Euro Retail Payments Board (ERPB)

Interim report of the ERPB Working Group
on a Framework for interoperability of instant payments at the point of interaction (IPs at the POI)
ERPB Meeting 6 July 2020

Contents

1. Introduction

In March 2020 the ERPB established the ERPB Working Group on a framework for interoperability of instant payments at the Point-of-Interaction (IPs at the POI) to foster the development of pan-European instant payment services for this use case. Hereby an IP at POI is an instant payment transaction based on a SEPA Instant Credit Transfer (SCT Inst), by a consumer to a merchant at the POI which may be for example a Point-of-Sale (POS) in a store or a payment page on an e- or m-commerce website.

As follow-up on the report from the ERPB working group on IPs at the POI in 2019, the new working group, set up with the participation of relevant stakeholders (see Annex 2), focuses on a subset of the recommendations endorsed by the ERPB at their November 2019 meeting, namely those recommendations related to the development of a framework to manage the interoperability rules and appropriate governance for solutions enabling instant payments at the POI. The working group is also tasked to develop the following deliverables:

- Security requirements for payment service user on-boarding processes to be adopted by instant payment service providers and merchants;
- Appropriate specifications to enable consumer selection of preferred payment instrument to conduct a transaction at the POI.

For the development of these deliverables, the ERPB WG is expected to leverage the work undertaken by the ad-hoc Multi-stakeholder Group for Mobile Initiated SEPA (Instant) Credit Transfers (MSG MSCT).

In addition, considering the evolving market situation, the working group was also requested to review the stocktake of existing and planned end-user solutions for instant payments at the POI carried out by the ERPB working group on instant payments at the POI in 2019. In particular, the working group was expected to: i) update the information for the reported solutions and ii) add any relevant solutions that were not reported in the previous stocktake.

The present document is an interim report containing the results of the 2020 stocktake on IPs at the POI and a brief status on the development of the interoperability framework and the additional deliverables.

2. Stocktaking exercise

2.1. Questionnaire

For the stocktaking, the working group has developed a dedicated questionnaire (see Annex 3), based on the summary of the 2019 stocktake to obtain a survey on:

- Existing and updates to existing solutions for instant credit transfer payments at the POI,

- Updates to and new planned solutions for instant credit transfer payments at the POI,

- Live POI payment solutions that are currently based on other payment instruments, with plans to support instant credit transfers in the future,

- Live solutions based on instant credit transfers that do not support POI payments currently, with plans to do so in the future.

Inputs to the questionnaire were gathered through the Eurosystem and the EPC (for non-EU SEPA countries). Responses were received from 28 countries, although not all respondents had updates to provide compared to the 2019 stocktake.

2.2. Summary of results

Based on the inputs received, the working group has developed a summary (see Annex 4) on the reported solutions in the form of tables that categorise the solutions in the following way:

- Live POI solutions based on instant credit transfers;

- POI solutions that are live, but currently not based on instant credit transfers (most with plans to support instant credit transfers in the future);

- Solutions that are live and based on instant credit transfers, but not yet for POI payments;

- Planned POI solutions based on instant credit transfers;

- Initiatives for which little information was made available.

Note that the overview in Annex 4 is composed of the inputs received through the 2020 stocktake and of the inputs received in the 2019 stocktake for which no updates were provided. The ERPB WG recognises that some solutions may be missing in this overview since they were not reported.

The table below provides an overview on the number of solutions reported in each category.

Reported solutions and initiatives for IPs @ POI
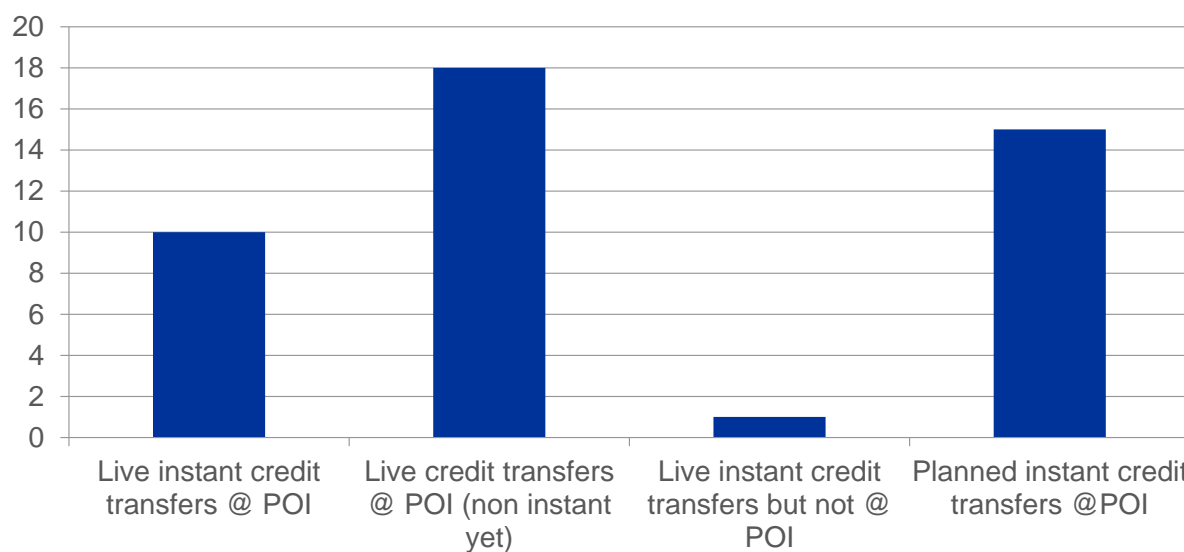
In the summary, next to some general information on each solution, market data as available and technical characteristics are also covered.

From this summary, the main findings listed below can be derived:

- A few of the solutions reported as 'planned' in last year's stocktake have in the meantime gone live;

- Often the solutions are not exclusively focused on payments to merchants (POI-based) but also cover P2P payments;

- Different types of PSPs or technical service providers are providing, or planning to provide, solutions for offering or facilitating instant payments at the POI;

- Most solutions are geographically limited to one country, although a few solutions already cover multiple countries. Some have ambitions for a broader geographical scope, including in particular some of the newly proposed solutions;

- Several solutions use proprietary tokens or proxies for the IBAN;

- Some solutions already cover request-to-pay messages, but mostly based on a proprietary format;

- Many use proprietary QR-codes[1], some (also) NFC[2], BLE[3];

- User experience varies even if the same basic technology is used;

- Services on merchant side include confirmation messages, reconciliation and the integration with cash registers.

As a conclusion, the 2020 stocktake shows that in comparison with last year, there are more countries where implementations of IP at POI solutions are being considered. Only a few solutions reported last year to be in the pipeline have now materialised. However, there is a large increase to be noted in the "solutions planned" for the coming year. Unfortunately, since they are mostly limited to one country, this will lead to a further fragmentation of the market, except for some interoperability initiatives amongst them that are underway.

3. Development of a framework for interoperability of IPs at the POI

3.1. Introduction

Instant Payments (IPs) at the POI are initiated[4] by the consumer (the payer), generally using a consumer device. They shall be based on the existing SCT Instant Scheme rulebook (EPC004-16)[5] in the so-called "interbank space" and are therefore using in that space the existing payment infrastructure. They typically use an IP application or a browser on the consumer device to initiate or at least authenticate and authorise the SCT Instant transaction, besides some features of the consumer device such as the support of consumer device user verification method (e.g., a mobile code or fingerprint on the consumer device), the consumer device screen to display transaction information, etc.

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[1] Quick-Response code

[2] Near Field Communication

[3] Bluetooth Low Energy

[4] Directly or indirectly (e.g. via a PISP) initiated in compliance with the PSD2 (see EPC 004-16).

[5] See https://www.europeanpaymentscouncil.eu/document-library/rulebooks/2019-sepa-instant-credit-transfer-rulebook-version-10

IP at POI solutions are offered by so-called IP Service Providers which are service providers that offer or facilitate a payment service to a consumer and/or merchant based on an SCT Instant transaction. This may involve the provision of a dedicated application for download on the consumer's device or the provision of dedicated software for the merchant POI. As an example, an IP Service Provider could be a PSP (e.g. an ASPSP or any party acting as a PISP under PSD2) or a technical service provider supporting a PSP.

The Framework for interoperability of IPs at the POI will focus on the interoperability outside the interbank space (between the ASPSPs) since this space is already covered by the SCT Instant Scheme rulebook, that however forms the basis on which the Framework is to be built upon. This means that the Framework will address the *"interoperability aspects"* between the consumer device and the merchant's POI, between IP Service Providers and between the consumer/merchant and their IP Service Provider[6].

3.2.   Generic model

For the analysis of the interoperability requirements for the Framework for IPs at POI, the following generic 4-corner model will be used. Hereby it is assumed that both consumer and merchant have different ASPSPs that are SCT Inst scheme participants (see section 5.4 in EPC004-16), while the entities assuming the role of IP Service Provider are depicted as separate entities that are different for the consumer and the merchant. Obviously, if the role of IP Service Provider would be assumed by an ASPSP the model below would simplify or, alternatively, if multiple PSPs would be involved between the consumer/merchant and their respective ASPSP this model would become more complex.

Moreover, the assumption is made that the interconnectivity between IP Service Providers is enabled by a so-called HUB. Hereby the term HUB is used to indicate an "infrastructure" that enables interconnectivity between IP Service Providers but it is meant to be agnostic to the way it might be implemented – different implementation models may be possible (centralised or de-centralised (e.g. a direct API)).

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[6] In so far that they impact the interoperability of IPs at the POI.
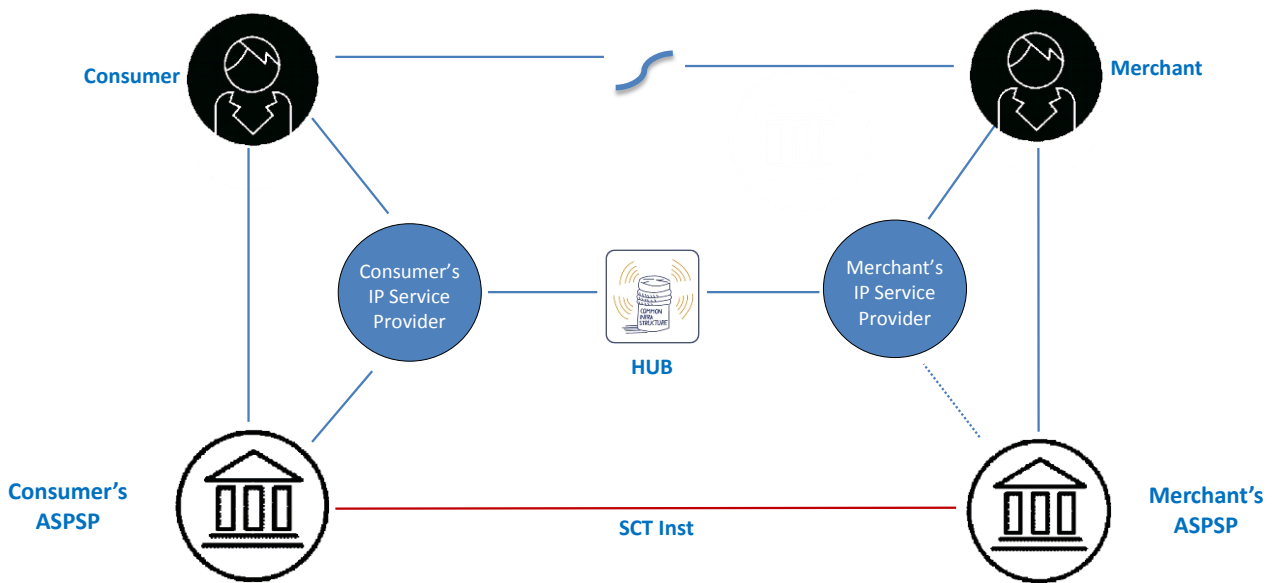
Note that the ERPB WG also aims to include in their final report in November 2020, subject to further analysis, more complex models involving multiple PSPs such as a PISP licensed under PSD2, which may result in different functional interoperability requirements.

3.3.   IP at POI use cases interoperability

For the analysis of the interoperability requirements, the ERPB WG has considered the use cases developed by the MSG MSCT[7], and made a distinction between IP solutions based on consumer-presented data and merchant-presented data at the POI. This data is to be transferred (e.g. via a proximity technology such as a QR-code, NFC or BLE) between the consumer and the merchant to enable the initiation of an IP at the POI.

3.4.   Technical interoperability

The different technical interoperability aspects could be represented in a 3-layer approach as shown in the figure below.

