

# World Bank Fast Payments Toolkit

## Case Study: European Union

SCT Inst | 2017

### Payment Instruments



Credit Transfer

### Use Cases/ Services



Merchant  
Payment



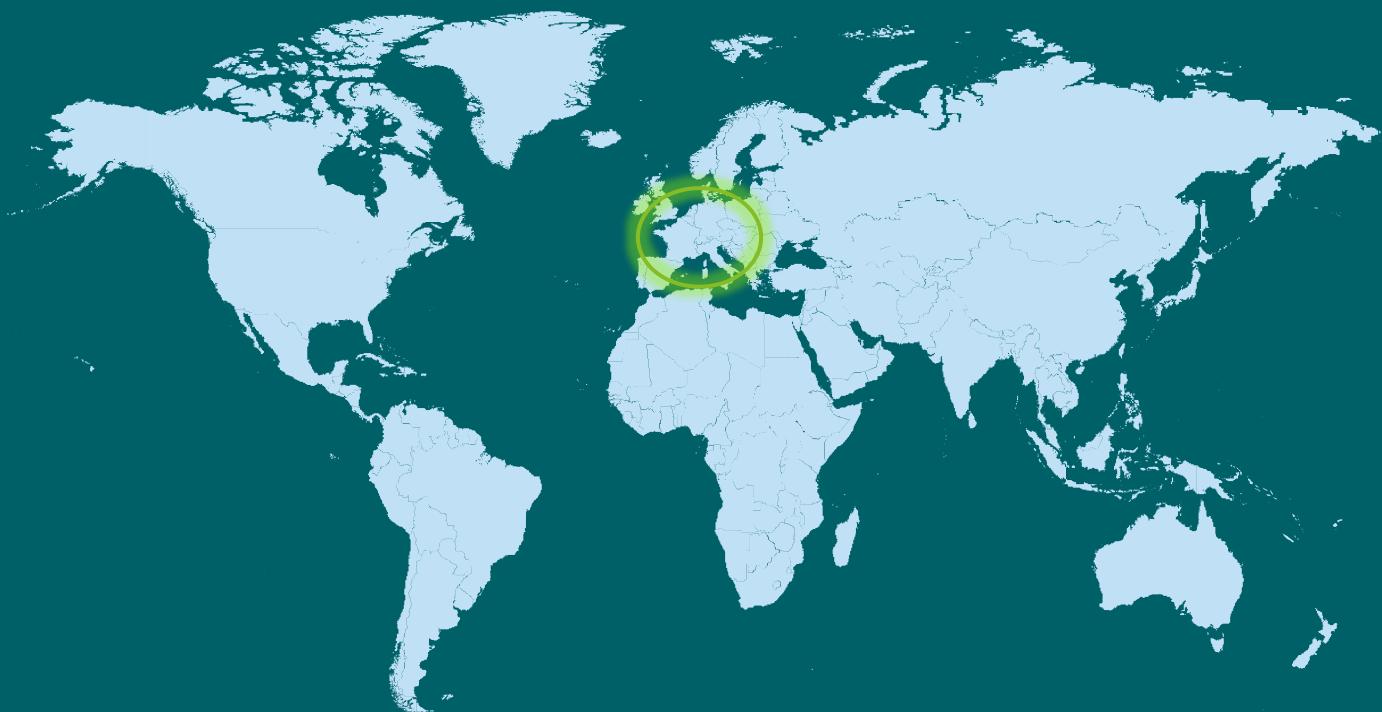
Bulk/Batch  
Payment



Bill  
Payment



Scheduled  
Future  
Payments



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# Glossary of terms

S. No.	Term	Definition
1	<b>GDP</b>	Gross Domestic Product at current price
2	<b>Income Category</b>	Classification as per World Bank based on Gross National Income (GNI) per capita
3	<b>CPMI</b>	Committee on Payments and Market Infrastructure
4	<b>FPS</b>	As per CPMI, fast payment System is defined as payments in which the transmission of the payment message and the availability of final funds to the payee occur in real time or near-real time and on as near to a 24-hour and 7-day (24/7) basis as possible
5	<b>Oversight</b>	Regulating or governing body supervising the payments system
6	<b>Operator</b>	Institutions responsible for the operation of the payment system
7	<b>Alias</b>	Alternative to bank account numbers for increased convenience of the customer. For e.g., mobile number, national identification number
8	<b>Access Channels</b>	Modes used by customer to initiate transaction on FPS. For e.g., branch, internet, mobile
9	<b>Individual Payment Type</b>	Person to person (P2P) – Payment between individuals for non-business purposes
10	<b>Business Payment Type</b>	Person to Business (P2B) – Payment from an individual to a business entity Business to Person (B2P) – Payment from a business entity to an individual Business to Business (B2B) – Payment between two business entities
11	<b>Government Payment Type</b>	Person/Business to Government (P/B2G) – Payment from person/Business to a government institution Government to Person/Business (G2P/B) – Payment from government institution to a person or business entity
12	<b>Credit transfers</b>	Credit transfers are payment instruments based on payment orders or possibly sequences of payment orders made for the purpose of placing funds at the disposal of the payee
13	<b>Direct Debits</b>	Direct debits are payment instruments in which the transaction is pre-authorized, and funds are blocked in account for a debit to be initiated at a future date. In direct debits, payer's account is debited on execution of mandate by merchant or payee
14	<b>E-money</b>	E-money is a prepaid value stored electronically, which represents a liability of the e-money issuer (a bank, an e-money institution or any other entity authorized or allowed to issue e-money in the local jurisdiction), and which is denominated in a currency backed by an authority

## Abbreviations

S.No.	Term	Expanded form
1	<b>CSM</b>	Clearing and Settlement Mechanism
2	<b>EBA</b>	European Banking Authority
3	<b>ECB</b>	European Central Bank
4	<b>EPC</b>	European Payments Council
5	<b>ERPB</b>	Euro Retail Payments Board
6	<b>MIB</b>	Market Infrastructure Board
7	<b>SCA</b>	Strong Customer Authentication
8	<b>SCT Inst</b>	SEPA Instant Credit Transfer
9	<b>SPL</b>	SEPA Proxy Lookup
10	<b>RTS on SCA&amp;CSC</b>	Regulatory Technical Standards on Strong Customer Authentication and Common and Secure Communication
11	<b>TIPS</b>	Target Instant Payment Settlement

# How to read this report

- This **draft deep dive report** relates to the **SCT Inst in Europe**
- It has been developed based on **primary interviews** with key stakeholders such as **regulators, operators** and **service providers** in the system as well as by leveraging **secondary sources**
- Key secondary sources include EPC website, ECB website and their publications
- The table below presents a legend to assist readers as they navigate through different sections of the report

## Legend



The first slide of every section includes a chapter summary to provide readers with an overview of the section contents



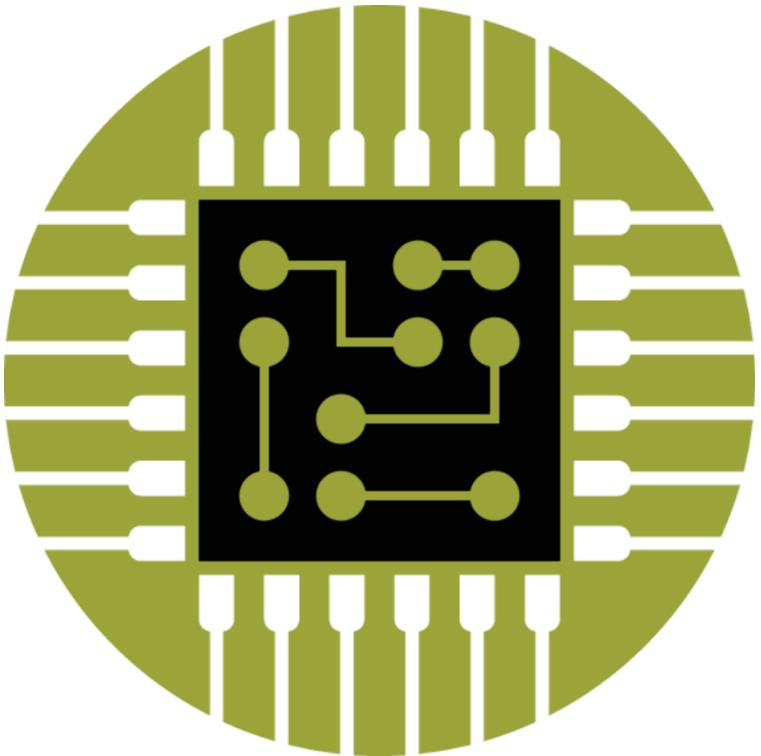
The green box with the adjacent icon indicates **section/sub-section summary across** the report. Reader may choose to read through this for a **high-level overview on the selected topic**

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# A. Executive Summary

# SCT Instant Credit Transfer (SCT Inst) | Europe FPS



- **SCT Inst** became operational in November 2017 – **a world's first for a region as large as SEPA.** SCT Inst allows instant payment transactions to any beneficiary across 23 countries and can be extended to 36 countries within 10 seconds in EUR currency. The scheme is based on the EPC's existing SEPA credit transfer (SCT) scheme
- The design of the SCT Inst makes **a distinct separation** between the **basic infrastructure** of the FPS and scheme. PSPs must be connected to at least one Clearing and Settlement Mechanism(CSM) and can choose from market options
- EPC has built the scheme as a result of **recommendation from ERPB for a pan-European instant payment scheme**
- The implementation of the SCT Inst took **approximately 1 year** during which consultations were also done for 3 months
- **Target Instant Payment Settlement (TIPS)** was introduced to provide instant payments service to any bank account holder in Europe. It was developed as an extension of TARGET 2. Another major CSM is RT1, which is also a pan-European solution
- **Key features of SCT Inst are**
  - Defined maximum execution time
  - Operates 24x7x365
  - Optional Scheme
  - Multiple Infrastructure
  - Large geographical presence
  - Extensive Regulatory Guidelines
- Users can make SCT Inst payments via their **internet, mobile banking or QR Code.** They can also make payments via **ATM or Branches** depending on the bank capability
- Currently, the SCT Inst supports **merchant payments, schedule future payments and bill payments as use cases.** However, it is planning to roll out enhanced capabilities to support more features such as **Request To Pay planned to be launched in 2021 and cross- border payments across one leg out of Europe on which decision will be made in 2021**

Source: ECB | EPC

## **B. Detailed Report**

# 1. Overview

## Chapter sections:

- 1.1. Background
- 1.2. Objectives
- 1.3. System Development and Key Timelines



## Chapter Summary:

- In 2014, **the Euro Retail Payments Board (ERPB)**, a multi-stakeholder group chaired by the European Central Bank (ECB) proposed that **at least one pan-European solution for instant payments in euro** should be available to all payment service providers in the European Union
- To avoid the **risk of fragmentation of European Payments**, the Euro Retail Payments Board invited the EPC to create a pan-European instant payment scheme
- EPC prepared a design for the scheme, which was endorsed by the ERPB
- EPC published the first scheme rulebook **in 2016 and** rolled out the scheme in **12 months** including **3 months** for consultation
- **Target Instant Payment Settlement (TIPS)** was introduced to provide an instant payment service to all banks eligible for accessing central bank money. **It was developed as an extension of TARGET2**
- SCT Inst fulfills the objectives of the customers to make purchases **anywhere and at any time, including during evening hours, weekends and holidays**
- SCT Inst scheme has been built from the existing SEPA Credit Transfer system
- The participants and infrastructure providers have shared the major cost of implementation

# 1.1. Background



- **There was a risk of fragmentation of European Payments** as several European Countries were planning national Euro instant payment solutions that were not interoperable between them.
- To avoid that EPC was invited by the Euro Retail Payments Board to create a **pan-European euro instant payment scheme**.
- The SEPA Instant Credit Transfer (SCT Inst) scheme **was launched in Nov 2017**

SEPA Instant Credit Transfer (SCT Inst) was launched Nov 2017 across EU, as an optional payment scheme for banks to participate. SCT Inst allows instant payment transactions to any beneficiary across Euro Zone within 10 seconds in EUR currency. The scheme is based on the EPC's existing SEPA credit transfer (SCT) scheme and a world first for a region as large as SEPA

A multi-stakeholder group Chaired by the European Central Bank(ECB), the Euro Retail Payments board (ERPB) proposed that at least one pan-European solution for instant payments in Euro should be available to all payment service providers in the European Union, during its second meeting on 1 December 2014.

