



EBA CLEARING

Classification: Closed User Group

EURO1

PFMI Disclosure Report

by EBA CLEARING

30 April 2020

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Responding institution:

ABE CLEARING S.A.S. à capital variable (EBA CLEARING), thereafter referred to as “the Company”

Registered office: 40 Rue de Courcelles, 75008 France RCS Paris 419 020 193

Authorised share capital: 200.000€

Jurisdiction(s) in which the FMI operates: EU

Authority(ies) regulating, supervising or overseeing the FMI: EURO1 is overseen by the European Central Bank (ECB) as lead overseer, with the participation of national central banks of the Eurosystem.

EURO1 is classified as a Systemically Important Payment System (SIPS). The list of payment systems in the eurozone and their classification can be found at:

<https://www.ecb.europa.eu/press/pr/date/2014/html/Paymentsystemclassification-yearofreference2012.pdf?beb6eb19a71eeecfc05f22ab90d141ba>

The date of this disclosure is 30 April 2020.

For further information, please contact regulatory@ebaclearing.eu

I. Executive summary

EBA CLEARING is a provider of pan-European payment infrastructure solutions. Founded in 1998 by 52 banks, the Company is as of September 2019 owned by 49 of the major banks operating in Europe and based on a country-neutral governance model. The payment systems of EBA CLEARING are pan-European by design and desire: they are developed in line with the Company's multinational user community needs and in close co-operation with best-of-breed technology partners.

EBA CLEARING aims to allow cost optimisation for its users and is not seeking profit or shareholder value maximisation. In pursuing its mission, EBA CLEARING is guided by the objective to offer its users solutions that are fit for purpose and efficient, with a special focus on safety and ensuring compliance with regulatory and oversight requirements. EBA CLEARING recognises its role in supporting financial stability and promoting fair and efficient markets; it is committed to discharging these responsibilities.

EURO1 is a unique real-time gross settlement (RTGS) equivalent net settlement system, it is the only private sector large-value payment system for single same-day euro transactions at a pan-European level. The EURO1 system processes transactions of high priority and urgency, and primarily of large amount, both at a domestic and at a cross-border level.

The platform combines a high liquidity efficiency with finality of each processed individual transaction; 95 percent of the EURO1 transactions settle in real time at system level and over 99 percent within 30 minutes.

EURO1 was launched in 1999 and was developed to provide an efficient, secure and cost-effective net settlement infrastructure, with immediate finality for all processed payments, for large-value payments in the single currency environment.

Today, the system counts 42 participant banks and processes on average over 200,000 payments per day with an average total value of about EUR 200 billion. The service counts close to 8,000 participant BICs with about 15,000 additional BICs reachable via the EURO1/STEP1 Participants, as listed in the EURO1/STEP1 Directory.

The legal basis of the EURO1 system is known as the 'Single Obligation Structure' (SOS). This means that, at any time on any given business day, each participant only has one single obligation/claim towards all other participants jointly which is adjusted automatically and in real time every time a payment is duly processed.

In summary, the SOS legal basis of EURO1 is:

- Valid any time of the day;

- Enforceable in all relevant jurisdictions;
- At the time a payment is processed (= time of fund transfer) it is irrevocable and final. There is no unwind.
- A unique legal structure that allows for RTGS-equivalent net settlement

The ECB Regulation (EU 795/2014) on Oversight Requirements for Systemically Important Payment Systems (SIPS Regulation) as amended by ECB Regulation (EU 2017/2094), covers both large-value and retail payment systems of systemic importance, whether operated by Eurosystem's national central banks or private entities. In 2014, STEP2-T and EURO1 were identified by the ECB as SIPS. Thus, EURO1 is overseen by the ECB as "Competent Authority" within the meaning of the SIPS Regulation, with participation by national central banks of the Eurosystem.

The Principles for Financial Market Infrastructures (PFMIs) are the international standards for financial market infrastructures, i.e. payment systems, central securities depositories, securities settlement systems, central counterparties and trade repositories, issued by the Committee on Payments and Market Infrastructures (CPMI) and the International Organization of Securities Commissions (IOSCO). They are part of a set of 12 key standards that the international community considers essential to strengthening and preserving financial stability.

As an operator of SIPS, EBA CLEARING is required to meet the principles set out in the PFMIs that are applicable to operators of payment systems. Section IV of this document contains a detailed description of how EBA CLEARING ensures compliance with the requirements for EURO1. Section V includes various public sources for additional information about EBA CLEARING and EURO1.

EBA CLEARING participates in the Euro Cyber Resilience Board for Financial Infrastructures (ECRB) as per the applicable mandate¹ to contribute to the overall stability of the EU financial system and enhance the cyber resilience of financial market infrastructures.

¹ See https://www.ecb.europa.eu/paym/groups/euro-cyber-board/shared/pdf/ECRB_mandate.pdf

II. Summary of changes since the last update of the disclosure report

The following paragraphs detail the summary of the key changes that impacted EURO1 since 2015.

In 2015, EURO1 was changed to implement the “cover 1” and “cover 2” minimum requirements for respectively liquidity and credit risk on a per-group basis. To implement the cover 2 minimum requirement for credit risk as per the guidance received from the Overseer, the amount of the liquidity pool in EURO1 was set at twice the amount of the single largest exposure (Maximum Debit Cap) in the system. The system evolved from a cover 1 to a cover 2 minimum for liquidity risk; the liquidity pool serves to ensure timely settlement, within the normal constraints of the money markets, in case of a default, under extreme but plausible market conditions, of the two participants which, together with their affiliates, have the largest aggregate payment obligation.

A new fixed transaction pricing option was introduced in 2017 providing cost saving possibilities to participants. In line with SWIFT’s upgraded Customer Security Programme to increase the security of SWIFTNet, EBA CLEARING implemented several security enhancements in EURO1 to maintain the system’s integrity and high levels of security.

In June 2017, the Company announced the launch of a programme for the future positioning and potential evolution of the EURO1 system. The objective of the EURO1 future positioning programme was to ready EURO1 for the longer-term future by adapting it to the changes that are expected in the large-value payments world, while also maintaining and potentially enhancing its value and, where possible, leveraging investments already made. Together with the newly created EURO1 Future Positioning Working Group composed of user representatives, EBA CLEARING delivered a Blueprint for the EURO1 Future Proposition for 2020 and Beyond.

EBA CLEARING put in place in December 2017 a change to reduce the impact of participant changes on the amount of the liquidity pool shares and, thus, on the participants contributing these individual shares. The change consisted in allowing, up to a downward limit, the system’s maximum debit and credit caps to fluctuate between a minimum and maximum amount. This has the effect that the amounts of these caps can be adjusted at the occasion of a change in the number of participants and the amount of the individual liquidity share remains stable. This change was first activated in January 2018 when a decrease of the participant number entailed a reduction of the maximum caps; this reduction did not have any negative effect on payment processing.

The November 2017 Release introduced an additional liquidity distribution window at 15:45 CET, improving the liquidity distribution to participants from above 96% to nearly 100% of the prefunded value.



In 2018, the EURO1 user community was consulted on a Blueprint for EURO1's Future Proposition for 2020 and Beyond. The feedback provided by the EURO1 Participants indicated a high level of satisfaction with the key benefits of the service and a broad support for maintaining the core characteristics and components of the EURO1 System. At the same time, the participants expressed a strong interest in more cross-service support tools and in evolving the service in close alignment with TARGET2 as well as with the STEP2 and RT1 Services. The outcome of the user consultation resulted in the start of a work programme in October 2018 to respond to these requirements.

For 2019, the November 2019 release involved changes at the level of the participant workstation. The release had a limited impact on service users. The 2019 release also included the introduction of a liquidity dashboard, which provided additional intra-day liquidity monitoring facilities for the participants. The dashboard initially comprised information related to EURO1 and plan to integrate cross-service views covering RT1 and STEP2 in subsequent releases.

Future Changes to the System

For 2020, a release is planned for Q4 2020, which will be very limited and consist of minor technical updates and minor cosmetics changes. There are no functional changes for the general system functionality.

For 2022, the EURO1/STEP1 system will migrate the current FIN-based payment and reporting messages to the ISO 20022 standard and to align EURO1 with TARGET2 for full intra-day switchability between the two payment systems. The migration will be based on guidelines from HVPS+ and will be aligned with the ISO migration of TARGET2. It is not foreseen that the ISO migration project will introduce any changes to the system functionality to leverage additional capabilities that the introduction of the ISO 20022 messages will bring. Enhancements of the functionality and inclusion of additional information in the messages can be proposed by the community for implementation after the live implementation of the ISO 20022 migration project in 2022.

In parallel with the migration to the ISO 20022 standard, the Company plans to adapt the network topology for the EURO1 System, from the current Y-copy to the more generic V-shape, which will be used by TARGET2 as well and will make EURO1 network agnostic.

III. General background on the FMI

General Description of the FMI and the markets it serves

EBA CLEARING is a provider of pan-European payment infrastructure solutions. Founded in 1998 by 52 banks, the Company is owned by 49 of the major banks operating in Europe and based on a country-neutral governance model. The payment systems of EBA CLEARING are pan-European by design and desire: they are developed in line with the Company's multinational user community needs and in close co-operation with best-of-breed technology partners.