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[7] See https://www.europeanpaymentscouncil.eu/what-we-do/other-sepa-payments/sepa-goes-mobile/ad-hoc-multi-stakeholder-group-mobile-initiated

IP Transaction Interoperability Layers
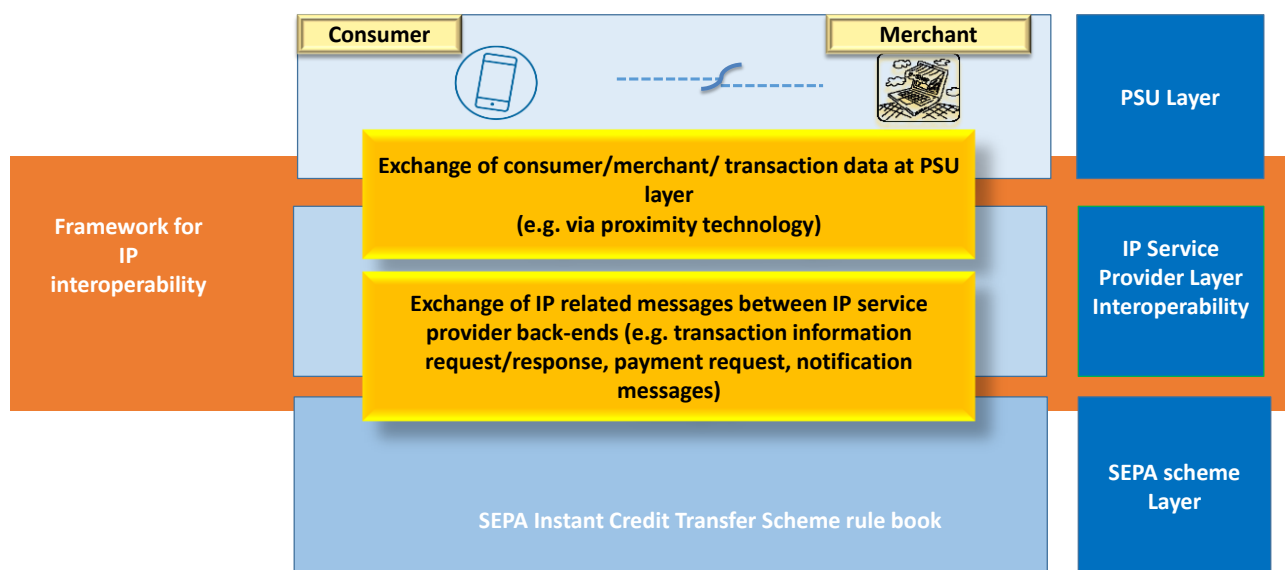
The interoperability requirements will be specified for the PSU layer and the IP Service Provider layer to address the following functionalities:

- How is the transaction data exchanged between the consumer and the merchant to enable the initiation of an IP transaction?
- How are the notification messages provided by the respective IP Service Providers to the merchant and the consumer subsequent to the IP transaction?

The aim is that these interoperability requirements for the generic model as depicted above and for the more complex models involving multiple PSPs between the consumer/merchant and their respective ASPSP will be specified in the final report.

3.5. Rules and procedures

Next to the technical interoperability aspects, the Framework will also need to cover at least the following topics to which adopters of the framework will need to adhere to:

- Minimum data sets and messages to be supported for the data to be exchanged / transferred between the different entities;
- QR-code standard – both for consumer- and merchant presented QR-codes;
- Interoperability rules – what minimum functionalities will a consumer (device) and their IP Service Provider and a merchant (POI) and their IP Service Provider need to support.

4. Security requirements for payment service user on-boarding processes to be adopted by instant payment service providers and merchants

For the development of these requirements, the ERPB WG has decided to leverage the work undertaken by the ad-hoc multi-stakeholder group for Mobile Initiated SEPA (Instant) Credit Transfers (MSG MSCT). In the MSCT Interoperability Guidance document (MSCT IG - EPC269-19v1.0)[8] published in November 2019, there is a dedicated chapter on "Guidelines for customer on-boarding by MSCT service providers" that will be taken as input for this work. To build on the expertise of the MSG MSCT on this topic, the ERPB WG has invited this group to set up a joint task force to develop the security requirements requested. The first meeting of this task force will take place in June 2020 which should enable the development of the deliverable by November 2020.

5. Specifications to enable consumer selection of preferred payment instrument to conduct a transaction at the POI.

The ERPB WG wishes to address this topic in conjunction with an analysis of problems related to conflicts arising from the usage of multiple proximity technologies at the POI. Since the European Cards Stakeholders Group (ECSG) has also identified these two topics in their 2019 Annual Stock Taking Exercise Report[9] to the ERPB, the ERPB WG has decided to invite the ECSG to set-up a joint task force to develop the specifications requested. The first meeting of this task force will take place in June 2020 which should enable the development of the deliverable by November 2020.

6. Governance aspects

A common interoperability framework, consisting of harmonised processes and service agreements across SEPA, is necessary to achieve the interoperability of IP at POI solutions.

This Framework should be created with a cooperative approach by all relevant stakeholders that should first define a governance model and identify the entity to become responsible for the framework governance and management.

This entity should have been assigned the responsibility to:

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[8] See https://www.europeanpaymentscouncil.eu/document-library/guidance-documents/mobile-initiated-sepa-instant-credit-transfer-interoperability

[9] See https://www.ecb.europa.eu/paym/groups/erpb/shared/pdf/12th-ERPB-meeting/ECSG_status_update_on_cards_standardisation.pdf?efe8385c4196f8094d5b6625f7ffdc79

- Govern all the features of the IP at POI eco-system impacting the interoperability of IPs at POI.

- Develop documentation such as specifications, technical requirements and formats, adherence agreements, trust and security guidelines, etc. that constitute the foundation of an IP at POI interoperability framework.

- Define and manage the practical rules and procedures for the adherence to the framework.

- Manage the framework elements, including:

  o Change management of the technical interoperability messages and minimum data sets (collecting the market needs, elaborating the change proposals, performing consultations and liaising with other industry/standardisation bodies as appropriate).

  o Management of framework participant enrolment.

- Identify market trends and evolutions in the regulatory framework that could impact the IP at POI eco-system.

- Foster innovation for IP at POI solutions and assess the impact on interoperability aspects.

The ERPB WG is of the opinion that a high level description of these framework governance aspects in the final report in November 2020 should be sufficient and could always be complemented by more detailed rules if needed in the future.

7. Conclusions

The ERPB WG will cover the following activities during the coming months in order to deliver a proposed interoperability framework for IPs at the POI in November 2020:

- Identify the technical interoperability functionality of the HUB (agnostic to the way the HUB would be implemented);

- Investigate models involving multiple PSPs (e.g., including a PISP) and their impact on the generic model introduced in section 3.2 and on the technical interoperability functionality of the HUB;

- Developed rules and procedures as mentioned in section 3.5;

- Specify the high level governance aspects for the interoperability framework;

- Develop the additional deliverables as indicated in sections 4 and 5.

Annex 1: List of ERPB Working Group participants

Name	Surname	Nominating Institution
Co-Chairs		
Dag-Inge	Flatraaker	EPC
Michel	Van Mello	EuroCommerce
ERPB Stakeholders		
Jean *alternate:* Farid	Allix Aliyev	BEUC
Massimo	Battistella	EACT
Gerhard	Huemer	SMEs United
Pascal *alternate:* Alexandre	Spittler Leclerc	EuroCommerce
Matthias *alternate:* Michael	Lange Knetsch	EPC
Rita *alternate:* Anni	Camporeale Mykkänen	EBF
Didier	Darmouni	EACB
Ignacio *alternate:* Robert	Mascarell Renskers	ESBG
Ruth *alternate:* Dimitrios	Mitchell Markakis	EMA
Regis alternate: Paloma	Massicard Garcia	EPIF
Guest organisation		
Ralf *alternates:* Jörn-Jakob Fanny Carlos	Ohlhausen Röber Rodriguez Blanco	ETPPA ETPPA ETPPA ETPPA
NCBs		
Alexandra	Madeline	France
David	Ballaschk	Germany
Rauno	Veske	Estonia
Rui	Pimentel	Portugal
Marían Ángeles	Moreno Cordero	Spain
ECB		
Mirjam	Plooij	ECB
Observer		
Roxane	Romme	

alternate: Katarzyna	Kobylinska–Hilliard	European Commission
Secretariat		
Marijke	De Soete	EPC

Annex 2: Mandate ERPB Working Group on a framework for interoperability of instant payments at POI

EUROPEAN CENTRAL BANK

EUROSYSTEM

ERPB Secretariat

MANDATE OF THE WORKING GROUP
ON A FRAMEWORK FOR INSTANT PAYMENTS AT THE POINT-OF-INTERACTION

Based on Article 8 of the mandate of the Euro Retail Payments Board (ERPB), a working group is set up with the participation of relevant stakeholders to develop principles for an interoperability framework for instant payments at the point-of-interaction (POI), to foster the development of pan-European instant payment services for this use case.

Scope

Following up on the report from the previous ERPB working group on instant payments at the POI, the new working group is expected to focus its work on a subset of the recommendations endorsed by the ERPB at its November 2019 meeting, i.e. those related to the development of a framework to manage the interoperability rules and appropriate governance for solutions enabling instant payments at the POI[1]. It is acknowledged that the European Payments Council (EPC)'s multi-stakeholder group on mobile-initiated SEPA Credit Transfers (MSG MSCT) is expected to carry out follow-up work on technical and other issues that should serve as input for the above mentioned framework[2]. The working group is therefore expected to liaise with the MSG MSCT, in particular regarding these aspects. The working group is furthermore expected to liaise with the European Cards Stakeholders Group regarding issues with an impact on card-based payments[3], with relevant initiatives towards pan-European POI payments on issues of common interest and, where relevant and possible, with the other addressees of the ERPB recommendations related to instant payments at the point-of-interaction[4].

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[1] Recommendations A (first point), B and D attached to the ERPB Statement following its November 2019 meeting.

[2] I.e. to develop 1) a pan-European label and its usage for instant payments at the POI solutions and 2) functional and security specifications for interconnectivity of such solutions, including the specification of the minimal data set to be exchanged between consumer and merchant while covering different proximity technologies. See recommendations A (second point) and C attached to the ERPB Statement following its November 2019 meeting.

[3] In particular those related to the consumer's choice of a given payment instrument to conduct a payment transaction at the POI. See recommendation D attached to the ERPB Statement following its November 2019 meeting.

[4] I.e. recommendations E, F, G, H, I and J attached to the ERPB Statement following its November 2019 meeting.

Deliverables

The working group is expected to deliver principles for a dedicated interoperability framework for instant payments at the POI, covering:

1. Common rules and procedures;

2. Appropriate governance;

3. Security requirements for payment service user onboarding processes to be adopted by instant payment service providers and merchants;

4. Appropriate specifications to enable consumer selection of preferred payment instrument to conduct a transaction at the POI.

Considering the evolving market situation, the working group is also expected to review the stocktake of existing and planned end-user solutions for instant payments at the POI carried out by the ERPB working group on instant payments at the POI. In particular, the working group is expected to: i) update the information for the reported solutions and ii) add any relevant solutions that were not reported in the previous stocktake. The outcome of this reviewed stocktake should be taken into account, where relevant, in the work on the other deliverables.

Time horizon

The working group will be established by the end of February 2020 and shall deliver, by June 2020, an interim report covering the updated stocktake, the principles for a dedicated interoperability framework related to common rules and procedures and appropriate governance, as well as a status update on the other deliverables. The ERPB shall confirm the next steps on the basis of this interim report. The working group shall then complete its deliverables by November 2020.

Participants and chairmanship

The working group shall include relevant stakeholders, including representatives of ERPB member and guest associations. Other relevant stakeholders may also be invited to join as relevant third parties. One representative of the ECB and a limited number of representatives of euro area NCBs are invited to join the working group as active participants. A representative of the EU Commission will be invited as observer. The working group will be co-chaired by EuroCommerce (demand side) and European Payments Council (supply side). The Secretariat will be provided by the European Payments Council.

Members representing their associations and the co-chairs will be appointed by the ERPB Chair based on suggestions from their respective associations. Other participants – after expressing interest to the ERPB secretariat – may be invited by the ERPB Chair to join the group based on consultation with the members of the ERPB.

Rules of procedure

The mandate of the ERPB defines a broad set of rules for the procedures of its working groups: the working group takes positions on a ¾ majority basis; dissenting opinions are mentioned in any relevant documents prepared by the working group. The members of the group decide on how to organise timing and rules of meetings and communication via written procedure, as well as on the need and format of any interim working documentation produced. Costs related to the operation, meetings, chairmanship and secretariat are carried by the members of the group themselves.

