio. It is likely that this ratio will become more volatile over time across the banking sector, but particularly disrupting universal banks. Furthermore, a search for yield (for example, bank interest rates) could be having unexpected negative effects. In a financial system where money transfers can instantly be made to another bank account with higher interest rates, consumers will seek to maximize their yield.

Commercial and universal bank engagement will be a challenge. For a citizen, the advantages of a digital Euro may very well outweigh the risks and initial limitations. However, for retail-focused credit institutions and banks, the benefits of a retail CBDC may be insignificant compared to the disruption brought to one of their main sources of income.

Lastly, combining self sovereign identity, PSD2 and potentially smart contracts could increase volatility and uncertainty. In general, INATBA members also believe that node governance could pose a challenge, particularly in cases of monetary policy programs, but the benefits would likely outweigh the challenges.

INATBA is perfectly suited to combine across its diverse working group and act as a platform to test and assist in designing the Digital Euro. The creation of task forces and focus groups could also help provide industry-led evidence about the needs and desires of the market in the impending adoption of the CBDC.

3. What user features should be considered to ensure a digital euro is accessible for people of all ages, including those who do not have a bank account or have disabilities?
Mainstream adoption is one of DLT’s biggest problems. INATBA Members believe that providing free digital wallets, enabled with SSID, local encryption and biometric access will allow for the secure adoption of the Digital Euro for most, if not all, segments of the European population.

Deposit guarantee schemes, easy conversion to other forms of money, and high acceptance from the private sector across the Single Market will also expedite the adoption of the Digital Euro. Additional incentives can be utilized to grow the use of the Digital Euro. A time-limited cash-back guarantee, or the avoidance of transaction fees by retail establishments when using the Digital Euro instead of a credit card, could be enough to push Digital Euro adoption over the line.

Given that a significant part of the population, in particular the elderly, do not have or use smartphones, a multi-pronged approach is required with various means of interacting using a digital euro (e.g. smart payment cards, QR codes). However, it is important to note that adoption and deployment of the Digital Euro should not be delayed. Adoption of new technologies and products will always be fragmented across the population, and its issuance should not be limited by this.

INATBA stands ready to help the ECB collect more evidence and provide adoption tests though its members and dedicated task forces. These efforts will be conducted throughout the coming years, and are already being planned with the collaboration of many of our members and the general DLT ecosystem.

**4. There are two approaches we can take to make a digital euro work, one that requires intermediaries to process the payment and one that doesn’t.**

Although both options have their benefits, which we expand upon below, INATBA believes that a fully independent Digital Euro would be much closer to cash payments today.

Consider that if we design a digital euro that has no need for the central bank or an intermediary to be involved in the processing of every single payment, then using a digital euro would feel closer to cash payments, but in digital form. This also means that you would be able to use the digital euro even when not connected to the internet, and your privacy and personal data would be better protected.

The other approach is to design a digital euro with intermediaries recording the transaction. This would work online and allow broader potential for additional services to be provided to citizens and businesses, creating innovation opportunities and possible synergies with existing services. For example, it could make it easier to integrate a digital euro into currently available electronic banking services and applications.

**From your perspective, which of the following do you find most appealing? (select one):**

- A digital euro focused on privacy and the protection of personal data, which
Providers—including banks—have two main functions:

- A digital euro with broader potential for additional services, allowing innovative features and other benefits for citizens and businesses;
- A combination of both. X

**Do you have any further comments regarding your answer to the question above?**

A combination of both can be used to reach different segments of the population, however a Digital Euro that can be used offline resembles Cash much more and should be the first priority before the development of a more industry-tailored approach.

**Financial, Payment and Technology Professionals’ Perspective**

We want to hear from experts working in the financial and technology industries so that we can assess how a digital euro could be provided safely and efficiently. We want to make sure that its design would not inadvertently constrain industry-led solutions aimed at providing additional features or services which might also benefit citizens. We would also like to understand what role you or your organisation could play in facilitating or encouraging the use of a digital euro as an effective complement to cash.

**5. What role do you see for banks, payment institutions and other commercial entities in providing a digital euro to end users?**

INATBA members believe that it makes sense to have banks and other licensed service providers involved in the issuance and distribution of a digital euro. The utility of these entities will be varied significantly depending on the structure of the Digital Euro, however, banks, payment institutions and other commercial credit entities can help manage Digital Euros for their customers, as well as provide them with multiple other financial services to best support their assets management needs.

