Euro Retail Payments Board (ERPB)

Report of the Next Phase of the ERPB Working Group on a Single Euro Payments Area (SEPA) Application Programming Interface (API) Access Scheme

ERPB Meeting 28 June 2021
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Executive summary

In January 2019 the ERPB established the ERPB Working Group on a Single Euro Payments Area (SEPA) Application Programming Interface (API) Access Scheme ("Working Group") tasked with defining the key elements of a potential SEPA API Access Scheme ("Scheme"). The report was submitted as input to the ERPB meeting of 13 June 2019. The ERPB took note of the report and welcomed the analysis conducted by the Working Group and agreed to consider possibly resuming this work after the implementation of the revised Payment Services Directive (PSD2).

At its 6 July 2020 meeting the ERPB invited the impacted stakeholders to start an informal exploratory workstream addressing inter alia the commercial baseline, for allowing the reactivation of the Working Group in November 2020. The stakeholders met on several occasions and agreed that all relevant conditions to resume the activities of the Working Group had been met. The ERPB at its 26 November 2020 meeting welcomed the consensus reached and approved the mandate for the next phase of the Working Group. The Working Group was asked to take the report presented to the ERPB for its June 2019 meeting, as well as the outcome of the informal exploratory workstream addressing the conditions to re-start the Working Group, as a starting point.

The Working Group defined further key elements of a Scheme, with the legal and regulatory requirements of PSD2 constituting the ‘baseline’, which has now been set, but also going beyond such baseline to encompass value-added (‘premium’) services that may be provided in the context of ‘open banking’ as a natural evolution of PSD2, within the contractual framework of a Scheme. These key elements are recommended as a foundation of (a) future rulebook and future implementation guidelines of (a) Scheme(s).

As part of its vision statement the Working Group acknowledges that the EU shall be leading the way in the transition to a digital economy. The SEPA API Access Scheme will help by facilitating the disruption of digitised analogue value chains and the creation of completely new fully digital value chains through an API economy that leverages the benefits of a Scheme-based approach (a visualisation of the vision is included in the report). This will help unlock value which may then be fairly distributed amongst the participants facilitated by the Scheme framework and arrangements. Starting from payments, the aim is to move to finance beyond payments and eventually to move beyond finance.

The report details a non-exhaustive list of prioritised (illustrative) customer journeys from which a number of business requirements were derived, predominantly in the context of a Scheme related to payment accounts, covering the different stages of a payment including initiation, authorisation, confirmation and execution. Most of the requirements, already identified in the 2019 report, were validated by the Working Group and additional requirements such as the provision of a list of account-servicing payment service providers (ASPSPs) for customer selection, instant payment release notification and confirmation as well as pre-authorisation mechanisms were added. For each illustrative customer journey, it has been indicated...
whether they can be applied in the domain of customer-to-business (C2B), business-to-business (B2B) and person-to-person (P2P) payments and what the main differences are. In addition, dedicated customer journeys were developed for the different methods of strong customer authentication (SCA).

The Scheme participants that take up the role of asset holder are expected to implement the business requirements in support of the customer journeys that are applicable to them as described in the Scheme i.e. asset holders only need to support customer journeys insofar they support the underlying service/payment instrument (except in relation to SCA, in the way it is further described in the business requirements section). The business requirements listed in the report are however to be considered as a starting point. Moreover, it is expected that the business requirements will evolve over time to better adapt to the market needs. The Scheme manager in accordance with its governance will ensure that this happens in the most efficient manner. Scheme participants that only take up the role of asset broker do not need to support all business requirements (only the ones related to their business domain).

Any service and functionality offered by ASPSPs that goes beyond their legal obligations can be considered as a value-added service in the context of a Scheme and is subject to a competitive, sustainable and fair distribution of value and risk between the actors.

The Working Group has mainly focused on payment related services to be put under the Scheme governance, in line with its mandate and core expertise, whilst at the same time also looking at other asset classes (e.g. loans, personal finance management) that could potentially leverage payments and lead to further efficiencies and innovations. Moreover, the recommendation is for the Scheme to be designed in such a way that it does not hinder expansion into other asset classes (beyond payments, beyond banking and beyond finance). To this end, a layered and modular approach is envisaged whereby different Schemes would address specific requirements of different asset classes and an ‘overarching governance entity’¹ would ensure interoperability and minimum standards to be applied by each of the Schemes. As a first step, the recommendation is hence to start with the development of a Scheme in relation to payments accounts. Following a detailed assessment based on desk research and covering requirements related for example to governance (pan-European reach), competence and structure, the Working Group considers the European Payments Council (EPC) to be best placed to take up the role of Scheme manager in relation to payment accounts, subject to accepting the requirements as outlined in the corresponding section of this report.

The report details a number of general Scheme requirements which cover inter alia eligibility criteria, rights and obligations of Scheme participants and business conditions. Both regulated and non-regulated entities should in principle be able to join the Scheme. Regulated services will however only be available to

¹ See section 2.1 for further clarification.
regulated entities but if the Scheme caters also for unregulated services, then these will be available to non-regulated entities as well. Moreover, Scheme participants will be free to commit to participate in the Scheme in the role of asset holder, or in the role of asset broker or in both roles, if and when the legal context permits.

Scheme participants will have to comply with a number of broad guiding principles that generally govern the existing SEPA schemes for credit transfers and direct debits (e.g. all Scheme participants need to comply with the rules of the Scheme on the same basis as all other participants). The Working Group however recommends that the exact rights and obligations shall depend on the services to be covered by the Scheme and on the eligibility criteria applicable for each specific asset class.

The Working Group confirmed its 2019 conclusions in relation to the fact that there are basically two elements that could be eligible for remuneration in the context of a Scheme i.e. the assets exposed through the API service by the asset holder and the API service itself, as provided by the asset holder. The monetisation of APIs is an individual business decision of the market participant offering data or transaction assets through the API. In this context it is necessary to understand the cost elements to be considered by the Scheme and what should be object of remuneration (and hence of the business conditions) to ensure a fair and sustainable distribution of value and risk for all parties. To this end, the Working Group assessed several options whereby the business conditions are addressed either within or outside the Scheme. It was concluded that the Scheme laying out business conditions could constitute a way to overcome the potential need for millions of bilateral agreements, ultimately helping to reduce the risk of market fragmentation and foster the take-up of the Scheme. This would moreover increase the attractiveness of the Scheme towards potential Scheme participants and ultimately benefit end users, as certainty and transparency on fair remuneration of services (going forward named Default Asset (DA) Remuneration fees) would be ensured. Accordingly, this will result in higher chances to lower entry barriers and foster competition in the market and increased benefits for participants and consumers, ultimately benefiting a competitive and innovative internal market for (initially) payment services.

Following a detailed assessment of possible “Inside the Scheme Models”, the Working Group recommends the Scheme to implement a so-called Default Asset Remuneration model which encompasses a fallback DA fee for the API service, different sub-DA fees for different assets – which could vary per Scheme and service - paid by the asset broker to the asset holder based on cost recovery and a reasonable margin. Next to the DA fee there will be Scheme participation fees (covering the cost of operating the Scheme) and commercial fees (the latter are outside the Scheme and based on a commercial agreement between the Scheme participants and their clients). The ultimate objective of this model is to facilitate the exchange of services beyond PSD2, aiming at creating benefits for all involved parties.
However, to correctly address business conditions inside the Scheme the Working Group recommends i) a solid preliminary competition assessment, including a thorough evaluation of the potential effects on both competition in the market and consumers and ii) a sound calculation methodology for the chosen remuneration model. As a preliminary step, the Working Group has already reached out to the relevant services within the European Commission to get some first feedback. The outcome was perceived as positive by the Working Group’s co-chairs and based on the information provided no initial ‘red flags’ were identified.

The responsibilities of the future Scheme manager in relation to the business conditions are also covered in the report. Moreover, the decision to address the business conditions in the Scheme takes into account the nature and governance of the Scheme manager and to this end the Working Group recommends to opt for a ‘not-for-profit’ Scheme manager mainly in view of the fact that there will be less risk of having a conflict of interest.

The report also includes recommendations on infrastructure related requirements to be covered by the Scheme, including basic requirements for API interfaces, minimal system infrastructure requirements in the security area and functional requirements related to a particular service (i.e. range of data necessary to execute a particular service). The (non-functional) requirements are generic and apply to the different asset classes.

The future Scheme manager(s) shall ensure that the API implementations are meeting a certain level of quality and that the overall Scheme set-up is efficient, and no obstacles are created. The actual implementation can hence be assessed and certified against the implementation guidelines containing the Scheme’s functional and non-functional requirements combined with the specifications provided by the respective standardisation initiative(s). To this end, the future Scheme manager(s) shall cooperate with the major European standardisation initiatives in the field of PSD2 API’s and possibly contract a homologation body.

The Working Group also performed a cross-check with other ongoing work streams (including for example the eIDAS Regulation, the SEPA Request-to-Pay Scheme and The Berlin Group Open Finance API Framework) that could potentially impact the development of the Scheme related to payments accounts. The Working Group agreed on a number of recommendations to be taken up by the future Scheme manager in order to foster possible synergies with the identified standardisation initiatives. In addition, it is to be noted that the legal context of the services covered under the Scheme includes the General Data Protection Regulation (GDPR), EU competition law and consumer protection rules. Moreover, specific sectoral legislation might apply to the specific Schemes. It was impossible, however, for the Working Group to assess the potential impact of ongoing regulatory initiatives of the EU Commission e.g. in the field of data governance.
The report also describes a suggested extension in a next stage to other financial as well as non-financial services with the aim of generating additional value and to foster further innovation. For this purpose, a standardised template was developed which lists the information that could potentially be exchanged via an API and which also indicates the possible dependencies and ‘interplay’ that exist between the different assets.

As a way forward, the Working Group recommends the ERPB to invite the EPC to take up the role of Scheme manager in relation to payment accounts in line with the requirements defined in the report, and to ask the EPC inter alia to ensure adequate stakeholder involvement and alignment with relevant actors (e.g. standardisation initiatives, directory service providers) and regulatory bodies in the ecosystem and to promote the Scheme’s adoption. In addition, the Working Group recommends to explore the implementation for financial asset classes beyond payments via the identification of an appropriate host for such a multi-stakeholder project and to frame the ecosystem for asset classes beyond finance in order to be able to move towards an open data economy in Europe.
<table>
<thead>
<tr>
<th>Term or acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AES</td>
<td>Advanced Electronic Signature.</td>
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<tr>
<td>AIS</td>
<td>Account information services as defined by PSD2.</td>
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<tr>
<td>AML</td>
<td>Anti-Money Laundering.</td>
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<tr>
<td>API</td>
<td>Application Programming Interface.</td>
</tr>
<tr>
<td>API client</td>
<td>The “client” of an API is a program, not a person, which uses the service as offered by the API exposing party. In the context of this report, the API client function belongs to the asset broker.</td>
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<tr>
<td>API exposing party</td>
<td>The asset holder offers (“exposes”) a service via an API to an asset broker.</td>
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<tr>
<td>ASPSP</td>
<td>Account-Servicing Payment Service Provider.</td>
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<tr>
<td>Asset</td>
<td>Any form of value (e.g. bank owned data, customer owned data, transaction data, or the ability to execute transactions, payment related and beyond) that is held by an asset holder. In the context of PSD2, payment account balance and transactions would be an information asset owned by the customer and held by the ASPSP and a payment initiation would be a transaction asset involving an ASPSP and payer with the involvement of a TPP.</td>
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<tr>
<td>Asset broker</td>
<td>The entity that uses assets (e.g. data) from the asset holder, with permission of the asset owner, to deliver value to the end users. Value is being driven by either consumer or corporate demand. In the context of PSD2, a TPP would be an asset broker. The asset broker in the context of GDPR will be considered a data controller or a data processor depending on the degree of control it exercises over the processing of the personal data which form part of the assets.</td>
</tr>
<tr>
<td>Asset holder</td>
<td>The entity that holds the assets. An asset holder is not necessarily the same entity as the data owner. In the context of PSD2 an asset holder would be an ASPSP. The data holder in the context of GDPR is considered the data controller.</td>
</tr>
<tr>
<td>Asset owner</td>
<td>Owner of the asset (e.g. a legal entity or a consumer, in which case it would also be a data subject).</td>
</tr>
<tr>
<td>Asset user</td>
<td>The client of the asset broker that ‘uses’ the asset. The asset user can be a consumer or a legal entity.</td>
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<tr>
<td>ATM</td>
<td>Automated Teller Machine.</td>
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<tr>
<td>BCM</td>
<td>Business Continuity Management.</td>
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<tr>
<td><strong>DA fee</strong></td>
<td>Default Asset Remuneration fee.</td>
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<tr>
<td><strong>Data vs Information</strong></td>
<td>Data is raw, unorganised facts that need to be processed. Data can be something simple and seemingly random and useless until it is organised. When data is processed, organised, structured or presented in a given context so as to make it useful, it is called information. (source: <a href="https://www.diffen.com/difference/Data_vs_Information">https://www.diffen.com/difference/Data_vs_Information</a>)</td>
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<tr>
<td><strong>Decoupled SCA</strong></td>
<td>SCA takes place via a dedicated device and/or independently activated app.</td>
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<td><strong>EACB</strong></td>
<td>European Association of Co-operative Banks.</td>
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<td><strong>EBA</strong></td>
<td>European Banking Authority.</td>
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<td><strong>EBF</strong></td>
<td>European Banking Federation.</td>
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<tr>
<td><strong>EC</strong></td>
<td>European Commission.</td>
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<tr>
<td><strong>ECB</strong></td>
<td>European Central Bank.</td>
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<tr>
<td><strong>eIDAS</strong></td>
<td>Regulation (EU) N°910/2014 on electronic identification and trust services for electronic transactions in the internal market (eIDAS Regulation).</td>
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<td><strong>EMA</strong></td>
<td>Electronic Money Association.</td>
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<td><strong>EMPSA</strong></td>
<td>European Mobile Payment Systems Association.</td>
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<td><strong>EPC</strong></td>
<td>European Payments Council.</td>
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<td><strong>EPIF</strong></td>
<td>European Payment Institutions Federation.</td>
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<td><strong>ERPB</strong></td>
<td>Euro Retail Payments Board.</td>
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<tr>
<td><strong>ERPF</strong></td>
<td>European Retail Payments Framework.</td>
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<td><strong>ESBG</strong></td>
<td>European Savings Banks Group.</td>
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<td><strong>ETPPA</strong></td>
<td>European Third Party Providers Association.</td>
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<td><strong>EU</strong></td>
<td>European Union.</td>
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<td><strong>FeRD</strong></td>
<td>Forum for Electronic Invoicing Germany.</td>
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<td><strong>IBAN</strong></td>
<td>International Bank Account Number.</td>
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<tr>
<td><strong>IP</strong></td>
<td>Intellectual Property.</td>
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<tr>
<td><strong>IT</strong></td>
<td>Information Technology.</td>
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<tr>
<td><strong>KYC</strong></td>
<td>Know Your Customer (e.g. including the verification of the customer ID details).</td>
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<tr>
<td><strong>Marketplace</strong></td>
<td>Online marketplace (or online e-commerce marketplace) is a type of e-commerce website where product or service information is provided by multiple third parties (source: Wikipedia). Also known as a product aggregation website.</td>
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<tr>
<td><strong>MiFiD II</strong></td>
<td>Markets in Financial Instruments (MiFID II) - Directive 2014/65/EU.</td>
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<tr>
<td><strong>MSG MCT</strong></td>
<td>EPC Multi-Stakeholder Group for Mobile Initiated SEPA (Instant) Credit Transfers.</td>
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<td><strong>NFC</strong></td>
<td>Near Field Communication.</td>
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<td><strong>OBE</strong></td>
<td>Open Banking Europe.</td>
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<td><strong>OBIE</strong></td>
<td>Open Banking Implementation Entity.</td>
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<td><strong>OBUK</strong></td>
<td>Open Banking UK.</td>
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<td><strong>OIDF</strong></td>
<td>OpenID Foundation.</td>
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<tr>
<td><strong>OTP</strong></td>
<td>One-time Password.</td>
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<td><strong>P2P</strong></td>
<td>Peer-to-Peer / Person-to-Person.</td>
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<tr>
<td><strong>Payment execution guarantee</strong></td>
<td>A ‘payment execution guarantee’ service is offered to merchants by asset brokers or asset holders to cover the non-payment of debts arising under a transaction.</td>
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<tr>
<td><strong>PFM</strong></td>
<td>Personal Finance Management.</td>
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<tr>
<td><strong>PIN</strong></td>
<td>Personal Identification Number.</td>
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<tr>
<td><strong>PIS</strong></td>
<td>Payment Initiation Services.</td>
</tr>
<tr>
<td><strong>PISA</strong></td>
<td>Eurosystem’s oversight framework for electronic payment instruments, schemes and arrangements.</td>
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<tr>
<td><strong>POI</strong></td>
<td>Point of Interaction.</td>
</tr>
<tr>
<td><strong>POS</strong></td>
<td>Point of Sale.</td>
</tr>
<tr>
<td><strong>PSD2</strong></td>
<td>Revised Payment Services Directive (EU) 2015/2366.</td>
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<tr>
<td><strong>PSU</strong></td>
<td>Payment Service User. In the context of GDPR this will be a data subject (if an identified or identifiable natural person).</td>
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<tr>
<td><strong>QR code</strong></td>
<td>Quick response code (two-dimensional barcode).</td>
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<tr>
<td><strong>REST</strong></td>
<td>Representational state transfer (REST) is a software architectural style which uses a subset of Hypertext Transfer Protocol (HTTP).</td>
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<tr>
<td><strong>RTS</strong></td>
<td>Commission Delegated Regulation (EU) 2018/389 with regard to regulatory technical standards for strong customer authentication and common and secure open standards of communication.</td>
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<td><strong>SCA</strong></td>
<td>Strong Customer Authentication.</td>
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<tr>
<td><strong>SCA</strong></td>
<td>A set of rules, practices and standards providing the organisational, legal and governance framework necessary for the functioning of certain API access services.</td>
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<tr>
<td><strong>SCT (Inst)</strong></td>
<td>SEPA (Instant) Credit Transfer.</td>
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<tr>
<td><strong>SDD</strong></td>
<td>SEPA Direct Debit.</td>
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<tr>
<td><strong>SEPA</strong></td>
<td>Single Euro Payments Area: The list of countries and territories which are part of the jurisdictional scope of the SEPA payment schemes can be found here: <a href="https://www.europeanpaymentscouncil.eu/document-library/other/epc-list-sepa-scheme-countries">https://www.europeanpaymentscouncil.eu/document-library/other/epc-list-sepa-scheme-countries</a></td>
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<tr>
<td><strong>SPL</strong></td>
<td>SEPA Proxy Lookup (Scheme).</td>
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<td><strong>SRTP</strong></td>
<td>SEPA Request-to-Pay (Scheme).</td>
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<tr>
<td><strong>Standardisation initiative</strong></td>
<td>In the context of this report, entities such as The Berlin Group, Open Banking UK, Polish API and Stet.</td>
</tr>
<tr>
<td><strong>TAN</strong></td>
<td>Transaction Authentication Number.</td>
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<tr>
<td><strong>TPP</strong></td>
<td>Third Party Provider as defined in the context of PSD2. In the context of this report a TPP is called an asset broker due to the potential scope going beyond payments. This is a role that can be taken up by different actors (e.g. banks, fintech’s, retailers, telecommunication service providers).</td>
</tr>
<tr>
<td><strong>UX</strong></td>
<td>User experience.</td>
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0. Introduction

