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WORKING DOCUMENT

From: European Central Bank
To: Working Party on Financial Services and the Banking Union (Digital Euro Package)
Financial Services Attachés

Subject: Digital euro - WP meeting on 25 September 2024 - ECB Presentation - Status of the digital euro scheme's rulebook

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EUROPEAN CENTRAL BANK

EUROSYSTEM

Status of the digital euro scheme's rulebook

Council Working Party

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Brussels, 25/09/2024


Rulebook Development Manager

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The information transmitted is intended only for Member States for the purpose of facilitating discussions in the Council Working Party.

Introduction

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- The rulebook consists of a **single set of rules, standards and procedures** for the standardisation of digital euro payments across the euro area.
- It will outline **how to implement the regulatory provisions and design choices** with technical standards and procedures.

Preparing the digital euro scheme's rulebook to ensure standardisation



Draft rulebook

- **Single set of rules, standards and procedures:**
 - user / access management
 - liquidity management
 - transaction management
- To ensure a **standardised digital euro payment experience** across the euro area while fostering further **innovation and competition**.



Prepared with a dedicated group:
Rulebook Development Group (RDG)



Key guiding principles

- Attractive to all actors in European retail payment market, most importantly to **end-users**;
- Leverage and progress on **existing standards** and scheme solutions to the degree possible;
- Enable **market innovation** on top of digital euro basic means of payment.

Draft rulebook will be sufficiently flexible to accommodate any future adjustments deriving from **digital euro legislative process**.

1

**Digital euro
scheme's
Rulebook
Development
Group (RDG)**

Background on the Rulebook Development Group (RDG)

- **RDG established in January 2023**; first RDG meeting on 15 February 2023.
- **RDG to assist with the drafting of the digital euro scheme's rulebook** by investigating rules, practices and standards to support the distribution and operation of a digital euro.
- **Monthly meetings** (next meeting on 8 October 2024).
- Agenda and minutes of each RDG meeting are **published on ECB's website**.
- **RDG complemented by Rulebook development workstreams**, with members nominated based on calls for expression of interest.
- **Workstreams focus on sections of the Rulebook that require specific skills and expertise based on calls for expression of interest.**



See https://www.ecb.europa.eu/euro/digital_euro/html/index.en.html

Collaboration with stakeholders at the core of rulebook development

Digital euro scheme's Rulebook Development Group (RDG) is based on broad market involvement to represent society at large:

- *consumer organizations, corporate treasurers, small and medium sized business, retailers with a physical presence, online retailers, acquirers, European Payment Council, credit institutions, payment institutions, e-money institutions, third party providers.*
- *Central banks and observers.*