## As per the ECB Website

The proposal was made after market participants in several EU countries had implemented or were in the process of developing national solutions for instant payments. The risk was that these solutions would operate smoothly within the specific country but would not ensure cross-border availability.

Hence solutions should either be developed at the pan-European level or, if developed at the national level, be mutually interoperable with other solutions. To avoid any fragmentation and increase competition, instant payment solutions was needed to consist of the following layers:

- end-user solution layer: cooperatively or competitively developed in the market (e.g., for person-to-person mobile payments);
- scheme layer: underlying payment schemes;
- clearing layer: arrangements for the clearing of transactions between payment service providers;
- settlement layer: arrangements for settlement of transactions between payment service providers.

## As per the ECB Website

Besides the initiative pursued via the ERPB, the Euro system worked closely with the industry to ensure that the clearing and settlement layers can support SCT Inst.

- It has defined a set of expectations for infrastructures offering clearing services for pan-European instant payments in euro and has implemented enhancements in TARGET2 to support the settlement of instant payments cleared by these infrastructures.
- Furthermore, to ensure that at least one pan-European instant payment solution exists as proposed by the ERPB, the Eurosystem decided to develop pan-European market infrastructure solution called TARGET Instant Payment Settlement (TIPS).

**The ERPB invited the European Payments Council (EPC) to develop a pan-European instant payment scheme an to speed up the development of instant payments in Euro. The scheme is based on the EPC's existing SEPA credit transfer (SCT) scheme and is called SEPA Instant Credit Transfer (SCT Inst).**

## 1.2. Objectives



- The SCT Inst scheme delivers the **customer expectations of an ever easier and faster services** by enabling pan-European credit transfers with the funds made available on the account in less than ten seconds.
- In addition, it fosters **harmonization of real-time payments beyond Euro and throughout Europe** via introducing a set of interbank rules, practices and standards through the licensing by the EPC of its IPRs

With the spread of smartphones and electronic commerce, today's customers are used to doing things on the spot. They want to make payments **instantly, anytime, and anywhere**. The digitalization of the economy entails a general acceleration of payments and SCT Inst scheme came in response to these users' expectations and possibly European governance

### Vision

#### As per the Scheme Rulebook :

- The Scheme **provides a set of interbank rules**, practices and standards to be complied with by participants who adhere to the Scheme with minimum conditions required in the Customer-to-Bank space.
- It **allows payment services** providers in SEPA to offer a SEPA-wide euro instant credit transfer product to Customers.
- The Scheme also **provides a common basis** on which Participants are able to offer new and innovative services.
- The **Scheme moves Participants and their Customers towards open standards**, which are expected to improve financial integration and act as a catalyst for a richer set of products and services.

### Strategic Objectives

#### As per the Scheme Rulebook:

- SCT Inst will be automated, based on the use of open standards and the best practices of straight through processing ("STP") without manual intervention
- To **provide a framework** for the removal of inhibitors and the harmonization of standards and practices
- To support the **achievement of high standards of security, low risk and cost efficiency** for all actors in the payments process
- To allow the further development of a **healthy and competitive market for payment services** and to create conditions for the improvement of services provided to Customers

### Key characteristics

Defined Maximum Time Limit

Multiple infrastructure providers

Optional Scheme

Transaction Upper Limit

## 2. Business and Operating Model

### Chapter sections:

- 2.1. FPS Structure
- 2.2. Participants
- 2.3. Payment Instruments and Transaction Types
- 2.4. Aliases and Access Channels
- 2.5 Scheme Pricing and Fee Structure
- 2.6 Use Cases



### Chapter Summary:

- The introduction of fast payments across Europe was enabled through the development of SEPA Instant Credit Transfer Scheme
- The design of the SEPA Inst scheme makes a **distinct separation between the scheme and the Clearing & Settlement Mechanism(CSM)**
- PSPs must be connected to at least one Clearing and Settlement Mechanism (CSM).TIPS which settles in central bank money and other CSMs which settle by adjusting balances of their participants in their own books, backed by a pool of funds held in a central bank account
- The SCT Inst enables European **consumers, businesses and government agencies** to make payments in Euros between accounts at participating financial institutions
- SCT Inst is an **optional scheme** and PSPs can adhere as receivers only, or as both originators and receivers of SCT Insta transactions
- Payments can be made via **internet, mobile banking** and QR Codes application of participants. SCT Inst payments can also be made using **branches and ATMs** depending on the bank
- **SCT Inst One Leg(Out) transactions** for international transactions beyond EU are under progress, a final decision on the same will be in 2021. EPC has already **granted licenses to some non-euro zone countries** allowing them to use the building blocks of the scheme **for non-euro transactions**
- PSPs can be invoiced participation fee either individually or at a group level when they are part of a declared 'group' and the fees paid by them may evolve every year
- Currently, the SCT Inst supports **Bill Payments, Schedule Future Payments and Merchant Payments**. However, it is planning to roll out enhanced capabilities in the next couple of years to support additional use cases including **Request to Pay**

## 2.1. FPS Structure

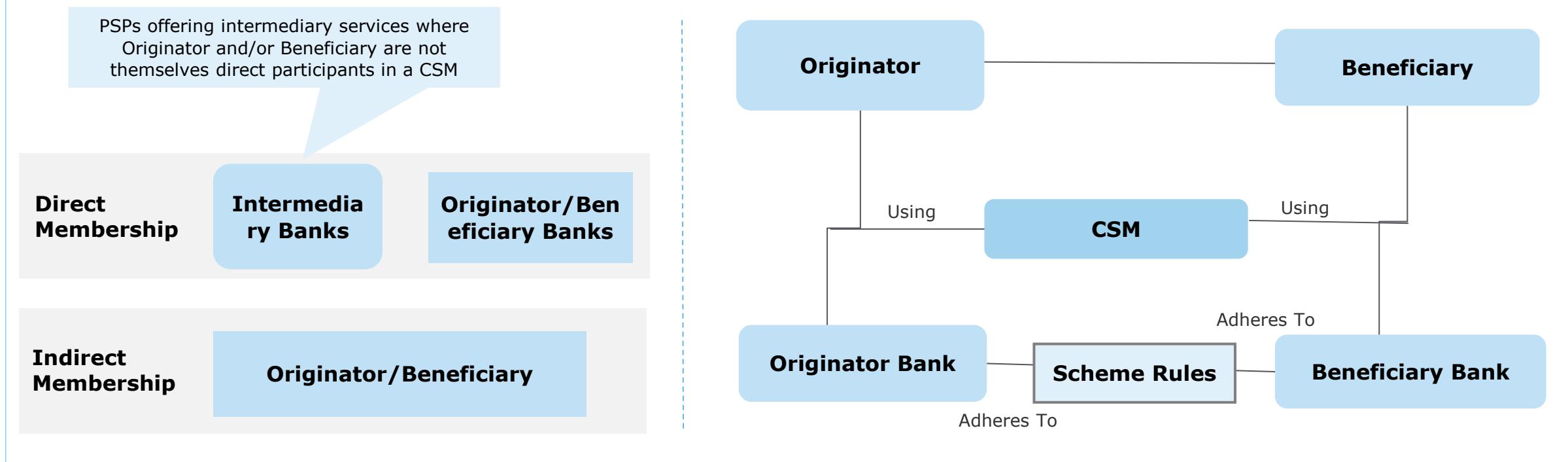
Regulator	Scheme Manager	Participants	CSM
European Central Bank  European Commission & European Banking Authority	European Payments Council  EPC Board & Secretariat	Originator/Beneficiary Banks  Intermediary Banks'	European Central Bank
<ul style="list-style-type: none"><li>ECB performs the dual role of overseer/competent authority as well as a catalyst to promote market offerings. It also operates a CSM</li><li>The European Commission is responsible for proposing legislation and is the executive branch of the European Union</li></ul>	<ul style="list-style-type: none"><li>EPC is an international not-for-profit association formed of 76 members who are PSPs (mostly banks) or associations of PSPs</li><li>Scheme Management Board is responsible for performing the functions of management and evolution of the SEPA Scheme as defined in the rulebook</li><li>The EPC Board has powers needed to accomplish the purpose of EPC and Secretariat performs the administrative functions</li></ul>	<ul style="list-style-type: none"><li>Originator and beneficiary are the customers who initiated or are the receivers of the fund transfer connected via PSPs defined as part of PSD2</li><li>Additionally intermediary banks are PSPs offering intermediary services to PSPs of originators or beneficiaries</li><li>Originator and beneficiary PSPs, which are the PSPs where the originator and beneficiary hold their payment accounts, participate in the scheme.</li></ul>	<ul style="list-style-type: none"><li>PSPs must be connected to at least one Clearing and Settlement Mechanism (CSM), in order to receive or send SCT Inst.</li><li>PSPs can choose between Pan-European providers like TIPS &amp; RT1 and regional providers like STET, Equens Worldline, CEC, Iberpay and others</li></ul>

Source: EPC | ECB

## 2.2. Participants



**Banks and non-banks PSPs as per PSD2 guidelines** can participate in SCT Inst scheme, with an additional set of members called intermediary banks. At the scheme level there is no distinction between direct and indirect participants. CSMs may have indirect participants and comply with scheme rules



### Regulatory Considerations

(As per Scheme Rulebook)

- Participants from all countries in SEPA participate on the basis that the level playing field principle is respected
- All adhering Participants shall comply with the SCT Inst Scheme Rulebook on the same basis as all other Participants
- Participants need to ensure that the Regulation on Information on the Payer accompanying Transfers of Funds and the provisions of Title III and Title IV of the Payment Services Directive affecting credit transfers enabled by the SCT Inst Scheme are effectively represented in law or substantially equivalent binding practice. For the avoidance of doubt, it is recognized that the compliance obligations for a Participant that is not subject to the Payment Services Directive under its national law and is operating outside the EEA shall not include the obligations resulting from Article 66 and related Articles of the Payment Services Directive as these Articles should only apply in combination with the authorization framework within the EEA in accordance with Titles I and II of the Payment Services Directive.