In January 2019 the ERPB established the ERPB Working Group on a Single Euro Payments Area (SEPA) Application Programming Interface (API) Access Scheme (“Working Group”) tasked with defining the key elements of a potential SEPA API Access Scheme (“Scheme”). The report was submitted as input to the ERPB meeting of 13 June 2019 and included a dissenting position on the way forward. The ERPB took note of the report and welcomed the analysis conducted by the Working Group and agreed to consider possibly resuming this work after the implementation of revised Payment Services Directive (PSD2).

At its 6 July 2020 meeting the ERPB invited the impacted stakeholders to start an informal exploratory workstream addressing inter alia the commercial baseline, for allowing the reactivation of the Working Group in November 2020.

The Electronic Money Association (EMA), the European Payment Institutions Federation (EPIF), EuroCommerce, the European Association of Co-operative Banks (EACB), the European Banking Federation (EBF), the European Savings Banks Group (ESBG), and the European Third Party Providers Association (ETPPA) met several times in September and October 2020 and agreed that all relevant conditions to resume the activities of the Working Group had been met and that the work could re-start based on the following three principles:

- The legal and regulatory requirements of PSD2 constitute the baseline.
- The commercial baseline is agreed i.e. any service and functionality offered by account-serving payment service providers (ASPSPs) that goes beyond their legal obligations can be considered as a value-added service in the context of a Scheme and is subject to a competitive, sustainable and fair distribution of value and risk between the actors.
- The starting point is the 2019 report of the Working Group².

To this end, the aforementioned stakeholders submitted a “Joint understanding of the conditions to re-start the ERPB Working Group on a SEPA API access scheme and proposal for workstream deliverables” to the November 2020 meeting of the ERPB (see Annex 3).

The ERPB at its 26 November 2020 meeting welcomed the consensus reached and approved the mandate (see Annex 1) for the next phase of the Working Group (see Annex 2). The Working Group takes the report presented to the ERPB for its June 2019 meeting, as well as the outcome of the informal exploratory workstream addressing the conditions to re-start the Working Group, as a starting point.

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² [https://www.ecb.europa.eu/paym/groups/erpb/shared/pdf/11th-ERPB-meeting/Report_from_the_ERPB_WG_on_a_SEPA_API_Access_Scheme.pdf?18ac5087de44551bb766b9fae7ca11f0](https://www.ecb.europa.eu/paym/groups/erpb/shared/pdf/11th-ERPB-meeting/Report_from_the_ERPB_WG_on_a_SEPA_API_Access_Scheme.pdf?18ac5087de44551bb766b9fae7ca11f0)
In line with its mandate, the Working Group defined further key elements of a Scheme, with the legal and regulatory requirements of PSD2 constituting the ‘baseline’, which has now been set, but also going beyond such baseline to encompass value-added (‘premium’) services that may be provided in the context of ‘open banking’ as a natural evolution of PSD2, within the contractual framework of a Scheme. These key elements are recommended as a foundation of (a) future rulebook(s) and future implementation guidelines of (a) Scheme(s).

It is acknowledged that all relevant regulations (see also section 3.1) apply equally to all stakeholders.

Any service and functionality offered by ASPSPs that goes beyond their legal obligations can be considered as a value-added service in the context of a Scheme and is subject to a competitive, sustainable and fair distribution of value and risk between the actors.

The Working Group has focused mainly on payment related services to be put under the Scheme governance, in line with is core expertise whilst at the same time also looking at other asset classes that could potentially leverage payments and lead to further efficiencies and innovations. Moreover, the recommendation is for the Scheme related to payment accounts to be designed in such a way that it does not hinder expansion into other asset classes (beyond payments and beyond finance).

The present report is organised as follows to cover the deliverables stipulated in the mandate of the Working Group:

- Chapter 1 covers the list of prioritised and non-prioritised (illustrative) customer journeys and related key business requirements for customer-to-business (C2B), business-to-business (B2B) and person-to-person (P2P) payments.

- Chapter 2 provides a high-level description of the envisaged Scheme governance, including Scheme requirements between asset holders and asset brokers for certain issues based on working assumptions related to inter alia eligibility criteria, business conditions, rights and obligations of participants, security, liability and compliance. In addition, this section describes the assessment of the landscape of existing and new governance entities which resulted in the recommendation of a Scheme manager in relation to payment accounts.

- Chapter 3 provides background information on the stock-take exercise that was undertaken with the aim of identifying initiatives that may impact the development of the potential payment related part of the Scheme. This section also provides an overview of the applicable regulatory context.

- Chapter 4 gives an insight into the suggested extension in a next stage to other financial as well as non-financial services with the aim of generating additional value and to foster further innovation. It moreover highlights the possible dependencies and ‘interplay’ between the different assets.
Chapter 5 presents the Working Group’s recommendations on a way forward.

The mission and vision statement of the SEPA API Access Scheme is described as follows:

**Mission:** To reap the full benefits of PSD2 and beyond through a Scheme-based approach, by defining the key elements of such a Scheme, including business requirements, governance arrangements and a standardised API interface, whilst taking into account that PSD2 constitutes the baseline, that ‘premium’ services are encompassed and that a fair distribution of value and risk is ensured.

**Vision:** The EU shall be leading the way in the transition to a digital economy. The SEPA API Access Scheme will help by facilitating the disruption of digitised analogue value chains and the creation of completely new fully digital value chains through an API economy that leverages the benefits of a Scheme-based approach. This will help unlock value which may then be fairly distributed amongst the participants facilitated by the Scheme framework and arrangements. Starting from payments, the aim is to move to finance beyond payments and eventually to move beyond finance.

The below diagram provides a visualisation of the vision statement:

![Visualisation of the vision](image)

Figure 1: Visualisation of the vision

The starting point is an ‘100% analogue’ process (e.g. the client goes to an ASPSP branch) which then progresses from a partially digitised process (i.e. same steps as in the analogue process but for some steps the internet is used) to a fully digital process whereby new value chains and digital services can be created. The above generic visualisation of the vision statement has been applied to a concrete use case in section 4.1 of the report.
1. Business requirements for a SEPA API Access Scheme

The Working Group prioritised a number of customer journeys from which updated business requirements were derived in the context of a Scheme. As part of this exercise, the business requirements identified in the 2019 report of the Working Group were re-assessed and validated.

The Scheme participants that take up the role of asset holder are expected to implement the business requirements in support of the customer journeys that are applicable to them as described in the Scheme i.e. asset holders only need to support customer journeys insofar they support the underlying service / payment instrument.

The business requirements listed below are to be considered as a starting point. Moreover, it is expected that business requirements will evolve over time to better adapt to the market needs. The future Scheme manager in accordance with its governance will ensure that this happens in the most efficient manner.

Scheme participants that only take up the role of asset broker do not need to support all business requirements (only the ones related to their business domain). Scheme participants are free to take up the role of asset holder or asset broker or they can opt for combining both roles (see eligibility criteria in section 2.2.1).

1.1. Prioritised illustrative customer journeys

In addition to validating the illustrative customer journeys included in the 2019 report, the Working Group prioritised the following additional customer journeys which are listed in alphabetical order (the detailed flows can be found in Annex 5):

- Future dated payments:
  - Future dated payments are subject to an initial agreement between the payer and payee.
  - A distinction can be made between:
    - Pay later (defined execution date): it allows the payment initiating parties to initiate payments at a given date in the future.
    - Deferred payment (event dependent execution date): it allows the payment initiating parties to initiate payments at an undefined date in the future, linked to a specific event / trigger (e.g. order is sent/received).

- International Bank Account Number (IBAN) validation:
- Online authorised scenario: A public or private entity requires the confirmation of an IBAN or of a combination of for example IBAN with a Tax ID or Name (Payment Service User (PSU)).

- Pre-authorised scenario: A public or private entity requires the confirmation of an IBAN or of a combination of for example IBAN with a Tax ID or Name (PSU) at a counter or in a store.

**Mobile Personal Finance Management (PFM) automated transfers:**

- Users can define and create automatic credit transfers with their mobile PFM app, for example to transfer any month-end surplus from their payment to their savings account, or to top-up their payment account before it reaches a negative balance.

**Pay-by-Link (initial & subsequent payment(s)):**

- The payee initiates a payment request and redirects the payer to the payment authentication context using a link sent by an asset broker, by any available channel (Quick Response (QR) Code, Near Field Communication (NFC), messaging, redirect…).

**Payments to multiple counterparties:**

- Single payment to multiple counterparties ('chained' payments): after completing the checkout in a marketplace (i.e. product aggregation website) scenario, a user will validate one strong customer authentication (SCA) linked to a single transaction. The payment is later divided and transferred to each individual seller by the marketplace, who acts as the collecting agent.

- Single transaction / several payments to multiple counterparties (parallel payments): after completing the checkout in a marketplace, the user will validate one SCA linked to several payments which are sent directly to multiple receivers.

**Payment with unknown final amount:**

- Use case A: a user orders online fresh food. To ensure completeness of the order it can happen that ‘over-weighted’ food products may get delivered at the user’s home. The user gets charged for the final total amount as effectively delivered.

- Use case B: a customer downloads an app, onboards and rents goods for a defined period. The reservation is later updated as in the end the rent period surpassed the initial one.

- Use case C: a user books a flight online and combines it with other services offered by the airline company. The crucial aspect of this transaction is that the user can confirm everything by one click to ensure a seamless approach.
- Use case D: a user fills up the petrol tank of their car and pays the final amount seamlessly at an unattended petrol station with a payment service for which the user is already enrolled.

- **Personal loan application:**
  - A customer applies for a personal loan from an ASPSP or a financial institution.

- **Recurring payments:**
  - With same amount: a customer subscribes for a service or good which will be paid on a regular basis (e.g. streaming platform, magazine subscription).
  - With variable amount: deferred recurrent payments with flexible execution time and amount. A shopper buys and consequently receives goods or services with a commitment to begin making payments at a future date.

- **Refunds:**
  - Capacity to process a total or partial refund requested by the customer or merchant.

The different forms of SCA (delegated; embedded; decoupled; redirection) can apply to each customer journey (identified above) and as a result the decision was made to depict the SCA processes themselves as dedicated customer journeys (see Annex 5):

- **Delegated SCA:** after completing the checkout in an e-commerce or in-store scenario, shoppers can perform SCA with one touch and without switching app or device.

- **Embedded:** after completing the checkout in an e-commerce scenario, shoppers can perform SCA by entering their bank Personal Identification Number (PIN) and then receiving and entering a One-time Password (OTP) / Transaction Authentication Number (TAN).

- **Embedded with signed payment request:** after completing the checkout in an e-commerce scenario, shoppers can perform SCA with one touch using their authentication app triggered by the asset broker.

- **Decoupled (app2app):** after completing the checkout in an m-commerce scenario, shoppers can perform SCA with one touch using their authentication app triggered over-the-air by their bank.

- **Decoupled (web2app):** after completing the checkout in an e-commerce scenario, shoppers can perform SCA with one touch using their authentication app triggered by themselves.
- **SCA – Redirection (app2app):** after completing the checkout in an m-commerce scenario, shoppers can perform SCA with one touch using their authentication app triggered by the merchant / asset broker app.

- **Redirection (web2web):** after completing the checkout in an e-commerce scenario, shoppers can perform SCA with legacy web redirection triggered by the merchant / asset broker web page.

SCA is an important topic that needs to be assessed by the future Scheme manager who shall aim for the best possible customer experience without limiting adoption of the Scheme.

For each of the prioritised illustrative customer journeys it was assessed whether they would apply in the B2C, B2B and P2P domain. The result of this assessment has been indicated in the detailed customer journeys included in Annex 5 as well as in an overview matrix (Annex 12). The main differences are summarised below:

- **B2C vs B2B:** Rights, rules or mechanisms must be defined and included for:
  - The account information requests.
  - The authorisation process. The maximum amount that can be paid according to employees’ profiles, which may be different from the mandate of the account holder.
  - The bank account list selection according to the entitlements of the employees.

- **B2C vs P2P:** Only the functional scopes need to be adapted.

It should be underlined that the customer journeys are without prejudice to the applicable regulations (e.g. PSD2, the General Data Protection Regulation (GDPR), Anti-Money Laundering Directive (AMLD)).

### 1.2. Non-prioritised user stories

The Working Group identified the following non-exhaustive and non-prioritised list of user stories - some of these user stories might already be addressed in the market today:

- **Enrolment:** enrolment to a service if needed (such as a payment service) e.g. Know Your Customer (KYC) on the merchant side and/or defaulting a payment instrument / ASPSP on the customer side for using the service.