Questionnaire 2020 stocktaking
Instant Payments at POI

Distribution: ERPB WG Instant @ POI and Eurosystem

Restricted:

INTRODUCTION

This questionnaire has been developed by the ERPB WG on a framework for instant payments (IP) at the Point of Interaction (POI) to carry out an update of the stocktaking exercise on *instant credit transfers* at the POI that was carried out by the ERPB WG on IP at the POI in 2019. This renewed stocktake is being conducted according to the mandate of the WG on a framework for IP at the POI (ERPB/2020/001) in view of the evolving market situation (e.g., PISPs supporting merchants for IPs at POI).

Hereby the **POI** is defined as follows: "*the initial point in the merchant[10]'s environment (e.g. POS, vending machine, payment page on merchant website, QR-code on a poster, etc.) where data is exchanged with a consumer device (e.g., mobile phone, wearable, etc.) or where consumer data is entered to initiate an instant credit transfer[11]*".

The aim of this survey is to update and complete input on the following topics:

- Existing solutions for instant credit transfer payments at the POI.
- Planned solutions for instant credit transfer payments at the POI.
- Live POI payment solutions that are currently based on other payment instruments, with plans to support instant credit transfers in the future.
- Live solutions based on instant credit transfers that do not support POI payments currently, with plans to do so in the future.

For convenience, the outcome of the 2019 questionnaire has been attached. Submitters are requested to:

A. Provide updated information on the already reported solutions live or planned in their country, where appropriate.
B. Report any additional relevant solutions live or planned in their country. In this respect, submitters are requested to report solutions by all types of IP Service Providers as defined

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[10] Under merchant is understood retailers (including digital goods) and other businesses in the services sector (e.g., accommodation, restaurants, entertainment, recreation, professional (e.g., hairdressers, plumbers, electricians, builders, car repair, etc.), and many more.).

[11] This refers to SCT Inst (SEPA Instant Credit Transfer) and for the non-euro SEPA countries to instant credit transfers in the local currency.

in the November 2019 report of the ERPB WG on IP at the POI: *"a service provider that offers an instant payment service to a consumer and/or merchant based on an SCT Instant transaction. This may involve the provision of a dedicated application for download on the consumer's device or the provision of dedicated software for the merchant POI. As an example, an IP Service Provider could be an account servicing payment service provider (ASPSP), a mobile initiated SCT service provider, or any party acting as a payment initiation service provider (PISP)."*

Submitters are encouraged to provide as detailed information as possible.

Submitters are kindly requested to return the completed questionnaire the latest by 15 May 2020 c.o.b.

Thank you in advance for your kind co-operation.

Yours sincerely,

Dag-Inge Flatraaker

Michel Van Mello

Co-Chairs ERPB Working Group on a Framework for instant payments at the POI

SUBMITTER INFORMATION

Country:		Name Submitter:	
Organisation:			
e-mail address:			

This data is requested solely for the purposes of contacting and verifying the submitter in case clarification is required on the submitted content.

Data privacy	Please indicate if parts of the consultation feedback should remain anonymous or confidential during the review process.

A. Input received in the 2019 stocktake

Please update and further complete where relevant. Kindly use "track changes" if you make any updates.

See Annex 4 in https://www.ecb.europa.eu/paym/groups/erpb/shared/pdf/11th-ERPB-meeting/Interim_Report_from_the_ERPB_WG_on_%20Instant_at_POI.pdf?18ac5087de44551bb766b9fae7ca11f0

B. new solutions – Please complete the table below as detailed as possible.

Name		
Launch date		
Provider(s)		
Geographic coverage	Within country	
	Cross-border	
Currency		
Types of POI and merchant		
Open to all PSPs	Consumer side	
	Merchant side	
Use of proxy/token for merchant/transaction		
Request-to-pay messages		
Data exchange merchant-consumer		

Transaction time at physical check-out	
Technical constraints	
Consumer/transaction authentication	
Confirmation	**To the merchant**	
	To the consumer	
Repayment/refund/reservation service	
Secure element/software-based	
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	
Extra information not covered in the boxes above:	
Website	

Any additional information:	

Annex 4: Summary on inputs received

Disclaimer: This overview is based on the inputs received through the 2020 stocktake. The ERPB WG recognises that some solutions may be missing in this document since they were not reported.

Live POI solutions based on instant credit transfers

Name		BANCOMAT Pay
Launch date		16-07-2019
Provider(s)		BANCOMAT S.p.A.
Geographic coverage	Within country	IT + San Marino, Vatican City
	Cross-border	
Currency		EUR
Types of POI and merchant		Merchant application on smartphone/ tablet, mPOS and smartPOS, POI standard with proprietary solution, cash register, remote payment e-commerce and m-commerce with online payment page
Open to all PSPs	Consumer side	Open to all BANCOMAT S.p.A. associates, either within banks' own mobile applications or through white label app provided by BANCOMAT
	Merchant side	Yes, either through specific application provided by a bank or through suppliers (cash register); BANCOMAT provides a white label app for banks without proprietary merchant solutions
Use of proxy/token for merchant/transaction		Consumer: mobile phone number + Bpay card reference (PAN-like alias of the account). Merchant: specific token that includes all merchant's data
Request-to-pay messages		Yes, for POI and P2P. The message depends on the use case, always with mobile phone number as proxy; message is formatted with SOAP + XML schema on WSDL interface
Data exchange merchant-consumer		In-store: QR-code (dynamic and static) on merchant's smartphone/ tablet application, mops and smartPOS, cash register and existing POI, with unique exchange between buyer and merchant based on payload of QR-codes (amount and merchant data). E-commerce: merchant uses the customer mobile phone number inserted into a payment page to obtain the link to let the buyer complete the transaction on mobile app

Name	BANCOMAT Pay	
Transaction time at physical check-out	5-7 seconds	
Technical constraints	Both banks must adhere to SCT Inst. In 2020 we expect that the whole system will use SCT Inst.	
Consumer/transaction authentication	Basic method: application PIN, with a derivation part stored into a mobile server Advanced method: biometric, using functionalities of the mobile operating system	
Confirmation	**To the merchant**	Instant notification, pushed by the platform to the banks and directly pushed to the merchant; platform notifications are based on a centralised service (AWS)
	To the consumer	Instant notification, pushed by the platform to the banks; platform notifications are based on a centralised service (AWS)
Repayment/refund/reservation service	Refund is supported for all transactions that the merchant can choose to reimburse; reservation is already in progress for gasoline purchase operations	
Secure element/software-based	Software-based	
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	As for all mobile apps a third party company performs code review, penetration tests and all security test evaluations	
Website	https://bancomat.it/it/bancomat/bancomat-pay%C2%AE	

Name	Bizum	
Launch date	Launched in October 2016 as P2P E-commerce live since Nov 2019; Physical POI planned in 2020	
Provider(s)	24 Spanish banking brands are offering Bizum today; SdPP owned by 25 banks manages and promotes Bizum	
Geographic coverage	**Within country**	ES
	Cross-border	None
Currency	EUR	

Name		Bizum
Types of POI and merchant		Virtual POIs; later in 2020 physical POIs.
Open to all PSPs	Consumer side	Now, the solution is for Spanish banks in both sides, because they are who can issue IBANs processed by SCT Inst in the National System of Electronic Settlement supervised by Banco de España. Other PSPs can get commercial agreements with them.
	Merchant side	
Use of proxy/token for merchant/transaction		Mobile phone number/email of the end-user
Request-to-pay messages		Bizum offers request-to-pay messages for P2P that will be extended to payments in merchants. During the second semester of 2020, users will be able to pay just typing the phone number during the check-out process. They will receive a message (SMS/push) from their bank asking them to approve the operation/purchase directly on the banking app where Bizum is active. In physical POI operations, the first approach will be based on QR.
Data exchange merchant-consumer		E-commerce: consumer clicks Bizum button, enters phone number and Bizum PIN. Payment data include transaction amount and merchant/user identifiers (mobile phone), not IBANs (offered by de SdPP data base). Alternatively: request-to-pay message by merchant directed to consumer's banking app.
		Physical POI: first approach QR-code; potential alternative ways (not before 2021): NFC, request-to-pay message, etc.
Transaction time at physical check-out		Equivalent to cards (<5sec)
Technical constraints		None
Consumer/transaction authentication		Bizum's PIN plus authentication in the environment of the user bank, or the whole authentication process in the banking app
Confirmation	To the merchant	Instantly by the merchant bank through the appropriate message to the POI and in account statements
	To the consumer	Instantly by the user bank through the appropriate message to the banking app and in account statements (P2P) / virtual POI for e-commerce
Repayment/refund/reservation service		Yes, through an instant transfer from the merchant IBAN to the user IBAN for the refunded amount
Secure element/software-based		SE is not required; for example, in case of NFC payments, Bizum would use Host Card Emulation.

Name	Bizum
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	Bizum is in the mobile banking app of each bank, so it's subjected to all the security evaluation that banks apply to their apps/channels
Website	https://bizum.es/

Name		Fintecture Pay by Bank
Launch date		12-2019
Provider(s)		Fintecture
Geographic coverage	Within country	FR (UK and PL coming soon)
	Cross-border	No (coming soon)
Currency		EUR (GBP & PLN coming soon)
Types of POI and merchant		Ecommerce mainly
Open to all PSPs	Consumer side	Yes
	Merchant side	Yes
Use of proxy/token for merchant/transaction		Depending on the information: - The data regarding the payments (amount, currency, execution date, reference) are transmitted in full but signed by the merchant to ensure integrity. - The data regarding the beneficiary of the payment (eg: the merchant's bank account) is proxied by the application ID used to authenticate the merchant with our solution.
Request-to-pay messages		Solution enables merchants to send "Request to pay": a link that enables the PSU to start a PIS, using SCT or SCT Inst schemes.
Data exchange merchant-consumer		The data explicitly exchanged between the client and the merchant in the context of a payment initiation are: - Consumer email - Consumer name - Consumer address - Consumer phone

Name	Fintecture Pay by Bank
	The data implicitly exchanged between the client and the merchant - Amount - Currency - Order reference
Transaction time at physical check-out	N/A (no in-store payments)
Technical constraints	Several technical constraints in the context of a merchant payment collection use-case (without the setup constraints): - Server response time of the merchant - API availability with the ASPSP - API accuracy - The customer journey of the PSU in the ASPSP environment with many frictions - Consumer authentication services availability with the ASPSP - ASPSP supporting PSU account type - Consumer ASPSP and Merchant ASPSP both supporting SCT Inst and being able to process and settle the payment - High fees applied for Inst SCT by the French banks - Refunds and the availability of PSU IBANs for the TPPs - Need to know the PSU's IBAN before the PIS in some standards (Berlin group) - No real Inst SCT, especially in the non-working days - Normal payments between 2 accounts within the same ASPSP are not always done instantly
Consumer/transaction authentication	The consumer authentication is always done between the consumer and the ASPSP either in the redirect model (on the APSPSP webpage) or in the decoupled model (on the mobile app of the ASPSP)
Confirmation	**To the merchant**	Yes
	To the consumer	
Repayment/refund/reservation service	Yes

Name	Fintecture Pay by Bank
Secure element/software-based	As an intermediary between the merchant and ASPSP, Fintecture needs to make sure of the following aspects of each request for instant payment initiation: - Confidentiality - Integrity - Identification & authentication - Non-repudiation Fintecture uses: - cryptographic keys to ensure confidentiality and integrity; - an oauth2 framework to ensure identification and authentication with the merchant; - tools to ensure confidentiality, integrity and authentication to achieve non-repudiation. The other aspects of consumer authentication and payment processing security are done by the ASPSP.
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	Those aspects are managed by the ASPSP
Website	https://www.fintecture.com/

Name		MobilePay
Launch date		07-05-2013
Provider(s)		MobilePay Denmark A/S
Geographic coverage	Within country	DK, FI
	Cross-border	
Currency		DKK, EUR
Types of POI and merchant		All POI (use-cases) for almost all types of merchants
Open to all PSPs	Consumer side	Open for all customers +13y
	Merchant side	Open for almost all types of merchants

Name	MobilePay
Use of proxy/token for merchant/transaction	Consumer: phone no. (alias for the consumer and their account/ payment cards) Merchant: Merchant ID (alias for merchant and its IBAN/ account)
Request-to-pay messages	All use-cases except invoicing/ subscriptions: Consumer initiates followed by a payment request by merchant (push)
Data exchange merchant-consumer	Short code, QR, payment link, NFC, BLE to identify consumer; merchant request (push) with trx amount etc. is done back-end for security reasons; generally, data is registered and/or verified by MobilePay's payment infrastructure
Transaction time at physical check-out	Depends on setup/ environment etc.; on average less than a heartbeat
Technical constraints	Can be account or card-based Consumer: mobile device required (older OS not supported for security reasons) and a card is required for on-boarding although the transaction are primarily account-based Merchant: integration to API and suitable POI or non-integrated solution (MobilePay software on own device); POI requires either MobilePay software/ hardware or integrations/ upgrading of terminals (e.g. with BLE chip)
Consumer/transaction authentication	In MobilePay's own environment (using pin, face, finger touch); for subscriptions the consumers authenticates when setting up the agreement
Confirmation	**To the merchant**	The confirmation of transactions is done instantly by MobilePay merchant communication, via API/web-services
	To the consumer	The confirmation of transactions is done instantly by MobilePay via communication to consumer's device
Repayment/refund/reservation service	Reservation as well as full and partial refunds supported using MobilePay's APIs or MobilePay software (merchant initiated)
Secure element/software-based	Software-based
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	Yes
Website	https://www.mobilepay.dk/