EBA CLEARING's mission is to deliver market infrastructure solutions for the pan-European payments industry, to support its users' needs in line with user requirements. The strategic aims of the Company are to ensure a pan-European and country-neutral approach for the development and delivery of infrastructure solutions, thereby ensuring excellence and robustness in delivering our services. EBA CLEARING maintains its track record of timely delivery of user-driven solutions responding to evolving and new demands for infrastructure solutions, thereby demonstrating its openness to stakeholders' needs and agility in its role as market infrastructure solutions provider.

EBA CLEARING aims to allow cost optimisation for its users and is not seeking profit or shareholder value maximisation. In pursuing its mission, EBA CLEARING is guided by the objective to offer its users solutions that are fit for purpose and efficient, with a special focus on safety and ensuring compliance with regulatory and oversight requirements. EBA CLEARING recognises its role in supporting financial stability and promoting fair and efficient markets; it is committed to discharging these responsibilities.

EBA CLEARING manages two Systemically Important Payment Systems, the large-value euro payment system EURO1, and STEP2-T, a pan-European payment infrastructure platform for mass payments in euro across Europe processing SEPA Credit Transfers and Direct Debits.

EURO1, launched in 1999, is a large-value payment system for single same-day euro transactions at a pan-European level. The EURO1 system processes transactions of high priority and urgency, and primarily of large amount, both at a domestic and at a cross-border level.

Since 2003, EBA CLEARING has been managing and operating the STEP2-T platform, a pan-European Automated Clearing House (ACH) for mass payments in euro, which has been offering SEPA services since January 2008. Today, the STEP2-T platform extends SEPA-wide reach to over 4,800 financial institutions through its SEPA services and is one of the key euro mass payment systems in Europe.

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Leveraging the STEP2-T infrastructure, EBA CLEARING also offers STEP2 Card Clearing Service (STEP2-CC), a dedicated system for the clearing and settlement of pre-authorised card-based transactions based on the SEPA Card Clearing Framework. It is currently used for clearing and settling debit card transactions under the German girocard scheme.

Launched in 2013, EBA CLEARING's SEPA-compliant Electronic Database Alignment (SEDA) Service allows financial institutions to exchange, process and route mandate-related information according to business rules specified by the Italian Banking Association (ABI). It is currently mainly used by Italian banks to exchange mandate-related information connected to SEPA Direct Debits.

Also, in 2013, EBA CLEARING launched MyBank, an e-authorisation solution for online payments and other online transactions, which is geared toward facilitating the growth of e-commerce across Europe. MyBank enables customers to pay for online purchases all across Europe by using their familiar online banking interface. Today, MyBank is owned and managed by PRETA S.A.S., a wholly owned subsidiary of EBA CLEARING.

In 2017, with the support of 39 funding institutions from across SEPA and its technology partner SIA, EBA CLEARING has implemented RT1, a pan-European real-time payment infrastructure platform for euro transactions. The system is open to any AS-PSP adhering to the EPC's SCT Inst Scheme and has handled instant payments in line with the scheme since its launch.



General organisation of the FMI

EBA CLEARING was created in the form of a *société par actions simplifiée* under French law registered with the Paris Trade and Company Register (RCS Paris) and its head offices are located in Paris, France.

The by-laws of EBA CLEARING as amended with effect as of 30 November 2018, are publicly available on the website of EBA CLEARING at <https://www.ebaclearing.eu/about-eba-clearing/at-a-glance/reference-documents/>.

EBA CLEARING currently has 49 shareholders. Each shareholder holds one share and has one vote at the Shareholders Meeting. The list of shareholders is publicly available on the website of EBA CLEARING at <https://www.ebaclearing.eu/about-eba-clearing/corporate-governance/the-shareholders/>.

The Board is responsible for setting the strategic direction, overseeing management and adequately controlling the Company, with the ultimate aim of directing the Company towards the fulfilment of its strategic aims and long-term objectives. EBA Clearing's by-laws provide that the Company is managed by a Board composed of not more than seventeen (17) members including the Chairman, the Deputy Chairman and up to two (2) but not less than one (1) Outside Director who are appointed *intuitu personae* by the Shareholders Meeting for a renewable three-year term.

The Board is assisted by five Board Committees in carrying out its functions:

- the Audit & Finance Committee (AFC)
- the Board Risk Committee (BRC)
- the Strategy and Policy Committee (SPC)
- the Remuneration Committee (RemCo)
- the Nomination and Governance Committee (NGC)

The mission and activities of the Board Committees are set forth in the Company's Annual Report.

In addition, the following expert groups have been created and are consulted on the matters under their expertise:

- Operations and Technical Group
- Treasury and Liquidity Group
- Legal Advisory Group

The responsibility for the day-to-day management rests with the Chief Executive Officer (CEO). The CEO reports to the Board. Heads of Units have delegated power for managing the activities relating to their units. The roles attributed to the various Units coincide with the functions required for carrying out the activities of EBA CLEARING.

Since 2015, a single Service Development and Management Unit has been entrusted with the management of the EURO1/STEP1, STEP2, and RT1 Services, with dedicated senior managers being assigned to the service lines respectively as well as to marketing, user relations and new initiatives.

EBA CLEARING applies a three-lines-of-defence approach for its risk management, ensuring different levels of control. The Chief Risk Officer and the Internal Audit function are independent and have a dotted reporting line to the Board Risk Committee and to the Audit and Finance Committee respectively.

In order to ensure that all types of users are considered in the design and evolution of its systems and offerings, the Company maintains a broad range of communication channels with its (current and potential) users and other stakeholders. There are regular country or regional user meetings with the participation of all respective users and EBA CLEARING management. During these meetings, ongoing activities and projects are discussed and user feedback is requested. In the context of specific projects, steering groups and task forces may be created to ensure efficient exchanges throughout the project or initiative. Furthermore, the Company organises individual user visits and, when appropriate or desired, roadshows and information campaigns.

An identical structure has been adopted for user consultation for the two SIPS operated by the Company. Two Business Committees have been established:

- the EURO1 Business Committee
- the STEP2 Business Committee

Business Committees are consultative bodies providing recommendations to the Board. Business Committees are chaired by a Board member.

A dedicated corporate governance section, setting forth the governance arrangements, lines of responsibility, Board and management role and composition, and relations with stakeholders is included in the Annual Report. A report on the risk management and internal control functions is equally included in the Annual Report. The Annual Report is publicly available on the website of the Company at <https://www.ebaclearing.eu/about-eba-clearing/at-a-glance/reference-documents/>.

Further, the composition of the Board and mission of the Board Committees are published on the website of EBA CLEARING at <https://www.ebaclearing.eu/about-eba-clearing/corporate-governance/the-board/> and <https://www.ebaclearing.eu/about-eba-clearing/at-a-glance/mission-and-objectives/> respectively.

Legal and regulatory framework

EBA CLEARING, the SIPS operator of EURO1 and STEP2-T, is a limited liability company incorporated under French law in the form of a société par actions simplifiée à capital variable. The Company has branches in Belgium and in Germany, and representative offices in Italy, Finland, and the United Kingdom.

EBA CLEARING's role is primarily that of a 'business administrator'. The Company does not incur any rights or obligations arising from the sending and receiving of payment messages, and at no time does it hold any funds or deposits in relation to the operation of its systems.

EURO1 is governed by the EURO1 System Documentation, including in particular the EURO1 Rules. The EURO1 System Documentation, including the provisions regarding the settlement operations and the collateral arrangements, is governed by German law. The EURO1 Rules comprehensively cover the rights and obligations arising from participation in the system.

The legal basis of the EURO1 system is known as the Single Obligation Structure 'SOS', which means that, at any time on any given business day, each participant only has one single amount, which can be a single obligation /claim towards all other participants as joint creditors, or a single claim against all other participants as joint obligors. Such single amount is adjusted automatically and simultaneously every time a payment is duly processed.

In summary, the SOS legal basis of EURO1 is:

- Valid any time of the day;
- Enforceable in all relevant jurisdictions;
- At the time a payment is processed (= time of fund transfer) it is irrevocable and final. There is no unwind.
- A unique legal structure that allows for RTGS-equivalent net settlement

Country opinions, in a form satisfactory to the System Operator and to the Overseer, have been obtained under the laws of all jurisdictions relevant to participation in the system, analysing, among other, that the Single Obligation Structure is legally valid in every jurisdiction where participants, or offices used for participation, are located. Further, capacity opinions must be provided by each EURO1 Participant in order to be admitted to EURO1. The country opinions, as well as the capacity opinions, are issued based upon terms of reference established by the System Operator, which are in conformance with the terms of reference applied for oversight of large value payment systems. Country opinions are regularly updated. Capacity opinions are updated when relevant.

Albeit the legal basis for EURO1 was designed without reliance on the Directive 98/26/EC of the European Parliament and of the Council of 19 May 1998 on settlement finality in

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payment and securities settlement systems (“Settlement Finality Directive” or “SFD”), EURO1 falls into the scope of the SFD. Transfers made in EURO1 benefit from the protection granted by the SFD. EURO1 is a designated system under the SFD².