- **E-invoice presentment, payment triggered by accepting such request / invoice (e-invoicing with integrated payments) - immediate payment:** payee initiates a request with payer data and a link to an e-invoice. Payer accesses invoice details via the link and approves request in any online app. Payer
receives an invoice, sees all the details and approves the invoice / request and payment is triggered immediately.

- **E-invoice presentment, payment triggered by accepting such request / invoice (e-invoicing with integrated payments) - later on payment (deferred payment)**: payee initiates a request with payer data and a link to an e-invoice. Payer accesses invoice details via the link and approves request in any online app. Payer receives an invoice, sees all the details and approves the invoice / request and payment is triggered later at the due date.

- **Bulk payments in the B2B context**: a bulk is a group of payments (e.g. in a file) to be paid to multiple creditor accounts from the same debtor account, on the same date, with the same currency and through the same payment scheme.

- **Batch payments**: a batch is a group of payments (e.g. in a file) to be paid to multiple creditor accounts from multiple debtor accounts. These may involve different payment execution dates, currencies and payment schemes.

- **Recurrent instant collection where a mandate is in place (instant direct debit)**: payment service based on a recurring instant direct debit. The SEPA Direct Debit (SDD) mandate has already been signed and provided by the customer to the creditor.

- **Recurrent instant collection where a mandate is not in place (instant direct debit)**: payment service based on a recurring instant direct debit. The SDD mandate has to be signed and provided by the customer to the creditor.

- **Recurrent instant collection where a mandate is embedded (instant direct debit)**: payment service based on a recurring instant direct debit. The SDD mandate is signed and provided by the customer to the creditor during the collection process.

- **Payer defined instalment amount**: in case a payer cannot pay all its bills in full at the due date. Provided the option is offered by the creditor, the payer will partially pay its bills and announce the next payment date for the remaining amount.

- **Multi-authorisation**: payments which require multiple authorisation on the payer’s side based on different rights levels.

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3 Instant direct debit is not available at the time of writing this report.
• **International non-SEPA payments (one leg out):** in case the payer’s ASPSP / bank account is located outside the SEPA zone.

• **Partial payment executed from available balance:** partial approval by the payee of the payment amount, based on the available funds, through an account information request or ASPSP partial authorisation.

### 1.3. Identified business requirements

This section covers the business requirements derived from the prioritised customer journeys described in section 1.1 as well as the validated business requirements from the 2019 report of the Working Group. A distinction is made between specific business requirements for payment initiation, authorisation, confirmation and execution.

#### 1.3.1. Payment initiation

• **Enrolment**

Enrolment of a shopper is optional, but when desired includes identity validation, management of shopper (download and activation of an app, enrolment, de-enrolment and changes of payment service or app) as well as the recording of their payment data and delivery address in the payment service onboarding.

• **E-Identity provider (eIDAS)**

Bank app / card as trusted source of client contact, address and other details, authorisation to share data and payment in one step.

• **Standardisation of QR / barcodes**

The Working Group has identified a need for a pan-European QR standard readable by all apps and mobile devices in Europe (to address the current fragmentation in the market).

• **Proxies at a European level for bank identifiers**

The Working Group has identified a need for a European level mechanism for conversion of proxies for a bank identifier (i.e. IBAN) in a way that would allow the best customer experience. Reference can be made in this context to the SEPA Proxy Lookup (SPL) Scheme.

• **Request to Pay**
Set of rules and technical elements (including messages such as acceptance confirmation) that allow a payee (or creditor) to claim an amount of money from a payer (debtor) for a specific transaction through a trusted network (e.g. SEPA Request-to-Pay (SRTP) Scheme)

- **List of ASPSPs for consumer selection**

A list of ASPSPs is to be presented to allow a consumer to select its preferred ASPSP and related IBAN.

1.3.2. **Payment authorisation**

- **SCA mechanism(s)**

To ensure high adoption and a good customer experience, any SCA-obliged party shall apply the best practice of the implemented SCA mechanism(s), including SCA exemptions, both from a usability and security perspective. Secure storage of the identity and the authorisation/authentication credentials of the customer shall not be compromised.

Delegated SCA enables asset brokers to provide a ‘lowest friction’ mechanism for user authentication processes. This mechanism is therefore strongly encouraged but it shall however not be mandated given the legal and contractual obligations (e.g. liability shift) related to the outsourcing of this functionality.

- **SCA exemptions**

The Working Group recommends to the future Scheme Manager to strive for a maximum use of the SCA exemptions foreseen in the law in as much as this may constitute a material competitive advantage of Scheme-based solutions offered by asset brokers.

SCA-obliged parties, e.g. asset holders not using SCA delegation, that participate in the Scheme have to consistently implement a predictability mechanism for all SCA exemptions foreseen by the law, subject to a positive risk analysis and without prejudice to the Regulatory Technical Standards on SCA and secure communication under PSD2 (RTS).

- **Potential for asset brokers to ask for an exceptional application of SCA.**

Optional feature which enables asset brokers to request the asset holder not to apply an SCA exemption, e.g. where the asset broker is aware of a risk, which the asset holder may not realise.

- **Identification shopper**

Shopper onboarding requires the truthfulness and accuracy of their identity. This helps preventing fraud and money-laundering, while giving the opportunity to assess their credit risk accurately.
• Authorisation rights and mechanisms (e.g. for employees)

The account information requests, authorisation / authentication rules and bank account list selection may differ according to the applicable domain (C2B vs B2B vs P2P).

1.3.3. Payment confirmation

• Real-time ‘payment execution guarantee’

Asset holders must provide a ‘payment execution guarantee’ service for any payment type, not being confirmed instantly, to cover the non-payment of debts arising under a transaction.

• Instant payment release notification and confirmation (full amount, instalment, multiple amounts…)

A real-time notification service to merchants concerning the release of the payment for settlement / execution.

1.3.4. Payment execution

• Pre-authorisation mechanisms (including payment guarantee)

The pre-authorisation feature enables merchants to implement all use-cases by reserving an amount in order to secure sufficient funds to complete a subsequent payment. The shopper is only paying for the exact ‘consumption’ or upon delivery of goods and services.

• Delays, and liability shift rules

These rules shall be defined and implemented by the future Scheme manager.

2. Scheme governance

2.1. Scheme structure

The Working Group has focused mainly on payment related services to be put under the Scheme governance, in line with is core expertise whilst at the same time also looking at other asset classes that could potentially leverage payments and lead to further efficiencies and innovations. Moreover, the recommendation is for the Scheme to be designed in such a way that it does not hinder expansion into other asset classes (beyond payments, beyond banking and beyond finance).
To this end, a layered and modular approach is envisaged whereby different Schemes would address specific requirements of different asset classes and an ‘overarching governance entity’ would ensure interoperability and minimum standards to be applied by each of the Schemes. In this respect it is to be noted that the Working Group concluded that there would be no need for a so-called “umbrella” Scheme (manager) as referred to in the 2019 report. Different options to assure interoperability had been identified, but in the absence of clarity on particular requirements for other asset classes, were not developed further. This would need to be further studied and clarified when other asset classes are ‘onboarded’.

As a first step, the recommendation is to start with the development of a Scheme in relation to payment accounts (see Annex 11). It is envisaged that shortly after, work could start on a Scheme related to savings accounts (yellow) and in a next phase a Scheme related to securities accounts (orange) could be foreseen. Each Scheme is envisaged to contain a section on generic requirements (which could be re-used for other asset classes) and an asset specific section (e.g. PSD2 ‘premium’ APIs for the Scheme related to payment accounts). The below diagram gives an overview of the envisaged modular Scheme structure:

![Envisaged structure of the SEPA API Access Scheme](image)

Figure 2: Envisaged structure of the SEPA API Access Scheme

For the Scheme related to payment accounts, it is to be noted that only the ‘premium’ functionalities can be monetised (see section 2.2.3).
2.2. Scheme related requirements

2.2.1. Eligibility criteria

As a general principle, Scheme participation should be open to:

- **Regulated entities**: The activities of these entities are regulated and supervised by a competent authority. Examples include the license to act as a credit institution (CRD IV), the license to act as a payment institution (PSD2) or to certify customer identities (eIDAS Regulation).

- **Non-regulated entities**: The activities of such entities do not require by law to be regulated and supervised by a competent authority. Non-supervised entities could, for example, be merchants, technical facilitators, etc.

It should however be noted that in principle regulated services are only available to regulated entities. If the Scheme caters also for unregulated services, then these may be available to non-regulated entities as well.

Scheme participants will be free to commit to participate in the Scheme in the role of asset holder, or in the role of asset broker or in both roles, if and when the legal context permits.

2.2.2. Rights & obligations of Scheme participants

Scheme participants will have to comply with the following broad guiding principles that generally govern the existing SEPA schemes for credit transfers and direct debits:

- All Scheme adhering participants would have to comply with the rules of the Scheme on the same basis as all other participants.

- Participants would participate on the basis that the regulatory level playing field principle is respected.

- Participants adhere to the rulebook, implementation guidelines, Scheme management internal rules and any other relevant document, as amended in accordance with the Scheme change management process.

In addition, the Working Group recommends that the rights and obligations:

- Shall be specific to each considered asset class.

- Shall be structured depending on the eligibility criteria applicable for each specific asset class, also considering whether non-regulated entities would be eligible to participate.

- Should not constitute at any time a barrier for non-regulated entities, where applicable.
2.2.3. Business conditions

The Working Group confirmed its 2019 conclusions in relation to the fact that there are basically two elements that could be eligible for remuneration in the context of the Scheme i.e. the assets exposed through the API service by the asset holder and the API service itself, as provided by the asset holder. It may however depend on the concrete asset if the asset holder is entitled to monetise the asset, since it may belong to a customer of the asset holder (e.g. this may be the case for certain customer data under GDPR). The API service itself is always eligible for remuneration and rules for the settlement of amounts could also be part of the Scheme.

The monetisation of APIs is an individual business decision of the market participant offering data or transaction assets through the API. However, the ecosystem consists of a two-sided market whereby the asset broker wants to offer a service to its customers but needs data or functionality from the asset holder through the SEPA Access API.

In this context it is necessary to understand the cost elements to be considered by the Scheme and what should be object of remuneration (and hence of the business conditions) to ensure a fair and sustainable distribution of value and risk for all parties. On this premise, the Working Group explored and further expanded on the possible options identified in the 2019 report. To proceed with a thorough evaluation of the options, the possible business conditions were divided in:

- **“Outside the Scheme Models”** - notably models that i) leave it up to individual Scheme participants to either set their prices unilaterally and make them discoverable by other Scheme participants through an API call, or ii) to determine their remuneration entirely through bilateral agreements, to be concluded outside the scheme. This might however require \((N \times (N-1))/2\) (i.e. millions) bilateral agreements to be signed, which is quite inefficient and would not create the network effects and reach required for pan-European solutions.

- **“Inside the Scheme Models”** - notably models that address the remuneration structure inside the Scheme, e.g. by providing a methodology for the determination of a fallback fee, leaving the possibility to Scheme participants to agree bilaterally on a different (lower) amount.

The following ‘guiding principles’ were taken into account for the assessment of whether the business conditions should be included in or left outside the scope of the Scheme:

- The solution must be compliant with EU competition law.
- The solution should enable the business conditions / remuneration models to be justifiable and transparent to Scheme participants and end users of the Scheme. This is relevant also for competition law purposes.
• The solution should ensure that the Scheme is attractive for Scheme participants to join; ensure certainty on the level / calculation methodology of fees applied prior to joining the Scheme; minimise, to the extent possible, the need for arrangements outside the scheme.

Having analysed in detail the pros and cons of each option (see Annex 9), the Working Group concluded that addressing business conditions inside the Scheme would ultimately help to reduce the risk of market fragmentation and foster the take-up of the Scheme⁴. This would moreover increase the attractiveness of the Scheme towards potential Scheme participants and ultimately benefit end users, as certainty and transparency on fair remuneration of services (later referred to as Default Asset (DA) Remuneration fees) would be ensured. Accordingly, this will result in higher chances to lower entry barriers and foster competition in the market and increased benefits for participants and consumers, ultimately benefiting a competitive and innovative internal market for (initially) payment services.

However, to correctly address business conditions inside the Scheme the Working Group recommends i) a solid preliminary competition assessment, including a thorough evaluation of the potential effects on both, competition in the market and consumers and ii) a solid calculation methodology for the chosen remuneration model. As a preliminary step, the Working Group has already reached out to the relevant services within the European Commission to get some first feedback. The outcome was perceived as positive by the Working Group’s co-chairs and based on the information provided no initial ‘red flags’ were identified.

Moreover, the decision to address the business conditions in the Scheme also takes into account the nature and governance of the Scheme Manager. For this a comparison was made between ‘for profit’ and ‘not-for-profit’ Scheme managers. The Working Group recommends to opt for a ‘not-for-profit’ Scheme manager, mainly in view of the fact that there will be less risk of having a conflict of interest (see also section 2.3).

Following a detailed assessment of possible “Inside the Scheme Models”⁵, the Working Group recommends the Scheme to consider a so-called Default Asset Remuneration⁶ model as depicted below:

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⁴ Even though it was preliminarily observed that from a Scheme’s perspective the “Outside the Scheme Models” would be less challenging in terms of competition law compliance.

⁵ In this context the experience of the Interchange Fees in four-party card schemes was also considered.

⁶ The Default Asset Remuneration Model is inspired by the experience of an existing model, the so-called “IBAN Validation” model, which was acknowledged by the Italian Competition Authority (AGCM), following the request for an opinion from the Ministry of Economy and Finance: see opinion nr AS1677 issued by the AGCM in the exercise of its advocacy power under article 22 of Competition Act No 287/90.
The following fee types can be distinguished in the above figure:

- **A Default Asset Remuneration fee (DA fee)** is the fee paid by the asset broker to the asset holder, and is based on cost recovery (estimated investments based on an amortisation duration, direct costs (technical, operational, etc.), indirect costs (HR, invoicing, etc.), risk related costs, estimation of number of calls per year, etc.) plus a reasonable margin.

The calculation methodology for the reasonable margin could be based on a “cost to income” ratio that can be found in the “consolidated financial statements” of companies as applicable to different asset classes, so it can be unequivocally defined as an average of its value for a significant sample of possible Scheme participants. The reasonable margin takes the value created into consideration and makes it attractive for actors of all sizes to join the Scheme.

Moreover, as both the service and the assets are identified as possible object of remuneration, the Scheme could envisage i) a fallback DA fee for the API service and ii) different sub-DA fees for different assets, which could vary in function of the cost and the risk inherent to the respective service.

This fee can be reduced on a bilateral agreement basis, among Scheme participants.

- **Scheme fees** (inside the Scheme):
- Fee A: Scheme participation fee based on cost recovery and fair share value paid by the asset broker to the Scheme.
- Fee B: Scheme participation fee based on cost recovery and fair share value paid by the asset holder to the Scheme.

**Commercial fees** (outside the Scheme):

- Fee 1: Market-driven remuneration paid by the asset user to the asset broker for the service.
- Fee 2: Reward to the asset owner for contributing to the Scheme and sharing its data. Can take different forms (i.e. monetary, benefits, ‘premium’ services).

The Working Group foresees that in the majority of cases, the asset owner and asset user would be the same individual or be mandated by the same legal entity.

In the case that the asset owner and asset user are not the same individual / company (e.g. ATM location data), there is no need for the asset broker to maintain a commercial relationship with the asset owner, nor for the asset holder to maintain a commercial relationship with the asset user.

In addition, the asset holder and asset broker could also be the same entity.

The recommended remuneration model has as ultimate objective to facilitate the exchange of PSD2 related ‘premium’ services, aiming at creating benefits for all involved parties. The responsibility of the Scheme manager in relation to the business conditions is described in section 2.3.2.