Name		MyBank
Launch date		25/03/2013 for SCT
		27/11/2018 for SCT Inst
Provider(s)		PRETA S.A.S. (fully owned subsidiary of EBA CLEARING)
Geographic coverage	Within country	IT and ES on the payer side. World from the payee side.
	Cross-border	Yes
Currency		EUR (currency conversion allowed on Payee side but Payer always pays in EUR)
Types of POI and merchant		Mainly remote e-commerce and m-commerce payment pages.
		QR codes on invoices, flyers and Pay per link models are also available.
Open to all PSPs	Consumer side	All EEA PSPs can join the solution. Currently 206 are active on the payer side
	Merchant side	All EEA PSPs can join the solution. Currently 199 are active on the payee side
Use of proxy/token for merchant/transaction		No. The payer only needs to select his ASPSP and is automatically redirected.
		MyBank is available without onboarding or registration of Payers.
		All account holders of active PSPs in MyBank can use it by default.
Request-to-pay messages		Yes. Standard pain.013. Can be used via pay per link (email, SMS…) or via proprietary QR codes.
Data exchange merchant-consumer		No. Payment payload is passed securely between Payee PSP and Payer PSP.
		Credentials are not shared or passed as the Payer logs in to his online/mobile banking.
Transaction time at physical check-out		Depending on the Payer PSP authorisation UX. Average 5-15 seconds
Technical constraints		No real technical constraint identified.
Consumer/transaction authentication		Usual banking credentials for authentication and SCA for authorisation.
Confirmation	To the merchant	Yes. Irrevocable payment order confirmation from the Payer PSP provided in real-time via the Payee PSP including the SCT/SCTInst payload for automated reconciliation. In addition, the bank account statement will contain the Remittance information as initially set by the Payee.

Name		MyBank
	To the consumer	Yes. Real-time by the Payer PSP (irrevocable payment order confirmation). In addition, the bank account statement will contain the order description and merchant trading name as known by the Payer.
Repayment/refund/reservation service		Yes. Refunds are made available to the Payee by the Payee PSP. SCT/SCT Inst with reference to original transaction.
Secure element/software-based		Not applicable.
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		Subject to security evaluation that banks apply to their own environments/app. MyBank protocol is audited by Franhofer institute of technology - Frankfurt.
Website		https://mybank.eu/ https://www.preta.eu/
Additional information		The terms Consumer and Merchants have been substituted by Payer and Payee as MyBank is an Online Banking ePayment (OBeP) solution that covers all existing segments C2B, B2B and Public Administration payments. No amount limit exists for SCT payments. The limit for SCT Inst payments is set to the maximum allowed by the EPC scheme. MyBank is run by PRETA S.A.S. a fully owned subsidiary of EBA CLEARING, the provider of pan-European payment infrastructure solutions (EURO1, STEP2, RT1) currently owned by 53 shareholder banks. PRETA's objective is to ensure the protection of people's electronic and digital identity and provide an inclusive payment solution to the benefit all stakeholders and the European economy / Digital Single Market.

Name		Pay by Bank app
Launch date		
Provider(s)		Mastercard
	Within country	UK

Name		Pay by Bank app
Geographic coverage	Cross-border	
Currency		GBP
Types of POI and merchant		Online payments in the early stage; with potential to spread to physical POS
Open to all PSPs	Consumer side	Only the PSPs that sign up to the solution
	Merchant side	Depending on the acquirer used
Use of proxy/token for merchant/transaction		
Request-to-pay messages		Yes, proprietary message
Data exchange merchant-consumer		Payment data is passed on directly to the customer's bank; the customer then authorises the payment via the bank's app
Transaction time at physical check-out		
Technical constraints		
Consumer/transaction authentication		
Confirmation	To the merchant	
	To the consumer	
Repayment/refund/reservation service		
Secure element/software-based		
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		
Website		https://paybybankapp.mastercard.co.uk/

Name	Plick
Launch date	2017

Name		Plick
Provider(s)		PayDo Srl
Geographic coverage	Within country	IT
	Cross-border	None
Currency		EUR
Types of POI and merchant		P2P and P2B proximity and remote
Open to all PSPs	Consumer side	Yes
	Merchant side	
Use of proxy/token for merchant/transaction		email address or telephone number of payee
Request-to-pay messages		No
Data exchange merchant-consumer		The information exchanged are: email address or telephone number of the payee, amount and description. Using this information, the payer creates a Plick within his bank's app or website. The request is sent to the Plick's data center: there an email or SMS is generated and sent to the payee. The payee can then fill the plick with the missing information (i.e. IBAN) and confirm the payment. At that point the payment is executed using a SCT or a SCT Instant.
Transaction time at physical check-out		30-60 seconds
Technical constraints		Both payer and payee must have a smart phone and bank account
Consumer/transaction authentication		Payments are made through banks' online or mobile banking platforms; therefore, the security level is defined by every single bank
Confirmation	To the merchant	Plick, using an SMS
	To the consumer	
Repayment/refund/reservation service		Information not publicly available

Name	Plick
Secure element/software-based	Service is integrated in banks' internet banking or mobile banking apps
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	See previous answer
Website	https://www.plick.eu/

Name	Swish	
Launch date	12-12-2012	
Provider(s)	Getswish AB (bank owned company)	
Geographic coverage	Within country	SE
	Cross-border	None
Currency	SEK	
Types of POI and merchant	Two products for merchants: - Swish Corporate (P2B POI) – simple solution for small merchants with limited integration between payee cash register SWISH - Swish Commerce. Supports request to pay. (POI and e-commerce) – a more advanced solution including integration between payee cash register and SWISH enabling reconciliation and refund	
Open to all PSPs	Consumer side	Yes it is open; at the moment 13 banks are resellers of the consumer app (payer interface)
	Merchant side	Yes it is open; at the moment: 7 banks are resellers of Swish Corporate and 6 banks are resellers of Swish Commerce
Use of proxy/token for merchant/transaction	We are using alias for both consumer (MSISDN) and corporates (numbers starting with 123)	
Request-to-pay messages	Yes, proprietary messages based on ISO20022	
Data exchange merchant-consumer	Supported options: QR, NFC and Bluetooth	

Name		Swish
		Tokens for both QR and app switching (end user app opens up SWISH app for payment), as well as integration via partners such as ECR systems, ePSPs and POS terminals.
		Swish also offers an app for businesses called Swish Business App in order to provide a registry of Swish transactions.
Transaction time at physical check-out		2-4 seconds
Technical constraints		Mobile device and Mobile BankId and enrolment via bank
Consumer/transaction authentication		Using the Mobile BankId solution in Sweden which is a strong customer authentication solution provided by Finansiell ID Teknik AB
Confirmation	To the merchant	Instantly; the Swedish real time payment system BIR settles in real time towards the bank and Swish acts as a pre-authorized system towards BIR due to the fact that Swish does the validation towards the bank. The merchant can get confirmation either via an API or via the Swish Business App.
	To the consumer	Instantly; the Swedish real time payment system BIR settles in real time towards the bank and Swish acts as a pre-authorized system towards BIR due to the fact that Swish does the validation towards the bank.
Repayment/refund/reservation service		SWISH offers a refund solution for existing payments via API calls.
		Swish also offers an B2C solution with additional validations
Secure element/software-based		Software-based
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		Yes
Website		https://www.swish.nu/
Additional information		Swish also offers a B2C service (Pilot)
		Swish also offers a Payment Request between consumers

Name	Trustly
Launch date	2019

Name		Trustly
Provider(s)		Trustly
Geographic coverage	Within country	
	Cross-border	Yes, Europe
Currency		EUR, DKK, SEK
Types of POI and merchant		QR code at POS, available for all types of merchants
Open to all PSPs	Consumer side	Open to all consumers with bank accounts services by banks supported by Trustly
	Merchant side	Open to merchants and PSPs that support Trustly's PIS solution
Use of proxy/token for merchant/transaction		QR code
Request-to-pay messages		No
Data exchange merchant-consumer		QR code
Transaction time at physical check-out		Depending on bank servicing the customer account.
Technical constraints		Customer needs smart mobile device
Consumer/transaction authentication		SCA issued by the customer's ASPSP
Confirmation	To the merchant	Yes
	To the consumer	
Repayment/refund/reservation service		Yes, repayment/refund
Secure element/software-based		Mobile device and/ or software based
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		
Website		https://www.trustly.net
Additional information		Based on both traditional and instant credit transfers

Name		Vipps: mobile wallet
Launch date		2015
Provider(s)		Vipps AS
Geographic coverage	Within country	NO
	Cross-border	Not yet
Currency		NOK
Types of POI and merchant		Mobile phones, cards, invoice, physical shops, web shops
Open to all PSPs	Consumer side	Distributed directly, available to all with a bank account
	Merchant side	Yes, both through PSPs and direct integration
Use of proxy/token for merchant/transaction		Consumer: phone no. Merchant: merchant ID
Request-to-pay messages		Yes, proprietary format
Data exchange merchant-consumer		Oral communication of phone number, then direct integration between Vipps backend and merchant system
Transaction time at physical check-out		Not publicly available
Technical constraints		Card-based
Consumer/transaction authentication		Vipps two factor authentication (phone + PIN/bio)
Confirmation	To the merchant	Instantly, through integration, by Vipps
	To the consumer	
Repayment/refund/reservation service		Reservation and refund possible through API calls

Name	Vipps: mobile wallet
Secure element/software-based	Software-based
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	Yes, several
Website	

POI solutions that are live, but currently not based on instant credit transfers, with plans to support instant credit transfers in the future

Name		Bluecode
Launch date		For instant solution: 09-2020 field, pilot in summer
Currently based on		SDD/SCT (SCT for bank with contract, SDD for bank without contract)
Provider(s)		Bluecode
Geographic coverage	Within country	Based in AT
	Cross-border	For instant solution: pilot AT, then DE, IT, HU + others
Currency		EUR, later HUF
Types of POI and merchant		Stationary retail, kiosk, vending machines, m-commerce, e-commerce - all channels
Open to all PSPs	Consumer side	The solution encompasses an SCA proxy to guarantee an acceptable customer experience. This requires an individual contract between Bluecode and the ASPSP according to PSD2. But every (AS)PSP is invited to join this open ecosystem.
	Merchant side	There is a conversion friendly acceptance solution that requires soft integration at the merchant. Any PSP that integrates that is invited to join.
Use of proxy/token for merchant/transaction		There is a legal entity operating the merchant acceptance plugin in cash registers and apps; they also collect fees and hold merchant data including bank data. This can be or can be linked to an SPL.
Request-to-pay messages		Proprietary following the existing Bluecode specifications to reuse existing and proven infrastructure. This also allows running multiple other solutions at the same time, even including AliPay.