## 2.2. Participants



Payment Service Providers (PSPs) can adhere as receivers only or as both originators and receivers of SCT Inst transactions as the scheme is optional

### As per the Scheme Rulebook :

- **The Originator :** is the customer who initiates directly or indirectly the instant credit transfer by providing the Originator ASPSP with an instruction. The funds for such an SCT Inst are reserved from a specified payment account of which the Originator is account holder
- **Originator ASPSP :** is the participant that receives the SCT Inst Instruction from the Originator and acts on the payment instruction by processing instantly the payment to the Beneficiary ASPSP in favor of the Beneficiary's Payment Account according to the information provided in the instruction and in accordance with the provisions of the Scheme. The Originator ASPSP is also obliged to inform immediately the Originator in case the funds have not been made available to the Beneficiary. It can be any participant of the scheme
- **The Beneficiary :** Is the customer identified in the SCT Inst instruction to whom the funds are sent.
- **Beneficiary ASPSP :** is the participant that receives the SCT Inst transaction from the Originator ASPSP and immediately makes the funds available to the Beneficiary, according to the information provided in the transaction and in accordance with the provisions of the Scheme. The Beneficiary ASPSP is also obliged to send a confirmation message (positive or negative) immediately through the same CSM to the Originator Bank to confirm whether the SCT Inst transaction has been processed.
- **Intermediary PSPs :** PSPs offering intermediary services to Originator and/or Beneficiary ASPSPs, for example in cases where they are not themselves direct participants in a CSM.
- **Payment initiation service providers (PISP) :** Originators may make use of a PISP to initiate an instant credit transfer
- **CSMs :** Such mechanisms could include the services of a Clearing and Settlement provider such as an automated clearing house or other mechanisms such as intrabank and intra-group arrangements and bilateral or multilateral agreements between Participants. The term CSM does not necessarily connote one entity, for example, it is possible that the Clearing function and the Settlement functions are conducted by separate actors

### Onboarding Process

- For applying, an executed undertaking and original Adherence Agreement along with supporting documentation shall be submitted to the EPC
- As per the Internal rules specified by EPC an application date is specified, when an applicant becomes a participant

### Reachability

- Under the rulebook that binds the EPC and all participants, adhering PSPs are required to be reachable SEPA-wide from the readiness date mentioned in the Register of Participants.
- The full SEPA reachability is a challenge for many SCT Inst scheme participants. In several countries, the SCT Inst reachability used to stop at the national borders largely but has been resolved now. As of May 2020, 65% of the PSPs in Euro have joined SCT Inst

## 2.3. Payment Instruments and Payment Types



- SCT Inst One Leg(Out) transactions for international transactions are under progress. EPC has already granted licenses to some non-euro zone countries allowing them to use the building blocks of the scheme for non-euro transactions.
- It enables European **consumers, businesses and government agencies** to make payments in **Euros** with a new maximum limit of 100,000 euros

### Payment Instruments Supported



#### Credit Transfer

### Interoperability

- Interoperability between PSPs mandated as part of rulebook
- EPC has granted licenses to some non-euro zone countries allowing them to use the building blocks of the scheme for non-euro transactions. It will foster harmonization of real-time payments beyond the euro and throughout Europe
- Under progress is the **One Leg (Out) transactions for international transactions beyond European Union**

### Payment Types, Limit and Currency



#### Individual



#### Business



#### Government

#### Transaction Limit

- A maximum amount of 100,000 euros. Any transaction higher than this maximum amount is rejected by the interbank parties involved in the process chain, unless otherwise previously agreed between the participants.

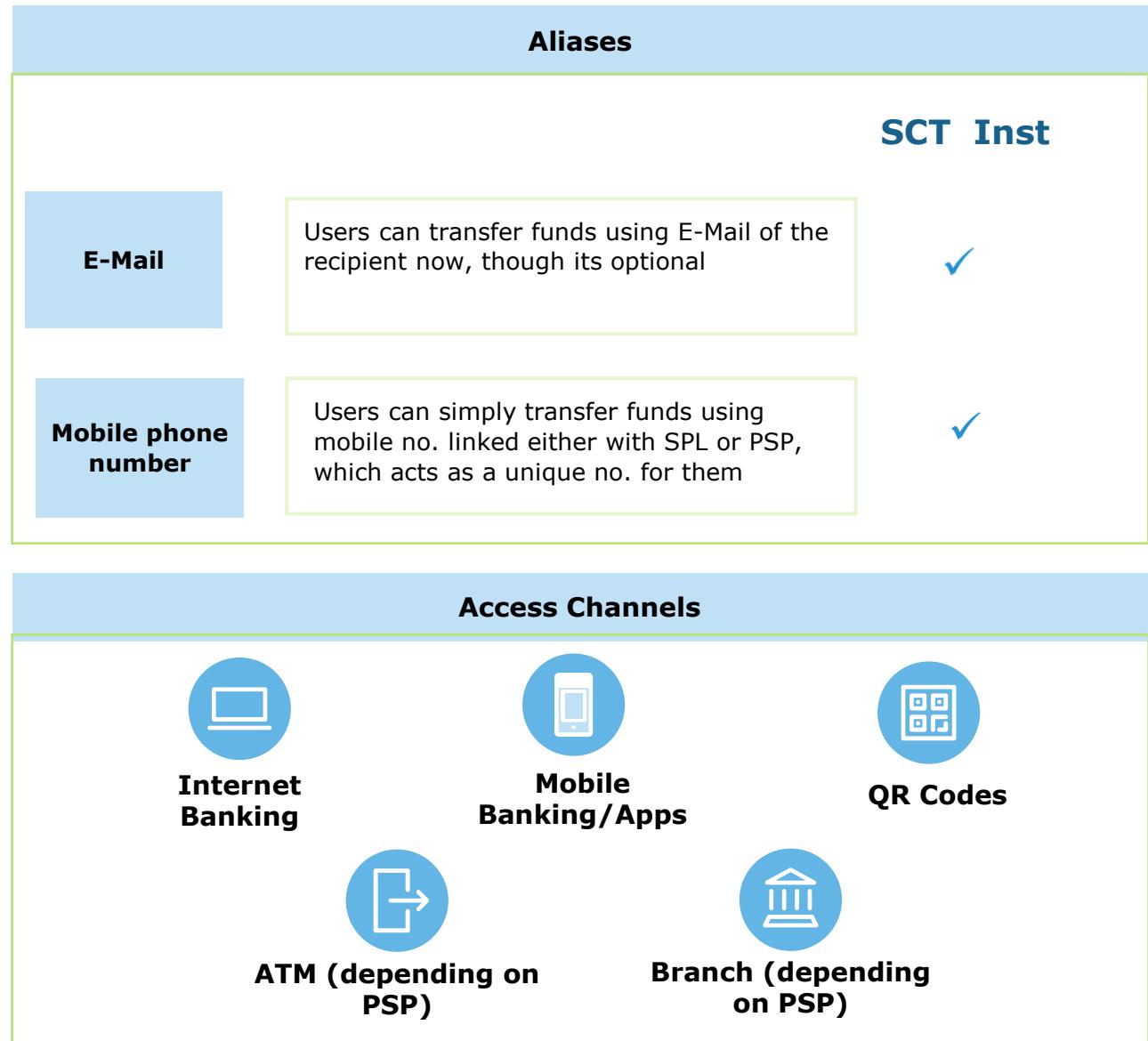
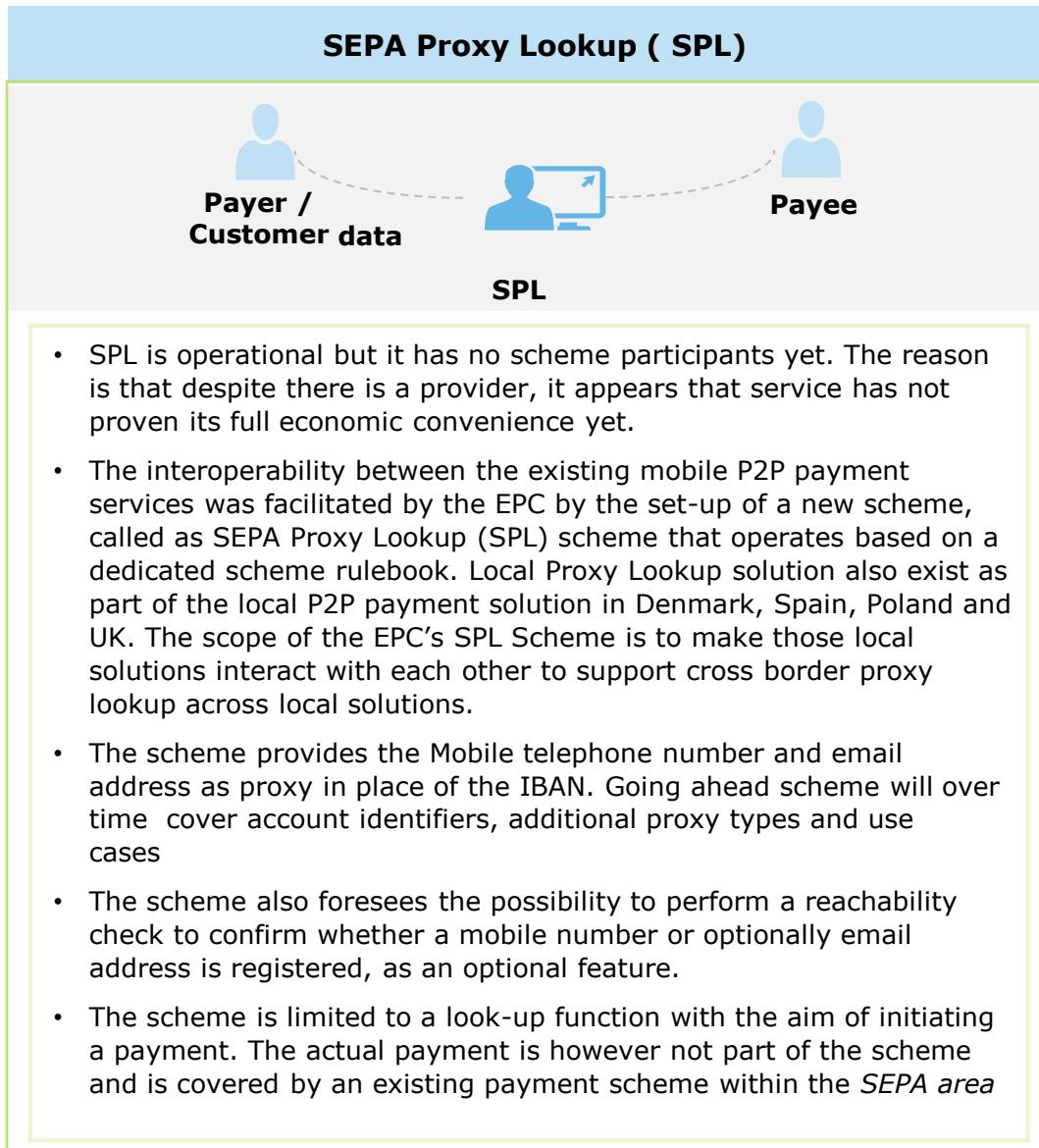
- Initially the maximum amount was set at 15,000 euros and it was increased after consultation by SMB

#### Transaction Currency



Though the transaction must be made in euros, the payment accounts held at PSPs operating in do not have to be denominated in euros.