### 2.2.4. Security

For the Scheme related to payments accounts, the following regulations are to be considered from a security point of view:

- Possibly: EC Proposal for a Regulation on digital operational resilience for the financial sector (COM/2020/595).

For other asset classes, sectoral specific regulation (depending on the asset class) will have to be considered, and/or ad hoc security provisions that will have to be developed within the Scheme (e.g. under the risk management profile) in a neutral and transparent manner.
2.2.5. Compliance & liability

The Scheme should have in place a proper dispute handling and resolution process, including a dedicated dispute resolution body, and appropriate procedures to deal with i) disputes between Scheme participants and/or ii) Scheme Participants’ liability for breaches of the Scheme’s rules.

As already stipulated in the 2019 report, the dispute resolution mechanism should consist of different levels such as conciliation and arbitration. It should also describe the conditions to be fulfilled in order to submit a complaint to the Scheme manager and in which cases such complaints could be rejected by the Scheme manager. Moreover, the Scheme should describe the process and timelines for filing, handling, investigating a dispute or a rules compliance case and should describe the sanctions available to the Scheme manager.

In addition, the Scheme should duly address all possible Scheme Participants’ liability profiles related to Scheme’s compliance. Such “liability section” should cover i) the liability shift mechanism, ii) Scheme participants’ liability for breaches of the Scheme’s rules and ii) the regulatory requirements (if any) applicable to participants’ liability for the Scheme-related activities.

2.2.6. Infrastructure requirements

The Working Group recommends that the future Scheme manager(s) define(s) the infrastructure requirements for Scheme Participants as per the following scope (see detailed diagram in Annex 10):

- Minimal organisational and procedural requirements related to the general Information Technology (IT) governance (e.g. policies, Business Continuity Management (BCM), risk management, etc.).
- Minimal requirements in the prevention of abuse and attacks area.
- Basic requirements for the IT infrastructure (e.g. protocols, communication standards).
- Minimal system infrastructure requirements in the security area (e.g. network configuration, access control, high availability systems, etc.).
- Basic requirements for API interface (architectural style, e.g. Representational state transfer (REST)).
- Minimal security and integrity requirements on a data level (e.g. authentication and authorisation of end-users, data validation, accountability of events, etc.).
- Functional requirements related to a particular service:
  - customer journeys as defined in section 1.1.
  - range of data necessary to execute a particular service (i.e. list of mandatory fields).
  - possible other specific requirements for the service.
• Minimal security requirements on the Scheme participant level (e.g. identification of API clients i.e. who can ‘use’ the API).

• Requirements for technical integration with the adopted billing system, based on agreed business model.

Moreover, the Working Group recommends that the future Scheme Manager(s) cooperate(s) with the major European standardisation initiatives in different asset classes (starting from the payments area) to ensure that the Scheme’s implementation guidelines will be created in line with the Scheme’s functional requirements (see section 1.3) and the respective API specifications.

The future Scheme manager(s) shall ensure that the API implementations are meeting a certain level of quality and that the overall Scheme set-up is efficient, and no obstacles are created. The actual implementation can hence be assessed and certified against the implementation guidelines containing the Scheme’s functional and non-functional requirements, combined with the specifications provided by the respective standardisation initiative(s). To this end, the future Scheme manager(s) shall cooperate with the major European standardisation initiatives and possbibly contract a homologation body.

The above requirements apply to all Scheme participants (e.g. asset holders and asset brokers in line with their role as API exposing party or API client and for services related to different asset classes (i.e. payments, beyond payments, beyond finance, etc.).

2.3. Scheme manager

The Working Group assessed the landscape of existing governance entities with the aim of identifying (a) potential Scheme manager(s) or recommending the creation of a new Scheme manager.

2.3.1. Mission

The aim is to reap the benefits of PSD2 and beyond through a Scheme-based approach. To this end, the Scheme manager(s) should lead the Scheme in a manner that is agile, and which ensures that the objectives of the Scheme are met whilst taking into account that PSD2 constitutes the baseline and that the Scheme encompasses ‘premium’ services and guarantees a fair distribution of value and risk.

The Working Group concluded that a Scheme manager is expected to:

• Act in the best interest of the Scheme, including where appropriate independent from or in balance with other schemes, initiatives or undertakings managed by the Scheme manager, and is adaptable to accommodate future mandates.

• Engage in creating a favourable environment for the development of API standards and services.
• Respect the governance model envisaged by the Working Group including where appropriate setting up and/or implementing the relevant governance model internally independent from or in balance with other models existing in the Scheme manager's organisation on an ongoing basis.

• Develop and implement in a reasonable timeframe detailed rules, regulations and procedures of the Scheme and launch in a reasonable timeframe the basic operations of Scheme management, including participants management.

• Secure and maintain the required competence and resources (staff, office facilities, knowledge) to effectively manage the Scheme, including specific competence (if any) needed to manage interoperable digital - only services provided in a Scheme.

2.3.2. Requirements
The requirements applicable to the future Scheme manager can be categorised as follows:

a. Governance: The Scheme manager will be a membership organisation with pan-European reach which:

- implements governance or adjusts existing governance so that the governance and management of a Scheme is independent from other schemes and initiatives of the manager on an ongoing basis.
- ensures fair, balanced and transparent governance and decision-making, equal / proportionate representation of all stakeholders (asset holders and asset brokers) as well as geographical diversity and balance within a pan-European governance.
- is flexible and adaptable to accommodate innovation and needs of Scheme participants.
- supports different membership models and/or participant structures if necessary (with adequately diversified fee structure).
- manages conflicts of interest, including between Scheme management and manager’s commercial activities.
- implements or adjusts existing decision-making to ensure that in the decision making related to the Scheme, the views of the different Scheme stakeholders are adequately respected on an ongoing basis.

b. Flexible structure:

- adjusts its existing operational structure to accommodate Scheme requirements as defined in this report.
- manages the Scheme separately from any other business activity, including at least cost accounting.
c. Competence in:

- launch, development and management of a scheme: Scheme manager has experience in launching, developing and managing a scheme or is able to demonstrate a clear track record in relation to securing such competence.

- modern retail payments: has experience in managing interoperable digital-only services provided in a scheme or is able to demonstrate a clear track record in relation to securing such competence.

- compliance: has experience in scheme compliance with EU competition law or is able to demonstrate a clear track record in relation to securing such competence.

d. Sufficient resources:

- has human, material and intellectual resources to launch, develop and manage the Scheme.

- covers at least development and maintenance of Scheme rules, management of adherence process, general management, strategy management, intellectual property (IP), disputes and compliance, basic operations (directory).

e. Consistent budget policy:

- implements a funding model as recommended in section 2.2.3.

f. Time to market:

- predictable launch: able to develop and launch the Scheme and put in place the required governance structure in a reasonable timeframe.

In addition, a Scheme manager related to payment accounts is expected to:

- ensure that the benefits of a Scheme-based approach are applied to make ‘premium’ services beyond PSD2 work more efficiently.

- facilitate the extension of Scheme benefits to non-statutory payment functionality through the SEPA API.

- contribute towards facilitating the extension of Scheme benefits to classes of financial assets also beyond payments and potentially beyond finance.

- ensure the reachability and the interoperability of the participants under the Scheme rules.

- define the DA Remuneration fee(s) application and calculation model and amount(s) (see section 2.2.3).
• define a dispute resolution process also for the default asset remuneration between the Scheme participants (i.e. asset brokers and asset holders).
• support (directly or as an outsourced function) Scheme participants with remuneration management on both a net and gross basis.

2.3.3. Scheme manager recommendations

The Working Group assessed the landscape of existing governance entities with the aim of identifying (a) potential Scheme manager(s) or recommending the creation of a new Scheme manager.

A total of fourteen entities were assessed - based on desk research - against the requirements defined in section 2.3.2 and in accordance with the following two-tiered approach:

• **Level 1: “must have” criteria** covering pan-European reach and adequate governance, including multi-stakeholder ownership and representation as well as governance representativeness and governance functions. Only entities that fulfil the level 1 criteria were considered for assessment against level 2 criteria.
• **Level 2: supplementary criteria**, mainly related to requirements such as competence, resources, budget and time to market.

All criteria were assessed via a weighted scoring as depicted below in Figure 4:

<table>
<thead>
<tr>
<th>requirement</th>
<th>weight</th>
<th>EPC</th>
<th>Entity 2</th>
<th>Entity 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>50%</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Structure</td>
<td>20%</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.6</td>
<td>0.4</td>
</tr>
<tr>
<td>Competence</td>
<td>20%</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.6</td>
<td>0.2</td>
</tr>
<tr>
<td>Resources</td>
<td>10%</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.2</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>ranking</strong></td>
<td></td>
<td><strong>2.9 [1st]</strong></td>
<td><strong>1.7 [2nd]</strong></td>
<td><strong>1.4 [3rd]</strong></td>
</tr>
</tbody>
</table>

Figure 4: Outcome assessment recommended Scheme manager in relation to payment accounts

The score aggregates the relative position of each candidate vis-à-vis other contenders where each contender within each category ranks as either first (score 3), or second (score 2) or third (score 1) (see red font). These scores are then weighted, which results in a given score (see purple font) per category. The addition of the weighted scores results in the total score for each candidate.
Based on the outcome of this assessment, which also took into account the aforementioned Scheme manager requirements, the Working Group considers the European Payments Council (EPC) to be best placed to take up the role of Scheme manager in relation to payment accounts, subject to accepting the requirements as outlined in the corresponding section of this report.

It is to be noted that taking into account the aforementioned assessment outcome it was decided to opt for an existing entity also in order to ensure a timely start-up.

3. Stock take of initiatives

The Working Group performed a cross-check with other ongoing work streams that could impact the development of the potential payment related part of the Scheme. (Note: the Working Group’s mandate limits this stock take to the payment related part of the Scheme).

3.1. Scope and methodology

The initiatives that were assessed as part of the stock take exercise are listed below:

1. SEPA Proxy Lookup (SPL) Scheme
2. SEPA Request-to-Pay (SRTP) Scheme
3. Mobile Initiated SEPA (Instant) Credit Transfer Interoperability Guidance
4. ERPB Working Group on Instant Payments at POI
5. e-IDAS Regulation
6. e-identity initiatives (local)
7. W3C Decentralized identifiers (DIDs)
8. The Berlin Group openFinance API Framework
9. European Payments Initiative (EPI)
10. European Mobile Payment Systems Association framework (EMPSA)
11. Local Gateway PSD2 Initiatives*
12. Local PSD2 standardisation initiatives (PL, FR, SK)
13. Payments API standards alliance (SWIFT)
14. Open Banking Europe (OBE)
15. OpenID Foundation (OIDF)
16. e-Invoice specifications (e.g. Forum for Electronic Invoicing Germany (FeRD) Initiative)
17. European Strategy for Data
18. European Retail Payments Framework (ERPF)
19. Eurosystem’s oversight framework for electronic payment instruments, schemes and arrangements (PISA)
Each initiative was assessed according to the following criteria:

- Positive impact on the Scheme (e.g. potential synergies, interactions, mutual benefits).
- Negative impact on the Scheme (e.g. potential conflicts, potential need to change).
- Type of impact (legal baseline / market layer / scheme layer / specification layer / standardisation layer) (see Annex 6).
- Geographical scope (Domestic / EU / SEPA / Global).
- Range of products included (Single product / PSD2 product / Payment or non-payment products beyond PSD2 / Other).

A detailed overview table of the outcome of the assessment can be found in Annex 7.

In addition, it is to be noted that the legal context of the services covered under the Scheme includes GDPR, EU competition law and consumer protection rules. Moreover, specific sectoral legislation will apply to the specific Schemes. It was impossible, however, for the Working Group to assess the potential impact of ongoing regulatory initiatives of the EU Commission e.g. in the field of data governance.

3.2. Follow-up recommendations

The Working Group agreed on a number of recommendations to be taken up by the recommended Scheme manager in relation to payment accounts in order to foster possible synergies with the identified initiatives in section 3.1 (see Annex 8).

In addition, developments in the domain of Central Bank Digital Currencies and quantum computing could also have an impact on the Scheme (e.g. quantum computing could have a potential impact on the security aspect of the Scheme). These initiatives were however not assessed in detail by the Working Group as deemed not yet mature enough.

4. Potential extension beyond payments (in a next stage)

The Working Group was mandated to assess with relevant subject matter experts the potential extension in a next stage to other financial services (e.g. lending, stock classes) as well as to non-financial services as required.
4.1. ‘Beyond payment’ asset classes

Given the limited time and resources and the high-level expertise of the Working Group with regard to asset classes beyond payments, the assets that were preliminary explored were limited to the ones mentioned below. Consequently, the below list of assets ‘beyond payments’ for which an API would be useful is to be seen as non-exhaustive:

<table>
<thead>
<tr>
<th>Asset class</th>
<th>Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking</td>
<td>• mortgage • loans • securities • bank owned data/process • …</td>
</tr>
<tr>
<td>Other finance</td>
<td>• insurance • private pensions • data handling • ID services and tax • …</td>
</tr>
<tr>
<td>Beyond finance (non-finance)</td>
<td>• utility services (telco, energy) • public transport • …</td>
</tr>
</tbody>
</table>

Figure 6: Beyond payment asset class examples

For each of the different asset categories, several assets have been studied for which a standardised template was developed, containing relevant information that could potentially be exchanged via an API (see Annex 4). The template contains the following main information categories:

<table>
<thead>
<tr>
<th>Information category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-sale information</td>
<td>General information related to the respective asset</td>
</tr>
<tr>
<td>Contract preparation</td>
<td>Customer preparation: information collecting (personal information, collateral…) Provider preparation: credit checks, KYC, interest of the consumer/education/information</td>
</tr>
<tr>
<td>Contract</td>
<td>Signing, content, cancellation (cool off).</td>
</tr>
</tbody>
</table>

7 The template has been customised only for the bank owned data asset.
During lifetime: Transaction; information, changes, extension, cancellation.

<table>
<thead>
<tr>
<th>Closure</th>
<th>Normal end of contract</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>Back-end related process</td>
</tr>
</tbody>
</table>

Figure 7: Asset template: information categories

In addition, the Working Group identified the following interdependencies between the assets included in Figure 6:

Figure 8: Asset class interdependencies

The green colour in the above figure underlines the existence of interdependencies between the different assets. The consequence would be that an API created for one asset could also be useful for other assets. For example, an API that provides KYC / AML information would be useful for the following assets: securities, loans, mortgage, insurance, telco and public transport.

A number of relevant examples are listed below:

- The assets ‘loans’, ‘insurance’, ‘securities’ could use an API for eIDAS signature.
The assets ‘loans’ and ‘mortgage’ could benefit from having an API to access the related death risk insurance.


An API with real estate details would be useful for the assets ‘mortgage’ and ‘insurance’.

The assets ‘mortgage’, ‘loans’ and ‘telco’ could be impacted by an API with customer creditworthiness information.

Taking into account the above, the Working Group concluded that, for some assets, an API could be useful to have access to:

- KYC checks:
  - Standard KYC: this includes the verification of the customer ID details (age, name, marital status, children, address…).
  - Category checks: professional clients, retail clients, eligible counterparties, clients that can be treated as professionals at their own request.

- Electronic signatures.

- Policy schedule (death risk insurance…).

- Customer financial information (income, assets, liabilities).

- Customer creditworthiness (financial track record, references, asset certifications…).

- Bank products information.

- Bank appointments.