However, a digital euro would provide an opportunity to broaden the set of institutions involved in the distribution of the payment instrument. INATBA Members envision a two-tiered distribution model in which Licensed Service Providers—including banks—have two main functions:

1. Link end-users (i.e., consumers and businesses) and the CB to facilitate and execute the issuance of CBDC: Licensed Service Providers will collect requests of CBDC from the public and use their accounts at the central bank and local RTGS to obtain CBDC in exchange for eligible forms of payments. Any form of payment is compatible with the model; we expect ELT through existing electronic funds transfer payment systems will be the most commonly used.

2. Provide gateway services to facilitate the distribution of CBDC to end-users: these services will include assistance in the activation and maintenance of digital wallets, identity verification, and
This type of solution reduces the burden that a central bank would face in a single-tier system, where all the gateway services would have to be managed in-house by the Central Bank. It is also conveniently implemented within the already established local RTGS payment system because it fully relies on the same mechanism normally used by the central bank for its market interactions with the bank system.

Legal and technological standards can be set up with the help of existing banking incumbents that seek to use the Digital Euro; embracing innovation not just for the private sector, but also for the public sector, as a lack of innovation might drive users to other, less safe instruments. Some existing standards by W3C that could be utilized to achieve this, as is already done, for example, with the TCP/IP standard).

6. A digital euro may allow banks and other entities to offer additional services, on top of simple payments, which could benefit citizens and businesses. What services, functionalities or use cases do you think are feasible and should be considered when developing a digital euro?

INATBA members believe that a series of services developed by the DLT market can be adopted to the Digital Euro. Smart Contract capabilities, and their integration to national law, was the most popular suggestion.

Additional features included atomic swaps between the Digital Euro and other Digital Currencies, namely other CBDCs and private digital currencies. Multi-signature Digital Euro wallets that will allow multiple people to control shared funds was another popular suggestion. Lastly, data oracles need to be supported in order to provide for trustworthy and secure smart contract operations.

Lastly, one of the most anticipated use cases that is due to emerge in the coming two decades are machine to machine payments. The combination of mobility, connectivity and computing power will make smartphones and vehicles, and their embedded payment wallets, into autonomous economic agents. Forward thinking design that enables these applications will drive competitive advantage for Europe. CBDCs and payment networks, along with AML, KYC, identity and privacy, will need to be designed with these future applications in mind.

INATBA would happily act as a platform for testing of the Digital Euro, and our Mobility group stands ready to be engaged and gather data on accessibility, M2M payments and automated economic agents.

7. What requirements (licensing or other) should intermediaries fulfil in order to provide digital euro services to households and businesses? Please base your answer on the current regulatory regime in the European Union.
The digitization of money carries the same risk as the digitization of other services. Banks and all intermediaries should uphold certain technological standards when operating Digital Euro services. Some of these are outlined at the Markets in Crypto Assets regulatory proposal.

Additionally, in the current EU framework, supervised intermediaries (e.g., banks) are responsible for identification and onboarding of entitled users, be that natural persons or legal entities, and routing domestic and cross border payment transactions. Ability to provide identification services is therefore paramount.

INATBA members believe that regardless of the European Central Bank’s decision for a centralized or a decentralized approach for its digital euro back-end infrastructure, the Legal Entity Identifier (LEI) can be used and recorded by users and/or supervisor intermediaries to identify all parties in a transaction, including settlement agents acting on behalf of their customers.

Another advantage that the LEI presents is that the LEI’s broader interoperability enables it to be integrated seamlessly into both centralized and decentralized digital identity management systems. Together with the eIDAS-compliant digital certificates that are already harmonizing the use of e-signature technologies across the EU, and can be deployed by SSID initiatives already being developed at the EU level.

Lastly, as stated above, it is important that money transfer licensing and regulation does not inhibit M2M payments and associated tokenized business ecosystems. For example, a vehicle AI wallet which autonomously pays for infrastructure, carbon or congestion, perhaps debiting or crediting an associated bank account, should not be considered a financial intermediary or payments processor.