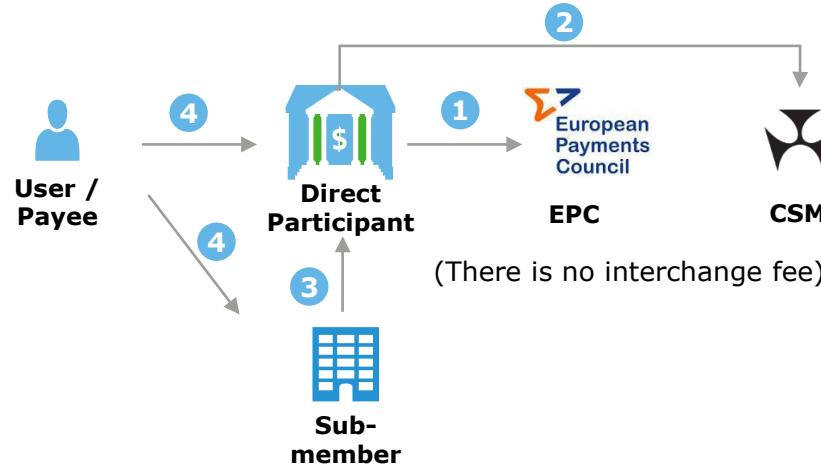
## 2.4. Aliases & Channels



## 2.5. Scheme Pricing and Fee Structure



There are **multiple points of pricing** in the SCT Inst ecosystem, it is not a practice to charge for receiving payments



### 1 Fee charged by EPC

All Participants are required to pay annual scheme participation fees of EPC.

- The payment scheme participation fee is calculated for each PSP by taking into consideration the number of payment schemes to which they adhere. The fees paid by PSPs may evolve every year because they depend on the number of payment schemes, the number of scheme participants and the costs borne by the PSPs in relation to the management of the payment schemes.
- PSPs can be invoiced either individually or at a group level when they are part of a declared 'group'. Individual fees are as per PSP and at group level-the fees are due from the parent undertaking (which has a dominant influence on one or more PSPs) or the central control body of the group (to which scheme participants are affiliated and by which they are supervised)

### 2 Fee charged by CSM

All Participants are required to pay the charges denominated by the CSM.

### 3 Fee charged by direct participants to sub-members

Details not available

### 4 Fee charged to users/payee

- Charges to Customers will be based on the shared principle such that the originator and beneficiary are charged separately and individually by the originator bank and beneficiary bank, respectively. Charges for end user is not capped. In addition, EU legislation introduced the obligation to charge for cross-border transactions at the same level as for local ones.

## 2.6. Use Cases / Services

1

### Merchant Payments (C2B)

- Purchase of or payment advance for high-value goods (apartment, car) which requires an immediate transfer and/or the confirmation of funds to the payee
- Payment of online purchases
- Immediate reimbursement by a merchant of a returned good bought by a consumer
- Sale of digital content such as music, movies and books (not widely used through credit transfer).

#### Payment Instruments

Credit Transfer

#### Access Channels



2

### Request to Pay (Under Development)

- Some of the standard use cases of R2P include P2P payments, E-billing/Invoicing, E-commerce payments, Point of sale payments, etc.
- At pan-European level EPC has setup a R2P Multi-Stakeholder group in 2019 with an objective to analyze R2P messages and its inter-operability between various actors with option to include these messages outside the SCT and SCT Inst Schemes.
- Challenges which needs to be addressed are feasibility of Recurrent R2P, Pay Later R2P, addressing customer protection issues like Refund Rights similar to Direct Debits and Chargebacks similar to Card transactions

#### Payment Instruments

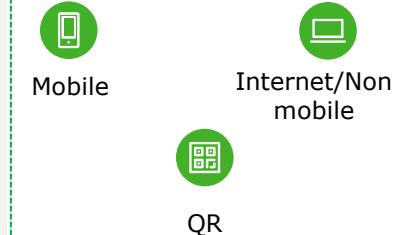
Credit Transfer

#### Access Channels

#### Payment Instruments

Credit Transfer

#### Access Channels



3

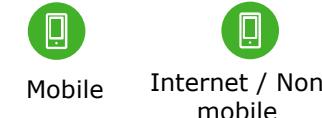
### Non-Financial Transactions

- Check Transaction Status and History
- Value added services in payment scheme like loyalty, couponing, e-receipts, etc.

#### Payment Instruments

Credit Transfer

#### Access Channels



4

### Bulk / Batch Payments

- Organization can use instant payments for salary and pension payments.
- Bulk file/batch initiation facilities for corporate mass payments applications
- Bulk payments are currently cleared one-by-one in the inter-PSP Domain

#### Payment Instruments

Credit Transfer

#### Payment Instruments

Credit Transfer

#### Access Channels



## 2.6. Use Cases / Services

4



### Bill Payments

- Payment of a share of a joint bill instead of giving cash or a cheque.
- Payment of services rendered at home when the service provider requests to be paid on the spot (for example: plumber, electrician, cleaner)
- (Re)Activation of services (mobile phone top up, online streaming of music and live events , video on demand...)
- Payment of goods or services with a mobile device (substitute to cash and cheques) for example in a taxi, restaurant, shop
- Payment for services delivered by freelancers and day-workers at the end of the day or at the moment of completing the project
- Payment of taxes, fines or penalties

#### Payment Instruments

Credit Transfer

#### Access Channels



5



### Future Payments

- Payment of invoices to avoid late payment penalty fees or cut-off of service delivery
- The logic of scheduling future payments is not separately built and if we look at the data its not possible to differentiate

#### Payment Instruments

Credit Transfer

#### Access Channels



7



### Other uses

- Emergency fund transfer to a beneficiary for immediate use (this is especially useful when the beneficiary does not live in the same area than the payer)
- Buying goods from another consumer, either online or face-to-face (second-hand car, furniture, antique...)
- Donations to disaster-relief organizations
- Payment of tax, fines or penalties
- Alternative for the national and/or European Union limitations set on cash or card transactions for the purchase of goods
- Urgent correction of a payment error or an oversight
- Purchase on auctions, including on internet
- High-value intercompany transfer payments, particularly those driven by short-term treasury needs
- Urgent pay-out of compensation (government welfare, insurance claims) to the consumer

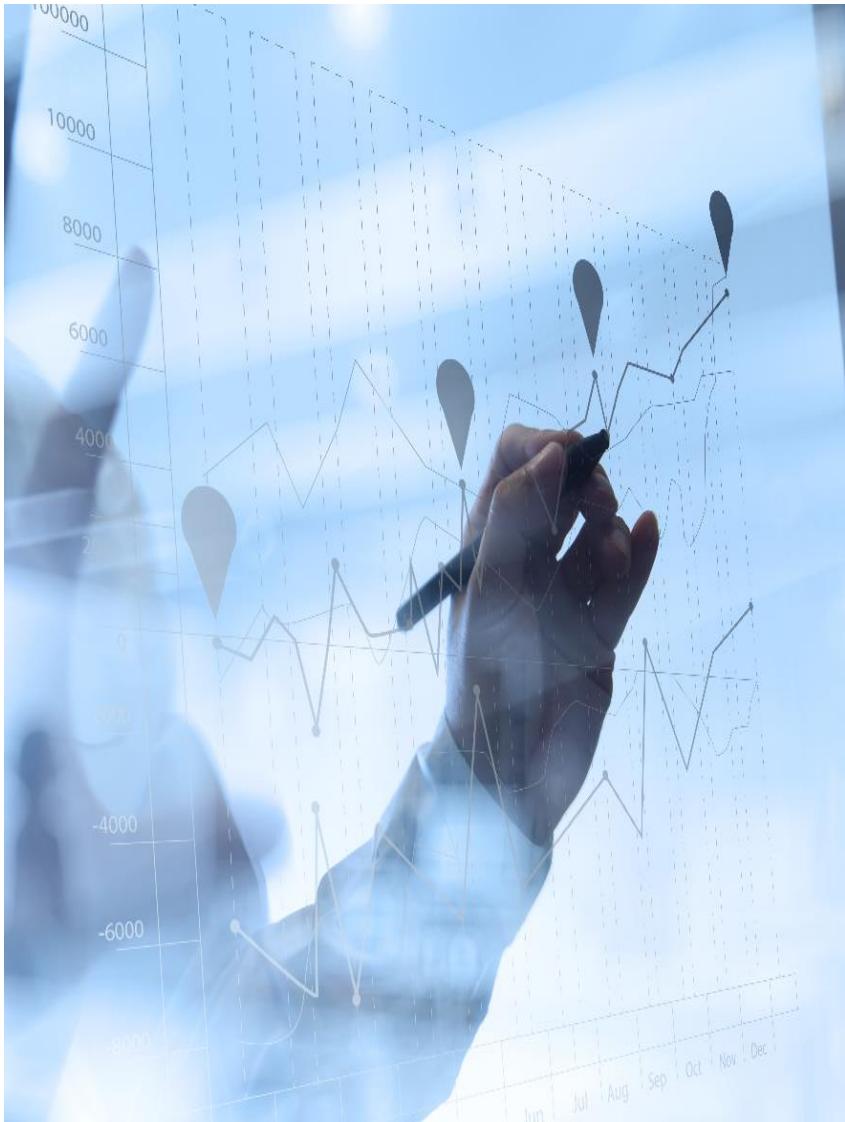
#### Payment Instruments

Credit Transfer

#### Access Channels



### 3. User Adoption



#### Chapter Summary:

- User adoption of SCT Inst has been encouraging and scheme has witnessed steady growth since its launch
- **More than 65% of PSPs across 23 countries in the SEPA region are already a member**, which is a positive sign in terms of adoption by businesses
- Majority of **transactions are below 1000 Euros** and **most transactions are made during daytime**