Moreover, the Working Group established that ‘horizontal functions’ exist i.e. one ‘dedicated’ API could contain information that is useful for different assets (beyond payments):

<table>
<thead>
<tr>
<th>API</th>
<th>Customer ID details</th>
<th>KYC</th>
<th>Electronic signature</th>
<th>Policy schedule</th>
<th>Customer financial information</th>
<th>Customer credibility</th>
<th>Bank products information</th>
</tr>
</thead>
</table>

Figure 9: Horizontal functions

The below diagram translates the general SEPA API Access Scheme vision (see chapter 0.) to a concrete credit application process (P1, P2, etc.) example and also illustrates the possible ‘interplay’ between different assets:
The starting point in the above figure is an ‘100% analogue’ process (e.g. the client goes to an ASPSP branch to apply for a credit, the analysis is performed by the ASPSP and finally the client signs the credit application in the ASPSP branch) which then progresses from a partially digitised process (i.e. same steps as in the analogue process but for some steps the internet is used e.g. credit application via electronic banking) to a fully digital process whereby new value chains and digital services can be created. For example, a tablet could be used in a car dealership to buy a financed car vs buying a car and buying the financing as a separate process. Several related services could be digitally triggered including the online credit application, online purchase of required insurances, online analysis and approval of credit, even up to the registration of the car. Once successfully completed, the client would be given the keys of the new car on the spot.

4.2. Recommendations for the next phase

The API that will be created for payment assets can have an impact on non-payment assets. The recommendation is that the future Scheme manager for payment assets keeps in mind the impact of the API created for payment assets on non-payment assets.

At this stage, the Working Group has noticed a strong market interest for an API for loans, ID services and bank owned data.

5. Conclusions and recommendations (way forward)

The Working Group recommends to the ERPB the following way forward:
a. **Implement a Scheme for the payment asset class, i.e. move the payment asset class from discussion into a delivery phase.**

Invite the EPC to take up the role of Scheme manager related to payment accounts as defined above and if the invitation is accepted, ask the EPC to:

- Create a stakeholder group to collaborate with the recommended Scheme manager.
- Write the Scheme rules, requirements and clarify related business conditions with the proper involvement of the stakeholders.
- Create the Scheme including inter alia the prioritisation of business requirements, the definition of related datasets, rights and obligations of the Scheme participants and the description of the change management process.
- Implement the requirements as laid out in the report.
- Align with relevant actors in the ecosystem (e.g. standardisation initiatives, directory service providers) and progress in relation to the recommendations made in chapter 3.
- Align with regulatory bodies (e.g. the EC Directorate-General for Competition (DG COMP) on business conditions).
- Promote its adoption.

b. **Explore the implementation for financial asset classes beyond payments and frame the ecosystem for asset classes beyond finance**

Identify a host for a multi-stakeholder project for financial asset classes beyond payments and create a multi-stakeholder project to:

- Further identify, describe, and prioritise business requirements per asset class.
- Assess the landscape of existing governance entities (including the Scheme manager defined under a) in order to identify a potential Scheme manager per asset class or recommend the creation of a new Scheme manager.
- Validate, amend and/or extend Scheme requirements defined for the payments asset class to address the needs of other asset classes.
- Propose a roadmap for implementation.

Identify a host for a cross industry working group to frame the wider ecosystem and draft an approach for an open data economy in Europe.
The ERPB is invited to:

1. Consider the report of the Working Group.
2. Endorse the recommendations on the way forward.
3. Invite the EPC to take up the role of the Scheme manager in relation to payment accounts.
### Annex 1: List of ERPB Working Group participants

<table>
<thead>
<tr>
<th>Category</th>
<th>Stakeholder organisation</th>
<th>Representative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Co-Chairs</strong></td>
<td>ECSAs (EACB, EBF and ESBG)</td>
<td>Christian Schäfer – Deutsche Bank</td>
</tr>
<tr>
<td></td>
<td>ETPPA</td>
<td>Arturo González Mac Dowell - Eurobits</td>
</tr>
<tr>
<td><strong>ERPB Stakeholders</strong></td>
<td>BEUC</td>
<td>Jean Allix - BEUC Alternate: Deborah Faure</td>
</tr>
<tr>
<td></td>
<td>EACB</td>
<td>Jens Holeczek - BVR Alternate: Agnieszka Janczuk - EACB</td>
</tr>
<tr>
<td></td>
<td>EBF</td>
<td>Gijs Boudewijn – Dutch Payments Association Alternate: Anni Mykkänen - EBF</td>
</tr>
<tr>
<td></td>
<td>EMA</td>
<td>Thaer Sabri - EMA Alternate: Jack Wilson - TrueLayer</td>
</tr>
<tr>
<td></td>
<td>EPC</td>
<td>Maciej Kostro – ING Netherlands Alternate: Andrea Cogerino - Intesa Sanpaolo</td>
</tr>
<tr>
<td></td>
<td>EPIF</td>
<td>Krzysztof Korus - DLK Legal</td>
</tr>
<tr>
<td></td>
<td>ESBG</td>
<td>Robert Renskers - De Volksbank Alternate: Klára Bulířová – Erste Group</td>
</tr>
<tr>
<td></td>
<td>EuroCommerce</td>
<td>Alexandre Leclerc - Carrefour Alternate: Pascal Spittler - Ikea</td>
</tr>
<tr>
<td><strong>ETPPA</strong></td>
<td>Bankin’</td>
<td>Fanny Rodriguez Alternate: Joan Burkovic</td>
</tr>
<tr>
<td></td>
<td>Plaid / Sofort &amp; Klarna</td>
<td>D. Morgan - Plaid Alternate: Aoife Houlihan – Sofort &amp; Klarna</td>
</tr>
<tr>
<td></td>
<td>Tink &amp; PPRO</td>
<td>Ralf Ohlhausen</td>
</tr>
<tr>
<td></td>
<td>Trustly</td>
<td>Jörn-Jakob Röber / Jens Olsson Alternate: Oscar Berglund</td>
</tr>
<tr>
<td><strong>Central Banks</strong></td>
<td>DE</td>
<td>Lukas Korella – Bundesbank Alternate: David Ballasch</td>
</tr>
<tr>
<td></td>
<td>ECB</td>
<td>Iddo de Jong Alternate: Kerstin Junius</td>
</tr>
<tr>
<td></td>
<td>EE</td>
<td>Helena Kokk - Eesti Pank</td>
</tr>
<tr>
<td></td>
<td>FR</td>
<td>Guillaume Bruneau – Banque de France</td>
</tr>
<tr>
<td></td>
<td>NL</td>
<td>Wouter Vinken – De Nederlandsche Bank</td>
</tr>
<tr>
<td></td>
<td>PT</td>
<td>Tiago Cordeiro - Banco de Portugal Alternate: Tatiana Lourenço - Banco de Portugal</td>
</tr>
<tr>
<td><strong>Observers</strong></td>
<td>European Commission</td>
<td>Eric Ducoulombier Juergen Rieg</td>
</tr>
<tr>
<td><strong>Secretariat</strong></td>
<td>EPC</td>
<td>Etienne Goosse Alternate: Christophe Godefroi</td>
</tr>
</tbody>
</table>
Annex 2: Mandate ERPB Working Group on a SEPA API Access Scheme

MANDATE OF THE WORKING GROUP ON A SEPA API ACCESS SCHEME (NOVEMBER 2020 – JUNE 2021)

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 further define key elements of a potential SEPA API access Scheme (“Scheme”). The working group takes as starting point the report presented to the ERPB for its June 2019 meeting¹, as well as the outcome of the Informal exploratory workstream addressing the conditions to re-start the ERPB Working Group on a SEPA API access scheme².

1. Scope

The revised Payment Services Directive (PSD2) introduced Payment Initiation Services (PIS), Account Information Services (AIS) and the confirmation on the availability of funds to boost innovation and competition in payment services. The related Regulatory Technical Standards on Strong Customer Authentication and Common and Secure Communication (RTS) require Account Servicing Payment Service Providers (ASPSPs) to offer an interface. To meet this particular legal requirement, a large majority of ASPSPs has chosen to implement an Application Programming Interface (API).

In order to reap the full benefits of PSD2 for the provision of innovative and competitive PIS and AIS services in an integrated European market, the ERPB agreed that the working group should define the key elements of a Scheme. These key elements shall be developed with the legal and regulatory requirements of PSD2 constituting the “baseline”, which has now been set, but also going beyond such baseline to encompass value-added (“premium”) services that may be provided in context of “open banking” as a natural evolution of PSD2 within the contractual framework of the Scheme. These key elements could establish the foundation of a possible future rulebook and of possible future implementation guidelines of the Scheme.

In this regard, the legal and regulatory requirements represent the indispensable basis upon which to establish a Scheme in the sense of (i) business requirements, (ii) governance arrangements, as well as (iii) a standardised API interface.

The working group will focus its discussions and its report on functions and services on top of the PSD2 baseline. It is agreed that any service and functionality offered by ASPSPs that goes beyond their legal obligations can be considered as a value-added service in the context of a SEPA API access Scheme and is subject to a competitive, sustainable and fair distribution of value and risk between the actors.

¹ See: https://www.ecb.europa.eu/paym/groups/erpb/shared/pdf/11th-ERPB-meeting/Report_from_the_ERPB_WG_on_a_SEPA_API_Access_Scheme.pdf
² See: https://www.ecb.europa.eu/paym/groups/erpb/shared/pdf/14th-ERPB-meeting/Reporting_by_the_informal_workstream_on_a_SEPA_API_access_scheme.pdf
2. Deliverables

The ERPB working group is expected to prepare a report with the following deliverables:

1. Conduct a cross-check with other on-going workstreams (covering e.g. e-identity, Request-to-Pay, instant payments at the point-of-interaction, mobile initiated SEPA Credit Transfers) that may impact the development of the potential payment related part of the Scheme.
2. Validate, update, and prioritise business requirements from the previous report.
3. In addition to consumer-to-business customer journeys, draft customer journeys and derive business requirements for P2P payments, business-to-business payments and other payments.
4. Assess the landscape of existing governance entities in order to identify a potential Scheme manager(s) or recommend the creation of a new scheme manager.
5. Assess with relevant subject matter experts the potential extension in a next stage to other financial as well as non-financial services as may be required.
6. Start drafting scheme requirements between asset holders and asset brokers for certain issues based on the above working assumptions related to Inter alia eligibility criteria, business conditions, rights and obligation of participants, security, liability, and compliance.

The working group may consider providing additional key elements that may be needed to enhance the efficiency and/or safety of a Scheme.

3. Time horizon

The working group will be established shortly after the November 2020 ERPB meeting and shall deliver its report by June 2021.

4. Participants and chairmanship

The working group shall include representatives of banks and PIS/AIS providers with a broad experience and a good understanding of the key business, operational and technical requirements as well as the legal and governance elements that are needed for a Scheme. Knowledge and expertise in ‘open banking’ services based on API technology would be an asset. While representation of the ERPB supply side shall remain lean, it shall equally represent the different business models of both ASPSPs and TPVs. It is equally important to have representatives of ERPB demand side stakeholder groups actively participating in the WG. 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. Furthermore, a representative of the European Commission will be invited as observer. The working group will be co-chaired by a representative of the European Third Party Providers Association and a representative of the banking sector. The secretariat will be provided by the European Payments Council.

Members and the co-chairs will be appointed by the ERPB Chair based on suggestions from their respective associations.

5. 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 secretarial support, 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. Members of the working group may interact with representatives of European standardisation initiatives for specific topics, where relevant.
Joint understanding of the conditions to re-start
the ERPB Working Group on a SEPA API access scheme
and proposal for workstream deliverables

In its meeting of 6 July 2020, the ERPB requested regarding the SEPA API access scheme
work that the affected stakeholders start an informal exploratory workstream, addressing
inter alia the commercial baseline, for allowing the reactivation of the working group in
November 2020. Based on the outcome of this work, the ERPB Secretariat would prepare a
proposal on resuming this working group to be discussed at the ERPB’s November meeting.

With this document, the affected stakeholders, EMA, EPIF, EuroCommerce, EACB, EBF,
ESBG, and ETPPA (“the Parties”) agree on a clear basis for the Working Group ahead of the
next ERPB meeting in November.

The Parties hereby understand that the concerns as expressed by some of the working
group members in their respective letters to the ERPB from June 2019 have either been
removed or are out of scope and that all stakeholders are now open to resume work on the
SEPA API Access Scheme. Additionally, the Parties are in agreement with the following
three principles on which the resuming of the SEPA API access scheme work would be
based:

- **PSD2 is the Baseline**: The implementation deadline of the Regulatory Technical
  Standards on Strong Customer Authentication and Common and Secure
  Communication of September 2019 has passed and the baseline is now set. The
  Parties agree that they will within their ERPB work fully accept and appreciate the
  regulatory framework. The working group will focus its discussions and report on
  functions and services on top of the PSD2 baseline. The PSD2 baseline includes but
  is not limited to the latest EBA clarifications as well as the forthcoming final EDPB
  Guidelines on the interplay of PSD2 and GDPR.

  Matters of legal correctness of PSD2 implementation are out of scope of the SEPA
  API Access scheme work – as these are to be dealt with by NCAs and PSPs – and
  the Parties agree that there is sufficient clarity about PSD2 implementation to
  continue the work of the WG.

- **The commercial baseline is agreed**: It is agreed that any service and functionality
  offered by banks that goes beyond their legal obligations can be considered as a
  value-added service in the context of a SEPA API access scheme and is subject to a
  competitive and sustainable fair distribution of value and risk between the actors. The
  Parties are now open to determine the commercial principles for these value-added
  services.

- **Starting point is the 2019 report, which is fully endorsed by all signing parties**: The
  future work of the SEPA API access scheme is to be based on the report issued by
  the WG on 31 May 2019. The Parties agree that the WG should take the business
  requirements and customer journeys mentioned in the report as a starting point,
  validate whether they are still relevant and if so evolve them considering that the
  basic principles, such as fair distribution of value, should remain intact.
The Parties herewith confirm the three points mentioned above. They confirm further that all relevant conditions to resume the work of the SEPA API access scheme have been met and that the ERPB is recommended to approve resuming the work.

Annexed to this joint understanding the Parties propose a high-level timetable with deliverables, goals and milestones for the WG.

Annex - Proposed high-level timetable / planning with deliverables, goals and milestones

To note: The below plan builds on the "next steps" section as laid out in Chapter 6 of last year’s report, with some changes. Out of scope for this phase is the delivery of a written and consulted scheme rule books.

**Deliverables**

1. Conduct a cross check with other ongoing work streams (covering e.g. e-identity, Request-To-Pay, instant payments at the POI, mobile initiated SCT) that may impact the development of the potential payment related part of the Scheme.
2. Validate, update, and prioritise business requirements from previous report.
3. In addition to customer-to-business customer journeys, draft customer journeys and derive business requirements for P2P payments, business-to-business payments and other payments.
4. Assess the landscape of existing governance entities in order to identify a potential Scheme manager(s) or recommend the creation of a new scheme manager.
5. Assess with relevant subject matter experts the potential extension in a next stage to other financial services as well as to non-financial services as may be required.

**Timetable/Milestones**

In terms of milestones we suggest that the working group has monthly meetings at the end of which it should have accomplished for each of the above deliverables the following:

1st meeting – 2nd week of December: Agreed work packages and owner per deliverables.
2nd meeting – 3rd week of January: Validate draft milestone planning, team composition, resource demand, and deliverables per workstream as suggested by the work stream leads.
3rd meeting – mid February: 1st draft of the deliverable in PowerPoint / bullet list format; agreement on content scope and further topics to be addressed.
4th meeting – mid March: Mid-term progress review.
5th meeting – mid April (provided editorial support is available): Final draft of the deliverable in PowerPoint / bullet list format, agreement on content and remaining issues to be closed.
6th meeting – end of April: Initial draft report, agreement on content and agreement on proceeding with remaining open issues.
7th meeting – end of May: Final report endorsed for submission to June 2021 ERPB meeting.

Between the meetings we suggest weekly working group meetings per working package to be organised and managed per delivery owner. Further to which weekly update calls with the deliverables owners and co-chairs.