8. **Which solutions are best suited to avoiding counterfeiting and technical mistakes, including by possible intermediaries, to ensure that the amount of digital euro held by users in their digital wallets matches the amount that has been issued by the central bank?**

Centralized payment systems are susceptible to a variety of technical errors, cybersecurity attacks, and human errors that can be eliminated with a distributed ledger.

INATBA members believe that a tried and tested consensus mechanism, for example in a DLT system, will be a form of Byzantine Fault Tolerance. Sybil attacks need to be prevented to ensure the amounts stay matched. From a governance point of view, node reputation is one of the most important and easily used tools.

Lastly, it is important to consider quantum resilience as one the preferred characteristics of this consensus mechanism. In the eyes of INATBA members, future-proofing such an important technology is mandatory.
9. What technical solutions (back-end infrastructure and/or at device level) could best facilitate cash-like features (e.g. privacy, offline use and usability for vulnerable groups)? For more information, please refer to Requirement 2 in the Eurosystem Report on a digital euro.

INATBA members believe that multiple solutions can facilitate cash like features, including both back-end infrastructure and at the device level.

In the past decade, the closest resembling transaction to cash can be found in the early days of Bitcoin p2p markets like LocalBitcoins. Bitcoins exchanged for fiat currency happened on an individual and personal level, with little barriers towards this transaction. Efforts to these services through businesses, namely on POS systems with a cash-back feature, failed due to regulatory uncertainty.

Expanding on these efforts, perhaps through a bank-issued POS systems, can help facilitate the exchange of the Digital Euros for products and services effortlessly and with high privacy and security. Push-payment only features may be preferred by the consumer in the early stages of Digital Euro adoption.

However, our members also believe that a focus on the protocol level is equally, if not more, important. Interoperability between protocols can be done by establishing sets of recognized solution providers. This applies both to backend and frontend solutions.

Members recommended that on the device level, existing smartphone solutions should be augmented with the use of smart cards, which can authenticate transactions on a distributed ledger. A combination of trusted execution environments and QR codes can facilitate digital payments for users without the need of additional devices.

Lastly, INATBA members believe that device identity is critical for M2M and autonomous payment ecosystems. Identity fraud, spoofing and Sybil attacks are a problem for decentralized networks, particularly for AIs which can repetitively execute complex strategies very quickly. Regulatory adoption of reliable Decentralized Identifiers (DID) of the kind proposed by W3C and MOBI are needed to facilitate useful cash-like features for M2M payments while minimizing risks.

10. What should be done to ensure an appropriate degree of privacy and protection of personal data in the use of a digital euro, taking into account anti-money laundering requirements, and combating the financing of terrorism and tax evasion?

The European Central Bank indicates, in its Report in a digital euro, that if the legal identity of digital euro users were not verified when they access services, any
ensuing transaction would be essentially anonymous.

INATBA Members understand that KYC, AML and ATF policy implementations are a necessity in the digital age, especially so for transactions of high frequency and/or value. This was also highlighted by Requirement 13 and 8 of the Digital Euro report, namely to address excessive capital flows and use by non-euro area users, and to avoid the excessive use of the Digital Euro as an investment. However, it would be under-representative of the industry to suggest that low privacy protection will lead to rapid and enthusiastic adoption of the Digital Euro.

Technologically, almost all desirable privacy protection solutions can be achieved. Therefore, further clarity and guidance on these desirable privacy protection levels is kindly requested from the ECB by our members. If the Digital Euro aims to become the digital counterpart of cash, high levels of privacy protections are assumed to be sought after by design. INATBA's Privacy Working Group's report would potentially help provide insights on the privacy techniques in existence today, and what the industry desires are privacy standards.

The most accurate technological solution to centrally-backed digital currencies can be found on the 2015 paper by Danezis, G. & Meiklejohn, S., *Centrally Banked Cryptocurrencies*, 2015. The paper explains how trusted counterparties, be it banks or consumer-centric businesses like bars and groceries, can help validate, authenticate and identify transactions within a decentralized ledger without sacrificing performance, basic privacy or monetary policy control.