Name	Bluecode
Data exchange merchant-consumer	The payment authorisation and authentication happen through linking consumer and merchant via Bluecode token (barcode, QR, NFC and BLE). Unless required due to dynamic linking requirements where merchant name & amount is displayed in the Bluecode app, no payment data is exchangd between merchant and user. This all happens securely in the backend. BC Instant will reuse existing ECR-linked software infrastructure. Parties during customer authorisation are: customer app + merchant plugin + merchant + Bluecode token service initiating the request to pay, thereafter sender bank.
Transaction time at physical check-out	240ms + instant payment time; definitely less than 2 seconds including authorisation (no SCA login necessary)
Technical constraints	User uses a mobile app that features normal Bluecode; bank is integrated with Bluecode; merchant is integrated with Bluecode; bank and merchant are within the same CSM
Consumer/transaction authentication	PIN validation in the Bluecode app. The sending bank has a technical integration based on a contract with Bluecode, allowing to use Bluecode SCA instead of being forced to use the SCA of the ASPSP as a TPP PISP would be.
Confirmation	**To the merchant**	Bluecode receives an instant request from the payment plugin of the merchant, forwards the ready request to pay to the payer bank. They send and confirm to Bluecode who confirms to the plugin gateway provider who sits in the cashier system directly. Thus providing immediate feedback. Payer bank can chose to acknowledge transaction at sending or upon CSM completion.
	To the consumer	By both payer bank and Bluecode upon CSM completion
Repayment/refund/ reservation service	All of those as additional transaction types that will also be premium transaction types for open banking
Secure element/software-based	Software based, although payment logic is not on the phone
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	Yes, although the system is based on the operational Bluecode scheme which is regularly evaluated
Website	https://bluecode.com/en/ -> website https://www.bluecode.biz/ -> developer portal no specific instant page yet

Name	booq QR-bestellen	
Launch date	2019	
Currently based on	iDEAL (SCT-based)	
Provider(s)	Eijsink	
Geographic coverage	**Within country**	NL
	Cross-border	/
Currency	EUR	
Types of POI and merchant		
Open to all PSPs	**Consumer side**	Yes, but they have to offer consumer payment accounts and offers their account holders to pay via IDEAL
	Merchant side	Yes
Use of proxy/token for merchant/transaction		
Request-to-pay messages	Yes	
Data exchange merchant-consumer	QR-code	
Transaction time at physical check-out	A few seconds	
Technical constraints		
Consumer/transaction authentication	Yes	
Confirmation	**To the merchant**	Yes
	To the consumer	
Repayment/refund/ reservation service	No	
Secure element/software-based		

Name	booq QR-bestellen
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	
Website	https://www.booq-kassa.nl/

Name	CorvusPay by IBAN	
Launch date		Live since 02/2020 (instant payments at the POI available at a later date, when the instant payment scheme is available in Croatia)
Currently based on		Credit transfer
Provider(s)		Corvus Pay d.o.o.
Geographic coverage	**Within country**	HR
	Cross-border	
Currency		HRK
Types of POI and merchant		Web shops using CorvusPay by IBAN service
Open to all PSPs	**Consumer side**	
	Merchant side	
Use of proxy/token for merchant/transaction		Merchants are integrated with CorvusPay Internet Payment Gateway (HTTPS and TLS is used); payers are redirected to their ASPSP to authenticate at their e-banking
Request-to-pay messages		N/A
Data exchange merchant-consumer		Web shop checkout with CorvusPay by IBAN payment method. Payers are redirected to CorvusPay payment page to initiate transaction.
Transaction time at physical check-out		N/A
Technical constraints		
Consumer/transaction authentication		At their ASPSP e-banking
Confirmation	**To the merchant**	Yes – API message and email sent from CorvusPay

Name	CorvusPay by IBAN	
	To the consumer	Yes – during checkout and email sent from CorvusPay
Repayment/refund/reservation service		N/A
Secure element/software-based		
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		N/A
Website		https://www.corvuspay.com/
Additional information		CorvusPay by IBAN pament method allows online shoppers to make payments at web shops directly from their current accounts.
		The payment process comes down to IBAN entry and account holder authentication or verification - similar to online banking payments. Payments from IBAN to IBAN, can be made by customers who have a contracted Internet or mobile banking service at one of the banks to which CorvusPay is connected, in web stores and mobile applications that accept CorvusPay by IBAN payment method.

Name	Digicash	
Launch date		
Currently based on		SCT, based on immediate execution on the transaction and immediate confirmation to the payee; funds availability at D+1, but PSPs may provide immediate availability for on-us transactions
Provider(s)		Part of Payconiq since 2017
Geographic coverage	**Within country**	LU: low market penetration compared to card payments in terms of acceptance; 5 PSPs offer Digicash
	Cross-border	Via Payconiq – see separate entry
Currency		EUR
Types of POI and merchant		N/A
	Consumer side	

Name		Digicash
Open to all PSPs	Merchant side	
Use of proxy/token for merchant/transaction		IBAN is included in the QR code together with the amount
Request-to-pay messages		Not for POS payments (only for P2P)
Data exchange merchant-consumer		QR code (can be dynamic, e.g. at POS or fixed, e.g. leaflet) BLE
Transaction time at physical check-out		2-3 seconds
Technical constraints		Mobile app
Consumer/transaction authentication		PIN or fingerprint
Confirmation	To the merchant	Merchant receives immediate confirmation of the funds but has no immediate availability
	To the consumer	Immediate, by Digicash, after confirmation of the execution by the payer's PSP
Repayment/refund/ reservation service		No
Secure element/software-based		Software-based
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		Yes: user (payer) pairs the app with web banking, using the SCA of the web banking, and SIM authentication (with mobile operator)
Website		https://www.digicash.lu/en/

Name	iDEAL
Launch date	2005 (e-commerce) / April 2016 (iDEAL QR)
Currently based on	SCT (OBeP)
Provider(s)	Currence iDEAL (brand owner),

Name	iDEAL	
	Issuing side: banks who offer payment consumer payment accounts and offer their account holders the possibility to pay with iDEAL. Acquiring side: payments services providers (incl. banks)	
Geographic coverage	**Within country**	NL
	Cross-border	/
Currency	EUR	
Types of POI and merchant	Use cases: merchant who send out invoices, charities, web merchants who want to show iDEAL QR code on screen (to be scanned by their customers), restaurants	
Open to all PSPs	**Consumer side**	Yes, but they have to offer consumer payment accounts and offers their account holders to pay via IDEAL
	Merchant side	Yes
Use of proxy/token for merchant/transaction		
Request-to-pay messages	Yes	
Data exchange merchant-consumer	QR-code	
Transaction time at physical check-out	A few seconds	
Technical constraints		
Consumer/transaction authentication	Yes	
Confirmation	**To the merchant**	Yes
	To the consumer	
Repayment/refund/ reservation service	No	
Secure element/software-based		

Name	iDEAL
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	
Website	https://www.ideal.nl/

Name	IRIS	
Launch date		
Currently based on	SCT	
Provider(s)	DIAS SA	
Geographic coverage	**Within country**	GR
	Cross-border	None
Currency	EUR	
Types of POI and merchant	Merchants: All types POI: POS, QR-code on a poster	
Open to all PSPs	**Consumer side**	No, it is under consideration
	Merchant side	
Use of proxy/token for merchant/transaction	Phone number	
Request-to-pay messages	At the moment no discussion on RtP	
Data exchange merchant-consumer	Payment data are in the books of the local ACH i.e. DIAS SA; most appropriate technologies are NFC and QR-codes	
Transaction time at physical check-out		
Technical constraints	One constraint could be the investment cost	
Consumer/transaction authentication	Mobile app requires log in authentication	

Name		IRIS
Confirmation	**To the merchant**	Execution of the transfer will be confirmed instantly and mainly by the availability of funds
	To the consumer	Confirmed by the local ACH
Repayment/refund/ reservation service		Confirmed by the local ACH
Secure element/software-based		Software-based
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		Yes; every PSP has its own app
Website		

Name		KEKS Pay
Launch date		Q4 2019; instant payments at the POI available at a later date, when the instant payment scheme becomes available in Croatia.
Currently based on		Cards (debit and credit), HRK SCT scheme (which is fully complied with SCT scheme)
Provider(s)		Erste& Steiermärkische Bank
Geographic coverage	**Within country**	HR
	Cross-border	tbd
Currency		HRK
Types of POI and merchant		Dynamic QR codes: - printed on retail-receipts - displayed on ecommerce websites - displayed on POS devices Static QR codes: - displayed on points-of-sale
	Consumer side	Yes

Name	KEKS Pay	
Open to all PSPs	Merchant side	
Use of proxy/token for merchant/transaction	No	
Request-to-pay messages	Yes	
Data exchange merchant-consumer	QR/NFC/BLE	
Transaction time at physical check-out	Up to 10 seconds	
Technical constraints	Different technical options available	
Consumer/transaction authentication	Consumer authentication: mobile (soft) tokens Transaction authentication: in the app	
Confirmation	To the merchant	In real time through means appropriate for the specific POI
	To the consumer	In real time through a push message in the app
Repayment/refund/ reservation service	Yes	
Secure element/software-based	Software-based	
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	Yes	
Website	https://www.kekspay.hr/	

Name	Lydia	
Launch date	2011	
Currently based on	E-money/cards	
Provider(s)	Lydia Solutions	
Geographic coverage	Within country	FR (currently around 30 000 professionals are equipped), UK, IE, ES, PT, BE, IT DE

Name	Lydia
	Cross-border	None
Currency		EUR
Types of POI and merchant		Can be used online as well as at the point of sale (at some grocery stores, and more recently for independent professionals such as doctors)
Open to all PSPs	Consumer side	Yes (after enrolment)
	Merchant side	
Use of proxy/token for merchant/transaction		Only for P2P use cases (phone number)
Request-to-pay messages		Possible: the client gives his phone number or email address, then receives a text message or email with a secure link leading to a pre-filled payment page
Data exchange merchant-consumer		1/ QR code for proximity transactions containing the transaction amount, which is scanned by the payee; if the amount indicated in the QRCode matches with the order, the transaction is processed. 2/ The payee sends a message to the payer containing a link, which directs him to a pre-filled payment form (amount, type of order) generated by Lydia's server. The client pays either through his Lydia app or by indicating his card details. No banking data is exchanged between the payer and the payee.
Transaction time at physical check-out		1-5 seconds
Technical constraints		Consumer: mobile device and payment card required Merchant: API integration required Both the payer and payee must be enrolled
Consumer/transaction authentication		If the payment is made through the Lydia app, the payer authenticates with his app PIN or biometric ID. If the payment is made by card (ie for remote payments), authentication is handled by the payer's PSP.
Confirmation	To the merchant	
	To the consumer	
Repayment/refund/ reservation service		Yes

Name	Lydia
Secure element/software-based	
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	
Website	https://lydia-app.com/

Name	Lyf Pro
Launch date	2014
Currently based on	E-money
Provider(s)	Born with the merger of two existing wallets, Wa! and Fivory (backed by BNP Paribas, Carrefour, Crédit Mutuel (CIC), Auchan, Mastercard, Oney)
Geographic coverage — Within country	FR
Geographic coverage — Cross-border	No coverage yet – works in progress for a deployment in BE and IT
Currency	EUR
Types of POI and merchant	Cash register vendors (Toshiba, Diebold Nixdorf, NCR, Fujitsu, Tcpos, Symag, Casio, Cyland, Comarchn Cegid, …), PAT (Ingenico, worldline, ACI, …), merchants (Auchan, Casino, Franprix, Carrefour, marionnaud, Etam, …)
Open to all PSPs — Consumer side	Yes (after enrolment)
Open to all PSPs — Merchant side	
Use of proxy/token for merchant/transaction	No
Request-to-pay messages	Yes
Data exchange merchant-consumer	QR code / phone number / Merchant Loyalty ID
Transaction time at physical check-out	2-10 seconds (complete experience)
Technical constraints	
Consumer/transaction authentication	Yes - transaction sealing with proof of user consent

Name	Lyf Pro	
Confirmation	To the merchant	Yes
	To the consumer	
Repayment/refund/ reservation service		Refund
Secure element/software-based		Software-based
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		Ongoing certification process with GIE Cartes Bancaires (GCB)
Website		https://www.lyf.eu/

Name	MB Way	
Launch date		10-2015 as a card-based mobile payment solution; SIBS is assessing the possibility to enhance the solution with the SCT Inst rail.
Currently based on		Cards
Provider(s)		SIBS
Geographic coverage	Within country	PT
	Cross-border	
Currency		EUR
Types of POI and merchant		Several use cases (e&m commerce, POS purchases (NFC, QR Code))
Open to all PSPs	Consumer side	Yes
	Merchant side	
Use of proxy/token for merchant/transaction		Yes, mobile number
Request-to-pay messages		
Data exchange merchant-consumer		

Name	MB Way	
Transaction time at physical check-out		
Technical constraints		
Consumer/transaction authentication	In app	
Confirmation	**To the merchant**	Yes
	To the consumer	
Repayment/refund/ reservation service	Yes	
Secure element/software-based		
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		
Website	https://www.mbway.pt/	

Name	OK	
Launch date		
Currently based on	SDD	
Provider(s)	OK	
Geographic coverage	**Within country**	NL
	Cross-border	
Currency	EUR	
Types of POI and merchant	Physical shops, web shops, amusement parks, zoos, etc.	
Open to all PSPs	**Consumer side**	It seems so
	Merchant side	
Use of proxy/token for merchant/transaction	No	

Name	OK
Request-to-pay messages	No
Data exchange merchant-consumer	QR code
Transaction time at physical check-out	
Technical constraints	OK-app on smartphone, POS terminal accepting OK technology
Consumer/transaction authentication	SDD mandate
Confirmation	**To the merchant**	
	To the consumer	
Repayment/refund/ reservation service	(at the moment still based on SDD)
Secure element/software-based	
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	
Website	https://ok.app/nl/

