



EUROPEAN CENTRAL BANK

EUROSYSTEM

Digital euro

The future of money



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The digital euro: a digital form of cash

Current payment options will continue to exist



Cash



Card



Bank
account



Other digital
payments



Digital euro will bring cash-like features to the digital world



Pan-European



Free for private
individuals



High privacy



Available **offline**

1

Digital euro foundations

The case for a digital euro

Adapting the euro to the digital age

Digital payments: on the rise



In 2024, 55% of euro area consumers preferred cashless methods when paying in a shop, while 22% preferred cash ¹



Over two-thirds of card payments in the euro area are settled through international payment schemes²



Online purchases rose from 18% in 2019 to 36% in 2024³

A digital euro: bridging the gap

Complementing physical central bank money



Integrating central bank money and modern payment trends



Ensuring the euro remains fit for purpose in the digital age



¹ ECB (2024), "[Study on the payment attitudes of consumers in the euro area \(SPACE\) – 2024](#)", December.

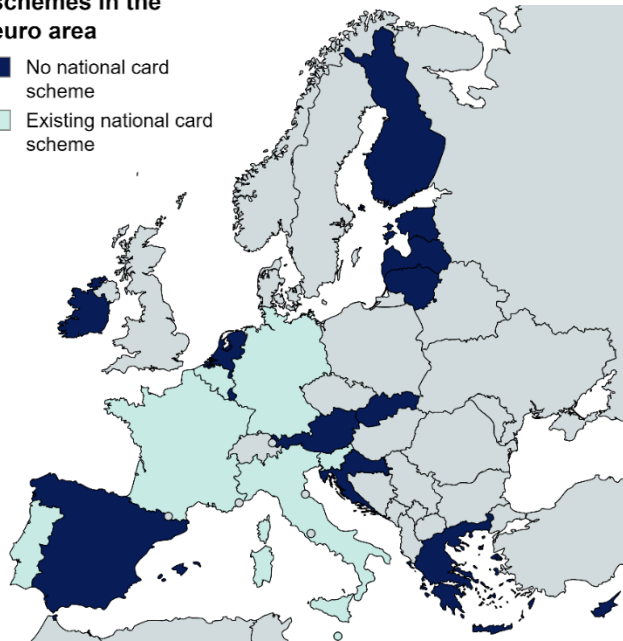
² In the second half of 2023, based on data collected under Regulation (EU) No 1409/2013 of the European Central Bank on payments statistics (ECB/2013/43).

³ In terms of payment value.

Responding to the challenges in the European payments sector

National card schemes in the euro area

- No national card scheme
- Existing national card scheme



1 Strategic autonomy

dependency on non-European providers

- 13 out of 20 euro area countries lack a national card scheme, and cross-border card payments within the euro area rely on international card schemes
- Non-European solutions also dominate mobile apps and e-payments
- Rise of USD stablecoins

2 Lack of competition

- European payment solutions cannot be used throughout the euro area
- Reduced competition increases costs for merchants, and ultimately consumers

3 Lack of convenience for consumers

- Lack of a digital payment solution that can be used in all euro area countries for all use cases

Strengthening our autonomy and tackling geopolitical challenges



Preserving **Europe's strategic autonomy** and monetary sovereignty



Reducing our **dependence on non-European payment service providers**



Spurring **innovation** and **competition** in the European payments sector



Preserving the role of the euro on the global financial stage

2

Digital euro fundamentals

Key design choices

Your euro, your choice: use cases, devices and technology

Use cases



Person-to-person
payments



Point-of-sale
payments



E-commerce

Connectivity



Online



Offline

Consumer devices



Smartphone



Physical card



Web interface

Consumer interfaces



Digital euro app



Payment service
provider app

Technologies



Internet



NFC



QR codes

Privacy and data protection: key pillar of a digital euro



More private than current payment methods



State-of-the-art privacy- and security-preserving techniques: the Eurosystem would **not be able to identify people** based on their digital euro transactions.



As with other digital payments, intermediaries would only have access to the data necessary to **comply with EU regulations**.



All personal data would be **bound by EU data protection law**, including the General Data Protection Regulation.

Offline function with higher privacy



Paying **offline** would be similar to using cash. Transaction details would only be known to the payer and the payee.

Offline digital euro: similar to paying with cash



Paying with digital euro would be possible **without an internet connection via devices like a mobile phone or a physical card.**



Users would have to **pre-fund** their digital euro account (via the internet or an ATM) for **offline payments.**



To pay offline, users would **need to be close to each other or physically at a store.**



We are looking more closely how to enable devices to pay offline and how pre-funding would work.

Leaving no one behind: an inclusive and accessible digital euro



Digital euro payments could also be made via a **physical card**, with cash being used for funding and defunding.



Users would always have access to **face-to-face technical support** and the option to easily **switch intermediaries**.



Offline functionality would enable transactions in locations with limited connectivity.



In addition to payment service providers, selected **public entities** would also operate as intermediaries as an option for underbanked users.

3

Private providers at the frontline of distribution

Balancing central bank and
commercial money

Intermediaries would play a key role in distributing digital euro



Digital euro distribution would be carried out exclusively by payment service providers (PSPs)



PSPs would maintain customer relations



PSPs would benefit from digital euro open standards

A healthy balance between central bank money and commercial money

Sufficient safeguards included in the digital euro's design



Holding limits



(Reverse) waterfall functionality



No remuneration of digital euro holdings

Holding limits will be calibrated



A balance will be struck between the right to hold and pay with digital euro and the need to avoid excessive deposit outflows

In-depth analysis is ongoing



Examine the implications for different banks and liquidity scenarios, keeping trends regarding banknotes in circulation in mind



Engage with a broad range of stakeholders, including banks and consumer groups



Share information about the work conducted to ensure transparency

A digital euro would provide pan-European rail tracks for private solutions...



...offering a **platform for innovation** for private providers to build value-added services



...enabling private retail payment solutions to **leverage digital euro infrastructure** for pan-European reach



...reducing our **dependence** on other non-European players



A **digital euro rulebook** would establish **common standards** to:

- ensure **pan-European reach** and a **harmonised payment** experience
- give **market participants** the **freedom** to develop innovative solutions
- enable domestic instant payments solutions to achieve **euro area reach**

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4

Project status update

The way forward

Preparing our currency for the future

Investigation phase

October 2021 – October 2023

Concept definition, technical exploration and design proposal

Preparation phase

November 2023 – October 2025

Main expected next steps:

- Finalise the **scheme rulebook**
- Select **service providers**
- Learn through **experimenting**
- **Dive deeper** into technical aspects, including further research into offline functions and developing a testing and rollout plan for the future

Next phase

From November 2025

Potentially developing and rolling out digital euro use cases

A decision to issue a digital euro will only be considered by the ECB once the European Union's legislative process has been completed

Thank you

Additional supporting materials:

- [Timeline and progress on a digital euro](#)
- Digital euro [FAQ](#)
- Webpage: [Digital euro and privacy](#)
- [ECB opinion](#) on the EU Commission's digital euro legislative proposal
- Digital euro [two-pager](#)
- Digital euro [LinkedIn page](#)