Market stakeholders

Consumers, retailers, intermediaries



Institutional stakeholders
















ECB and national central banks



Observers

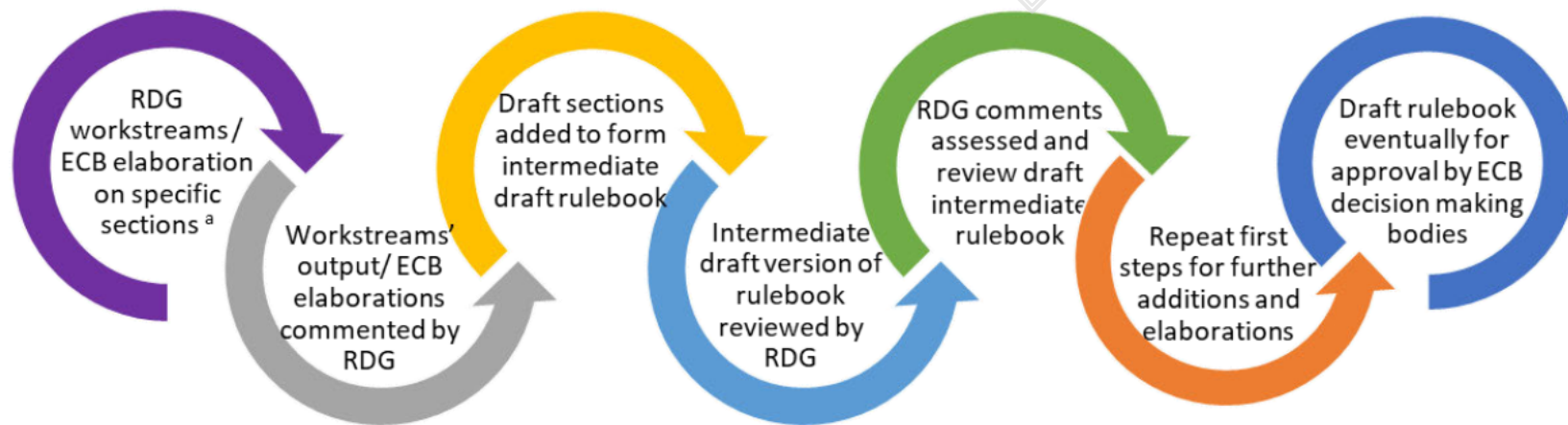


Dedicated workstreams to collaborate with market representatives on rulebook sections

Workstream		Status	
A1	Identification & Authentication		3 rd sprint concluded.
A2	Minimum User Experience Standards	 	1 st sprint concluded; 2 nd sprint running.
A3	Branding		In planning.
B1	Certification and Approval Framework	 	1 st sprint concluded; 2 nd sprint running.
C1	Technical Scheme Requirements		4 th sprint concluded.
D1	Risk Management	 	1 st sprint concluded; 2 nd sprint in planning.
F1	Scheme Compatibility		2 nd sprint concluded.
G1	Front-End Implementation Specifications for End-User Interactions	 	1 st sprint concluded; 2 nd sprint to kicked off in September.
G2	Front-End Implementation Specifications for Individual User to PSP Interactions		1 st sprint in planning.
G3	Front-End Implementation Specifications for Business User to PSP Interactions		1 st sprint in planning.
G4	Back-End Implementation Specifications for PSP to DESP Interactions		1 st sprint running.

 Reviewed  Active  Planned

Iterative feedback process with RDG and workstreams



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State of play of the rulebook

Regular updates on RDG's progress to maintain high transparency

7 June 2023

3 January 2024

5 September 2024

Update on the work of the digital euro scheme's Rulebook Development Group
7 June 2023

The digital euro scheme's Rulebook Development Group (RDG) has made progress with drafting a rulebook based on the design intention endorsed by the Governing Council of the European Central Bank (ECB). The primary goal of the update was to refine the rules and core functions of the different sections of the proposed digital euro rulebook and to ensure consistency with the existing rules of the ECB's Governing Council and the pending legislation proposed from the European Commission.

This document summarises the progress made by the RDG and includes the main steps, while providing additional transparent information on the Group's activities.

Update on progress

Since the [last update](#) on 19 February 2023, the key building blocks have been identified in order to structure the sections of the digital euro rulebook: (i) a functional and operational model architecture; (ii) a set of requirements for advanced functionalities, services and ecosystem elements, etc.; (iii) an advanced model architecture; (iv) a set of requirements for advanced functionalities, services and ecosystem elements, etc.; (v) technical solution requirements; (vi) information, application programming interface, information, technical standards, etc.; (vii) the management; (viii) other management, control, governance, change management processes, etc.; and (ix) other general (technical, service, change, history, scope of the digital euro scheme, etc.). The proposed digital euro rulebook is now being developed and will be signed with the design intention approved by the ECB's Governing Council.

The digital euro rulebook will be developed in two separate phases. The first phase of this work, which started in January 2023, is due to conclude in the fourth quarter of this year. It is expected to be completed by the end of the year, with a view to be sent out for public consultation in the first quarter of 2024.

The RDG's next step will be to initiate work on the second phase of the model architecture, including the development of requirements, with a view to ensuring that the proposed digital euro rules and core functions are attractive to users.

1. An update on the RDG's progress is available on the ECB's website: https://www.ecb.europa.eu/press/pr/2023/0607_en.htm.



Update on the work of the digital euro scheme's Rulebook Development Group
3 January 2024

Executive summary

A digital euro would be the first public European digital means of payment providing non-cash payment. To ensure a transparent implementation, the ECB is organising a digital euro development scheme, consisting of a single set of rules, standards and procedures for the implementation of digital euro payments across the eurozone.