**Composition**

In order to resume the work with immediate impact we suggest to retain the composition from the previous working group. Further members as agreed by the ERPB are welcome.
### Annex 4: Asset templates (non-exhaustive & preliminary)

<table>
<thead>
<tr>
<th>Banking</th>
<th>Mortgage</th>
</tr>
</thead>
</table>
| **Pre-sale (general information)** | • Proposed mortgage conditions  
  o credit amount  
  o interest rate (fixed, variable) & effective rate  
  o duration, annuities, penalties, pay-out timing, etc.  
• Product & Portfolio information  
• Detailed terms & conditions  
• Mortgage calculator |
| **Contract preparation** |  
  - Contract: information collecting (personal information….) | • Customer ID details (name, address, etc.)  
  • Customer financial information (income, assets, liabilities)  
  • Object/real estate details  
  • Customer credibility (financial track record, references, asset certifications, etc.)  
  • Assessment and valuation of the object/real estate  
  • Negotiation tools |
| **Contract** |  
  - Signing (KYC…) | • KYC check  
  • Open account(s) |
|  | - Content | • Agreed mortgage conditions  
  o credit amount  
  o interest rate (fixed, variable) & effective rate  
  o duration, annuities, penalties, pay-out timing, etc.  
  • Detailed terms & conditions |
|  | - Cancellation (cool off) | • Duration |
| **During lifetime** |  
  - Transaction | • Pay-outs  
  • Interest, payback, penalties, fees, etc. |
|  | - Information | • Promotions, mortgage improvements, etc. |
|  | - Changes | • Change of terms & conditions  
  • Change of mortgage conditions  
  • Change of customer details |
|  | - Extension (prolongation) | • Prolongation  
  • Payback holidays |
|  | - Cancellation | • Contract termination  
  • No agreement about change of terms & conditions  
  • Switching service |
| **Closure (normal end of contract)** |  
  • Giving notice or end of term  
  • Clearing balance |
| **Administration processes / back end** |  
  • Late payments, bankruptcy  
  • Change of interest rates, fees, duration, etc.  
  • Change or loss of collateral  
  • Version of terms & conditions  
  • Foreclosures |
<table>
<thead>
<tr>
<th><strong>Banking</strong></th>
<th><strong>Consumer (Personal) Loans</strong></th>
</tr>
</thead>
</table>
| **Pre-sale (non-personal) general information** | **Terms & conditions**  
Product information  
(credit on payment account, **Personal loan based on annuities**, revolving credit)  
Pricing (nominal & effective interest rate)  
Object (**for personal loan**/ revolving credit)  
In some cases death risk insurance (**Personal loan**/ revolving credit) |
| **Contract preparation (Personal information)** | **Name address**  
Credit bureau (other loans etc.) and financial check (salary)  
Duration  
Check regarding laws around loans (over crediting, interest rates) |
| **Contract** | **KYC check,**  
**Electronic Signature allowed in different ways per country** (based on Advanced Electronic Signature (AES), eIDAS, SMS & PIN code, electronic signature (without additional demands)) |
| **Content** | **Appendix terms & conditions**  
(Personal) Pricing (interest, annuities, insurance fees)  
Duration  
Notice period  
Policy schedule (in case death risk insurance)  
Beneficiary in case of passing away (finance company) |
| **Cancellation (cool off)** | **14 days (** for Europe this applies for all countries **)** |
| **During lifetime** | **At the start pay-out of the amount**  
Collecting annuities /fees insurance |
| **Information** | **Change of terms & conditions / changes in law (not interest rate because mostly fixed in personal loans)**  
API access for (renewed) AIS due to changes |
## Changes

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sale object/ passing away/payment arrears</td>
<td></td>
</tr>
<tr>
<td>n/a in personal loans end date already in the contract</td>
<td></td>
</tr>
<tr>
<td>Sale object/ passing away/payment arrears</td>
<td></td>
</tr>
</tbody>
</table>

## Closure (normal end of contract)

- Debt repaid, stopping death risk insurance

## Administration processes / back end

- Administer Policy schedule
- Version of terms & conditions
- Collecting annuities and (insurance) fees
- In some cases Customer Due Diligence after certain period of time
- Payment arrears treatment

## Banking

**Pre-sale (general information)**

Regulation 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments (MiFIR) establishes the principle of pre- and post-trade transparency. The related obligations apply, with some variations, to equities and equivalent instruments (“equity instruments”) and to non-equity financial instruments, including bonds and derivatives (“other instruments”).

### More generally a Key Information Document (KID) for Packaged Retail & Insurance-based Investment Products (PRIIP) must be made available:

The KID documents will provide you with key information on the investment product you may be interested in. It is not a Marketing material. This document will help you to better understand the nature, risks, costs and potential gains and losses of your chosen investment product.

Under the regulation, manufacturers/issuers are obliged to produce a Key Information Document (KID) for each product in scope. The KID is a 3-page document which must be provided in the local language of the investor and be published on the company website prior to product being offered to retail investors. Any distributor or financial intermediary, who sells or provides advice...
about PRIIPs to a retail investor or receives a buy order on a PRIIP from a retail investor, must provide the investor with a KID.

**Contract preparation**

- **Contract: information collecting (personal information...)**

  The implementation of suitability and appropriateness within MiFID II requires clear understanding of the client’s profile, which is based on relevant information (such as knowledge and experience in the investment field, financial situation, investment objectives, according to the type of service provided), collected by the investment firm, before providing the investment services, through a questionnaire. Furthermore the scope of investments services covers, where applicable, advised services such as investment advice and portfolio management or non-advised services (execution only) such as order execution or the primary market placement of financial instruments.

**Table 1. Requirements for assessing suitability**

<table>
<thead>
<tr>
<th>Information to be obtained when assessing suitability</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client’s knowledge and experience³</td>
<td>• the types of service, transaction and the regulated investments with which the client is familiar;</td>
</tr>
<tr>
<td></td>
<td>• the nature, volume, frequency of the client’s transactions with regulated investments; and</td>
</tr>
<tr>
<td></td>
<td>• the level of education, profession or (if relevant) former profession of the client.</td>
</tr>
<tr>
<td>Client’s financial situation⁴</td>
<td>• the source and extent of the client’s regular income;</td>
</tr>
<tr>
<td></td>
<td>• the client’s assets, including liquid assets, investments and real property;</td>
</tr>
<tr>
<td></td>
<td>• the client’s regular financial commitments;</td>
</tr>
<tr>
<td></td>
<td>• the ability to bear losses.</td>
</tr>
<tr>
<td>Client’s investment objectives</td>
<td>• the client’s investment horizon;</td>
</tr>
<tr>
<td></td>
<td>• the client’s risk preferences, risk profile and risk tolerance; and</td>
</tr>
<tr>
<td></td>
<td>• the purposes of the investment.</td>
</tr>
</tbody>
</table>

**Table 2. Requirements for assessing appropriateness**

<table>
<thead>
<tr>
<th>Information to be obtained for purposes of assessing appropriateness⁷</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client’s knowledge and experience in order to enable the firm to determine whether the financial instruments and services envisaged are appropriate.</td>
<td>• the types of financial service, transaction and regulated financial instruments the client is familiar with;</td>
</tr>
<tr>
<td></td>
<td>• the nature, volume and frequency of the client’s transactions in regulated financial instruments; and</td>
</tr>
<tr>
<td></td>
<td>• the client’s level of education and profession (or former profession).</td>
</tr>
</tbody>
</table>

Information permitting to analyse or confirm the suitability and appropriateness of the potential investment shall be obtained through the API as Information regarding active or past investments.

Meaning that API access to information regarding securities could be retrieved from another provider.
<table>
<thead>
<tr>
<th>Contract</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Signing (KYC...)</strong></td>
<td>Standard KYC</td>
</tr>
<tr>
<td>+ Category of Client as</td>
<td></td>
</tr>
<tr>
<td>- Professional client</td>
<td></td>
</tr>
<tr>
<td>- Retail Clients</td>
<td></td>
</tr>
<tr>
<td>- Eligible counterparties</td>
<td></td>
</tr>
<tr>
<td>- Clients that can be treated as professional at their own request</td>
<td></td>
</tr>
<tr>
<td>Category must be notified to client</td>
<td></td>
</tr>
<tr>
<td><strong>Content</strong></td>
<td>a description of the nature and extent of any investment advice to be provided;</td>
</tr>
<tr>
<td></td>
<td>where portfolio management is provided, a statement of the types of financial investments that may be purchased/sold and the types of transactions that may be undertaken and any investments/transactions which are prohibited; and</td>
</tr>
<tr>
<td></td>
<td>a description of the main features of any custody services to be provided, including the role of the firm in relation to corporate actions and the terms on which securities financing transactions will generate a return for the client.</td>
</tr>
<tr>
<td>ESMA has stated that these requirements will be minimum harmonisation rules meaning that member states may impose additional requirements on firms in relation to advice and suitability if they so choose.</td>
<td></td>
</tr>
<tr>
<td><strong>Cancellation (cool off)</strong></td>
<td>Information on cancellation option</td>
</tr>
<tr>
<td></td>
<td>Cancellation request (both sides)</td>
</tr>
<tr>
<td></td>
<td>Confirmation of definitive subscription</td>
</tr>
<tr>
<td><strong>During lifetime</strong></td>
<td><strong>Information</strong></td>
</tr>
<tr>
<td><strong>Transaction</strong></td>
<td>Trading Order</td>
</tr>
<tr>
<td></td>
<td>Investment/deposit</td>
</tr>
<tr>
<td></td>
<td>Withdraw</td>
</tr>
<tr>
<td></td>
<td>Arbitration</td>
</tr>
<tr>
<td><strong>Information</strong></td>
<td><strong>Information that shall be pushed (API call-back)</strong></td>
</tr>
<tr>
<td></td>
<td>Equity instruments</td>
</tr>
<tr>
<td></td>
<td>Non equity instruments</td>
</tr>
<tr>
<td></td>
<td>Post trade transparency</td>
</tr>
<tr>
<td></td>
<td>Yes immediately unless in case of default:</td>
</tr>
<tr>
<td></td>
<td>Large in scale and trading on own account by one of the counterparty</td>
</tr>
<tr>
<td></td>
<td>YES within 15 minutes unless in case of default for:</td>
</tr>
<tr>
<td></td>
<td>Large in scale</td>
</tr>
<tr>
<td></td>
<td>Large in scale and trading on own account by one of the counterparty</td>
</tr>
<tr>
<td></td>
<td>Liquid instruments</td>
</tr>
<tr>
<td></td>
<td>Repo/stock transactions (including Exchange for Physical)</td>
</tr>
<tr>
<td>Information that should be made available</td>
<td></td>
</tr>
<tr>
<td>- Securities List (shares, obligations, funds, unit-linked contracts, liquidities, etc)</td>
<td></td>
</tr>
<tr>
<td>- information on fees and costs</td>
<td></td>
</tr>
<tr>
<td>- information on commissions</td>
<td></td>
</tr>
<tr>
<td>- status of an order</td>
<td></td>
</tr>
<tr>
<td>- Securities History (ended contracts)</td>
<td></td>
</tr>
<tr>
<td>- Balances</td>
<td></td>
</tr>
<tr>
<td>- Balance History</td>
<td></td>
</tr>
<tr>
<td>- Trading order status</td>
<td></td>
</tr>
<tr>
<td>- Trading orders list</td>
<td></td>
</tr>
</tbody>
</table>
### Banking

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
</table>
| Public information | **General data**
  General data APIs would provide access to the bank’s (data asset holder’s) general information, such as contact information or a list of ATMs and branches, including geolocations, services offered, and opening hours.  
  - Contact information (phone number, email address, Skype or other)  
  - ATM locations  
  - ATM services (e.g. withdrawals, deposits)  
  - Branch locations  
  - Branch opening hours  
  - Branch services  

| | **Product data**
  Product data APIs would provide access to the bank’s information about its products, such as fees, interest rates, product features, and other terms and conditions.  
  - Fees/charges  
  - Interest  
  - Features  
  - Terms and conditions  

### Bank owned data

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
</table>
| Closure (normal end of contract) | Closure notice  
 Closure acknowledgement  
 Closure information requests (for final transfers ?)  

| Administration processes / back end | ./ |
Private information

**Aggregated customer data**

Aggregated customer data APIs would provide impersonal statistical information about the bank’s customer base, including cross-sectional and time series data.

- Customer demographics
- Behavioural metrics
- Trends (time series)

Such data could be useful for asset brokers in making product, pricing and marketing strategy decisions when tapping into bank’s customer base.

Here, the unlocked value lies in providing access to such private, bank owned data.

Consultation

**Consultation scheduling**

Consultation scheduling APIs would allow to self-book a consultation or any other appointment in the bank on the asset broker’s website or application, as well as to change or cancel the appointment.

- Book a consultation time
- Change the consultation time
- Cancel the consultation time

General remarks

The list of possible APIs and data provided is not exhaustive (just a few examples are given here).

All of these APIs can be monetised by banks to generate revenue through data sharing. However, the market demand and business case for such APIs has yet to be confirmed.

All of the above APIs could be used by both regulated and unregulated entities (asset brokers).

The use of these APIs does not require customer consent as no personal data is shared.

**CUSTOMER JOURNEY**

**Example**

<table>
<thead>
<tr>
<th>The customer visits the asset broker’s website, which conveniently brings together (aggregates) information on mortgage loan products of different banks</th>
<th>The customer compares product information from different banks</th>
<th>The customer selects the bank with the most favourable conditions and books a consultation time with the bank to further discuss the contracting process at the nearest branch</th>
</tr>
</thead>
<tbody>
<tr>
<td>The customer wants to take a mortgage loan and compare information on mortgage loan products of different banks (maximum amount, period, fees, interest rates, etc.)</td>
<td>The customer compares product information from different banks</td>
<td>The customer selects the bank with the most favourable conditions and books a consultation time with the bank to further discuss the contracting process at the nearest branch</td>
</tr>
<tr>
<td>↑ Product data APIs</td>
<td>↑ Product data APIs</td>
<td>↑ Consultation scheduling APIs General data APIs</td>
</tr>
</tbody>
</table>
Note: This customer journey is based solely on bank owned data APIs, in which case no personal data is shared. More advanced cases involving the sharing of personal data could also include a personal loan offer and the conclusion of a loan agreement on the asset broker’s website.

<table>
<thead>
<tr>
<th>Other Finance</th>
<th>Insurance</th>
</tr>
</thead>
</table>
| Pre-sale (general information) | Terms & conditions  
Product information  
Pricing  
Object Household effects  
Residential building (rent or ownership) |

<table>
<thead>
<tr>
<th>Contract preparation</th>
<th></th>
</tr>
</thead>
</table>
| - Contract: information collecting (personal information…) | Name address  
Credit bureau or financial check  
Duration  
Check object or building |

<table>
<thead>
<tr>
<th>Contract</th>
<th></th>
</tr>
</thead>
</table>
| - Signing (KYC…) | KYC check,  
**Electronic Signature allowed in different ways per country** (based on Advanced Electronic Signature (AES), e-IDAS, SMS & PIN code, electronic signature (without additional demands)) |

<table>
<thead>
<tr>
<th>Content</th>
<th></th>
</tr>
</thead>
</table>
| - Appendix terms & conditions  
Pricing  
Duration  
Notice period  
Policy schedule |

| Cancellation (cool off) | In NL 14 days |

<table>
<thead>
<tr>
<th>During lifetime</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Transaction</td>
<td>Collecting fees</td>
</tr>
<tr>
<td>- Information</td>
<td>Change of terms &amp; conditions / alert in case of under insured</td>
</tr>
<tr>
<td>- Changes</td>
<td>Additional household purchased / home improvement when owner</td>
</tr>
<tr>
<td>- Extension (prolongation)</td>
<td>No notice, extension 1 year, although conform Dutch law you can end the subscription at any time</td>
</tr>
</tbody>
</table>
| **- Cancellation** | Stop renting or selling home  
No agreement about change of terms & conditions  
Switching service |
| **Closure (normal end of contract)** | Giving notice or end of term  
At that point not insured |
| **Administration processes / back end** | Administer Policy schedule  
Version of terms & conditions  
Collecting fees  
In some cases CDD after certain period of time  
Damage treatment |

- Depends on the insurance (household effects, residential building, life insurances will need for example a healthy statement from doctor etc.

| **Other finance** | **Private Pensions**  
(Note: only regarding second pillar (work related) pensions, since third pillar pensions are private life insurances and part of “Other finance: Insurance”) |
| **Pre-sale (general information)** | Terms and conditions of the pension scheme offered by an employer  
Relevant for persons applying for a job: once hired by an employer participation in the pension scheme is obligatory in the Netherlands. |
| **Contract preparation** |  
- Contract: information collecting (personal information…)
- Age  
- Married/official registered as partnered  
- Children  
- Capital possibly to transfer from a pension scheme from a former employer |
| **Contract** |  
- Signing (KYC…)
- Not relevant |
| **- Content** | Choices of the participant when entering the scheme  
- Transfer of capital from former pension scheme |
| **- Cancellation (cool off)** |  
- Choice to leave capital at the pension fund when leaving the employer or transfer the capital to a new scheme of a new employer. |
| **During lifetime** |  
|
### ERPB Working Group on a SEPA API Access Scheme

#### Transaction
- **Choices of the participant of the scheme during participation**
  - In case of a *Defined Contribution* pension scheme: choice of level of risk of the investments.