The legal country opinions confirm the validity and enforceability of the EURO1 System Documentation, even in the event of insolvency proceedings, under the laws of non-EU/European Economic Area (EEA) jurisdictions that are relevant to participation in the system.

The SIPS Regulation applies to and is binding on EURO1, which has been identified as a SIPS for meeting the criteria laid down in Article 1(3) of the SIPS Regulation.

The use of networks for the sending and receiving of payment and other messages is outside of the scope of the EURO1 system. Entities participating in the system contract directly with the provider of the communication network on a bilateral basis.

² See https://www.esma.europa.eu/sites/default/files/library/designated_payment_and_securities_settlement_systems.pdf

They EURO1 System

EURO1 was launched in January 1999 for the start of the European Monetary Union and was developed to provide an efficient, secure and cost-effective RTGS-equivalent net settlement infrastructure, for large-value payments in the single currency environment. EURO1 is the only private sector large-value payment system (LVPS) for single same-day euro transactions at a pan-European level. EURO1 processes transactions of high priority and urgency, and primarily of large amount, both at a domestic and at a cross-border level.

It combines a high liquidity efficiency with finality of each processed individual transaction; 95 percent of the EURO1 transactions settle in real time at system level and over 99 percent within 30 minutes.

The service provides a unique RTGS-equivalent multilateral net settlement arrangement, providing finality of payments upon processing of each individual payment message in real time. Upon the real-time adjustment of the participants' positions, EURO1 provides immediate finality for every processed payment. EURO1 thereby offers an RTGS-equivalent system operating on a multilateral net basis. The Single Obligation Structure does not allow unwinding or partial unwinding of a participant's position. Instead of having to manage multiple bilateral accounting arrangements, participants have one multilateral position.

EURO1 is based on SWIFT FIN payments messaging and the use of SWIFTNet Browse, InterAct and FileAct. The system is developed and maintained by SWIFT.

Settlement of participants' positions (single obligation, single claim) takes place with the ECB using the Ancillary System Interface of TARGET2-ECB.

EURO1 is geared at assisting participants in keeping cost down by enabling them to optimise their liquidity use. The system is equipped with a liquidity bridge, which makes it possible for participants to withdraw excess liquidity from the system through four liquidity distribution windows. The liquidity bridge also enables the participants to inject additional funds into EURO1 in order to allow for additional payments to be processed. The functionality supports the participants in resolving any on-hold queues more easily.

Given these characteristics, EURO1 enables its participants to send and receive payment messages in a technological and legal environment that fulfils the banks' requirements for efficiency and security in transaction processing and liquidity usage.

EURO1 is held to the highest oversight requirements and overseen by the ECB with the participation of National Central Banks of the Eurosystem. EURO1 is under the SIPS Regulation

The EURO1 system has been designed and evolves as a result of requirements from users

and related market needs and is intrinsically user defined. Practicality and costs for the users are prime considerations underlying the design of the system, without compromising on the resilience and robustness of the system and its compliance with oversight requirements.

Based on the outcome of a comprehensive user consultation on the future positioning of EURO1 conducted in the spring of 2018, EBA CLEARING charted the future course for the service for 2020 and beyond. A key focus of the resulting work programme was ensuring maximal alignment with the evolution of TARGET2 in the context of the migration of large-value payment systems to the ISO 20022 messaging standard. The work programme is also aimed at optimally supporting the EURO1 users in their integration of management and monitoring tasks across different services.

In terms of safety, security and resilience, the system benefits from the resilience of SWIFT, which provides the processing service of EURO1.

EBA CLEARING runs three separate operations centres for system monitoring in different countries with rotating shifts to ensure that staff in all three locations are regularly engaged in day-to-day activities. Specific dedicated procedures with critical service providers, including in particular SWIFT and the ECB as provider of settlement services, are ready for activation in case of abnormal events.

All operational procedures, including the resilience arrangements of all EURO1 Participants, are reviewed at regular intervals. In co-operation with its major infrastructure partners, including the ECB and SWIFT, EBA CLEARING is engaged in a continuous process geared at testing, revising and further enhancing the resilience arrangements and procedures around its services.

The level of usage of EURO1 for the processing of large-value single payments in euro, and its position vis-à-vis other large value euro payment systems i.e. in particular TARGET2, both current and past, indicate that the system is considered as an efficient means to make interbank payments.

System design and operations

1. Architecture

The operation of EURO1 is based upon the use of a messaging infrastructure and processing service provided by the Society for Worldwide Interbank Financial Telecommunication scrl (SWIFT). EURO1 is based on SWIFT FIN payments messaging and the use of SWIFTNet Browse, InterAct and FileAct for the operational management of the system.

EURO1 settles same day in central bank funds in TARGET2-ECB using the Ancillary System Interface module 4 (ASI4).

EBA CLEARING, in its role as System Operator, monitors continuously the payment processing and the settlement operations of the system. This includes the daily monitoring of alert management, real-time monitoring of the status of processed EURO1 payments, end-to-end monitoring of the liquidity bridge processing and completion of the settlement in TARGET2.

2. Payment message processing

Payment messages sent by participants for processing in EURO1 must carry the tag “EBA” in field 103 of the message header. Messages with this tag are automatically copied (Y-Copy) to the central computer via SWIFT’s FIN-Copy service.

The system supports the following message types: MT103 (CORE, PLUS, REMIT), MT202 (including MT202COV), MT400 and, provided limits authorising receipt have been set, MT204.

Payment messages are sent on the FIN network provided by SWIFT, partially copied to a central computer in view of being processed, and immediately on-sent through the FIN network to the receiving participant if and once they are processed.

Payment messages are processed on an individual basis and on a first in first out “FIFO” basis in the order they are received. The technical features of the system are such that payment messages are only processed by the central computer after it has been checked that these meet the criteria for being processed. These criteria include, in particular, that a payment message can only be processed if this does not lead to breaching binding intra-day limits – corresponding to the debit caps and credit caps of the respective participants – as are built in the system.

Payment messages that cannot be processed at the time they are sent are queued. These queues are revisited on a regular basis to allow their processing. Queues are revisited each time a payment message in relation to the sending or receiving participant, as applicable, is processed to check whether the adjusted balance allows for further processing of payment messages that are held in a participant's on-hold queue. To that effect, the system follows the principle of “by-passing” FIFO³.

A payment message can be revoked or cancelled by the sending participant as long as it is not processed. Once processed, payment messages cannot be revoked.

The Interactive Workstation provides real-time access to the position of a participant at any given time in the day, and enables participants, inter alia, to monitor and manage payments and queues. The System Operator also has real-time monitoring tools at its disposal including the Business Administration Workstation (BAWS) providing (among others) functionality to monitor overall positions and limits of the participants.

³ First in, first out

To address potential gridlock situations, an automated functionality ('circles processing') allows for simultaneous processing of a number of payment messages from different participants which, if processed simultaneously, will not breach the applicable debit caps and credit caps.

Payment processing starts at 7:30 CET. Cut-off time for processing presently stands at 16:00 CET.

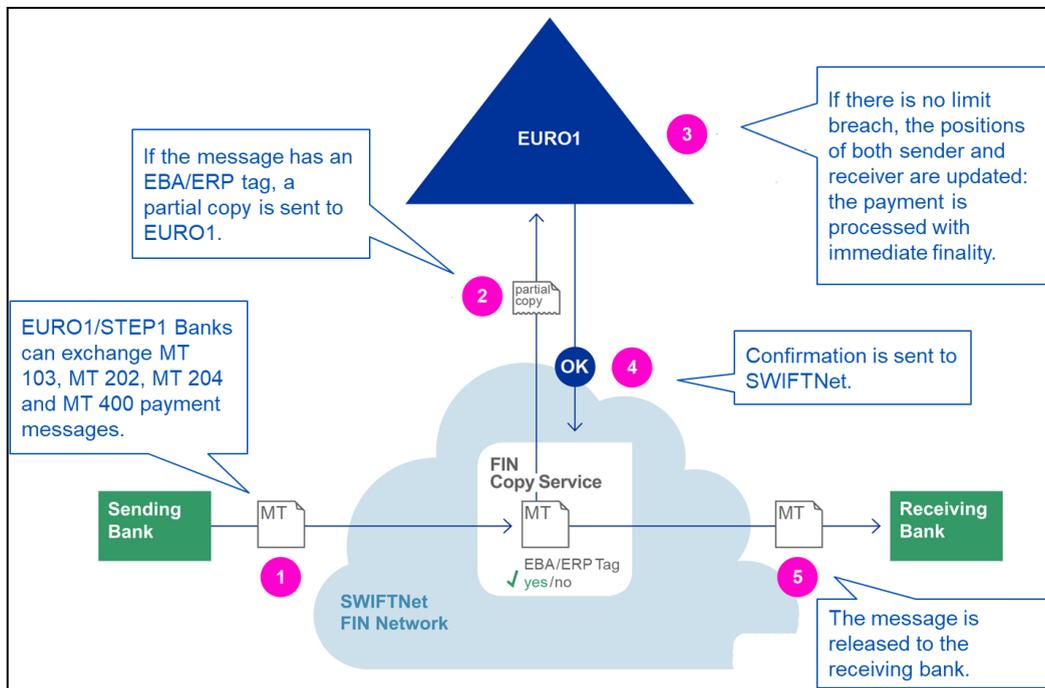


Fig.1 EURO1 Message routing and real-time processing

3. Immediate finality of processed payments

As mentioned above, EURO1 is governed by German law and is based on a legal structure that creates only one Single Obligation or Single Claim amongst the participants. This means that, at any time on any given business day, each participant only has one single obligation/claim towards all other participants jointly, which is adjusted automatically and simultaneously every time a payment is duly processed. The SOS is legally validated in every jurisdiction where participants, or offices used for participation, are located.