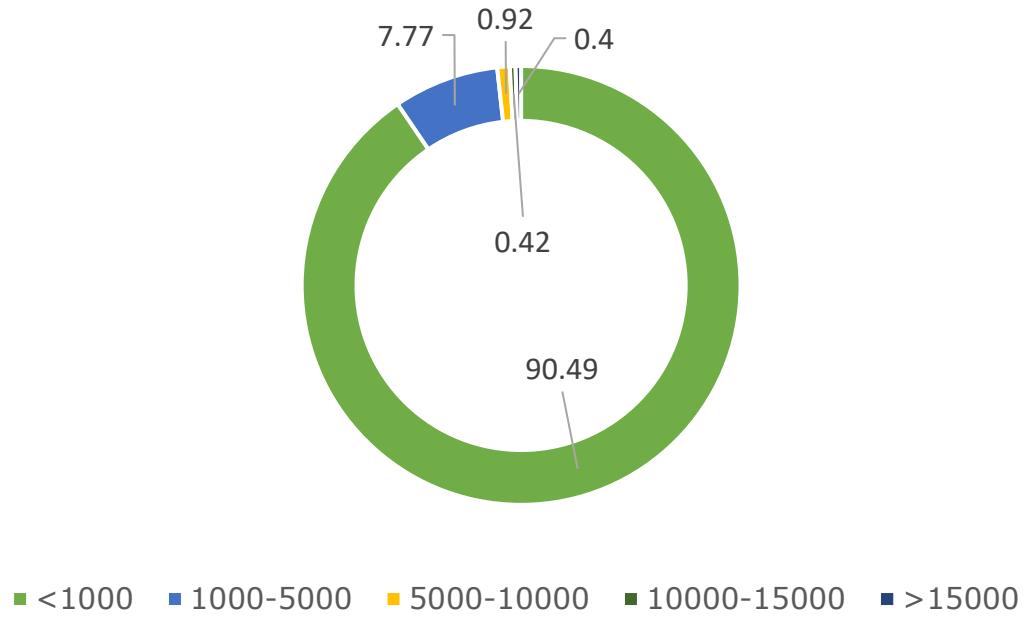
### 3. User Adoption

Over ninety-nine percent of transactions are completed in less than **five seconds**, R-transaction rates have dramatically decreased—especially for **intra-country transactions** – and **no significant fraud issue has been reported**.

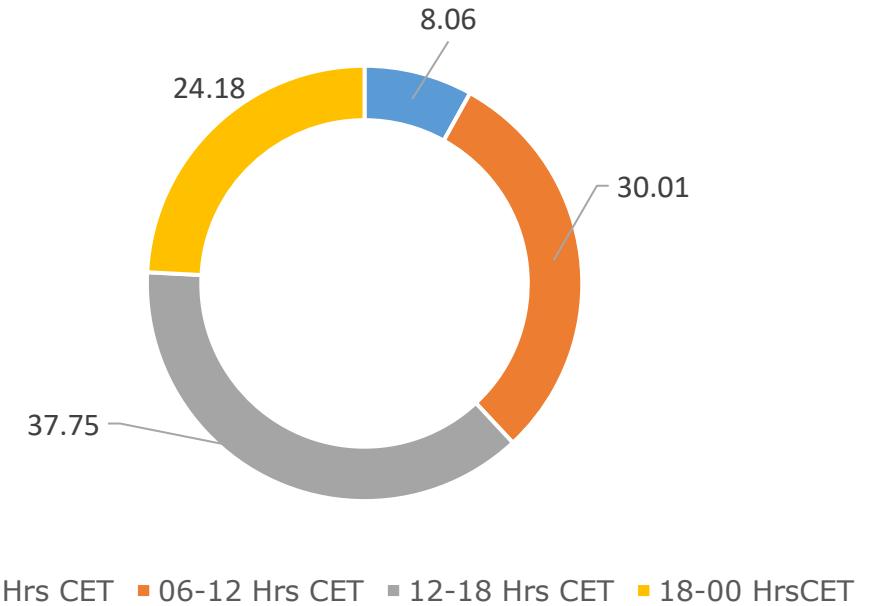


An overwhelming majority of the transactions are currently **below one thousand euros**, and **most transactions** (about **seventy percent**) are made **during daytime** (from 6:00 to 18:00 CET):

% of SCT Inst transactions by Amount



% of SCT Inst transactions by day period



## 4. Technical Details and Payment Process

### Chapter sections:

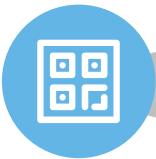
- 4.1. Technical Details | QR Codes and Customer Authentication
- 4.2. Technical Details | APIs, Customer Authentication and Tokenization
- 4.3. Payment Process (Customer Registration, Transaction Fulfilment, Liquidity Management and Settlement)



### Chapter Summary:

- SCT Inst is built on the **ISO 20022 messaging standard**, which enables the sending of richer and more complete information with a payment
- The SCT Inst scheme allows **open APIs** (for payment initiation)– There are multiple specifications including **Berling Group, Polish API and STET open API standards being followed**
- SCT Inst payments are subject to the SCA requirements under the RTS on SCA&CSC which are applicable as of 14 September 2019
- Merchant Presented **QR codes** (read by originating bank application) **are currently available** and work is in progress to develop a generic **MSCT QR code format**
- SCT Inst transactions allow **tokenization of IBAN and beneficiary name with unique MSCT Tokens and merchant tokenization is currently supported**
- SCT transactions are settled via multiple CSMs which follows a **real-time** settlement model
- **Pre-funding** is used to ensure liquidity risk are covered
- The payment process includes one-time customer registration, payer-payee transaction fulfilment and inter-participant settlement

## 4.1. Technical Details | QR Code & Customer Authentication



### QR Code

EPC QR code format supported & MSCT QR-Code in progress

Static

Dynamic

Merchant-Presented

Static

Dynamic

Consumer -Presented

#### As per MSCT Interoperability Implementation Guidelines

- Currently QR Codes are being used across -static, e.g., merchant account data and related payment details for a fixed transaction amount (typical use case of a transport ticket) or may be dynamic to initiate/identify a single specific SCT (Instant) transaction
- QR-code may be Merchant-presented QR-code - where the code contains data to identify the merchant and transaction or Consumer-presented QR-code – where the code contains data to identify the customer.
- For the proposed standardization of a generic MSCT QR-code format, work is still being carried out by the MSG MSCT in coordination with other mobile payment initiatives in the market.
- The aim is to define a unified QR-code format for MSCTs which can be used in the various payment contexts (e.g., P2P, retail payments, including both in-store (proximity (also including a poster)) and e- or m-commerce). This unified QR-code will be based on a common minimal data set to be exchanged between payer and payee to enable MSCT interoperability across SEPA.



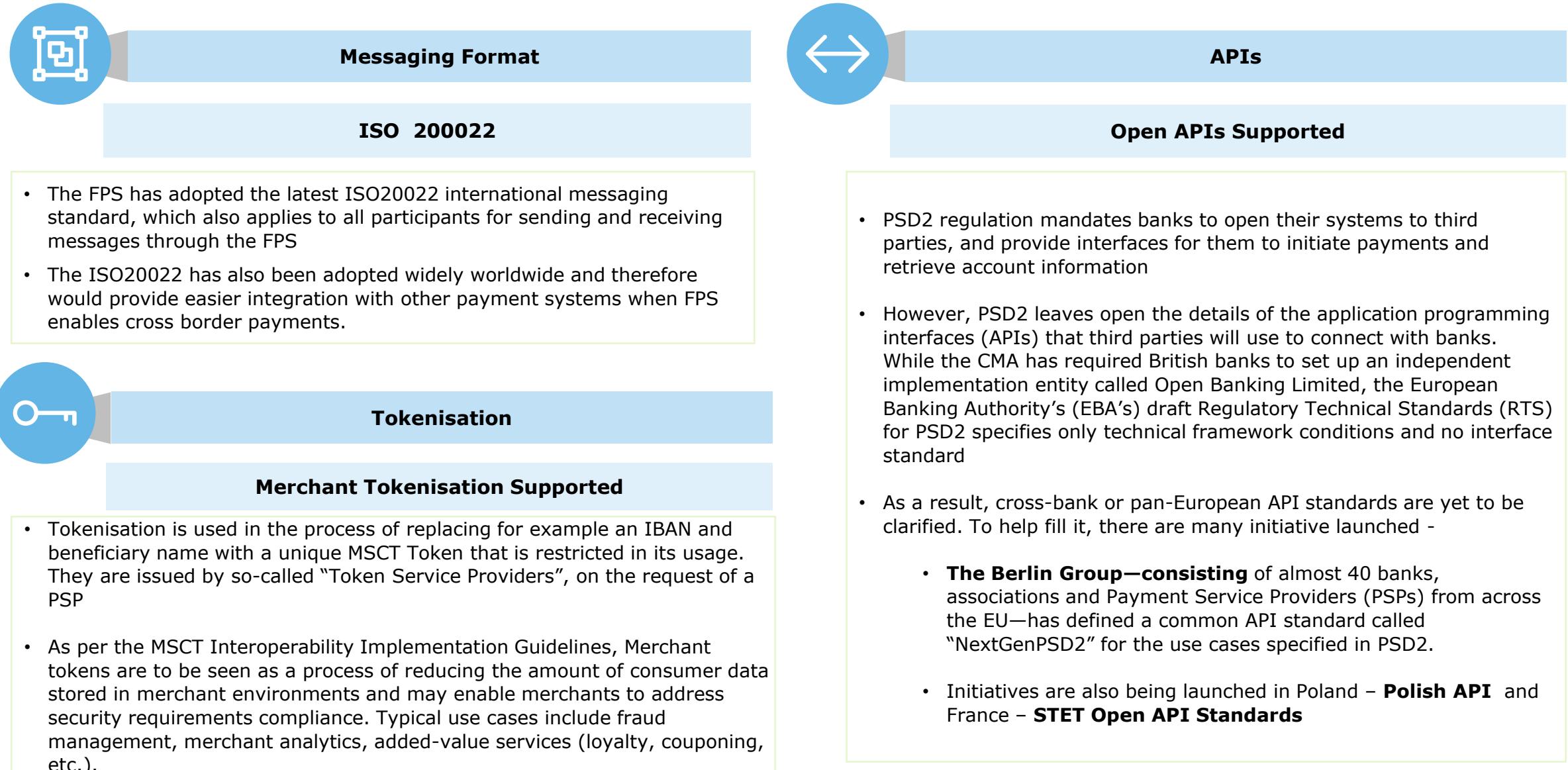
### Customer Authentication

Strong Customer Authentication (SCA), risk analysis

The SCA requirements under the RTS on SCA&CSC are applicable to credit transfers, including SCT Inst payments, as of 14 September 2019