Name	Payconiq
Launch date	2016/2017
Currently based on	SCT, SDD
Provider(s)	Payconiq International
Geographic coverage	**Within country**	BE, NL, LU (Digicash; see separate entry)
	Cross-border	See previous answer
Currency	EUR
Types of POI and merchant	Shops, restaurants, online and P2P
	Consumer side	Yes

Name		Payconiq
Open to all PSPs	Merchant side	
Use of proxy/token for merchant/transaction		?
Request-to-pay messages		Yes, for P2P payments
Data exchange merchant-consumer		QR code
Transaction time at physical check-out		A few seconds
Technical constraints		Payconiq app and a payment terminal equipped to process Payconiq transactions are needed
Consumer/transaction authentication		Pin code of the mobile phone, fingerprint or face-id
Confirmation	To the merchant	Via normal bank account channels
	To the consumer	
Repayment/refund/ reservation service		
Secure element/software-based		
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		
Website		https://www.payconiq.com/

Name	Paylib
Launch date	Card-based online POI: 09-2013 Card-based POS: 2017 SCT-based P2P: 05-2018
Currently based on	Cards (POI), SCT (P2P)

Name		Paylib
Provider(s)		Paylib Services, an economic interest group composed of French banking groups (BNP Paribas, La Banque Postale, Société Générale, Crédit Mutuel Arkéa, Crédit Agricole, Groupe BPCE, Crédit Mutuel CIC)
Geographic coverage	Within country	FR: full coverage
	Cross-border	For the existing POI solution, Paylib already has a partnership with Masterpass
Currency		EUR
Types of POI and merchant		Small businesses, retailers and e-commerce; POS, mobile application, tablet, website, etc.
Open to all PSPs	Consumer side	Users can only be customers of the participating banks
	Merchant side	
Use of proxy/token for merchant/transaction		Yes
Request-to-pay messages		Not at the moment
Data exchange merchant-consumer		- P2P: proxy - C2B: proxy (online), NFC (POS)
Transaction time at physical check-out		2-10 seconds
Technical constraints		- P2P: N/A - C2B: the impossibility of using NFC on iPhones is a big constraint
Consumer/transaction authentication		Authentication with the mobile application
Confirmation	To the merchant	Directly in the mobile application
	To the consumer	
Repayment/refund/ reservation service		
Secure element/software-based		Relying on the consumer account holder mobile application

Name	Paylib
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	
Website	https://www.paylib.fr/

Name		Satispay
Launch date		2013
Currently based on		E-money (+SDD to top up the wallet from a bank account)
Provider(s)		Satispay Limited
Geographic coverage	**Within country**	IT
	Cross-border	None
Currency		EUR
Types of POI and merchant		Proximity and remote P2P Proximity and remote P2B P2G remote P2Charity
Open to all PSPs	**Consumer side**	No, it's a closed circuit available only to end users and merchants
	Merchant side	
Use of proxy/token for merchant/transaction		No
Request-to-pay messages		No
Data exchange merchant-consumer		In the app, the payer chooses a merchant from a list sorted by proximity (using GPS) or through search, enters the amount and sends the payment. Other option: a QR code generated on the POS
Transaction time at physical check-out		A few seconds

Name	Satispay
Technical constraints	Both the payer and the merchant need to use the app on a smartphone; Wi-Fi or a 4G+ network required
Consumer/transaction authentication	Usually, the app requires the user to input a PIN or use biometrics (face ID or touch ID)

Confirmation	**To the merchant**	Real time; merchant receives a push notification on his own version of the app
	To the consumer	By the merchant and by the app

Repayment/refund/ reservation service	No specific feature for this use case
Secure element/software-based	Information not publicly available
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	Information not publicly available
Website	https://www.satispay.com/

Name	Scan & Go (Decathlon)
Launch date	2019
Currently based on	iDEAL (SCT-based)
Provider(s)	MishiPay

Geographic coverage	**Within country**	NL
	Cross-border	/

Currency	EUR
Types of POI and merchant	Decathlon

Open to all PSPs	**Consumer side**	Yes, but they have to offer consumer payment accounts and offers their account holders to pay via IDEAL
	Merchant side	?

Name	Scan & Go (Decathlon)
Use of proxy/token for merchant/transaction	
Request-to-pay messages	Yes
Data exchange merchant-consumer	QR-code
Transaction time at physical check-out	A few seconds
Technical constraints	
Consumer/transaction authentication	Yes

Confirmation	To the merchant	Yes
	To the consumer	

Repayment/refund/reservation service	No
Secure element/software-based	
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	
Website	https://mishipay.com/blogs/mishipay-decathlon-scan-and-go/

Name	Tikkie
Launch date	2016
Currently based on	iDEAL (SCT-based) – Payment request
Provider(s)	ABN AMRO, but also open to payment account holders of other banks (banks who offer payment consumer payment accounts and offer their account holders the possibility to pay with iDEAL).

Geographic coverage	Within country	NL
	Cross-border	/

Currency	EUR

Name	Tikkie	
Types of POI and merchant		
Open to all PSPs	Consumer side	Yes, but they have to offer consumer payment accounts and offers their account holders to pay via IDEAL
	Merchant side	Yes
Use of proxy/token for merchant/transaction		
Request-to-pay messages	Yes (P2P RtP payment-app)	
Data exchange merchant-consumer		
Transaction time at physical check-out	A few seconds	
Technical constraints		
Consumer/transaction authentication	Yes	
Confirmation	To the merchant	Yes
	To the consumer	
Repayment/refund/ reservation service	No	
Secure element/software-based		
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		
Website	https://www.tikkie.me/	

Name	TWINT
Launch date	A migration of TWINT to instant credit transfers is currently being discussed, with a tentative launch date of 2023. The current solution allows POI transactions but not on the basis of instant credit transfers.

Name		TWINT
Currently based on		
Provider(s)		TWINT AG
Geographic coverage	**Within country**	CH
	Cross-border	None
Currency		CHF
Types of POI and merchant		All kind of POS as well as e-Commerce and P2P
Open to all PSPs	**Consumer side**	Only the PSPs that sign up to the solution
	Merchant side	
Use of proxy/token for merchant/transaction		Phone number (P2P), token (P2m)
Request-to-pay messages		Yes, proprietary message
Data exchange merchant-consumer		QR-code, BLE, phone number
Transaction time at physical check-out		
Technical constraints		
Consumer/transaction authentication		Phone + PIN
Confirmation	**To the merchant**	Instantly via acquirer
	To the consumer	Instantly via issuing bank
Repayment/refund/ reservation service		Yes
Secure element/software-based		Software-based
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		
Website		https://www.twint.ch/

Name	TWINT
Additional information	The answers refer to the current solution (not yet based on instant credit transfer) and they may change if TWINT would migrate to the instant credit transfer system.

Name		Tap-to-go
Launch date		Sept 2018
Currently based on		SDD
Provider(s)		Albert Heijn (a large supermarket chain in the Netherlands)
Geographic coverage	Within country	NL: only at all AH-to-go supermarkets
	Cross-border	/
Currency		EUR
Types of POI and merchant		All AH-to-go supermarkets
Open to all PSPs	Within country	Yes
	Cross-border	No, just the AH supermarkets
Use of proxy/token for merchant/transaction		No
Request-to-pay messages		No
Data exchange merchant-consumer		Via an SDD which is processed within a (few) day(s) after the transaction.
Transaction time at physical check-out		A few seconds
Technical constraints		Tap-to-go card (NFC) at supermarket price tags in shop
Consumer/transaction authentication		Via the agreement to the SDD contract; in closing the contract, 1 cent needs to be paid
Confirmation	To the merchant	According to the SDD rulebook
	To the consumer	

Name	Tap-to-go
Repayment/refund/reservation service	According to the SDD rulebook
Secure element/software-based	
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	
Website	https://ahtogo.nl/taptogo

Solutions that are live and based on instant credit transfers, but not yet for POI payments

Name		Kwitt
Launch date		Launched in 2018
Currently use case(s)		P2P
Provider(s)		Savings banks and cooperative banks
Geographic coverage	Within country	DE
	Cross-border	Envisioned
Currency		EUR
Types of POI and merchant		Physical POIs envisioned
Open to all PSPs	Consumer side	Solution is potentially open to all PSPs. For P2P payments, the recipient does not have to registered with Kwitt.
	Merchant side	
Use of proxy/token for merchant/transaction		Mobile phone number
Request-to-pay messages		Kwitt has the option to request a P2P-payment.
Data exchange merchant-consumer		No concrete plans yet
Transaction time at physical check-out		N/A
Technical constraints		

Consumer/transaction authentication		Two factor authentication within the app for transactions over 25 EUR
Confirmation	To the merchant	No concrete plans yet
	To the consumer	Instant update of the account statement if the payment is transmitted via SCT Inst; if no SCT Inst is possible, payment is transmitted via SCT
Repayment/refund/ reservation service		No concrete plans known yet
Secure element/software-based		No concrete plans known yet
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		Kwitt is part of the banking apps of savings banks and cooperative banks.
Website		https://www.kwitt.de/

Planned POI solutions based on instant credit transfers

Name		Banconecta
Launch date		Q2 2020. Launch delayed due to the late transposition of PSD2 in Spain and consequently of the licensing process.
Provider(s)		Banconecta (brand) provided by Eurobits Technologies SL (licenced PISP)
Geographic coverage	Within country	Initially only ES
	Cross-border	From Spanish IBANs to SEPA-wide IBANs
Currency		Initially EUR only
Types of POI and merchant		Initial phase: at merchant's online checkouts from all verticals. On roadmap also at physical stores. Initially planned for Q3 2020, but delayed due to delays in the licensing process and the lack of readiness of PSD2 APIs.
Open to all PSPs	Consumer side	Issuer / facilitator will always be Eurobits acting as a PISP / provider of the payment method Banconecta. Additionally, and following open banking philosophy, Eurobits offers access to its PIS-Core API to other PISP, acting as a technological gateway offering a PSD2-API hub which is connected to and consumes ASPSP's PSD2-APIs for payment initiation.

Name		Banconecta
	Merchant side	Open to all PSPs (collecting and technical PSPs) acting as resellers of an APM (Alternative Payment Method). PSPs are a key-partners for its distribution among merchants.
Use of proxy/token for merchant/transaction		Not needed as the PISP retrieves the PSU's information (payment account's IBAN and account holders name) directly from the PSU's ASPSP through PSD2-APIs in each single payment.
Request-to-pay messages		In ecommerce, the RTP message is triggered by the PSU when selecting the PISP as the payment method. The merchant sends to the PISP an RTP which contains the payment data (payee's account holder name, payee's IBAN, amount and payment reason). In physical stores, the idea is to use a merchant-presented RTP (QR-code) containing the same payment data as described above.
Data exchange merchant-consumer		No data is exchanged directly between merchant and consumer. Instead, the merchant provides the PISP with the needed payment data (payee's account holder name, payee's IBAN, amount and payment reason) and, after the successful payment initiation of the PISP, the PISP provides the merchant with the payer's payment data (payment account's IBAN and account holders name). In physical stores, the merchant transmits the payment data to the PISP through consumers PISP App once he has captured the data from the merchants-presented QR code.
Transaction time at physical check-out		Real-time for the confirmation of the payment initiation for both, merchant and consumer. The effective crediting on payee's account relies on the transaction time of the SCT Inst. scheme.
Technical constraints		Are those related to the insufficient readiness / state of the ASPSP's PSD2-APIs regarding the Strong Customer Authentication (SCA). Explained in the next point below.
Consumer/transaction authentication		Are those related to the insufficient readiness / state of the ASPSP's PSD2-APIs regarding the Strong Customer Authentication (SCA). Explained in the next point below.
Confirmation	**To the merchant**	Merchants receive a real-time notification of the successful initiation of the payment and notify the consumer about the acceptance of the payment.
	To the consumer	In e-commerce, the PSU receives a real-time notification from the merchant but not from the PISP as the PSU is not onboarded. However, the PSU may optionally indicate his email address to the PISP to receive a notification with the payment details.