Upon the simultaneous adjustment of the participants' positions in real-time, EURO1 provides immediate finality for every processed payment. EURO1 thereby offers an RTGS-equivalent system operating on a multilateral net basis. The Single Obligation Structure does not allow unwinding or partial unwinding of a participant's position. Instead of having to manage multiple bilateral accounting arrangements, participants have one multilateral position.

Albeit the legal basis for EURO1 was designed without reliance on the SFD, EURO1 falls into the scope of the SFD. Transfers made in EURO1 benefit from the protection granted by

the SFD. EURO1 is a designated system under the SFD. The legal country opinions also confirm the validity and enforceability of the EURO1 System Documentation, even in the event of insolvency proceedings, under the laws of non-EU/European Economic Area (EEA) jurisdictions that are relevant to participation in the system.

4. Legal basis

EURO1 is based on a unique system design. EURO1 is a system that provides immediate and continuous intraday finality for each payment upon processing thereof. In addition, the time of irrevocability of each payment message coincides with the point in time at which the payment becomes final (i.e. irrevocable and unconditional fundtransfer).

EURO1 is a notable exception to a common large-value payment system design where the settlement asset (in the case of large-value payment systems, mostly a claim on a central bank) is transferred at the same time as finality is achieved. In EURO1, the transfer of the settlement asset (central bank fund transfers across the Settlement Account held in TARGET2-ECB using ASI4) takes place after the time of finality of the payment messages. Discharge of individual payments does not require a transfer of monies, and the related payment obligations are discharged upon the adjustment of the single obligation or single claim of the respective participants.

The Single Obligation Structure entails that at each and any moment throughout the operating day – from the moment the first payment message is processed until cut-off time for processing (and beyond such time until settlement) –, each participant only has one single claim (in the case of a positive number) or one single obligation (in the case of a negative number) towards the community of all other participants. Each time a payment message is processed, the calculation of the balance of the participants concerned constitutes the establishment of a single obligation or, as applicable, a single claim of the relevant participant owed to, respectively owed by, all other participants in the system.

The Single Obligation Structure does not allow unwinding or partial unwinding. In addition, and importantly, it achieves real-time finality of payments. The adjustment of the single amount of a sending and a receiving participant upon processing of a payment message (sent in performance of a payment obligation arising outside of the system and owed by the sending participant to the receiving participant) results in the discharge of the payment obligation as between the sending and the receiving participant; the fund transfer so made is irrevocable and unconditional upon processing of the payment sent message.

5. Settlement

The current cut-off time for sending payment messages is set at 16:00 CET, to complete the settlement process prior to the closing time of TARGET2 at 18:00 CET.

The EURO1 settlement uses the Ancillary System Interface, module 4 (ASI 4) of the TARGET2 system. At cut-off time, the EURO1 system completes the processing of all payment messages sent before cut-off and informs each participant of their final position

resulting from all payment messages processed during the day.

Upon receipt of the final positions for EURO1 participants, from the central system, EBA CLEARING sends a file to TARGET2/ASI4 with the amounts to be debited from and credited to the participants' RTGS accounts:

The ECB as settlement service provider first debits the RTGS accounts in TARGET2, of the participants with a negative final position, against the technical account of the EURO1 system. After all debit transactions have been processed, the credit transactions are processed: the RTGS accounts in TARGET2, for participants with a final credit position are credited against the technical account of the EURO1 system.

Once all debit and credit transactions have been processed, EBA CLEARING receives confirmation from TARGET2/ASI4 that the settlement is completed. Upon receipt of this confirmation, EBA CLEARING notifies all participants that the settlement has been completed. Settlement is normally completed within 7 minutes.

6. Decentralised liquidity and credit riskmanagement

Liquidity in EURO1 is generated by the mutual giving and receiving of bilateral limits between the participants. The bilateral limits granted by a EURO1 Participant to each of the other participants in total provide the multilateral net receiving limit (Credit Cap) of the grantor. Similarly, the total of the bilateral limits received by a EURO1 Participant from all the other participants provide the multilateral net sending limit (Debit Cap) of the grantee.

With the system of bilateral limits and the Single Obligation Structure, counterparty exposure is managed directly by the EURO1 Participants:

The bilateral limits do not restrict the bilateral payment flows between the individual participants. Participants can send payments to any of the other participants within the limit of the total amount of their Debit Cap.

The overall risk a participant can bring to the system is limited to the amount of the Maximum Debit Cap set at system level. In case of a change of the number of participants, the amount of the Maximum Debit Cap may be revised - as recommended following user consultation. Any revision of the amount of the Maximum Debit Cap is notified in advance to the Participants.

All participants contribute in equal shares to a Liquidity Pool (which constitutes the maximum possible exposure of any two participants) in the form of cash deposits held with the ECB. The risk for a participant based on a single failure of another participant is capped at the amount of the limits granted to the failing participant.

EURO1 Banks can adjust the discretionary element of their limits to the other participants up until 07:00 CET on the same day, allowing participants to quickly react to changing

circumstances.

Participants are granted, by each of the other participants, a Mandatory Limit, the sum of which is equal to its deposit in the EURO1 Liquidity Pool. Accordingly, the Mandatory Limit a participant has to allocate to each other participant in the service amounts to the individual participant's Liquidity Pool deposit divided by the number of participants, less one.

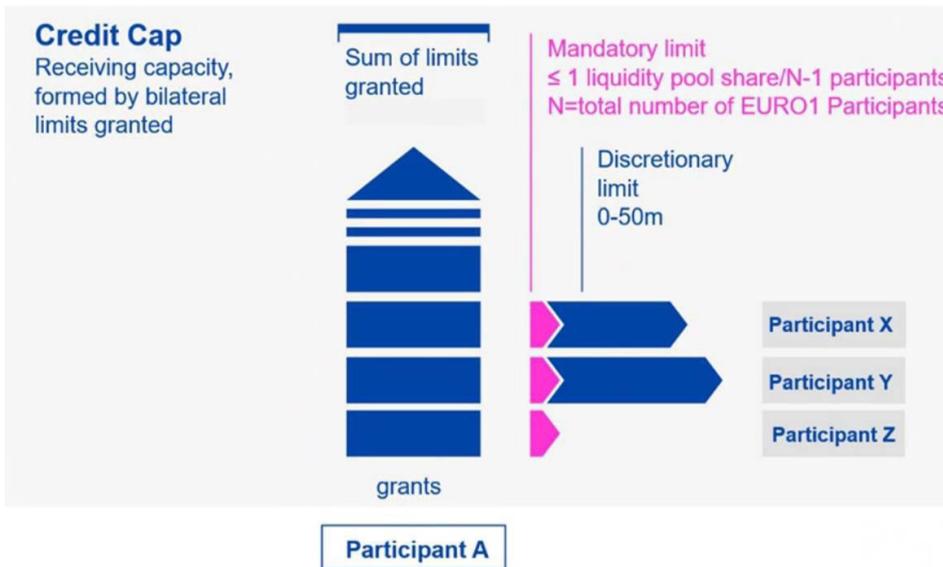


Fig. 2 EURO1 Credit Caps

All figures in EUR.