The scheme is being developed by the Rulebook Development Group (RDG), which was established in January 2023 and whose members are professional consulting organisations, academia and relevant associations. The progress of the RDG is to deliver the rules of all actors involved in a digital euro ecosystem, including legal, technical and business, to ensure a high level of transparency, accountability and innovation while fostering further innovation and competition. To the end, this document has been written to facilitate stakeholder understanding on specific issues that require particular expertise.

Since the first update on 19 February 2023, the RDG has drafted the first draft of the rulebook in the left-hand side design structure approved by the Governing Council of the European Central Bank (ECB) and with the legal opinion of the ECB.

The rulebook will be developed in two separate phases. The first phase of this work, which started in January 2023, is due to conclude in the fourth quarter of this year. It is expected to be completed by the end of the year, with a view to be sent out for public consultation in the first quarter of 2024.

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Update on the work of the digital euro scheme's Rulebook Development Group
5 September 2024

Executive summary

On 18 October 2024, the Governing Council of the European Central Bank (ECB) approved the launch of a new non-physical digital euro, laying the foundations for the general issuance of a digital euro. One of the key deliverables of the project is the digital euro scheme's Rulebook Development Group (RDG). The RDG is responsible for developing the rules of the digital euro and for ensuring a high level of transparency, accountability and innovation while fostering further innovation and competition. To the end, this document has been written to facilitate stakeholder understanding on specific issues that require particular expertise.

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Next reporting

https://www.ecb.europa.eu/euro/digital_euro/timeline/profuse/shared/pdf/ecb_degov230607_Digital_euro_RDG_status_update.en.pdf

https://www.ecb.europa.eu/euro/digital_euro/timeline/profuse/shared/pdf/ecb_degov240103_RDG_digital_euro_schemes_update.en.pdf

https://www.ecb.europa.eu/euro/digital_euro/timeline/profuse/shared/pdf/ecb_derdp240905_RDG_progress_report_September.en.pdf



Updates to the CWP

Envisaged table of content of rulebook

Draft digital euro rulebook

[1st intermediate draft]

- **Document information**
- **Digital euro scheme scope and interplay**
- **Functional and operational model**
 - High-level E2E flows
 - Identification and authentication
 - Dispute management principles
- **Adherence model**
- **Technical scheme requirements**
- **Defined terms and conditions**
- **Annexes**
 - User journeys
 - Detailed end-to-end flows
 - FAQ



Draft digital euro rulebook

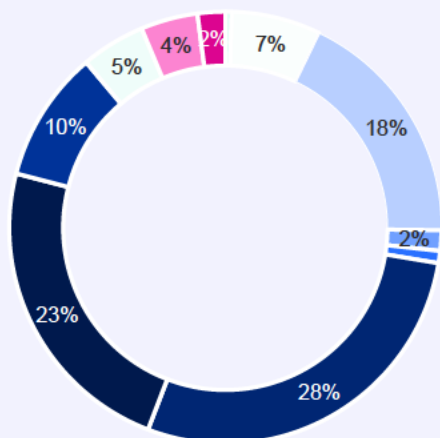
[2nd draft]

- **Document information**
- **Digital euro scheme scope and interplay**
- **Functional and operational model**
 - High-level E2E flows
 - Identification and authentication
 - Dispute management principles
 - Minimum UX standards
- **Adherence model**
- **Technical scheme requirements**
 - Interface standards and specifications
- **Risk management**
- **Scheme management**
- **Defined terms and conditions**
- **Annexes:** Illustrative User journeys, detailed E2E flows, branding standards, scheme compatibility and interoperability; detailed technical specifications, implementation guidelines, certification-related documentation; FAQ

For more information, see RDG progress reports.