Additionally, an INATBA member suggested that the open and publicly available Global LEI Repository can help to reinforce trust in the privacy model, since LEI reference data of legal entity payers and payees does not publically contain personal information. This may be an efficient, fully automated process through the use of the LEI in payment transactions and financial messaging, especially if done so on a consistent and standard basis.

Currently, payment service operators can access richer data through the adoption of the LEI in ISO 20022 payments messages. Through integrating the LEI in their automated processing, payment service providers could support their KYC and client entity onboarding processes, reduce false positives in AML alerts and enhance their correspondent banking relationships without compromising privacy of their client entities. Other cryptographic solutions can further enhance the privacy protection of consumers without obstructing authorities from being able to decrypt such data when legal procedures have been authorized and followed.

Finally, INATBA Members suggested that a balance for privacy and the legitimate need for KYC/AML can be achieved by a multi-ledger solution. A three-layer solution is proposed. One layer can facilitate low value, nearly anonymous transactions between citizens, with a second layer directed to larger transactions that require full KYC compliance to be executed. A third, completely transparent layer could be used for machine-to-machine transactions. One to one DIDs for autonomous economic agents were recommended by one of our members.
In any case, SSID solutions, currently developed at the EU level, can help achieve desired AML and ATF policy objectives without causing friction in the use of the Digital Euro.

11. The central bank could use several instruments to manage the quantity of digital euro in circulation (such as quantity limits or tiered remuneration), ensuring that the transmission of monetary policy would not be affected by shifts of large amounts of commercial bank money to holdings of digital euro. What is your assessment of these and other alternatives from an economic perspective? (Tiered remuneration is when a central bank sets a certain remuneration on holding balances of digital euro up to a predefined amount and a lower remuneration for digital euro holding balances above that amount.)

INATBA members are not in agreement on the use of tiered remuneration. Although some members understand the desired use case for such a proposal, they also see it as a further barrier to the Digital Euro’s adoption potential.

In multiple suggestions, INATBA members recommended that other techniques can be used to ensure the transmission of monetary policy and limit the shift of large amounts of commercial bank money to Digital Euros.

Some of these were granting Digital Euros as interest-free cash-like assets, establishing quantity limits or other “redemption gates”, and even adding additional incentives to funnel these assets towards consumption only, like programmable demurrage.

12. What is the best way to ensure that tiered remuneration does not negatively affect the usability of a digital euro, including the possibility of using it offline?

An INATBA member suggested that an interest-free digital euro would likely be less distortionary than tiered remuneration.

13. If a digital euro were subject to holding balance limits, what would be the best way to allow incoming payments above that limit to be shifted automatically into the user’s private money account (for example, a commercial bank account) without affecting the ease of making and receiving payments?

INATBA Members suggested that building in a pathfinding condition can help manage incoming payments that are above the designated Digital Euro holding balance limits.

Expanding on this, if wallet A contains more than limit X, money is either transferred to the commercial bank account or atomically swapped if conditions require it. This would require a hybrid approach and potentially an Automated Market Maker (AMM) with the ECB and selected partners as validators.
This can be implemented either on the level of wallets or on the protocol level. The latter is preferable, given the challenges associated with updating a large number of user wallets. It requires commercial banks to be integrated into the system.

14. What would be the best way to integrate a digital euro into existing banking and payment solutions/products (e.g. online and mobile banking, merchant systems)? What potential challenges need to be considered in the design of the technology and standards for the digital euro?

INATBA members believe that a myriad of solutions exists in integrating the Digital Euro in the existing payment infrastructure. The simplest way is to make its acceptance mandatory, similarly to how retailers are required to accept cash for payments.

However, leaner methods also exist. Designing the technology and rules of the Digital Euro in a way to enable interoperability of existing banking and payment solutions and products is a realizable and scalable path forward.

Our members suggested using the ISO 20022 standard. The cross-border payments landscape is evolving in the direction of increasing efficiencies, richer data utilization and greater international harmonization through the adoption of the ISO 20022 standard, which was updated in 2016 to include the ability to verify financial institutions using an LEI code instead of a BIC.