N = total number of EURO1 Participants

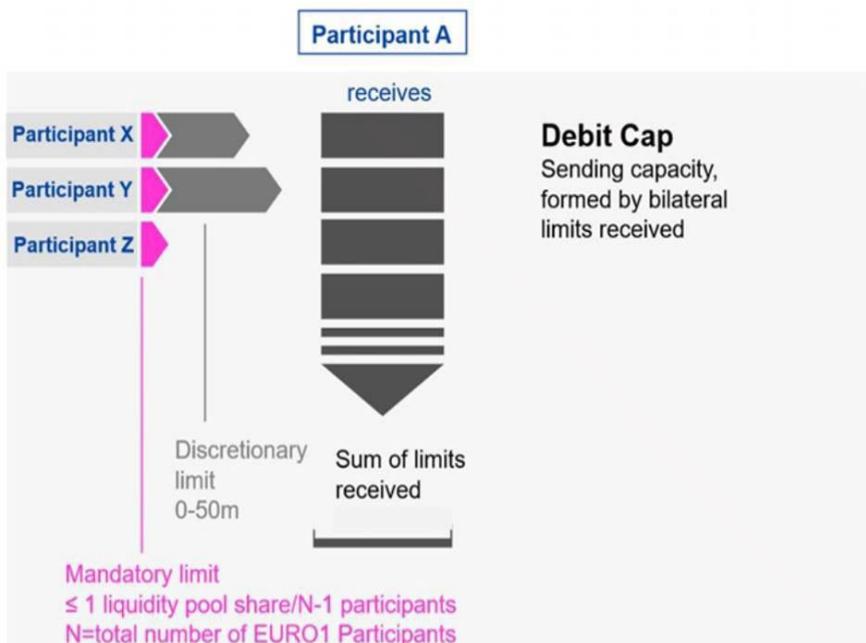
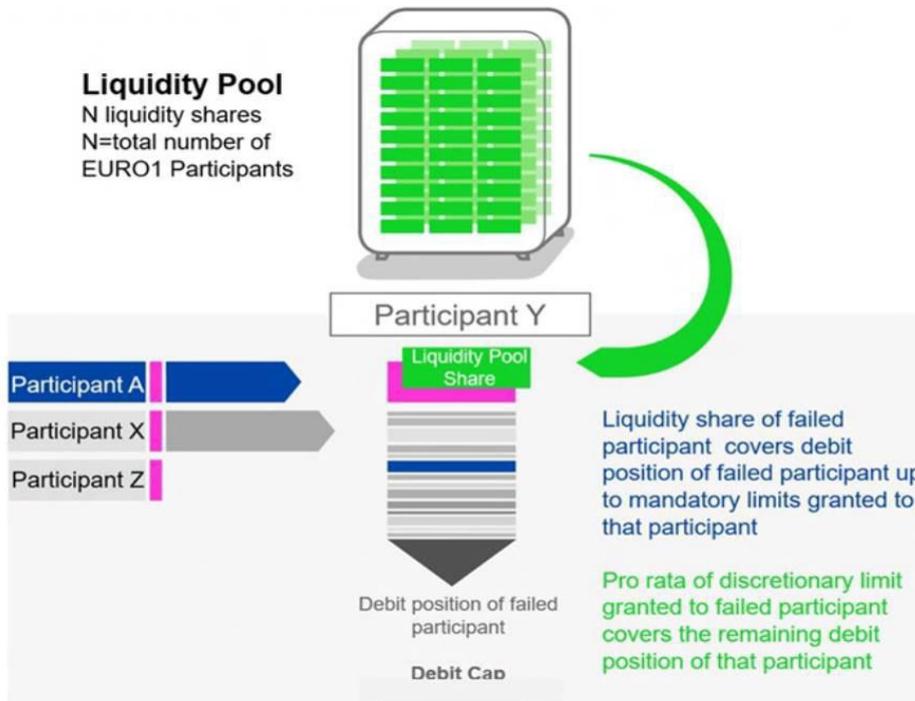


Fig. 3 EURO 1 Debit Caps

All figures in EUR.

N = total number of EURO1 Participants


Fig. 4 Loss sharing in EURO1: allocation of shortfall in case of a single failure

7. Liquidity management tools

By operating on a net basis, EURO1 enables participants to significantly reduce the liquidity required to support their payments business; thanks to the binding intra-day limits in EURO1, individual payments do not need to be fully covered beforehand, as in a real-time gross system. Consequently, there is no requirement to pre-fund at the start of the day. The possibility to go into a debit position until the Debit Cap allows for participants to have immediate sending capacity and to send payments without having to wait for incoming funds. This considerably lowers the liquidity and capital support costs for participants.

In order to further recycle liquidity, EURO1 offers a liquidity bridge, which enables participants to manage their liquidity:

- Banks that have reached the maximum level of their Debit Cap can pay in funds from their TARGET2 account (pre-fund), against which their position in EURO1 is adjusted upwards. The participant has, as a result, acquired increased sending capacity against pre-funded liquidity.
- Banks that have incoming payments queued because they have reached the maximum level of their Credit Cap can authorise EBA CLEARING to withdraw

liquidity from their credit position in EURO1 (liquidity distribution), which is then credited to the participants' TARGET2 accounts.

- Pre-funding takes place throughout the day and liquidity distributions take place at seven relevant times of the day to ensure the release of the maximum number of queued payments.
- The liquidity distribution algorithm allows for the pre-funded liquidity to be recycled.

As a result of the liquidity management tools available, the EURO1 system is able to achieve a high Liquidity Efficiency Ratio (LER).

Banks can further exploit the liquidity-saving benefits of EURO1 by including branches as well as consolidated affiliates within the European Economic Area (EEA) under the single liquidity position of the participant.

Liquidity Bridge

EURO1 is geared at assisting banks in optimising their liquidity use. The system's Liquidity Bridge makes it possible for participants to withdraw excess liquidity from the system through seven daily liquidity distribution windows. The Liquidity Bridge also enables the participants to inject additional funds into EURO1 throughout the business day in order to allow for additional payments to be processed. This functionality supports the participants in resolving any queuing situations.

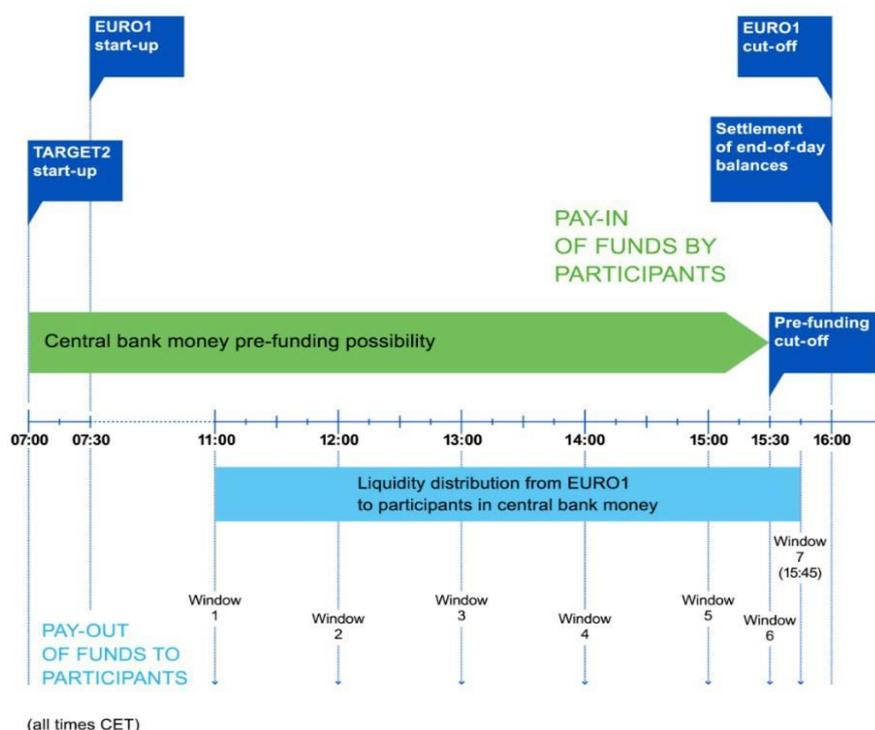


Fig. 5 EURO1 Liquidity Bridge

Interactive Workstation

All participants and sub-participants have access to the Interactive Workstation (IWS) which provides the following real-time information online and via an API:

- the participant's position, limits and any on-hold payments
- intraday and end-of-day position reports and statements for processed, queued and held-over payment messages
- pre-advice statements of payments for future value dates

In addition, numerous possibilities to use customised queries are also available.

8. *Operational robustness and resilience*

In terms of safety, security and resilience, the system benefits from the resilience of SWIFT, which provides the processing service of EURO1.

EBA CLEARING runs three separate operations centres for system monitoring in different countries with rotating shifts to ensure that staff in all three locations are regularly engaged in day-to-day activities.

Specific dedicated procedures with critical service providers, including in particular SWIFT and the ECB as provider of settlement services, are ready for activation in case of abnormal events.

All operational procedures, including the resilience arrangements of all EURO1 Banks, are reviewed at regular intervals. In co-operation with its major infrastructure partners, including the ECB and SWIFT, EBA CLEARING is engaged in a continuous process geared at testing, revising and further enhancing the resilience arrangements and procedures around its services.

9. *Admission*

In order to be eligible to participate in the EURO1 system, an applicant has to fulfil certain legal, financial and operational criteria.

Legal criteria

An applicant has to:

- be authorised to conduct banking business
- have its registered office in a member state of the EU or in an OECD country
- participate in the EURO1 system from its registered address or a branch located in the EU
- provide a capacity opinion
- not be a member of the same group as an existing EURO1 Participant (for Pre-fund Participants the requirement is to be a member of the same group as a EURO1 Participant)

In addition, the laws of all the jurisdictions from where a participant accesses the system

must recognise the Single Obligation Structure, which forms the legal basis of the system.

Financial criteria (applying upon admission)

An applicant has to:

- have own funds of at least EUR 1.25 billion
- have a short-term credit rating of at least P2 (Moody's) or A2 (S&P), or equivalent

Operational criteria

An applicant has to:

- have direct access to TARGET2
- have adequate technical and operational facilities, including back-up facilities, and staffing for the purposes of participation in the system

Sub-participants

The system design allows a EURO1 Participant to have multiple access points to the system, and a EURO1 Participant can have up to 99 sub-addresses under its main BIC address that it can assign to its branches in the EEA or to entities authorised to conduct banking business incorporated in the same consolidated accounts as the EURO1 Participant. Such distinct entities (i.e. excluding branches) included as sub-addresses are often referred to as 'sub-participants'.