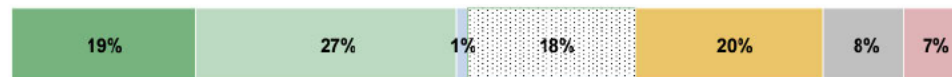
In Q1 2024 the RDG reviewed intermediate draft of rulebook in its entirety; all comments were assessed and will be addressed

% of comments received on the relevant materials



Rulebook section	# of comments
1. Document information	10
2. Scope and interplay	140
3. Functional and operational model	
Business rules	375
Identification and authentication	32
Dispute management	19
Annex A1 user journeys	588
Annex A2 E2E flows	484
Business rules x flows mapping	205
4. Adherence model	100
5. Technical scheme requirements	89
8. Defined terms and abbreviations	43
Total	2295

Summary of comments received and corresponding responses



- Adjusted in rulebook
- Comment answered without specific request for edit in the rulebook
- Answered in other documents
- Duplicate comments
- Comments requiring further internal/workstream reflection
- Comments unclear sent back to RDG for clarification
- Comments outside of RDG mandate

Functional and operational model - I

Illustrative User Journey

Transfer mechanism	User device hardware			User interface			Data exchange technology			Authentication				
Online	Offline	Mobile device	Card	Wearable	Computer	Physical card	Mobile app DE App PGP App	Online interface	Chip	NFC	QR-code	Internet (incl. voice & geo-tagging)	FN	Bio-metric
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

User Journey Description

NFC-based online payment with mobile device at POS

An individual goes grocery shopping and arrives at the checkout. Since the cashier already entered the payment amount into the terminal, the shopper can confirm and authenticate the payment by tapping the activated mobile device on the terminal. A payment confirmation is shown on the terminal and the mobile device.

TM 1.2 - POS payment with NFC (mobile)

Use Case: Player completes payment by using NFC technology using mobile device

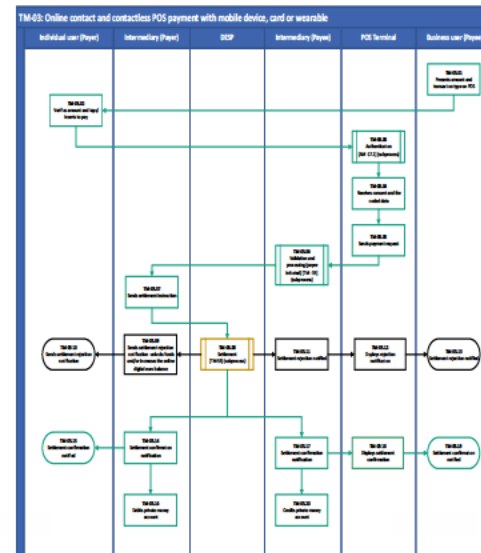


- **Table** highlighting the transfer mechanism, user devices/hardware, user interfaces, data exchange, technologies and authentication methods affected.
- **User journey** description from the end-user product description (EUPD) research.
- **“Old” visualisation** of each user journey, which includes steps, requirements and prerequisites.

Illustrative User Journey describes a use case from **user's perspective** and sequence of steps in a digital euro process (e.g. POS payment).

End-to-End flow

End-to-End flow describes a digital euro process from **initiation to completion** with all steps and entities involved.



- **Illustrative user journeys** and corresponding end-to-end flows (high level and detailed) have been reviewed.

Functional and operational model - II

Minimum user experience standards (Workstream A2)








Objectives:

- A **consistent user experience** across different digital euro use cases, and across jurisdictions independently of the PSPs providing the digital euro services;
- Allowing PSPs the **flexibility to integrate** a digital euro into their own user interfaces;
- Focus on minimum to **leave room for innovation** and adaptation to practices.

Focus on (i) translating user journeys into UX guidelines; (ii) identify recurring interactions and propose mandatory and optional UX elements; and (iii) evaluating UX guidelines with a focus on accessibility and inclusivity.

Identification and authentication (Workstream A1)

- Initial assessment of strong customer authentication (SCA) and accessibility requirements.