- In SCT Inst the SCA requirements are mandated in line with PSD2 and the RTS on SCA&CSC. The core principle is to reduce payment fraud with minimal impact on the customer experience, i.e., without introducing too much friction into the payment process
- **The key enabler is two-factor authentication.** Consumers will need to provide two pieces of information to prove they are who they say they are: **something they own (e.g., a mobile phone), something they know (e.g., a PIN code) or something they are (e.g., a fingerprint).**

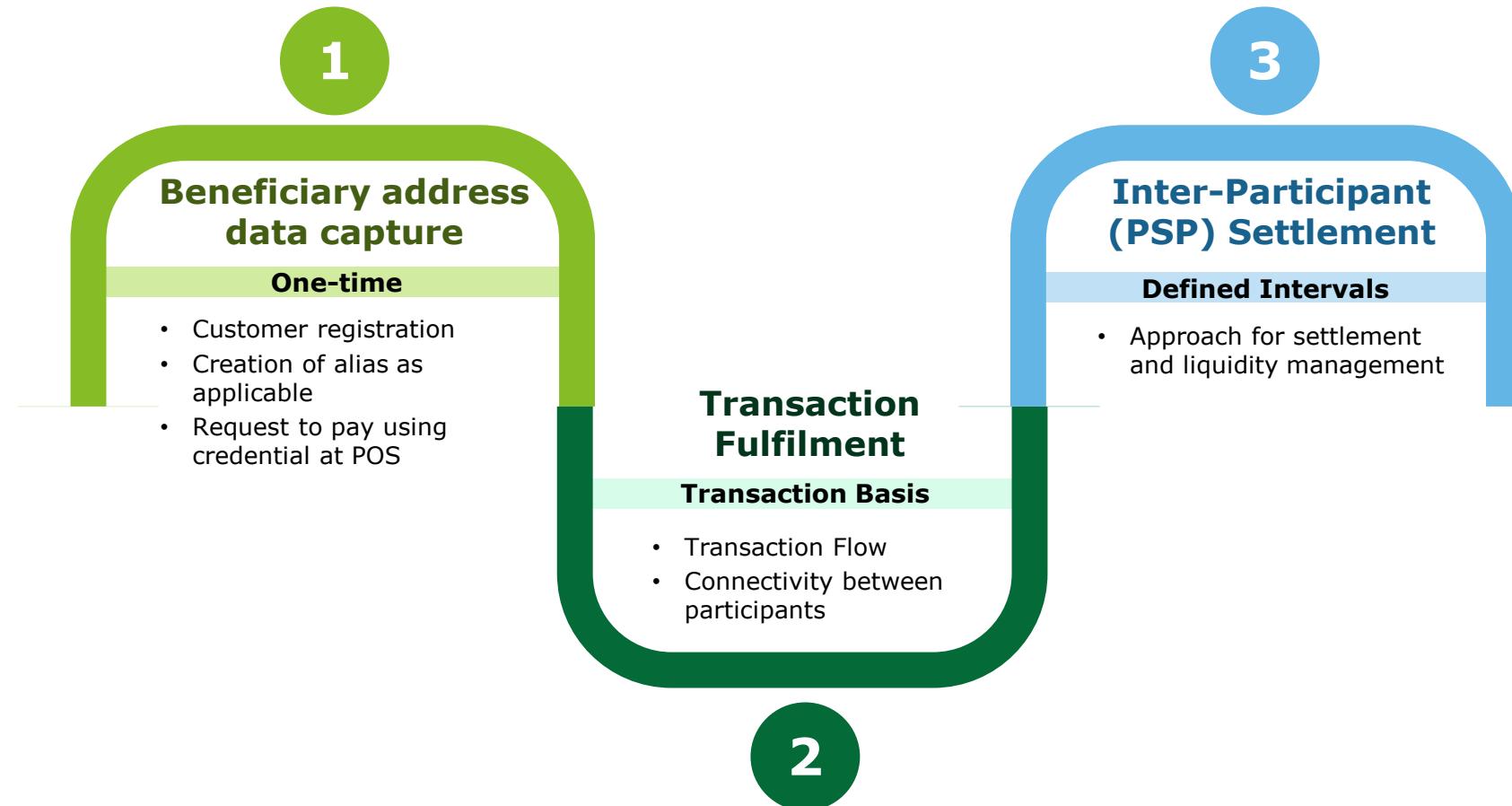
## 4.2. Technical Details | Messaging Format, Tokenisation and APIs



## 4.3. Payment Process



The steps in the payment process include one-time customer registration, payer-payee transaction fulfilment and inter-participant settlement. Subsequently, various aspects related to these areas are covered.



## 4.3. Payment Process | Customer Registration



Below is the process for customer registration process for SCT Inst, typically users do not need to sign up for SCT Inst; usually it is offered by default by their PSPs in connection with their payment account. User can register for SCT Inst using channels such as bank branches, mobile banking application and internet banking application

- The Originator Bank receives an SCT Inst Instruction from the Originator
- On completion the Originator Bank Instantly sends the SCT Inst Transaction message to the CSM of the Originator Bank

Users can register for SCT Inst using mobile phones, bank branches and internet banking

### SCT Inst Registration process

Step 1: the Originator Bank receives an SCT Inst Instruction from the Originator

Step 2: The Originator Bank then instantly executes all processing conditions and funds availability checks.

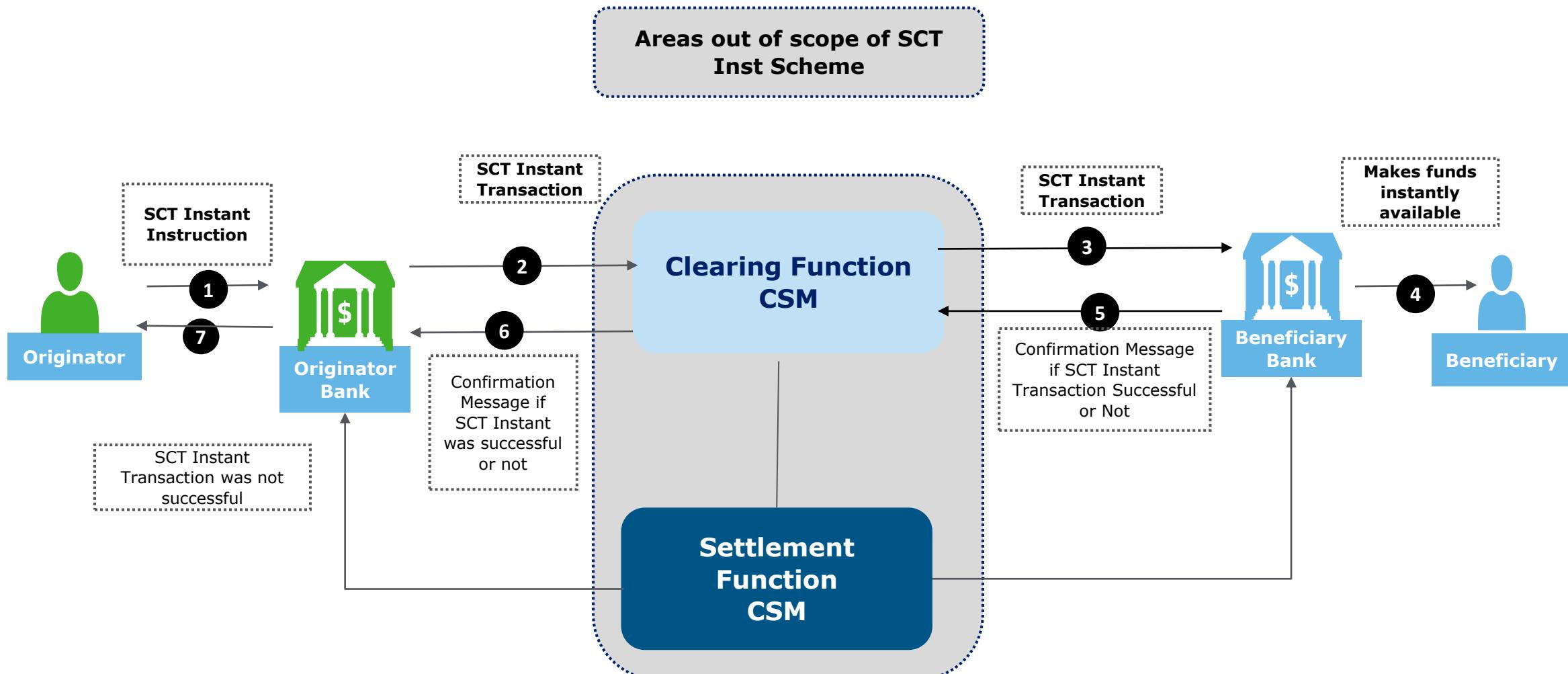
Step 3: When these validation checks are successful, the Originator Bank instantly makes a reservation of the amount on the Originator's Payment Account with this information Instantly accessible to the Originator, Instantly prepares an SCT Inst Transaction based on the SCT Inst Instruction and puts the Time Stamp in the created SCT Inst Transaction

On success the Originator Bank Instantly sends the SCT Inst Transaction message to the CSM of the Originator Bank

## 4.3. Payment Process | Transaction Fulfilment



The FPS allows customers of an originator to make payments from their account to a customer of another beneficiary with immediate funds availability to the payee. From the perspective of the customers, **the process is simple and takes only seconds**. However, there are **a number of confirmation, clearing steps and settlement steps** that occur in quick succession to make this happen



## 4.3. Payment Process | Liquidity Management and Settlement



- TIPS settles transactions in central bank money, between TIPS accounts of participants. Other CSMs settle in their own books, backed by funds held in a TARGET2 technical account
- Direct participants **settle via Central Bank TARGET 2 Accounts**
- For liquidity management, each bank maintains one **pre-funding account to cover for any risk of payment defaults**
- Indirect Participants need another **intermediary bank or direct participant to clear settlements**

Settlement Mechanism				
Approach	Type   Time	Real time	N.A.	Settlement Institution
RTGS				Target 2 Central Bank Accounts
Direct Participants(SP)			Indirect Participants(CP)	
Each Settlement Participant keeps a Central Bank TARGET 2 account through which net amounts are cleared real-time based on settlement figures			Each Indirect Participant has an intermediary bank or direct participant to support its real-time settlement	
TIPS settles transactions in central bank money, between TIPS accounts of participants. Other CSMs settle in their own books, backed by funds held in a TARGET2 technical account (which is funded from the CSM's participants' TARGET2 accounts). This setup will be changed to ensure interoperability between systems				

Liquidity Management
<ul style="list-style-type: none"><li>• PSPs are required to maintain a certain level of pre-funding to cover for any risks of payments default. To manage the prefunding process, if the instant payment cash account is inside the perimeter of TARGET2, there is the possibility to take advantage of the available credit line on TARGET2 account especially during the nighttime</li><li>• <b>No Collaterals are used for managing liquidity</b> and money parked in central bank accounts (ex dedicated cash accounts for TIPS) is considered for minimum reserve holding</li></ul>