A sub-participant can directly send to and receive payment messages from the EURO1 Participants, sub-participants, as well as STEP1 Participants. A sub-participant can also list its client banks in the EURO1/STEP1 Directory, increasing the percentage of payments it sends and receives on behalf of these client banks through this efficient and cost-effective intraday payment channel. Payments sent and received by a sub-participant are included in the position of the participant and covered by the liquidity of the participant. Sub-participants benefit from the same service features (cut-off times, MT usage, etc.) as the participant. The participation mode enables banking groups to centralise their liquidity management and directly connect their branches and subsidiaries within the EEA to a pan-European single payment platform. It further allows participants to leverage their liquidity in the system.

Sub-Participation model

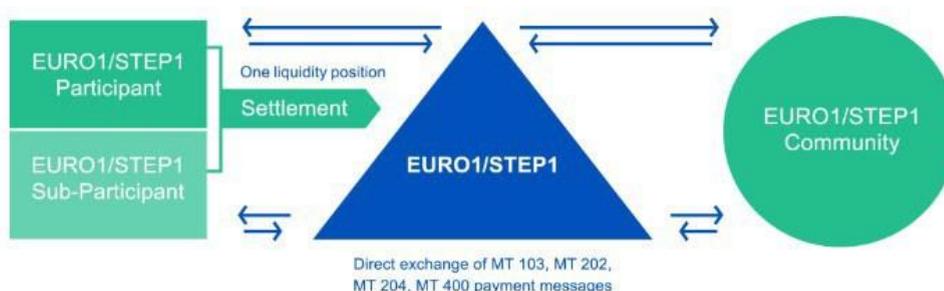


Fig. 6 EURO1 Sub-participation model

In order to qualify as a sub-participant in EURO1 an entity has to be:

- authorised to conduct banking business
- a subsidiary or another entity included in the same consolidated accounts as the participant
- incorporated or established in the EEA.

Participants may also include their branches established in the EEA as sub-addresses.

A full list of all participants and directly addressable sub-participants is published on the website of EBA CLEARING and are available at <https://www.ebaclearing.eu/services/euro1/participants/>.

10. Basic statistical data

The average daily volumes and values on a monthly basis are published on the EBA CLEARING website and available at <https://www.ebaclearing.eu/services/euro1/statistics/>.

A monthly statistical report, including on the usage of the liquidity bridge, is available to all participants on the website pages with restricted access.

A dedicated statistical report on operational reliability for distribution to stakeholders is also published in the user portal.

11. Envisaged changes to the system

EBA CLEARING plans yearly service releases to be implemented in Q4 each year. The proposed content of the service releases can be based on:

- User initiated change requests
- Consultation on received change requests through the EURO1 Business Committee and the Operational and Technical Group (OTG)
- Change requests proposed by EBA CLEARING as the System Operator
- Technical upgrades proposed by SWIFT as the Service Provider

For the 2020 Q4 EURO1 Release, the technical changes have been discussed in the OTG and informed to the EURO1 Business Committee. The planned functional changes have been consulted with the EURO1 Business Committee and approved by the EBA CLEARING Board. During this Release the following required technical updates will be implemented:

- The list of software upgrades proposed for the EURO1/STEP1 central system:
 - Support for FIN Standards Release 2020.
 - Minor OS, Oracle, MQ and Java patches.
 - Upgrade of SWIFT Operational Components (used by SWIFT for service monitoring).



Classification: Closed User Group

- Technical upgrades for the IWS:
 - Minor OS, Oracle, MQ and Java patches.
 - Upgrade of SWIFT Operational Components (used by SWIFT for service monitoring).

Other changes related to the migration of EURO1 to ISO20022 are foreseen for the period 2021- 2022. More details to be shared in the coming year.



IV. Principle-by-principle summary narrative disclosure

PFMI Principle/ SIPS Regulation Article	Summary of compliance
<p>Principle 1: Legal basis Article 3 An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.</p>	<p>EURO1 has a well-founded legal basis under all relevant jurisdictions.</p> <p>EURO1 is governed by a set of EURO1 System Documentation, including in particular the EURO1 Rules, which comprehensively cover the rights and obligations arising from participation in the system. The EURO1 System Documents, including the provisions governing the settlement operations and the collateral arrangements, are all governed by one single governing law, German law.</p> <p>EURO1 is based on a 'Single Obligation Structure' (SOS). This means that, at any time on any given business day, each participant only has one single obligation or single claim towards all other participants jointly, which is adjusted automatically and in real time every time a payment is duly processed. Reasoned country opinions, in a form satisfactory to the System Operator and to the Overseer, have been obtained under the laws of all jurisdictions relevant to participation in the system, confirming the validity and enforceability of the EURO1 System Documentation, including the legal basis of the Single Obligation Structure. Further, capacity opinions must be provided by each applicant for EURO1 in order to be admitted to EURO1. The country opinions, as well as the capacity opinions, are issued based upon terms of reference established by the System Operator, which are in conformance with the terms of reference applied for oversight of large value payment systems. Country opinions are regularly updated. Capacity opinions are updated when relevant. A well-reasoned legal opinion, in a form satisfactory to the System Operator and to the Overseer, was obtained under the governing law of the system, and is regularly updated.</p> <p>The EURO1 system is included in the list of designated systems under the Directive 98/26/EC of the European Parliament and of the Council of 19 May 1998 on settlement finality in payment and securities settlement systems</p>



PFMI Principle/ SIPS Regulation Article	Summary of compliance
	<p>(Settlement Finality Directive or SFD) https://www.esma.europa.eu/sites/default/files/library/designated_payment_and_securities_settlement_systems.pdf</p> <p>The material aspects of EURO1 and activities relevant thereto are unambiguously governed by one single governing law.</p> <p>The validity and enforceability of the EURO1 System Documentation is also confirmed, even in the event of insolvency proceedings, under the laws of non-EU/European Economic Area (EEA) jurisdictions that are relevant to participation in the system.</p>
<p>Principle 2: Governance Article 4 An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.</p>	<p>The governance arrangements of EURO1 are effective, accountable and transparent; thus supporting the stability of its payment services. For more information about the Company's governance bodies see the Corporate Governance section in the EBA CLEARING website (https://www.ebaclearing.eu/about-eba-clearing/corporate-governance/).</p> <p>The involvement of stakeholders in decisions, as well as the objectives of the system, are specified in an unambiguous and transparent manner within the Company's internal policies and procedures. Governance arrangements are clearly and thoroughly documented ensuring clear and direct lines of responsibility and accountability. The set of governance arrangements reflect the strategic aims and objectives of the Company, and they are designed to make them future-proof. The Board Nomination and Governance Committee supports in monitoring the effectiveness of the corporate governance framework.</p> <p>In addition to the Company's governance bodies, to ensure that all types of users are considered in the design and evolution of its systems and offerings, the Company maintains a broad range of communication channels with its (current and potential) users and other stakeholders. An identical structure has been adopted for user consultation for the two SIPS operated by the Company in the form of two Business Committees: the EURO1 Business Committee</p>

PFMI Principle/ SIPS Regulation Article	Summary of compliance
	<p>and the STEP2 Business Committee. Business Committees are consultative bodies providing recommendations to the Board. Business Committees are chaired by a Board member.</p>
<p>Principle 3: Framework for the comprehensive management of risks Article 5 An FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational, and other risks.</p>	<p>EBA CLEARING’s risk management activities are organised within a “three lines of defence” mode of operation. The three lines of defence model incorporates the embedding of Risk Management and risk awareness through-out the Company. Moreover, it highlights the different levels of control and means for escalation; if required.</p> <p>The Second line of defence, the Risk Management Function supported by the Chief Risk Officer ensures high standards of risk management through the development and maintenance of the Risk Management Framework including specific guidelines and policies. It coordinates the implementation of risk initiatives and raises the Chief Executive Officer’s awareness of risks consolidated levels as well as supporting the Board in optimising EBA CLEARING’s overall risk tolerance and risk limits. In addition, organisational arrangements are in place to ensure operational independence of the second line from the rest of the organisation.</p> <p>EBA CLEARING’s Risk Management Framework has been developed based on EBA CLEARING’s specific Risk Universe. The Risk Management Framework is composed of the Risk Assessment Methodology, Risk Tolerance Methodology, Risk Tolerance Statement, Risk Universe and Risk Identification.</p> <p>The Company’s Risk Management Framework Governance Policy (approved by the Board of Directors) describes the organisational structure, management oversight, roles, responsibilities and activities that EBA CLEARING considers necessary to support the embedding of strong risk management through-out its activities.</p> <p>Reviews of the policies and methodologies of the Risk Management Framework are prepared annually by the CRO and updates are communicated to the Chief Executive Officer, senior management and to the Board Risk Committee (and reported to the Board via the BRC)</p>