On this point, BICs are primarily bank codes and not a unique entity identifier whereas LEIs can be obtained by any company wishing to trade on the financial market and only one LEI can be attributed to a legal entity. Our members recommend to the ECB to make LEI inclusion mandatory. This addition allows a much broader range of companies (e.g. FinTech) to standardize their payment messaging in line with the ISO 20022. It also allows companies to speed up current Know Your Customer requirements that are often too costly and ineffective. The European Central Bank also incorporated ISO 20022 for its Target 2 and Euro1/Step1 market infrastructure, which will go live in November 2022.

However, although the LEI is already incorporated as a data field in ISO 20022 messages, bank markets, including the EU, allow optional use of the LEI. Again, our members suggest that this is an excellent opportunity for all significant markets to mandate the LEI as part of their migration strategy.

15. What features should the digital euro have to facilitate cross-currency payments?

Our members suggest that efficient cross-currency payments will be a significant
use case of CBDCs, and that a very low, if not zero, transaction fees, alongside atomic swaps, would greatly enable such features.

Locked escrow is also a possible solution that will also allow for controlled credit creation, similar to the methods seen in existing crypto asset markets.

INATBA’s Government Advisory Board (GAB) includes policy makers from some of the leading international financial policy institutions, as well as National Central Banks. Our GAB is ready to assist the ECB with its cross-currency research, and is able to set up a working group with international representation of the highest financial policy level.

16. Should the use of the digital euro outside the euro area be limited and, if so, how?

INATBA Members are divided on this matter, since a digital cash equivalent would likely be used significantly outside the Single Market, however unfavorable that use case may be. Some members see no reason why strong limitations need to be put in place for use of the digital euro outside of the euro area.

However, other members proposed some suggestions on how the adoption of the Digital Euro can be thwarted outside of Eurozone’s geographic limitations. An initial registration of legal entities that can accept the Digital Euro would both increase adoption and KYC/AML compliance. Slightly discounted payments with authorized and registered parlors could incentivise this limitation to international use of the Digital Euro.

Additionally, a 'stamp of approval' method, i.e. the idea that the digital euro needs to be 'stamped' by a verified or approved authority of a country, could also help. Lastly, limitations can easily be built into the protocol, especially for non-trivial amounts in line with the KYC/AML requirements. One such limitation can be that the sending party is a verified euro area resident.

17. Which software and hardware solutions (e.g. mobile phones, computers, smartcards, wearables) could be adapted for a digital euro?

Our members urge the ECB to design the Digital Euro in a flexible enough way that all the aforementioned hardware solutions can integrate, run and transact with Digital Euros. Existing payment rails are already much more flexible than 10 or 20 years ago, where cash and cards dominated the payment space.

Today, an array of payment methods is available, including mobile phones, smartcards, and even wearables, all of which need to be able to transact with Digital Euros. This is crucial for adoption of the mass Digital Euro.

Our members also believe that implementing a forward thinking approach to device wallets and M2M transactions is also a very important consideration when reviewing hardware solutions for the Digital Euro. Namely, our members believe that secure device wallets are needed to store identity and facilitate payments. This will be especially important for devices, like vehicles, phones and wearables, that will both roam and make payments in decentralized edge networks.
18. What role can you or your organisation play in facilitating the appropriate design and uptake of a digital euro as an effective means of payment?

INATBA and our members can help facilitate the appropriate design, uptake and adoption of the Digital Euro. The simplest way would be with node management. INATBA and multiple members would happily help establish a node that will operate Digital Euro's consensus mechanism.

Consensus design is also a section where the experience of our members can be invaluable to the ECB. Some of INATBA's members represent protocols that can constitute a foundational infrastructure for the Digital Euro, given their scalability and cryptographical security.

Although it is still early, and the shape of the Digital Euro is still unknown, one characteristic that is highly expected is that banks and financial institutions will be involved in the operation of nodes and the disbursement of Digital Euros. Such INATBA members, namely banks and credit institutions, are eager to participate in a Digital Euro pilot, and INATBA can help manage such operations.

Our members can also facilitate the tokenization of illiquid assets, which will unlock tremendous market value and help incentivize the use of the Digital Euro. Additionally, our membership includes cutting edge thought leaders on smart cities, machine-to-machine payments and interoperability, so testing and developing solutions for autonomous machine-based economic agents should include INATBA.

Overall, INATBA is excited for the Digital Euro, and will act as an ally to the ECB. We look forward to working together in the coming years to make the Digital Euro a reality.
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