Name	Banconecta
	In physical stores, as the PSU may be onboarded by the PISP due to UX convenience, he will be receiving a payment confirmation from the PISP.
Repayment/refund/reservation service	In order to perform a repayment, the whole payment process has to be initiated again (i.e. by sending a payment-link to the PSU).
	Transactions to be refunded can be selected by the merchant in the PISP's merchant back-office in order to generate a standardized (ISO20022) bulk transfer file which can be executed from the said PISP's back-office or directly from the merchant's bank through its Online Banking portal.
	Reservation service (understood as a MIT - delayed payment with variable amount) are not possible for a PISP with the current state of PSD2-APIs as these require an SCA with the intervention of the PSU in each initiated payment even if the PISP has agreed with the PSU a MIT – delayed payment with variable amount.
Secure element/software-based	Relies on the ASPSPs security elements as the SCA.
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	Customer authentication is not delegated on the PISP but relies on the ASPSPs security elements as the SCA.
	SCT Int. will not take off if the ASPSPs charge the consumer with a higher fee as those applied on traditional SCT.
	PISPs are dependent on banks fees policies as they rely on the interbank systems and only facilitate the initiation of SCTs through convenient software for both sides, payer and payee.
Website	https://banconecta.es/

Name		Blink
Launch date		Pilot for instant payments is planned for H1 2021; payments at the POI in H2 2021
Provider(s)		Borica
Geographic coverage	**Within country**	BG
	Cross-border	None
Currency		BGN
Types of POI and merchant		All POI (use-cases) for almost all types of merchants

Name		Blink
Open to all PSPs	Consumer side	Yes
	Merchant side	Yes, will be open for all types of merchants
Use of proxy/token for merchant/transaction		Not yet defined
Request-to-pay messages		Yes, messages are based on ISO 20022 - pain.013 and pain.014
Data exchange merchant-consumer		QR/NFC/ BLE, etc.
Transaction time at physical check-out		A few seconds, less than 10 sec.
Technical constraints		No
Consumer/transaction authentication		According PSD2 requirements
Confirmation	To the merchant	
	To the consumer	
Repayment/refund/ reservation service		No
Secure element/software-based		Software-based
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		Yes
Website		https://www.borica.bg/; https://www.bcard.bg/

Name		Bridge
Launch date		Q4 2020
Provider(s)		Bridge by Bankin'
Geographic coverage	Within country	Based in FR
	Cross-border	EU
Currency		EUR, GBP

Name		Bridge
Types of POI and merchant		Retail, travel, small firms (MPOS: Mobile Point of Sale)
Open to all PSPs	Consumer side	Yes
	Merchant side	
Use of proxy/token for merchant/transaction		
Request-to-pay messages		Not yet
Data exchange merchant-consumer		Not yet
Transaction time at physical check-out		Not determined yet
Technical constraints		Need of an IBAN source (payer). Need to be able to transfer funds to an unknown IBAN. Need of Internet. Need of an easy and harmonised SCA. PIS should have control of the SCA user experience (the whole payment process should take less than 3 seconds). Need of SCT INST deployed in all EU countries and free to use for customers
Consumer/transaction authentication		PSP need to control the SCA user experience (no redirection, one click SCA). Consumers would like an easy SCA app to app. Need of harmonised ID like QR code or NFC.
Confirmation	To the merchant	
	To the consumer	
Repayment/refund/reservation service		Yes (via a SCT Inst)
Secure element/software-based		Enrolled device, biometric, PIN code
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		
Website		https://bridgeapi.io/

Name		eps instant
Launch date		Planned for 2021 – the eps instant scheme is ready but the implementation on the issuer banks' side is pending
Provider(s)		STUZZA GmbH
Geographic coverage	**Within country**	AT
	Cross-border	N/A
Currency		EUR
Types of POI and merchant		Potentially all, online and POS
Open to all PSPs	**Consumer side**	Any ASPSP is free to join as an issuer; currently 98% of AT banks support eps
	Merchant side	Any merchant is free to join via his account-managing bank / via an acquirer, legal restrictions may apply
Use of proxy/token for merchant/transaction		No
Request-to-pay messages		No
Data exchange merchant-consumer		Online: within the existing eps infrastructure: a redirect model
		At the POS: QR-codes
		Routing of all data/ messages by the central scheme operator between the merchant and the user's online/ mobile banking
Transaction time at physical check-out		Depending on the banks' authorisation method in use 5-20 seconds
Technical constraints		No
Consumer/transaction authentication		Depending on the bank authorisation methods in use which may vary – depending on the channel
Confirmation	**To the merchant**	Instantly by the issuing bank via scheme operator
	To the consumer	As the payment is done in the normal online/mobile banking environment, feedback to the user is given instantly, tx is included in the tx history instantly
Repayment/refund/ reservation service		Refund option is available in the eps environment

Name	eps instant
Secure element/software-based	
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	
Website	

Name		Flik
Launch date		02-2020, 03-2020, 5-2020 (14 out of 15 banks) and Q4 2020 (1 out of 15 banks)
Provider(s)		All SI banks
Geographic coverage	Within country	SI: full coverage
	Cross-border	Possible in the future
Currency		EUR
Types of POI and merchant		All types of POI, supported on existing (stationary) POS devices and with a mobile POS application for merchants
Open to all PSPs	Consumer side	Yes, all banks joined the national so-called Flik scheme and will offer the solution to end customers (consumers and merchants)
	Merchant side	
Use of proxy/token for merchant/transaction		Mobile phone number and e-mail address
Request-to-pay messages		pain.013
Data exchange merchant-consumer		Existing POS devices will be upgraded to support NFC and QR; a mobile application will be developed for merchants not using stationary POS devices; RTP message will be enabled for online merchants
Transaction time at physical check-out		15 seconds from the point of time when payer decides to pay until payment is finished; transaction itself should not take more than 1 to 3 seconds

Name	Flik
Technical constraints	Apple does not allow access to NFC to third parties, which makes developing the same user experience for Android and iOS devices impossible; QR code as fall back solution
Consumer/transaction authentication	Password/ PIN or fingerprint ID

Confirmation	**To the merchant**	Merchant gets instant positive or negative information; in the case of POS devices and mobile application sent by a common back end solution which receives information directly from the central instant payments infrastructure
	To the consumer	Consumer receives an instant notification which is sent by a back end solution which receives information directly from the central instant payments infrastructure

Repayment/refund/ reservation service	End-user solution will not contain these; these can be performed using regular banking channels
Secure element/software-based	Software-based
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	Mobile application will be submitted to a security evaluation
Website	https://www.flik.si/

Name	HiPPOS Solution
Launch date	Tbd as the initiator tries to convince banks/PISPs to participate in a pilot; some retailers are open to conduct this pilot very soon, starting with a POS implementation.
Provider(s)	Standardisation initiative by GS1 Germany and HDE (German Retailer Association) – started in 2017 Provider would be GS1

Geographic coverage	**Within country**	DE (first step)
	Cross-border	Euro area (second step)

Currency	EUR
Types of POI and merchant	All kind of POS payments as well as e-Commerce and P2P

Name		HiPPOS Solution
Open to all PSPs	Consumer side	Yes
	Merchant side	
Use of proxy/token for merchant/transaction		
Request-to-pay messages		
Data exchange merchant-consumer		HiPPOS standard covers the data carrier (QR code) and the information which is coded, the technical interfaces and data fields. Other technologies (NFC, web APIs etc.) are also supported.
Transaction time at physical check-out		No more than 10 seconds, but depends on the scope of the measurement
Technical constraints		Every merchant which can handle or display a QR code or uses NFC is able to participate
Consumer/transaction authentication		SCA based on requirements of the ASPSP and/or the payment solution on the user's smartphone
Confirmation	To the merchant	By the beneficiary bank or the PSP of the retailer; in an updated version of the HiPPOS System a conformation could conceivably be sent by the sending bank
	To the consumer	By the payment solution provider/bank
Repayment/refund/ reservation service		Yes
Secure element/software-based		Depends on the solution of the payment app provider; normally a mobile banking app without a SE is sufficient
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		
Website		
Additional information		GS1 Germany together with some of the well-known retailers (approx. 30) in Germany is working on a SCT Inst solution for POS / e-Commerce & P2P. It's more an initiative than a ready-made solution – trying to build a platform of collaboration with/between stakeholders like banks, retailers, PSPs and

Name	HiPPOS Solution
	PISPs. Initiated by GS1 and HDE (The German Retail Asscociation) and supported the EHI Retail Institute. The HiPPOS approach is devided into two core aspects. 1) Defining a standard for POS / e-commerce and P2P transactions by describing the data transmission between the end user's smartphone and the merchant's POS system/e-commerce shop and e.g. P2P solutions. The standard covers the data carrier (QR code) and the information which is coded via the QR code, the technical interfaces and the data fields which are used. The objective is to build an open and independent infrastructure by defining and publishing transmission protocols (via different technologies like QR code, NFC and web APIs) where solution providers (PSPs, PISPs, other stakeholders) could connect their systems/solutions very easily and support SCT Inst trx with merchants. 2) Running the HiPPOS System. A centralised registry (web) where all participants of this open infrastructure have to register themselves to be validated and accredited by GS1 for the HiPPOS Sytem / SCT Inst trx at POS, e-commerce and P2P. Banks, PSPs, PISPs have to register their company (legal entity), solution, etc. Merchants have to register their company (legal entity) and their IBAN. HiPPOS makes sure that only validated companies could participate in the system. The idea is to pilot HiPPOS on a national level but to extend this approach to all euro markets/countries/jurisdictions very soon.

Name		HIT
Launch date		September 2020
Provider(s)		FINA - Financial Agency and banks that join the scheme
Geographic coverage	**Within country**	HR
	Cross-border	tbd
Currency		HRK
Types of POI and merchant		Physical POS, cash registers etc. (stationary commerce) in first stage, e- / m-commerce and P2P will follow. APIs and SDKs (Software Development Kit) for service integration for merchants.
Open to all PSPs	**Consumer side**	Potentially open to all ASPSPs that join the scheme and their clients (consumers). Service provided within bank's m-banking or through white label app provided by FINA (in the future).

Name		HIT
	Merchant side	Potentially open to all ASPSPs that join the scheme and their clients (merchants and consumers)
Use of proxy/token for merchant/transaction		For P2P: mobile phone number, e-mail address, VAT
Request-to-pay messages		Not at the moment, will be considered later on
Data exchange merchant-consumer		Proximity payments via dynamic QR code, later NFC. Merchant provides dynamic QR code to consumer with token given by platform. Consumer scans QR code via m-banking. Consumer's bank via token gets information about transaction details.
Transaction time at physical check-out		Less than 10 seconds
Technical constraints		Banks' adherence to HRK SCTInst; Usage of NFC
Consumer/transaction authentication		Via mobile banking
Confirmation	**To the merchant**	Instant notification of payment execution result to the merchant via FINA's platform. After executing payment, the bank sends notification of payment to the platform and the platform sends notification to the merchant.
	To the consumer	Instant notification through m-banking or app
Repayment/refund/ reservation service		No
Secure element/software-based		Certificates on merchant side or client_id/client_secret for communication with platform.
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		Via mobile banking. White label app will be subject to security evaluation.
Website		Not yet in production
Additional information		Acceptance of this solution depends on implementation of instant payment in Croatia.

Name		Lyra
Launch date		In a few weeks (note: questionnaire submitted mid May 2020). Licence 7 with ACPR under process with payment institution Lyra Collect
Provider(s)		LYRA
Geographic coverage	**Within country**	FR
	Cross-border	Europe
Currency		EUR
Types of POI and merchant		Payment page on merchant website
Open to all PSPs	**Consumer side**	Yes
	Merchant side	Yes
Use of proxy/token for merchant/transaction		No
Request-to-pay messages		Not yet
Data exchange merchant-consumer		No
Transaction time at physical check-out		No
Technical constraints		ASPSP has to allow PISP operations directed to a new beneficiary account (merchant account)
Consumer/transaction authentication		Yes
Confirmation	**To the merchant**	Yes
	To the consumer	
Repayment/refund/reservation service		Yes but it is necessary to have the IBAN of the payer – subject under discussion with banks
Secure element/software-based		Software based: Saas platform
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		No: the solution is meant to be used on the merchant's website (payment page)
Website		https://lyra.com/

Name		Oxlin
Launch date		2020
Provider(s)		Oxlin
Geographic coverage	Within country	
	Cross-border	SEPA
Currency		EUR
Types of POI and merchant		QR code on any terminal
Open to all PSPs	Consumer side	Limited to banks supporting instant payment initiation under PSD2
	Merchant side	Yes
Use of proxy/token for merchant/transaction		No
Request-to-pay messages		No
Data exchange merchant-consumer		No
Transaction time at physical check-out		Depending on the consumer bank
Technical constraints		Customer uses their mobile phone to confirm payment; as a consequence it requires a smartphone with data access without any specific software requirements.
Consumer/transaction authentication		Realised by the ASPSP as required by current PSD2 implementations
Confirmation	To the merchant	Yes
	To the consumer	
Repayment/refund/reservation service		Depending on the consumer bank
Secure element/software-based		Depending on the consumer bank
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		Depending on the consumer bank

Name	Oxlin
Website	https://oxlin.io/
Additional information	User experience depends on the consumer bank