PFMI Principle/ SIPS Regulation Article	Summary of compliance
	<p>Finally, EBA CLEARING carries out independent audits on a periodic basis to ensure that all risk tools and methodologies were maintained in line with industry practice and oversight requirements during the assessment period.</p>
<p>Principle 4: Credit risk Article 6 An FMI should effectively measure, monitor, and manage its credit exposures to participants and those arising from its payment, clearing, and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence.</p>	<p>EURO1 has clearly defined procedures for the management of credit risk, which specify the respective responsibilities of the System Operator and the participants and provide appropriate incentives to manage and contain those risks.</p> <p>The framework for management of credit risk is defined in the EURO1 Rules and Regulations. It refers only to credit exposures among Participants, since the system has been designed such that EBA CLEARING as System Operator of EURO1 is not interposed and is not a party in the loss sharing arrangements of the system. Therefore, in the management of any credit risks arising from participation in EURO1 the Participants themselves have the pivotal role. With the system of bilateral limits and the Single Obligation Structure, counterparty exposure is managed directly by the EURO1 Participants themselves. Processing in EURO1 occurs within such binding intra-day limits, namely the Credit Cap and Debit Cap of each Participant in the system.</p> <p>In addition, risk mitigation measures are in place in EURO1 to enable the timely completion of the end of day settlement, and these will be applied regardless whether the inability to pay is at the time when due or at any time in future. Measures are also in place to allow completion of settlement in the case of the inability of one or more Participants to pay their Single Obligation when due, mainly through the creation of the Liquidity Pool, which covers a default of the two participants with the largest possible Single Obligation.</p> <p>In November 2015, the system was changed to implement the “cover 1” and “cover 2” minimum requirements for respectively liquidity and credit risk on a per-group basis.</p>



PFMI Principle/ SIPS Regulation Article	Summary of compliance
<p>Principle 5: Collateral Article 7 An FMI that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity, and market risks. An FMI should also set and enforce appropriately conservative haircuts and concentration limits.</p>	<p>'Defaulter pay' arrangements are supported by Deposits maintained by each of the EURO1 Participants in the form of cash deposits at the European Central Bank.</p>
<p>Principle 7: Liquidity risk Article 8 An FMI should effectively measure, monitor, and manage its liquidity risk. An FMI should maintain sufficient liquid resources in all relevant currencies to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the</p>	<p>The system has clearly defined procedures for the management of liquidity risks, which specify the respective responsibilities of the System Operator and the participants. The framework for the management of liquidity risk is defined in the EURO1 Rules and Regulations.</p> <p>EURO1 is processing each individual payment transaction with immediate finality in real time. Through the real-time adjustment of the participants' positions, EURO1 provides immediate finality for every processed payment. EURO1 thereby offers an RTGS-equivalent system operating on a multilateral net basis. The Single Obligation Structure does not allow unwinding or partial unwinding. Instead of having to manage multiple bilateral accounting arrangements, participants have one multilateral position.</p> <p>Further, liquidity in EURO1 is generated by the mutual giving and receiving of bilateral limits between the participants. The bilateral limits granted by a EURO1 Participant to each of the other Participant in total provide the multilateral net receiving limit (Credit Cap) of the grantor Participant. Similarly, the total of the bilateral limits received by a EURO1</p>

PFMI Principle/ SIPS Regulation Article	Summary of compliance
<p>participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions.</p>	<p>Participant from all the other Participants provide the multilateral net sending limit (Debit Cap) of the grantee Participant. In addition, every Participant contributes in equal shares to a Liquidity Pool (which constitutes the maximum possible exposure of any two Participants) in the form of cash deposits held with the ECB. Holding this Liquidity Pool with the ECB guarantees that liquidity is readily available if needed.</p> <p>Sufficient liquid resources to effect same-day settlement of payment obligations in a wide range of potential stress scenarios is ensured by the design of EURO1 System itself. EBA CLEARING nevertheless has developed the EURO1 Stress testing Framework and Testing Guidelines which describe different scenarios of potential liquidity needs as per Principle 7 (Article 8 of the SIPS Regulation). Based on this Framework, stress tests are to be carried out at least on an annual basis and more often, if needed. The Stress Testing Framework is reviewed on an annual basis as per the Annual Review Calendar that is maintained by the Company to ensure it is adapted to new service features, changes in the system and in the market.</p>
<p>Principle 8: Settlement finality Article 9 An FMI should provide clear and certain final settlement, at a minimum by the end of the value date. Where necessary or preferable, an FMI should provide final settlement intraday or in real time.</p>	<p>Through the simultaneous adjustment of the participants' positions, EURO1 provides immediate finality for every processed payment. EURO1 thereby offers an RTGS-equivalent system operating on a multilateral net basis. The Single Obligation Structure does not allow unwinding or partial unwinding. Instead of having to manage multiple bilateral accounting arrangements, participants have one multilateral position. EURO1 benefits from the protection of the Settlement Finality Directive (SFD) and is included in the list of designated systems under the SFD.</p> <p>EURO1 is a notable exception to a common large-value payment system design where the settlement asset (in the case of large-value payment systems, mostly a claim on a central bank) is transferred at the same time as finality is achieved. In EURO1, the transfer of the settlement asset (central bank fund transfers across the Settlement Account held in TARGET2-ECB using ASI4) takes place after the time of finality of the payment messages. Discharge of individual payments does not require a transfer of monies, and the related payment obligations are</p>



PFMI Principle/ SIPS Regulation Article	Summary of compliance
	discharged upon the adjustment of the single obligation or single claim of the respective participants. At each time a payment message is processed, the calculation of the balance of the participants concerned constitutes the establishment of a single obligation or, as applicable, a single claim of the relevant participant owed to, respectively owed by, all other participants in the system. The adjustment of the single obligation or single claim of a sending and a receiving participant upon processing of a payment message (sent in performance of a payment obligation arising outside of the system and owed by the sending participant to the receiving participant) shall result in the discharge of the payment obligation as between the sending and the receiving participant; the fund transfer so made shall be irrevocable and unconditional upon processing of the payment message.
Principle 9: Money settlements Article 10 An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimise and strictly control the credit and liquidity risk arising from the use of commercial bank money.	As per the above principle, money settlements among participants in EURO1 take place in TARGET2, i.e. in central bank money.
Principle 13: Participant-default rules and procedures Article 12 An FMI should have effective and	The rules and procedures to manage a Participant default are set out in detail in the EURO1 Rules; a summary of which is available at the EBA Clearing website (https://www.ebaclearing.eu/services/euro1/admission-criteria-and-default-rules/).



PFMI Principle/ SIPS Regulation Article	Summary of compliance
<p>clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the FMI can take timely action to contain losses and liquidity pressures and continue to meet its obligations.</p>	<p>EURO1 is designed to ensure completion of settlement in the case of a default by any number of participants based on the liquidity pool and loss-sharing arrangements. The liquidity pool maintained for EURO1 serves to ensure timely settlement, within the normal constraints of the money markets, in the case of a default of any number of participants with an aggregate position not exceeding the amount of the liquidity pool. The size of the readily available liquid assets allows to cover multiple failures by up to all participants in relation to whom risk assessment has given rise to reduction of limits to the minimum amount. Also, should there be multiple failures occurring during the same day for an aggregate amount exceeding the liquidity pool, liquidity reserves to complete settlement are in place in the form of binding obligations of the surviving participants (towards the other surviving participants) to transfer funds.</p>
<p>Principle 15: General business risk Article 13 An FMI should identify, monitor, and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue operations and services as a going concern if those losses materialise. Further, liquid net assets should at all times be sufficient to ensure a recovery or orderly wind-down of critical operations and services.</p>	<p>EBA CLEARING has developed within its enterprise risk management framework the tools to identify, monitor and manage its general business risk.</p> <p>Further, it has developed a Recovery and Orderly Wind Down Policy (ROWD) together with a ROWD plan and a detailed Plan to Raise Additional Capital, if ever required, to ensure the Company holds sufficient liquid net assets to cover potential general business losses so that it can continue operating its critical services, including the operation of EURO1, as a going concern.</p>

PFMI Principle/ SIPS Regulation Article	Summary of compliance
<p>Principle 16: Custody and investment risks Article 14 An FMI should safeguard its own and its participants' assets and minimise the risk of loss on and delay in access to these assets. An FMI's investments should be in instruments with minimal credit, market, and liquidity risks.</p>	<p>EBA CLEARING does not incur any rights or obligations arising from the sending and receiving of payment messages, and at no time does EBA CLEARING hold any funds or deposits in relation to the operation of its systems. In addition, the Company has developed and maintains a Treasury and Investment Policy which documents how the liquid net assets funded by equity are held and how the monitoring of whether the amount remains sufficient is done.</p>
<p>Principle 17: Operational risk Article 15 An FMI should identify the plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures, and controls. Systems should be designed to ensure a high degree of security and operational reliability and should have adequate, scalable capacity. Business continuity management should aim for timely recovery of operations and</p>	<p>EBA CLEARING has embedded the identification of operational risks to its services within its Enterprise Risk Management Framework, through which operational risks are monitored and the implementation of mitigating controls are tracked. Further, it leverages its Business Continuity Management System and its ISO 27001 certified Information Security Management System to ensure a high degree of security and operational reliability and that it has adequate contingency arrangements in place for the timely completion of daily processing in its services.</p> <p>In terms of safety, security and resilience, the system benefits from the resilience of SWIFT, which provides the processing service of EURO1. EBA CLEARING runs three separate operation centres for system monitoring in different countries with rotating shifts to ensure that staff in all three locations are regularly engaged in day-to-day activities. Specific dedicated procedures with critical service providers, including in particular SWIFT and the ECB as provider of settlement services, are ready for activation in case of abnormal events.</p> <p>All operational procedures, including the resilience arrangements of all EURO1 Participants, are reviewed at regular</p>