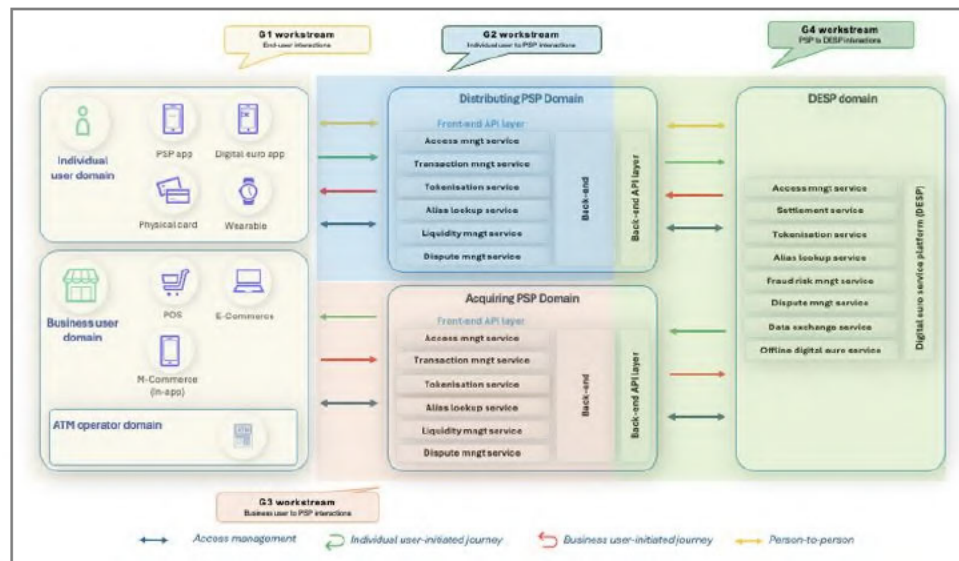
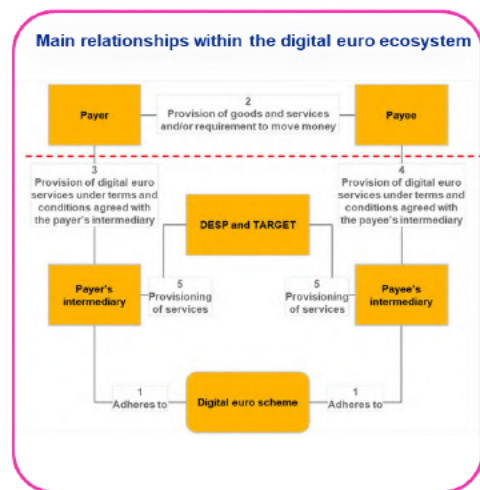
Mechanism	Requirements						
	European Accessibility Act (EAA)				Payment Services Regulation (PSR)		
	Adjustable visual elements (if used)	Adjustable audio elements (if used)	Communications via alternatives sensory modes	No triggering of photosensitive seizures	Suitable for low digital skills	Smartphone independent	Computer independent
App-based authentication 	✓	✓	✗	✓	✗	✗	✓
OTPs 	✓	✓	✗	✓	(✓)	✓	(✓)
Biometrics (smartphone) 	(✓)	(✓)	(✓)	✓	(✓)	✗	(✓)
Biometrics (external device) 	✗	✗	(✓)	✓	(✓)	✓	(✓)
Card reader / chipTAN device 	✗	✗	(✓)	(✓)	✓	✓	✓
Hardware token 	✗	✗	(✓)	✓	✓	✓	✓
Photo TAN 	✗	✗	(✓)	✓	✓	✓	✓
Software token 	✓	✓	✗	✓	(✓)	✓	(✓)

Note: Indicative assessment only. Definitive assessment depends on exact implementation. ✓ = Yes (✓) = Yes, depending on implementation ✗ = No

Technical scheme requirements

High-level architecture and standards (Workstream C1, B1, G1-4)

- Foreseen digital euro high-level IT infrastructure and interplay between digital euro end users, PSPs, and DESP.
- Digital euro interfaces should use existing standards and solutions to the extent possible.



Way forward

- Preparation of the draft rulebook with the RDG and **finalise over the course of the preparation phase**:
 - Inclusion of RDG review comments;
 - Continue RDG workstreams and further develop additional sections.
- The final rulebook will be **updated in line with the outcome of the legislative process**.
- A **next progress report** on the RDG work is planned for Q1 2025.

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Thank you.



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