#### Information
- **Information about accrued pension rights**
- **Information about expected pension right under the assumption of staying with the employer till date of retirement**

#### Changes
- **Divorcing**
- **Dying and leaving a widow**
- **Getting children**

#### Extension (prolongation)
- **Not relevant**

#### Cancellation
- **Not relevant (not possible when engaged in a job)**

#### Closure (normal end of contract)
- **Choices of the participant of the scheme at moment of retiring**
  - Choice of bringing commencement date forward (with a lower pension) or of postponing the date (with a higher pension)
  - Choice between a flat rate pension or a pension that is higher the first period and lower the latter period (high-low construction)
  - Choice to swap capital of the survivors pension for a higher old age pension.
  - Choice to get paid a lump sum of max 10% of the capital at start retirement

#### Administration processes / back end
- **?**
**Example 1 Customer Journey**

Customer wants advice of a third party about changing the level of investment risk in a defined contribution pension scheme (for instance: the fund offers 5 levels of risk to choose of) during lifetime + the customer wants the third party to actually change the level investment risk.

<table>
<thead>
<tr>
<th>A participant of a pension scheme (customer) wants to ask a third party for advice about the choice he has regarding investment risk in his pension scheme</th>
<th>The customer visits the asset broker website, which provides a consultation service and retrieves information from the website of the pension fund</th>
<th>The asset broker asks the customer for its wishes and possibilities regarding risks in old age income.</th>
<th>The asset broker authorises the asset broker to retrieve personal pension data from his pension fund</th>
<th>The asset broker gives advice</th>
<th>The customer makes a choice and asks the asset broker to change on his behalf the level of investment risk.</th>
<th>The asset broker changes the level of investment risk of the customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product data APIs.</td>
<td>SCA</td>
<td>Personal data APIs.</td>
<td>SCA</td>
<td>Transactional API to adapt/ change the contract</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Other finance

<table>
<thead>
<tr>
<th>Pre-sale (general information)</th>
<th>ID-Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID-Services in this Context means much more than only the confirmation of a Name or an address. Parts of ID are attributes of a person or a company (further named ID-Subject) it has for lifetime and attributes gotten over time or for a special duration. For example, Certificate of School or university, information about paid taxes and much more.</td>
<td>Every ID-Service should be integrated with the philosophy of data minimisation and with the permission of the user. Means the customer always should know what’s happening with the parts of its ID</td>
</tr>
</tbody>
</table>

### Contract preparation

- Contract: information collecting (personal information...)

All relevant contracts are only legal nature, **done outside the API**:

**First**: Contract between Scheme participants with the general rules between ID-Provider (e.g. banks) and the relying parties need ID-Services.

**Second**: If a relying party wants an ID-Delivery for a customer, during the process there will be done a contract between the ID-Subject and
the ID-Provider to deliver the ID to the asset broker, called relying party in ID-Schemes.

<table>
<thead>
<tr>
<th>Contract</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Signing (KYC…)</td>
<td>No need, not distribution bank contracts</td>
</tr>
<tr>
<td>- Content</td>
<td>No need, not distribution bank contracts</td>
</tr>
<tr>
<td>- Cancellation (cool off)</td>
<td>No need, not distribution bank contracts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>During lifetime</th>
<th>General user story based on API:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Transaction</td>
<td>If the customer needs a verified confirmation for ID-Attributes, the third party is asking the Scheme via API for an ID-delivery. The ID-Subject is redirected to the right ID-Provider (e.g. his Bank). After log-in, the customer gets shown all data the Third party asked for and to whom this data will be send. After instructing his bank to deliver the attributes (maybe with an additional SCA) the data will be sent directly from the ID-Provider to the Relying Party (Third Party) asked for. So the Scheme never got in contact with the personal data, only match the ID-Provider for this Customer for the needed information with the Relying Party needs verified attributes. Because banks have a lot of verified information because of legal oversight, a lot of services could be done by banks, but ID-Providing must not be limited to banks. Some of the ID-Services are done before or within a payment. Examples for ID-Services:</td>
</tr>
<tr>
<td></td>
<td><strong>Confirmation of personal Data</strong>: In this use-case the relying party needs some personal information, like verified Name and Birth for its own Business with the ID-Subject. Another example is the full digital check-in in hotels and the “key” for the room could be directly delivered to the smartphone of the user.</td>
</tr>
<tr>
<td></td>
<td><strong>Confirmation of address</strong> for e.g. delivery of high value goods</td>
</tr>
<tr>
<td></td>
<td><strong>Confirmation of age</strong> for buying special goods or got discount if a special age reached.</td>
</tr>
<tr>
<td></td>
<td><strong>Creation of a qualified electronic signature</strong> could be done with the data set of personal data, passport data (in banks because of AML regulation) could enable the Third Party to enable fully digital contracts between the customer and another company.</td>
</tr>
<tr>
<td></td>
<td><strong>Confirmation of Creditworthiness</strong> for example to rent a flat or house, got a loan from a new bank.</td>
</tr>
<tr>
<td></td>
<td><strong>Confirmation of paid taxes or paid interest</strong> for tax consultant, tax-consulting-Apps or the tax offices, etc.</td>
</tr>
<tr>
<td></td>
<td><strong>Confirmation of Accounts</strong>: To prevent fraud the bank could confirm the existence and access to an account for a customer.</td>
</tr>
<tr>
<td></td>
<td><strong>Confirmation of Balance</strong> for authority applications confirmations of account balances needed.</td>
</tr>
<tr>
<td><strong>Confirmation of mortgage</strong> during the progress of buying a house or to give a confirmation about the financial solution. (This could only be a first overview)</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td></td>
</tr>
<tr>
<td><strong>- Information</strong></td>
<td></td>
</tr>
<tr>
<td><strong>- Changes</strong> Only needed if ID-Services offered as a permanently service. This should not be done, because with the philosophy of transparency for the customer always should know what is happening with his data.</td>
<td></td>
</tr>
<tr>
<td><strong>- Extension (prolongation)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>- Cancellation</strong> If always done in the progress and no unlimited service offered, there is no need for a cancellation.</td>
<td></td>
</tr>
<tr>
<td><strong>Closure (normal end of contract)</strong> ./.</td>
<td></td>
</tr>
<tr>
<td><strong>Administration processes / back end</strong> ./.</td>
<td></td>
</tr>
</tbody>
</table>
Example for a user Story: Hotel Check-In

Welcome in „Hotel-App“

See Booking and Check-in

yes - check-in with Bank

Login to your online-banking

PSU Confirmation for transmitting ID

Check-in confirmed by „Hotel-App“

Your Smartphone is the key for your room

<table>
<thead>
<tr>
<th>Beyond Finance</th>
<th>Public Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-sale (general information)</strong></td>
<td>Terms &amp; conditions</td>
</tr>
<tr>
<td></td>
<td>Product information for subscriptions</td>
</tr>
<tr>
<td></td>
<td>Pricing</td>
</tr>
<tr>
<td></td>
<td>Type of subscription (train, bus, combined)</td>
</tr>
<tr>
<td><strong>Contract preparation</strong></td>
<td>Name address</td>
</tr>
<tr>
<td>- Contract: information collecting (personal information…)</td>
<td>Appendix Terms &amp; Conditions regarding chosen subscription</td>
</tr>
</tbody>
</table>

ERPB WG API 021-21 Report Next Phase of the ERPB WG on a SEPA API Access Scheme
<table>
<thead>
<tr>
<th>Duration</th>
<th>Way of paying for subscription (monthly, quarterly, yearly (always upfront))</th>
</tr>
</thead>
</table>

**Contract**

- **Signing (KYC...)**
  - KYC check,
  - *Electronic Signature allowed in different ways per country* (based on Advanced Electronic Signature (AES), eIDAS, SMS & PIN code, electronic signature (without additional demands))

- **Content**
  - Subscription
  - Appendix terms & conditions
  - Pricing
  - Duration
  - Notice period

- **Cancellation (cool off)**
  - In NL 14 days

**During lifetime**

- **Transaction**
  - Collecting fees

- **Information**
  - Change of terms & conditions / additional services

- **Changes**
  - Change of subscription / change of pricing

- **Extension (prolongation)**
  - Alert x month before subscription is ending

- **Cancellation**
  - End of term, non-payment, not agreeing change of terms & conditions

**Closure (normal end of contract)**

- Giving notice or end of term

**Administration processes / back end**

- Administer Subscription
- Version of terms & conditions
- Collecting fees
- Additional value-added services public transport (GPS function etc.)

**Beyond Finance**

<table>
<thead>
<tr>
<th>Telco</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terms &amp; conditions</td>
</tr>
<tr>
<td>Product information (Sim only, including phone)</td>
</tr>
<tr>
<td>Pricing</td>
</tr>
<tr>
<td>Type of subscription (xxMB or xx GB)</td>
</tr>
</tbody>
</table>
## Additional insurance

### Contract preparation
- Contract: information collecting (personal information…)
  - Name address
  - Credit bureau check
  - Duration

### Contract
- Signing (KYC…)
  - KYC check,
  - **Electronic Signature allowed in different ways per country** (based on Advanced Electronic Signature (AES), eIDAS, SMS & PIN code, electronic signature (without additional demands))
- Content
  - Subscription
  - Appendix terms & conditions
  - Pricing
  - Duration
  - Notice period
    - (Policy schedule if chosen with insurance)
- Cancellation (cool off)
  - In NL 14 days

### During lifetime
- Transaction
  - Collecting fees
- Information
  - Change of terms & conditions / additional services
- Changes
  - Change of subscription / change of phone / (New policy schedule)
- Extension (prolongation)
  - No notice, extension 1 year, although conform Dutch law you can end the subscription at any time
- Cancellation
  - Moving to other provider / switching service

**Closure (normal end of contract)**
- Giving notice or end of term, finish payback for phone

### Administration processes / back end
- Administer Subscription
- Version of terms & conditions
- (insurance (maybe by third party)
- Collecting fees
Annex 5: Illustrative customer journeys

(Note: Customer journeys #1a until #6 were already included in the 2019 report. Prioritised customer journeys start as from #7a)
**Illustrative Customer journey #1b**

*eCommerce payment: Consecutive payments with & w/o payment guarantee*

**Use case:** after completing the checkout in an eCommerce scenario, a user that has already on-boarded on a Payment service that requires so, performs a subsequent payment.

- **Generic steps**
  - **Checkout:** I confirm I want to buy a selected basket
  - **Select-payment method**: NA
  - **Fill-payment data**: NA
  - **Confirm payment**: I confirm I want to pay my selected basket using my usual payment data
  - **Authentication**: NA
  - **Payment confirmation**: I receive a confirmation that the payment was successful

**Business requirements / Missing bricks**

- **TPP/merchant should provide a payment summary that shall be validated by the customer**
- **Bank details should be selected by default**

- **No SCA in most cases**
- **SCA exemptions as indicated in the PSD2 but mandatory for banks to implement all options**
- **Potential for TPP to ask for an exemption of SCA**
- **Delegation of authentication to TPP with liability shift mechanism**

- **Merchant / TPP to indicate the status of the payment, with a payment reference and a reminder of the bank name; real-time**
- **Payment guarantee**
Illustrative Customer journey #1c

Mobile app payment: Consecutive payments with & w/o payment guarantee

Use case: after completing the checkout in an e-Commerce scenario, a user that has already on-boarded on a
Payment service, proceed with one click consent and authentication on their mobile device
Pre-requisite: the shopper mobile payment apps has been previously activated

Generic steps
- Checkout
  - I want to pay my selected basket

Select payment method
- NA

Fill payment data
- NA

Confirm payment/ Authentication
- I confirm I want to pay my selected basket using my usual payment data

Authentication
- NA

Payment confirmation
- I receive a confirmation that the payment was successful

Best in class SCT Journey

Business requirements / Missing bricks
- Acceptance API

- Consent and SCA in one click
- Delegation of authentication to TPP with liability shift mechanism

- Merchant / TPP to indicate the status of the payment, with a payment reference and a reminder of the bank name, real time
- Payment guarantee
Illustrative Customer journey #2a

Mobile payment at POS: Enrolment

Use case: a user contracts a Mobile payment service and enrols a bank and its accounts for the first time to the service; This enrolment shall be linked to e-commerce enrolment for each merchant (If a customer has been enrolled in either channel, he is automatically enrolled in the rest of the digital channels)

Generic steps

- Basic enrolment
  - I accept the service terms and conditions of the mobile payment service (Merchant/TPP)

Select Bank

- I select the bank of the account I want to enrol in the service

Identify User / login bank app

- I identify myself on my bank app

Select Accounts

- I select the accounts I want to enrol to the service

Authentication

- I authenticate myself

Enrolment confirmation

- I receive a confirmation that the enrolment was successful (account data retrieved)

Indicates what is out of scope but necessary to understand the journey

Indicates what is in scope

Best-in-class SCT journey

Business requirements / Missing bricks

- The user has a list of all the banks available to the service.
- No need for this step if the customer is already enrolled through ecommerce
- The user should be able to identify itself with a best in class UX
- No need for this step if the customer is already enrolled through ecommerce
- The UX should be best in class
- The user should be able to select all the payment accounts
- No need for this step if the customer is already enrolled through ecommerce
- 1 screen only
- Preferred biometry or PIN at mobile
- Bank login shall not be required again
- The TPP shall clearly indicate the status of the enrolment process
Illustrative Customer journey #2b

Mobile payment at POS: Consecutive payments with & w/o payment guarantee

**Use case:** a user wants to pay in a physical store with a Payment service where the user is already registered

**Pre-requisite:** the shopper mobile payment apps has been previously downloaded and user is enrolled

---

**Generic steps**

1. **Checkout**
   - Amount is shown by the cashier

2. **Select & open payment service/Authentication**
   - I unlock my mobile phone, select my payment service on my mobile

3. **Transfer payment information between POS and mobile**
   - I tap my mobile on the POS to initiate the payment

4. **Payment Validation**
   - I confirm I agree to make the payment for the required amount and at specific shop

5. **Authentication**
   - I authenticate myself

6. **Payment confirmation**
   - I receive a confirmation that the payment is made

---

**Best-in-class journey**

1. **Mobile payment**
   - NFC or QR
   - + Delegation of authentication to TPP with liability shift mechanism
   - + Biometry or PIN

2. **Mobile payment**
   - €45
   - + NFC or QR should be possible
   - + QR can be either customer presented or merchant presented

3. **Mobile payment**
   - €45 Confirmed
   - + Authentication could also be performed at this step

4. **Mobile payment**
   - + Merchant / TPP to indicate the status of the payment, with a payment reference and a reminder of the bank name; Real time
   - + Payment guarantee

---

**Business requirements / Missing bricks**

NA
Performed in Previous step

Indicates what is in scope

Indicates what is out of scope but necessary to understand the journey
**Illustrative Customer Journey #3**

**E-Identity for KYC purposes**

**Use case:** A user is willing to buy a product or service online that requires that he is properly identified. It could be for AML purposes, mitigation of risk, or other reasons.

---

**Generic steps**

- **Checkout / Product Selection**
  - I accept the service terms and conditions of the product or service.