# 5. Governance Framework

## Chapter sections:

- 5.1. Legal and Regulatory Aspects
- 5.2. Risk Management
- 5.3. Dispute Resolution



## Chapter Summary:

- The legal framework is composed by **multiple laws, PSD2 is the major one for regulating the payment** and settlement systems
- The legal framework has also been enhanced with **Regulatory Technical Standards issued by the EBA that provide, among other things, Strong Customer Authentication (SCA)** requirements for the payment service providers
- In addition, GDPR regulation for data protection and AML5 to prevent anti-money laundering and Combating the Financing of Terrorism (CFT) are applicable
- The ECB and local national competent authorities are responsible for the oversight of the payments system
- The **ECB also has a role of catalyst in the payments system**, to facilitate private sector efforts to improve market efficiency
- **The Euro Retail Payments Board (ERPB) is a high-level strategic body** tasked with fostering the integration, innovation and competitiveness of euro retail payments in the European Union. It could be considered more as a catalyst board for all stakeholders
- The SCT Inst is a payments scheme **owned by European Payment Council**, which is an international not-for-profit association formed of 76 members who are mostly banks or associations of PSPs
- The **Dispute resolution guidelines of the EPC include R- Transactions details and Customer Complaints** are handled directly by the PSPs
- As per the EPC mandate, Risk Management Annex provides detailed fraud and operational guidelines, along with Information Security guidelines for ensuring enhanced cybersecurity

## 5.1 Legal, Regulatory and Governance Aspects (1/3)



The legal framework in Europe provides multiple laws for regulating the payment and settlement systems as well as the retail payments market. The most relevant is the **PSD2 along with the secondary legislation stemming from it**. Additionally, the legal framework has been enhanced significantly to reduce fraud and increase customer protection by incorporating SCA rules by RTS on SCA&CSC and strong data protection rules by GDPR

### Institutional and Governance Framework

#### Legal Framework

PSD2, RTS on SCA&CSC,  
AML5 & GDPR

#### Regulator and Overseer:

ECB, European Commission  
& European Banking Authority

#### Owner and Scheme Manager:

European Payments Council( EPC)

As per the **European Commission Website**

- **Payment Services Directive (PSD2)** aims to further modernize Europe's payment services for the benefit of consumers and businesses. It promotes the development of innovative online and mobile payments, more secure payments and better consumer protection. At the same time, the directive aims to improve the level-playing field for payment service providers - including new players or FinTechs - and contribute to a more integrated and efficient European payments market..
- The implementation of PSD2 relies on the six **Regulatory Technical Standards (RTS)** and five sets of Guidelines related to that the European Banking Authority has been mandated to develop. **One particular RTS on strong customer authentication and common and secure communication is especially instrumental.**
  - **PSD2 tackles fraud in online payments:** PSD2 introduces strong security requirements for electronic payments and for the protection of consumers' financial data to ensure their privacy is respected by all market operators.
  - **PSD2 opens the EU payment market :** With online financial services constantly evolving, the new rules apply equally to traditional banks and innovative payment services and new providers, such as FinTechs. These players, also called third party payment service providers (TPPs), are now regulated under EU rules & will bring a wealth of consumer benefits
  - **PSD2 increases consumers' rights .** These include reducing consumers' liability for unauthorized payments and introducing an unconditional ("no questions asked") refund right for direct debits in euro
  - **PSD2 prohibits surcharging,** which is additional charges for payments with customer credit or debit cards, both in shops or online.
  - PSD2 improves complaints procedure - PSD2 obliges Member States to designate competent authorities to handle complaints from payment service users and other interested parties, such as consumer associations, if they consider their rights established by the Directive have not been respected.
- **Data protection rules:** The GDPR sets out detailed requirements for companies and organizations on collecting, storing and managing personal data. It applies both to European organizations that process personal data of individuals in the EU, and to organizations outside the EU that target people living in the EU
- **5<sup>TH</sup> Anti- Money Laundering Directive:** On 19 June 2018, the 5th anti-money laundering was published in the Official Journal of the European Union. The Member States had to transpose this Directive by 10 January 2020.These amendments introduced substantial improvement to better equip the Union to prevent the financial system from being used for money laundering and for funding terrorist activities.

## 5.1 Legal, Regulatory and Governance Aspects (2/3)



The ECB is responsible for the oversight of pan-European payment schemes and systems and works along with European Commission for covering the regulatory landscape for SCT Inst scheme . The ECB also has a role of catalyst in the payments system, to facilitate private sector efforts to improve market efficiency and is supported in this role by ERPB

### Institutional and Governance Framework

#### Legal Framework:

PSD2, RTS on SCA&CSC, AML5 & GDPR

#### Regulator and Overseer:

ECB, European Commission & European Banking Authority

#### Owner and Scheme Manager:

European Payments Council( EPC)

As per the respective website

- The ECB contributed to the creation of the Single Euro Payments Area (SEPA) through close cooperation with the market and the European Commission, including by issuing progress reports and monitoring the migration to the SEPA payment instruments. **The role of the ECB as a catalyst is to facilitate private sector efforts to improve market efficiency.**
- The ECB also promotes pan-European instant payment solutions, particularly through the work of the Euro Retail Payments Board (ERPB). It organises regular formal meetings of all relevant stakeholders in the form of the Euro Retail Payments Board (ERPB) and the Advisory Group on Market Infrastructures for Payments (AMI-Pay). If self-regulation and moral persuasion are not sufficient, the ECB can also consider stronger tools, such as legislation, regulation or even the direct operational involvement of central banks.
- **ERPB :** The Euro Retail Payments Board (ERPB) is a high-level strategic body tasked with fostering the integration, innovation and competitiveness of euro retail payments in the European Union. It was launched on 19 December 2013 by the ECB and replaced the SEPA Council. The ERPB has facilitated the development of an integrated, innovative and competitive euro retail payments market.
- **European Commission:** The European Commission is the executive branch of the European Union, responsible for proposing legislation, implementing decisions, upholding the EU treaties and managing the day-to-day business of the EU
- **European Banking Authority:** The European Banking Authority (EBA) is an independent EU Authority which works to ensure effective and consistent prudential regulation and supervision across the European banking sector. The EBA was established on 1 January 2011 as part of the European System of Financial Supervision (ESFS) and took over all existing responsibilities and tasks of the Committee of European Banking Supervisors.

## 5.1 Legal, Regulatory and Governance Aspects (3/3)



The SCT Inst is a payments scheme owned by **European Payment Council**, which is an international not-for-profit association formed of 76 members (who are mostly banks) or associations of PSPs

### Institutional and Governance Framework

#### Legal Framework:

PSD2, RTS on SCA&CSC,  
AML5 & GDPR

#### Regulator and Overseer:

ECB, European Commission  
& European Banking Authority

#### Owner and Scheme Manager:

European Payments Council( EPC)

EPC is an international not-for-profit association formed of 76 members who are PSPs (mostly banks) or associations of PSPs . The EPC is not part of the European Union institutional framework.

#### As per the **EPC Website**

The EPC's goal is to contribute to harmonized payments in – a goal which ultimately supports European competitiveness and innovation.

The primary task of the EPC is to manage four payment schemes that facilitate over 42 billion transactions in 36 countries each year:

- The SEPA Credit Transfer scheme.
- The SEPA Instant Credit Transfer scheme.
- The SEPA Direct Debit Core scheme.
- The SEPA Direct Debit Business-to-Business scheme.

When individuals and businesses make euro credit transfers and direct debits in Single Euro Payments Area (within the same country or between two countries), they use solutions offered by their Payment Service Provider which rely on the European Payments Council Single Euro Payments Area schemes.

The European Payments Council is active in the fields of mobile payments, including Person-to-Person, e-invoicing-related payments, payment security and cards standardization. It is also developing request to pay use case

The European Payments Council is a founding member of the European Cards Stakeholders Group, the multi-stakeholder association promoting card harmonization in Single Euro Payments Area.

## 5.2 Risk Management



EPC has a privately held Risk Management Annex that is floated across to participants and contains, among other things, the mechanism for handling operational and fraud risk activities

### Security guidelines

- Include a comprehensive security policy as referred in **EBA Guidelines on ICT and Security risk management**
- Include detailed security requirements as part of the EPC scheme's Risk Management Annex

### Fraud Risk Monitoring

- Include the requirements mandated as part of the **EBA Guidelines on Fraud Reporting under PSD2**.
- Several measures to reduce risk factors like anti-impostation and fraud monitoring measures as mentioned in the **EPC scheme's Risk Management Annex**

### KYC / AML

- **AML 5** is being followed currently across Europe. Recently 5th anti-money laundering Directive which amended the 4th anti-money laundering Directive, was published in the Official Journal of the European Union. The Member States had to transpose this Directive by 10 January 2020.
- **Internal measures on KYC** as per the guidelines of the respective banks

### Credit Risk

- Credit risk in instant payment services doesn't arise between the payer or the payee and their PSP; the payer normally has the funds in its account in order to initiate an instant payment (amount reserved/ booked in his/her account), and the PSP of the payee will immediately credit the funds with finality in its account. The SCT Inst scheme rulebook requires settlement certainty to avoid settlement risk
- But depending on the settlement model, credit risk may arise between PSPs. If settlement takes place in real time, credit risk does not arise between PSPs. If settlement is deferred, the PSP of the payee could anticipate the funds of its customer before receiving them from the PSP of the payer. In this case, the credit risk raised by the payee of the PSP can be managed, for example, through limits, loss-sharing agreements, collateralization and/or prefunding arrangements. Introduction of TIPS has reduced credit risk

### Cyber Security

- Instant credit transfer initiation is interfaced with a security layer that is screening payments, basing on a set of different criteria, payments can be blocked in case of suspicious/fraudulent transactions
- Include details mentioned as part of the Information Security provisions under EPC scheme's Risk Management Annex
- Include the measures mandated as part of CPMI Guidance on Cyber Resilience for financial market infrastructures & ECB Cyber Resilience Oversight Expectations

## 5.3 Customer Complaints



SCT Inst Transactions are handled according to the time frame of less than 10 Seconds. If the SCT Inst Transaction cannot be processed under the Scheme, it will be immediately rejected and the process of exception handling starts. The messages resulting from these situations are all handled in a standardized way

Customer Complaints	Various R- Transactions
<ul style="list-style-type: none"><li>Participants are free to handle disputes on their own. In this respect the requirements of the PSD2 and EBA Guidelines on procedures for complaints of alleged infringements of the PSD2 apply</li><li>Customer can raise complaints, but EPC will act on these only if they are validated</li></ul>	<p><b>As per the Scheme Rulebook</b></p> <ul style="list-style-type: none"><li><b>“Reject”</b> occurs when a credit transfer is not accepted for normal execution before inter Bank settlement. If the rejection is at the point at which the Originator instructs the Originator ASPSP, for the purposes of the Scheme, the Originator ASPSP need only inform the Originator of the reason.</li><li><b>“Return”</b> occurs when a credit transfer is diverted from normal execution after interbank settlement and is sent by the Beneficiary ASPSP to the Originator ASPSP for a credit transfer that cannot be executed for valid reasons such as wrong account number or account closed with the consequence that the Beneficiary account cannot be credited based on the information contained in the original credit transfer message. The Return procedure must not be used in cases where the Beneficiary’s account has already been credited and the Beneficiary wishes to return the funds. Instead, the procedure of initiating a new Credit Transfer applies.</li><li><b>“Recall”</b> occurs when the Originator ASPSP requests to cancel a SEPA Credit Transfer. The Recall procedure must be initiated by the Originator ASPSP within 10 Banking Business Days after execution date of the SCT subject to the Recall. The Recall procedure can be initiated only by the Originator ASPSP, which may do it on behalf of its customer.</li><li><b>“Request for Recall by the Originator”</b> can be initiated by the Originator ASPSP after an Originator has requested the Originator ASPSP to reverse a settled credit transfer for a reason other than duplicate sending, technical problems resulting in erroneous Credit Transfer(s) and a fraudulently originated Credit Transfer.</li></ul>

## 5.3 Inter-Participants Dispute Resolution

### Inter-Participants Dispute and Adjustment Resolution

#### As per the Scheme Rulebook

Pursuant to the EPC By-Laws, the compliance function of the SEPA Schemes is the responsibility of the **Dispute Resolution Committee ("DRC")**, under the delegated authority granted by the Board.