Name		tbd (AT)
Launch date		09-2019
Provider(s)		Raiffeisen Bankengruppe Österreich in cooperation with Bluecode
Geographic coverage	Within country	Based in AT
	Cross-border	DE + ambition to further expand in Europe
Currency		EUR
Types of POI and merchant		Focussing on stationary commerce at the beginning
Open to all PSPs	Consumer side	Potentially yes, it they join the scheme
	Merchant side	Yes, it they join the scheme
Use of proxy/token for merchant/transaction		Not yet defined
Request-to-pay messages		Not for the go live
Data exchange merchant-consumer		Barcode, NFC, QR-Code
Transaction time at physical check-out		6 seconds covering all; 2.5 seconds for payment
Technical constraints		Mobile device is needed; operating system Windows is not supported; POS accepts Bluecode. User does not need active data connectivity.
Consumer/transaction authentication		Defined SCA
Confirmation	To the merchant	Merchant interface hands over the OK of the ASPSP
	To the consumer	SDK/user app hands over the OK of the ASPSP
Repayment/refund/ reservation service		Not for the go live, planned for phase 2

Name	tbd (AT)
Secure element/software-based	No, works with dynamic tokens only
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	Yes
Website	

Name		tbd (HU)
Launch date		The instant payment service mandatory for all PSPs was launched on 2 March 2020 with the additional proxy service; retail payment solutions based on the central infrastructure and RTP will be gradually developed; some PSPs already offer RTP.
Provider(s)		The central bank with the Hungarian ACH provides the core infrastructure; additional innovative end-user payment services (e.g. mobile payments) are to be developed by market participants. Some actors (e.g. one of the most important cash register manufacturers in Hungary, some PSPs and Bluecode) have already indicated their intention to develop such services. The central bank, in cooperation with Hungarian market stakeholders has provided guidelines for the basic payment processes and data entry methods; moreover, a national QR code standard has been developed as well in order to foster developments.
Geographic coverage	Within country	HU
	Cross-border	
Currency		HUF
Types of POI and merchant		All types of POIs and merchants can be covered by services based on the core infrastructure.
Open to all PSPs	Consumer side	In order to ensure interoperability, market participants must disclose the technical details of applied data entry solutions and these solutions should be freely usable by all other service providers. Additionally, common technical standards are to be elaborated for the data entry solutions expected to be used the most often, and these standards must be made freely available to all stakeholders.
	Merchant side	

Name	tbd (HU)	
Use of proxy/token for merchant/transaction	The new MNB Decree on the execution of payment transactions allows the use of the payee's secondary account identifier (proxy) (mobile phone number registered within the EEA, email address, domestic tax identification code, tax number). The core infrastructure supports the use of such proxies. It is also possible to initiate request-to-pay messages with the payer's proxy.	
Request-to-pay messages	The core infrastructure supports the initiation of request-to-pay messages. However, unlike instant credit transfers and proxies the use of this service is not mandatory. Merchants – if they meet certain requirements – can connect to the central infrastructure directly to send request-to-pay messages.	
Data exchange merchant-consumer	All kinds of data entry solutions – e.g. NFC, QR code – are possible to use for instant payments. The central bank constantly supports the developments; a national QR code standard. The central bank also defined optionally used data fields (e.g. shop ID, POS ID etc.), which can be transmitted in credit transfer and request-to-pay messages. It is mandatory by regulation to PSPs to be able to process all data content – including optional fields – through their PSD2 APIs.	
Transaction time at physical check-out	No estimation for the average transaction time at the physical check-out; maximum execution time of the instant credit transfer itself is 5 seconds.	
Technical constraints	Since the data entry methods must be open (i.e. with public documentation and readable to everyone), there are no such technical constraints within the system, but it cannot be excluded that e.g. mobile phone producers apply such constraints (e.g. limited use of NFC).	
Consumer/transaction authentication	In line with PSD2 and SCA regulation.	
Confirmation	To the merchant	There are no mandatory elements regarding the information of the payee in terms of a transaction.
	To the consumer	Negative final status report is mandatory in terms of an unsuccessful transaction, positive final status report is optional towards the payer.
Repayment/refund/ reservation service	No refund or chargeback rules are defined at the central level, but market stakeholders have the option to elaborate their own brands for supplementary services (e.g. their own mobile wallets), with their own business (chargeback /refund) rules.	
Secure element/software-based		

Name	*tbd (HU)*
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	
Website	

Name		*tbd (IE)*
Launch date		The Irish retail banks plan to launch their mobile account to account based payment service in Q2 2021. It is envisaged that this service will launch on SCT classic rails and will migrate to SCT Inst rails as individual banks come on stream with their SCT Inst solutions.
Provider(s)		BPFI, leading this programme on behalf of the Irish banks, are presently in exclusive negotiations with one preferred vendor. However commercial contracts have not been signed at this point and BPFI will not be in a position to disclose the preferred vendor until contracts have been concluded.
Geographic coverage	**Within country**	IE: All Irish retail banks
	Cross-border	Integration and interoperability with European Payment systems is on the development roadmap. Dates to be confirmed
Currency		EUR
Types of POI and merchant		Mobile based a/c to a/c domestic payment scheme: POS, online, p2p, bill payment, APIs for service integration
Open to all PSPs	**Consumer side**	The service will be open to all PSPs who are customers of the participant retail banks
	Merchant side	The service will be open to any merchant that is a customer of the participant retail banks
Use of proxy/token for merchant/transaction		Mobile number initially, potentially email and vehicle registration
Request-to-pay messages		Request-to-pay is on the roadmap and QR codes are being discussed
Data exchange merchant-consumer		Combination of NFC, QR code; upgrade of existing merchant equipment will be required

Name	tbd (IE)
Transaction time at physical check-out	TBC
Technical constraints	Unknown at this stage
Consumer/transaction authentication	Delegated SCA
Confirmation	**To the merchant**	Use cases in development
	To the consumer	
Repayment/refund/ reservation service	These services will be available
Secure element/software-based	Software-based
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	App will be securely tested
Website	

Name	Tink
Launch date	TBD
Provider(s)	Tink AB provides white-label (w/l) solutions
Geographic coverage	**Within country**	Tink's w/l solutions can be offered country-specific. Tink currently supports 14 European markets.
	Cross-border	Tink's w/l solutions can also be offered cross-border within the current coverage of 14 European markets.
Currency	TBD, but likely to be multi-currency
Types of POI and merchant	E-/m-commerce and retail/in-store commerce for any type of merchant
Open to all PSPs	**Consumer side**	Available to all consumers holding accounts at Tink AB supported ASPSPs (currently 250m+ at 2.500+ banks in Europe)
	Merchant side	Available to all merchants supporting the solution of Tink AB's w/l clients

Name	Tink
Use of proxy/token for merchant/transaction	TBD, but likely to support both tokenised and non-tokenised IBANs as well as IBAN proxies.
Request-to-pay messages	Based on PSD2 RTP
Data exchange merchant-consumer	TBD, but likely to support both payer- and payee-presented data via QR code, NFC and BLE
Transaction time at physical check-out	Instant (as defined by the SCT Inst standard used between the consumer and merchant ASPSP, typically 5-10 seconds)
Technical constraints	TBD, but likely to support multiple scenarios with various user devices and software to cover the most common use cases without constraints
Consumer/transaction authentication	Initially, relying on all authentication procedures offered by the supported consumer ASPSPs. To cater for all merchant-side technology, this requires support of decoupled and embedded authentication methods. Potentially providing proprietary authentication options in addition at later stages.
Confirmation	**To the merchant**	Yes, directly. Timing depends on merchant contract and payment instrument (SCT or SCT Inst). Confirmations in <5 seconds might be offered on demand.
	To the consumer	Yes, either directly or via the merchant
Repayment/refund/reservation service	TBD, but likely to offer all options
Secure element/software-based	Depending on the authentication method of the consumer's ASPSP
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device	TBD, but security measures will depend on specific use cases, which will include those with both authentication and initiation on the mobile device, as well as just authentication on the mobile device together with server-side initiation
Website	https://tink.com/
Additional information	Tink is a PSD2-licensed AISP and PISP offering its services either directly as a PSP or supporting other PSPs as a Technical Service Provider (TSP). Inst@POI services may therefore be offered directly or by providing white-label solutions to PSP partners.

Name		Vipps instore with BankAxept
Launch date		Q2 2020
Provider(s)		Vipps as wallet BankAxept as national debit scheme
Geographic coverage	**Within country**	NO
	Cross-border	None
Currency		NOK
Types of POI and merchant		Merchant: Reuse of scheme agreements, based on existing POSes with updated software
Open to all PSPs	**Consumer side**	
	Merchant side	
Use of proxy/token for merchant/transaction		
Request-to-pay messages		Yes, for P2P
Data exchange merchant-consumer		In-store: QR code, dynamic and static
Transaction time at physical check-out		10 – 15 seconds
Technical constraints		
Consumer/transaction authentication		SCA
Confirmation	**To the merchant**	Instant notification
	To the consumer	
Repayment/refund/ reservation service		In operation
Secure element/software-based		Software based
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		Security evalution

Name	Vipps instore with BankAxept
Website	https://github.com/vippsas

Name		WL account based payment
Launch date		PIS service for retailers will be in pilot in France from May 2020, public launch and other countries to follow. The technical solution for 3rd party TPPs is delivered since September 2019
Provider(s)		In-house solution self-built by Worldline
Geographic coverage	**Within country**	Based in FR
	Cross-border	EU-wide
Currency		All EEA currencies
Types of POI and merchant		eCommerce pay page for B2B retail merchants type "utility" (later more) and a technical solution offer for 3rd party TPP's with an eCommerce pay page or API connection
Open to all PSPs	**Consumer side**	Every consumer who owns a bank account and has access to it
	Merchant side	Yes
Use of proxy/token for merchant/transaction		Unique ID
Request-to-pay messages		Support of proprietary request-to-pay messages
Data exchange merchant-consumer		eCommerce pay page
Transaction time at physical check-out		Only eCommerce supported at the moment
Technical constraints		Establish connections to the various banks → Not all of them are fully ready (e.g. deviations between specifications, sandbox and production environment). Also depending on the bank, the certificates have to be different: One bank wants the certificate with the license number with dots between it and some don't. Meaning that they had to get two different certificates instead of one
Consumer/transaction authentication		SCA done by the payer and his bank; they just receive an OK or NOK

Name		WL account based payment
Confirmation	**To the merchant**	Yes, instant confirmation of the initiation
	To the consumer	
Repayment/refund/reservation service		Repayment and refund are coming soon; reservation service is not yet supported by SCT Inst
Secure element/software-based		Service is integrated in banks' internet banking or mobile banking apps
(Security) evaluation on the mobile instant credit transfer application hosted on the mobile device		See previous answer
Website		https://fr.worldline.com/fr/home/solutions/merchant-services/third-party-provider.html
Additional information		Worldline delivers also a Saas offer for TPP itself to provide PIS

Existing or planned POI instant payment solutions/initiatives for which little information is available through the stocktake

- CH (SIC): early stage analyses are running
- CY: there is no planned date to launch an end-user solution but there are ideas which are not mature yet
- CZ: GoPay (e-commerce solution, possible support for physical POS in the future)
- CZ, SK: TrustPay (e-commerce solution)
- DE: Sofort. Plans to offer SCT Inst payments. Not yet decided whether this service will include request-to-pay messages. Data exchange between merchant and consumer, authentication, confirmation messages and technical constraints (if any) depends on how the bank's API is functioning, including redirection requirements.
- DE: Westhafen Group. No dedicated solution; Westhafen is an expert forum of PSPs and corporates to focus on the usage of instant payments while addressing the barriers identified. They do not develop an own solution
- EE: roadmap on SCT Instant solution for P2P and C2B under finalisation under the national retail forum– no further information provided
- HR: The National Payment System Committee adopted the rules of the national instant payments scheme (HRK SCTInst) in the national currency (Croatian Kuna - HRK). The rules, procedures and technical standards are fully based on the EPC SCT Inst scheme. National instant payments in the national currency will be cleared/settled through the new national payment infrastructure. Processor for clearing and settlement will be FINA (Financijska agencija / Financial Agency). Instant payments in the national currency (HRK) will be available to customers in Q3 2020.
- LV: Latvijas Banka has introduced Proxy Registry "Instant links". Instant links can be used in bank solutions for paying with mobile phone at POI. Draft roadmap has been proposed to banks. Request to pay solution is expected to launch in November.
- PL: Currently the Polish National Clearing House – KIR SA is carrying out an analysis related to introduction of such payments. This is at an early stage so disclosing details is not possible at the moment. KIR is open to collaboration with other entities in this respect as they perceive instant credit transfer payments at the POI as a promising

business case, better end-customer experience also in European context, opportunity to increase the speed of circulation of money and reduction of cash usage.

- SE: Zimpler

No Initiatives reported through the stocktake

- LT
- MT
- RO
- SK