PFMI Principle/ SIPS Regulation Article	Summary of compliance
<p>fulfilment of the FMI's obligations, including in the event of a wide-scale or major disruption.</p>	<p>intervals. In co-operation with its Critical Service Providers, including the ECB and SWIFT, EBA CLEARING is engaged in a continuous process geared at testing, revising and further enhancing the resilience arrangements and procedures around its services.</p> <p>Service level and operational reliability objectives are set out in the EURO1 User Manual. These objectives aim to ensure a high degree of operational reliability and include: in-time processing; availability, incident management, change management, business continuity.</p> <p>EBA CLEARING has developed processes to achieve these objectives in the areas of service monitoring, change management, incident management, business continuity testing, participant changes, participant communication, service quality reporting and supplier management and are documented and reviewed annually.</p> <p>On a quarterly basis, EBA CLEARING provides a service report to its participants, containing information related to EURO1's performance and availability indicators.</p>
<p>Principle 18: Access and participation requirements Article 16 An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.</p>	<p>EURO1 has objective and publicly disclosed criteria for participation, which permit fair and open access. This criteria has been developed using a risk-based approach and is available at the EBA CLEARING website: https://www.ebaclearing.eu/services/euro1/admission-criteria-and-default-rules/</p> <p>To be eligible to participate in EURO1, an applicant has to fulfil certain legal, financial and operational criteria.</p> <p>Legal criteria: An applicant has to:</p> <ul style="list-style-type: none"> • be authorised to conduct banking business

PFMI Principle/ SIPS Regulation Article	Summary of compliance
	<ul style="list-style-type: none"> • have its registered office in a member state of the EU or in an OECD country • participate in EURO1 from its registered address or a branch located in the EU • provide a capacity opinion • not be a member of the same group as an existing EURO1 Participant (for Pre-fund Participants the requirement is to be a member of the same bank group as a EURO1 Participant) <p>In addition, the laws of all the jurisdictions from where a participating bank accesses the system must recognise the Single Obligation Structure, which forms the legal basis of the system.</p> <p>Financial criteria (applying upon admission): A bank has to:</p> <ul style="list-style-type: none"> • have own funds of at least EUR 1.25 billion • have a short-term credit rating of at least P2 (Moody's) or A2 (S&P), or equivalent <p>Operational criteria: A participant has to:</p> <ul style="list-style-type: none"> • have direct access to TARGET2 • have adequate technical and operational facilities, including back-up facilities, and staffing for the purposes of participation in the system
<p>Principle 19: Tiered participation arrangements Article 17 An FMI should identify, monitor, and manage the material risks to the FMI</p>	<p>In line with the PFMI, the approach by EBA CLEARING for determining tiered participation in EURO1 is based on the premise that tiered participation arrangements occur in a payment system when some firms (tiered participants) rely on the services provided by other firms (direct participants) to use the system's central payment, clearing or settlement facilities.</p> <p>For EURO1, Direct Participants and the management of risks they present are fully covered by the rules and</p>



PFMI Principle/ SIPS Regulation Article	Summary of compliance
<p>arising from tiered participation arrangements.</p>	<p>procedures for EURO1, and those risks are addressed as per the (other) standards of the PFMI's implemented by the SIPS Regulation.</p> <p>EBA CLEARING has identified the following possible categories of “tiered participants” within EURO1:</p> <ul style="list-style-type: none"> • Entities included as sub-addresses under the main address of a EURO1 Participant, referred to as “sub-participants”; • STEP1 Participants using the EURO1 platform for direct sending and receiving of payment messages as part of the distinct STEP1 payment arrangement and relying on a EURO1 Participant to act as Settlement Bank. • Legal entities that do not have direct access to the EURO1 platform whose transfer orders are processed through a EURO1 Participant, under a contractual relationship between this entity and the EURO1 Participant. <p>The EURO1 Rules, establish EBA CLEARING's right to require from any Participant information in order to identify, monitor and manage any material risks to the System arising from such participation in accordance with the System Operator’s regulatory duties and any requirement from the Overseer as may apply from time to time.</p>
<p>Principle 21: Efficiency and effectiveness Article 18 An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.</p>	<p>EURO1 provides an efficient, secure and cost-effective net settlement infrastructure, but with immediate finality for all processed payments, for large-value payments in the single currency environment. By operating on a net basis, EURO1 enables banks to significantly reduce the liquidity required to support their payments business; thanks to the binding intra-day limits in EURO1, individual payments do not need to be fully covered beforehand, as in a real-time gross system. Consequently, there is no requirement to pre-fund at the start of the day. The availability of a Debit Cap allows for participants to have immediate sending capacity and to send payments without having to wait for incoming funds. This considerably lowers the liquidity and capital support costs for banks.</p> <p>In order to further recycle liquidity, EURO1 offers a liquidity bridge, which enables banks to proactively and independently manage their liquidity. EURO1 is geared at keeping cost down by enabling participants to optimise their</p>



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	<p>liquidity use. The system's liquidity bridge makes it possible for banks to withdraw excess liquidity from the system through seven daily liquidity distribution windows. The liquidity bridge also enables the banks to inject additional funds into EURO1 throughout the business day in order to allow for additional payments to be processed. This functionality supports the banks in resolving any queuing situations.</p> <p>As a result of the liquidity management tools available, EURO1 is able to achieve a high Liquidity Efficiency Ratio (LER).</p> <p>To ensure the Company understands its Users' needs and in accordance to its User Say governance structure, and in order to facilitate that all types of users are considered in the design and evolution of its systems and offerings, the Company maintains a broad range of communication channels with its (current and potential) users and other stakeholders. An identical structure has been adopted for user consultation for the two SIPS operated by the Company in the form of two Business Committees which have been established: the EURO1 Business Committee and the STEP2 Business Committee.</p> <p>These Business Committees are consultative bodies providing recommendations to the Board. Business Committees are chaired by a Board member.</p> <p>In addition, the following Expert Groups have been established:</p> <ul style="list-style-type: none">• Operations & Technical Group (OTG): its mission is to analyse and review proposals and to formulate recommendations relating to operational, procedural, functional and technical aspects of the systems of EBA CLEARING;• Legal Advisory Group (LAG): its mission is to analyse and review proposals from a legal point of view and to formulate legal recommendations regarding the same, and, the LAG also assists in the monitoring of legal projects and formulates recommendations regarding the resourcing for given projects;



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	<ul style="list-style-type: none"> • Treasury and Liquidity Group (TLG): its mission is to act as an advisory expert group relating to the management and use of liquidity within the systems operated by EBA CLEARING. • Other expert fora may be established in accordance with identified needs. <p>Finally, a service performance and availability report is published on a quarterly basis for Users and other relevant stakeholders.</p>
<p>Principle 22: Communication procedures and standards Article 19</p> <p>An FMI should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording.</p>	<p>EURO1 uses internationally accepted communication procedures and standards, such as BIC codes to identify its Participants.</p> <p>In accordance to its User Say governance structure, and in order to ensure that all types of users are considered in the design and evolution of its systems and offerings, the Company maintains a broad range of communication channels with its (current and potential) users and other stakeholders, such as EBA CLEARING’s Critical Service Providers. (see answer for principle 21 for more details).</p>
<p>Principle 23: Disclosure of rules, key procedures, and market data Article 20</p> <p>An FMI should have clear and comprehensive rules and procedures and should provide sufficient</p>	<p>The system’s rules and procedures enable participants to have a clear understanding of the system’s impact on the risks they incur through their participation. In addition, the Company publishes key information via relevant updates of the publicly available pages on the website of EBA CLEARING. The Company has also made available to participants in the User portal all the service documentation including Rules and Regulations, an FAQ on compliance and due diligence purposes and finally the present disclosure report complements EBA CLEARING’s disclosure of rules, key procedures and market data.</p>



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information to enable participants to have an accurate understanding of the risks, fees, and other material costs they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed.	



V. List of publicly available resources

EBA CLEARING and EURO1:

- “About EBA CLEARING” section on website: <https://www.ebaclearing.eu/about-eba-clearing/at-a-glance/the-company/>
- By-laws of EBA CLEARING: <https://www.ebaclearing.eu/about-eba-clearing/at-a-glance/reference-documents/>
- EBA CLEARING Shareholders: <https://www.ebaclearing.eu/about-eba-clearing/corporate-governance/the-shareholders/>
- EBA CLEARING Board: <https://www.ebaclearing.eu/about-eba-clearing/corporate-governance/the-board/>
- EBA CLEARING Board Committees: <https://www.ebaclearing.eu/about-eba-clearing/corporate-governance/board-committees/>
- EBA CLEARING Annual Report 2018: <https://www.ebaclearing.eu/about-eba-clearing/at-a-glance/reference-documents/>
- EURO1 section on EBA CLEARING website: <https://www.ebaclearing.eu/services/euro1/overview/>
- EURO1 Statistics: <https://www.ebaclearing.eu/services/euro1/statistics/>
- EURO1 Participants and Sub-Participants: <https://www.ebaclearing.eu/services/euro1/participants/>