- The role of the DRC is limited to the following:
  - Scheme administration related complaints – the DRC shall be responsible for investigating complaints from applicant Scheme Participants whose application for participation in one or more Schemes has been rejected; and
  - Scheme compliance related complaints – the DRC shall be responsible for investigating alleged breaches of the Rulebooks of its own accord or following a complaint made by one or more Scheme Participants, evaluating such complaints and determining appropriate sanctions against Scheme Participants who are found to be in breach.
  - Appeals – the DRC shall be responsible for hearing appeals brought in respect of decisions taken under the DRC's scheme administration (adherence) and compliance functions in accordance with a fair process that is separate from the process of decision-making at first instance.
- The DRC Mandate sets out the detailed mandate of the DRC, including the dispute resolution and appeals processes in the context of Scheme Management by the EPC.
- The roles, rights and powers of the SMB and the DRC are set out in detail in the Internal Rules, in the DRC Mandate and in the EPC by-Laws.
- The SMB and the DRC are supported by a common EPC Secretariat in the exercise of their SEPA Scheme Management functions. The parties to this Rulebook are the EPC and each Participant. The SMB and the DRC are established by the EPC in accordance with the EPC By-Laws, the Internal Rules and the DRC Mandate as organs of the EPC

## 6. Clearing & Settlement Mechanism

### Chapter sections:

- 6.1. CSM Structure
- 6.2. TIPS



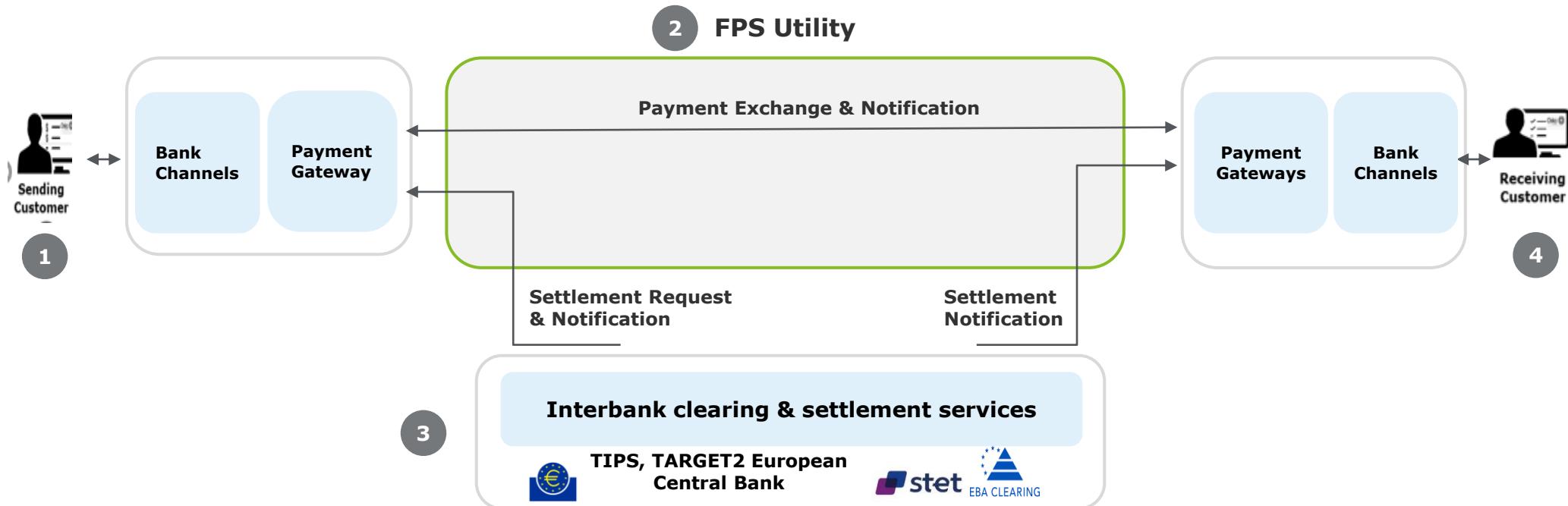
### Chapter Summary:

- As per the Scheme Rulebook, **Infrastructure is an area where market forces operate** based on the decision of the participants
- SCT Inst scheme is based on a single set of standards operated on a fully consistent basis by CSMs chosen by individual Participants as the most appropriate for their needs
- There is a clear separation between the EPC as the scheme manager and CSM organizations. **Each CSM organization can propose its own solution**, provided that it is compliant with the rules stated in the schemes
- Each **participating PSP** in the scheme **freely works with the CSMs of its choice**
- There are **pan-European CSMs like RT1 and TIPS** along with **regional ones like STET (French), Equens Worldline (Dutch) and CEC** etc.

## 6.1. CSM Structure



- CSMs were present as part of the previous schemes and majorly SCT Credit Transfer on which the current system is built
- TIPS which settles in central bank money and other CSMs which settle by adjusting balances of their participants in their own books, backed by a pool of funds held in a central bank account.
- Some of the participants have more than one CSM they are connected to, also there are some CSMs which are themselves built on rails of other infrastructure



Services offered by CSM's based on payment schemes are governed by market forces and lie outside the scope of the scheme. There is a clear separation between the scheme and CSM, each CSM organization is free to propose its own solution provided that it is compliant with the rules stated in the schemes.

Each participating PSP in the schemes works freely with the CSMs of its choice , if it is reachable. Each PSP is required to choose at least one CSM that is reachable for membership to SCT Inst scheme

## 6.2 TIPS | European Central Bank

<b>Overview</b>
<ul style="list-style-type: none"><li>▪ TARGET Instant Payment Settlement (TIPS) is a new market infrastructure service launched by the Eurosystem in November 2018. It enables payment service providers to offer fund transfers to their customers in real time and around the clock, every day of the year.</li><li>▪ Launched in response for growing consumer demand for instant payments; as a number of national solutions are being developed, TIPS was built to reduce potential fragmentation.</li><li>▪ TIPS was developed as an extension of TARGET2, which already has an extensive network of participants across Europe.</li></ul>

<b>Pricing</b>
<ul style="list-style-type: none"><li>▪ Operates on full cost-recovery and not-for-profit basis</li><li>▪ No entry or account maintenance fees</li><li>▪ Fee per Instant Payment Transaction is fixed at 0.002 EUR (first 2 years of operation)</li><li>▪ To open an account on TIPS, participant must be eligible for participation in TARGET2</li></ul>

<b>Features</b>
<ul style="list-style-type: none"><li>▪ <b>Settlement</b> - Real – Time  </li><li>▪ <b>Transaction Limit &amp; Currency</b> - Euro   No Upper Limit</li><li>▪ <b>Owner</b> – European Central Bank</li><li>▪ <b>Scope</b> - Pan-European</li></ul>
<b>Participants</b>
<ul style="list-style-type: none"><li>▪ As settlement in TIPS takes place in central bank money, participation in TIPS depends on being eligible to access central bank money. For this reason, in order to open an account in TIPS in euro, an <b>institution needs to fulfil the same eligibility criteria as for participation in TARGET2</b>.</li><li>▪ Participating payment service providers can set aside part of their liquidity on a dedicated account opened with their respective central bank, from which instant payments can be settled. It is only possible to add funds to TIPS accounts during TARGET2 opening hours.</li></ul>
<b>Governance</b>
<ul style="list-style-type: none"><li>▪ The <b>Market Infrastructure Board (MIB)</b> is responsible for the day-to-day operation of TIPS, as well as any future enhancements.</li><li>▪ The Market Infrastructure Board (MIB) established the <b>TIPS consultative group</b> following the launch of the service. Its objective is to provide the MIB with input from TIPS users – commercial banks, national central banks and network service providers – on topics, such as functional enhancements, testing and operations</li></ul>

## 7. Annexure



### Chapter sections:

#### 6.1. Key Features

## 7.1. Key Features

	Features																																																
	Key Highlights																																																
	<b>Operating hours</b> <ul style="list-style-type: none"> <li>• 24*7 including weekends and bank holidays</li> </ul>																																																
	<b>Payment Speed</b> <ul style="list-style-type: none"> <li>• Maximum of 10 seconds -If the maximum execution time of ten seconds cannot be met due to exceptional processing, the rulebook foresees a hard time-out deadline of 20 seconds</li> </ul>																																																
	<b>Transaction limit</b> <ul style="list-style-type: none"> <li>• Current Limit: Euro 15,000. To be enhanced to Euro 100,000 from 1 July 2020</li> </ul>																																																
	<b>Alias (SPL)</b> <ul style="list-style-type: none"> <li>• Mobile Number/ Email address</li> </ul>																																																
	<b>Channel</b> <ul style="list-style-type: none"> <li>• QR Code, ATM, Branch, Internet and Mobile channels</li> </ul>																																																
	<b>User Charges*</b> <ul style="list-style-type: none"> <li>• Each PSP's will decide on its pricing policy</li> </ul>																																																
	<b>Infrastructure setup</b> <ul style="list-style-type: none"> <li>• New system*</li> </ul>																																																
	<b>Messaging format</b> <ul style="list-style-type: none"> <li>• ISO 20022</li> </ul>																																																
	<b>Use of Open APIs</b> <ul style="list-style-type: none"> <li>• Open APIs available (For payment initiation)</li> </ul>																																																
	<b>Authentication</b> <ul style="list-style-type: none"> <li>• 2-factor strong customer authentication</li> </ul>																																																
	Payment Types & Use Cases/Services																																																
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