- **Select Bank & Identify User**
  - I select the bank I want to identify against and provide the credentials to identify myself.

- **Select Information and approve**
  - I select and accept the transfer of my identification data to the merchant.

- **Authentication**
  - I authenticate myself.

- **Enrollment confirmation**
  - I receive a confirmation that the identification was successful and my ID transferred to the merchant.

---

**Best-in-class SCT journey**

- **Service T&C**
  - Lorem ipsum

- **Bank**
  - User ID
    - Password

- **Identification data selection**
  - V

- **SCA**
  - V

---

**Business requirements / Missing bricks**

- The user has a list of all the banks available to the identification service.
- The user should be able to identify itself with a user experience controlled by the TPP offering the service.

- The UX should be best in class.
- User should be able to verify and select the identification data he is willing to transmit to the merchant.

- 1 screen only
- Preferred biometry or P/N at mobile
- Bank Login shall not be required again
- Best in class UX

---

**Indicates what is out of scope but necessary to understand the journey**

**Indicates what is in scope**
Illustrative Customer journey #4

Mobile payment at unattended petrol station (POS)

Use case: a user wants to fill his deposit and pay for it at an unattended petrol station with a Payment service that already has the user registered

Pre-requisite: the shopper mobile payment apps has been previously activated

Generic steps

- Scan QR code to select the pump
- Select the product type with amount for authorisation
- Authentication and authorisation
- Payment confirmation
- Fill up petrol
- Repayment

Best-in-class journey

Business requirements:

- Sub journey 1
  - Acceptance API
  - Payment guarantee
  - Refund

- Sub journey 2
  - Acceptance API
  - Pre Authorisation
  - Update pre-authorisation (nullify)
  - Payment Completion
Illustrative Customer journey #5

Mobile app payment: one click pay later

Use case: Shopper delays payment to after their goods have been shipped on agreed payment term(s)
Illustrious Customer journey #6

**PFM/Money Management: Bank Enrolment**

**Use case:** a user contracts a Personal Financial Management (PFM) or Money Management and enrols a bank and its accounts for the first time to the service.

**Generic steps**
- **Basic enrolment:** I accept the service terms and conditions of the PFM service.
- **Select Bank & Identify User:** I select the bank I want to enrol in the PFM service and provide the credentials required to identify myself.
- **Select Accounts:** I select the products and accounts I want to enrol to the PFM service.
- **Authentication:** I authenticate myself.
- **Enrolment confirmation:** I receive a confirmation that the enrolment was successful and the account data is retrieved.

**Best-in-class SCT Journey**

**Business requirements / Missing bricks**

- The user has a list of all the banks available to the service.
- The user should be able to identify itself with a best in class UX.
- The UX should be best in class.
- The user should be able to select all the products he has contracted at the bank.
- The user should be able to select all the available accounts for each product.

**SCA (90 days)**
- SCA exemptions as indicated in the PSD2 but mandatory for banks to implement all options.
- Potential for TPP to ask for an exemption of SCA.
- The TPP acting as PFM shall clearly indicate the status of the enrolment process.
- Typically the PFM will show the PSU the retrieved transactions and data and prompt him with relevant alerts.
Illustrative customer journey #7a

**Pay-by-link: initial payment**

**Use case:** payee initiates a payment request and redirects the payer to the payment authentication context using a link transmitted by any available channel (QR Code, NFC, messaging, redirect...).

**Generic steps**
- **Ask for a payment offer**
  - I ask for a commercial offer that I will receive electronically with a link I can use to pay

- **Execute link**
  - I execute link received by messaging system, using a button, a hyperlink, a QR Code...

- **Select bank**
  - I select my bank

- **Confirm SCT payment**
  - I confirm the payment request and the optional registration process

- **Authenticate**
  - I optionally select the account and authenticate myself from my bank

- **Payment confirmation**
  - I receive a confirmation that the payment and the optional registration process was successful

**Best-in-class SCT journey**

**Business requirements / Missing bricks**
- Payer needs to be identified for offline remote payments
- Voluntary enrolment
- Remote and proximity payments
- Payee presented transaction
- An intermediary agent may forward the link to the asset broker

**Consolidate bank selection and account**

- Any technical communication flow can be used to transmit the link
- The link does not contain any sensitive data

**SCA**

- SCA TBD
- Instant Payment confirmation to payer
**Use case:** payee initiates a payment request and redirects the Payer to the payment authentication context using a link transmitted by any available channel (QR Code, NFC, messaging, redirect...).
Illustrative customer journey#8a

**Unknown final Amount - Food experience e & m-Commerce**

**B2C / B2B**

**Use case:** a user orders online fresh food. To ensure completeness of the order, over-weighted food products may get delivered at user’s home, pre-authorisation of higher amount. The user get charged for the total amount as effectively delivered – variance up to 15% in value.

**Pre-requisite:** the shopper mobile payment apps has been previously activated

---

**Business requirements:**
- **Pre-Authorisation**
- **Payment Guarantee**
- **SCA**
- **Release reservation of funds (nullify)**
- **SCT Inst payment for the final amount**
- **Instant Payment confirmation to payer**
Use case: a customer downloads an app, onboards and rents two cycles for a two hours journey.
**Illustrative customer journey #8c**

**Unknown final Amount – Travel**

**Use case:** A user orders online a flight ticket and he wants to use an opportunity to combine it with other services offered by the airlines company. The crucial aspect of this transaction is that he confirms everything by one click and the following transaction happen seamlessly. **Pre-requisite:** A customer has already enrolled in either mobile wallet or dedicated airlines app.

---

**Plan My Trip**
- I order a flight ticket and book a hotel room.

**Amount**
- I see the amount to be authorized split in the final amount and pre-authorized.

**Select account**
- I see the list of accounts and balances. I select the bank and account to pay.

**Authorisation by one click**
- Authentication of the funds reservation of hotel and final payment of air line ticket.

**Payment confirmation**
- I receive a confirmation:
  - Flight payment completed
  - Hotel reservation

**Payment confirmation (initial pre-authorisation)**
- I receive a confirmation that the final payment completed.

---

**Business requirements:**
- Pre-Authorisation
  - Payment Guarantee
  - For the hotel reservation
- Balance information (AIS)
- My accounts list (AIS)
- One SCA for two payment services
- SCT inst payment for the final amount
- Instant Payment confirmation to payer
- Instant confirmation of reservation
- Release reservation of funds (nullify)
- The final payment for other services completed
- Refund by flight cancellation
**Illustrative customer journey**

**Mobile payment at unattended petrol station using proximity technologies**  
B2C / B2B

**Use case:** A user wants to fuel his car and pay seamlessly the final amount at an unattended petrol station with a Payment service that already has the user registered (enrolment done).

**Prerequisite:** The shopper mobile app has been previously activated and supports fund reservation service.

**Generic steps:**
- Mobile app activated
  - My preferred proximity technology is activated
  - I stop in front of pump3, my app is recognised
- Select the product type and amount
  - The car plate/ location of mobile is recognised, I confirmed the pump, preserved the
- Authorisation funds reservation
  - I authorise fund reservation of €60
- Fill up the car fuel tank
  - I fill up to €55.63
  - I return the nozzle to the pump and leave the petrol station
- Payment confirmation
  - I receive a confirmation that the payment €55.63 was successful

**Best-in-class journey**

**Business requirements:**
- Open access to proximity technologies (geolocation and/or CCTV/push message)
- Balance information (AIS)
- My accounts list (AIS)
- Partial approval
- Reservation of fund
- Push reservation service message to the app
- SCT
- Void Reservation of fund if no delivery
- Release reservation of funds (nullify)
- SCT inst payment for the final amount
- Instant confirmation of the payment final amount
- Bank statement with final amount

**Indicates what is out of scope but necessary to understand the journey**

**Indicates what is in scope**
**Illustrative customer journey #9a**

**Single payment to multiple merchants (chained payments):**

**Use case:** after completing the checkout in a marketplace scenario, a user issues a single transaction, which is later divided and transferred to each individual seller. The marketplace acts as the collecting agent.

*Note:* Some sellers might not be eligible for single checkout journey.
**Use case:** after completing the checkout on a marketplace (product aggregation website), the user authorises a single **bulk** transaction composed of several payments which are sent directly to multiple receivers.
Illustrative customer journey#10a

Recurring payments – same amount

Use case: a customer subscribes for a service/good (such as streaming platform or a magazine subscription).

Subscription of a product and insertion of the contact details in the platform (proceeds to the payment page)

Select payment method

Select account

Confirm data

Authorisation funds - SCA application -

First payment confirmation

Client receives a confirmation that the payment x € was successful

n payment & n payment confirmation

Generic steps

Best-in-class journey

Business requirements:

Sub journey

Missing bricks

- Enrolment of payment data (identity validation, download of an app)
- Register a payment method
- Proxies at a European level for bank identifiers
- Request to pay (include all possible payment methods)
- If Mobile app, see the list of accounts plus balances:
  - Balance information (AIS)
  - My accounts list (AIS)
- SCA
- SCT Inst payment for the final amount
- Instant Payment confirmation
- Bank statement with subscription amount
- Refund SCT Inst
Illustrative customer journey#10b

Recurring payments – different amount

Use case: Deferred recurrent payments with flexible execution time and amount (below authorised amount). A shopper buys and receives goods and services with a commitment to begin making payments at a future date.
Illustrative customer journey #11

Refund (user not present): total or partial refund

- **Use case:** customer/merchant request a partial/total refund
  - Refund made without the IBAN known by the merchant or their collecting party/PSP
  - Trigger event for the refund is an agreement between the consumer and the merchant outside of the scheme
  - The refund should make a reference to the initial customer payment using either the IBAN/IBAN-proxy or the initial transaction ID

**Generic steps**

- **Customer asks merchant for refund**
  - I want to be reimbursed

- **Merchant requests partial/total refund**
  - I want to reimburse

- **TPP requests a transfer**
  - I send the money back

- **Customer Refund confirmation**
  - I receive a confirmation that the refund was successful

**Best-in-class SCT journey**

- **Business requirements / Missing bricks**
  - Partial or total amount

- Asset broker may need to obtain the customer IBAN from the asset holder through the scheme to initiate a refund
- Asset broker may request the payment initiation based on the linked initial customer payment transaction ID ref. (harmonised STET and BIS)
- SCA required, except if an exemption applies (e.g. exemption art 17)
- Support batch refund payment with only one SCA
- Support instant refund to the customer

**Customer receives the confirmation (instant)**

Indicates what is out of scope but necessary to understand the journey

Indicates what is in scope
Illustrative customer journey #12a

SCA - Delegated

Use case: after completing the checkout in an e-commerce scenario, shoppers can SCA with one touch without switching app or device.

Pre-requisite: the shopper and mobile device must be Asset Broker-on-boarded.

- No change of context (look & feel)
- No second app
- No second device
- One click/touch
- Possible at POS and offline
- Missing brick:

  - Delegation of authentication from AssetHolder to AssetBroker with
  - Single sign-off mechanism.
Illustrative customer journey #12b-1

SCA - Embedded

Use case: after completing the checkout in an e-commerce scenario, shoppers can SCA by entering their Bank PIN and then receiving and entering an OTP/TAN

Pre-requisite: the shopper must be Merchant-on-boarded

- No change of context (look & feel)
- No second app
- Optional second device
- Multiple clicks
- Possible in POS and offline
- No missing bricks
Illustrative customer journey #12b-2

SCA - Embedded with Signed Payment Request

**Use case:** After completing the checkout in an e-commerce scenario, shoppers can SCA with one touch using their Authentication App triggered by the Asset Broker.

**Pre-requisite:** Authentication app supporting signed payment request

---

**Device 1**

- **App 1**
- **App 2**

**Device 2**

- Business requirements
  - Missing bricks

---

- **Change of context (look & feel)**
- **Requires second app**
- **No second device**
- **One click/touch**
- **Optional account selection**
- **Possible at POS and Offline**
- **Missing bricks:**
  - Signed Payment Request

---

**B2C/B2B/P2P**

**Next Phase of the ERPB WG on a SEPA API Access Scheme**
Illustrative customer journey #12c-1

**SCA – Decoupled (app2app)**

*Use case:* after completing the checkout in an m-Commerce scenario, shoppers can SCA with one touch using their Authentication App triggered over-the-air by their Bank

*Pre-requisite:* none

- **Generic steps:**
  - **Checkout:** I want to pay my selected basket
  - **Select payment method:** NA
  - **Fill payment data:** NA
  - **Confirm payment/Auth:** I confirm I want to pay my selected basket using my usual payment data
  - **Authentication:** NA
  - **Payment confirmation:** I receive a confirmation that the payment was successful

**Device 1**
- **App 1**
  - Best-in-class SCT journey
- **App 2**
  - Business requirements / Missing bricks

**Device 2**
- X

**Change of context (look & feel):**
- Requires second app
- No second device
- One click/touch
- Optional account selection
- Possible at POS, but not offline
- No missing bricks
Illustrative customer journey #12c-2

SCA – Decoupled (web2app)

Use case: after completing the checkout in an e-Commerce scenario, shoppers can SCA with one touch using their Authentication App triggered by themselves

Pre-requisite: none, however if user gets merchant-onboarded Step 2 & 3 can be avoided

Device 1

Best-in-class SCT journey

Device 2

Business requirements / Missing bricks

- Bus. Requirement
  - QR code standard (must be readable by all Authentication Apps)
  - Requires second device

- Change of context (look & feel)
- Multiple screens and clicks
- Optional account selection
Illustrative customer journey #12d-1

SCA – Redirection (app2app)

Use case: after completing the checkout in an m-Commerce scenario, shoppers can SCA with one touch using their Authentication App triggered by the Merchant/Asset Broker App.

Pre-requisite: none

- Change of context (look & feel)
- Requires second app
- No second device
- One click/touch
- Optional account selection
- Possible at POS, but not offline
- No missing bricks
Illustrative customer journey #12d-2

**SCA – Redirection (web2web)**

**Use case:** after completing the checkout in an e-Commerce scenario, shoppers can SCA with legacy web redirection triggered by the Merchant/Asset Broker web page.

**Pre-requisite:** none.
Illustrative customer journey#13a
Pay later (defined execution date)

Use case: It allows the Payment Initiating Parties to initiate payments to be executed by ASPSPs at a given date in the future. The actual execution date may differ from the one defined in the request, depending on rules for processing payments in weekends and banks holidays the ASPSP applies.
Deferred payments (event dependent execution date)

**Use case:** It allows the Payment Initiating Parties to initiate payments to be executed by ASPSPs at an undefined date in the future, linked to a specific event/trigger (e.g., order is sent/received).

Trigger event for a deferred payment is subject to an agreement between the consumer and the merchant outside of the scheme.
**Use case:** An institution from the public or private sector seeks for confirmation of an IBAN or the combination of IBANxTAX ID, IBANxName etc. from the Payment Service User at counter or in store.

- **Request for IBAN confirmation:** I'm subscribing a service that will be debited/credited on my account. Online or in store.

- **Authorisation:**
  - In the T&C the asset broker collects from the account owner the authorisation to perform IBAN verification with the ASPSP.

- **Real time response:**
  - The asset broker calls ASPSP with the IBAN and i.e. the TAX ID.
  - The asset owner (ASPSP) returns the result of the verification as OK/KO and shows it to customer.

- **Confirmation:**
  - The asset broker receives confirmation about the outcome (Check OK/KO).

**Business requirements / Missing bricks:**
- The user provides IBAN and related data such as name or Tax ID to be confirmed.
- Terms and conditions of the requesting institution are accepted by the PSU.
- During the subscription phase of the service the user, by filling in the registration forms, enters his data as IBAN authorising the asset broker and ASPSP.
- The asset broker is liable in case it fails to properly collect or store the authorisation.

- The asset broker shall clearly indicate the status of the process.
- The asset broker should confirm the data transmitted to the company.

**In case of need the asset holder can ask the asset broker to provide proof of collected authorisation.**
Illustrative customer journey#15

Mobile PFM Automated Transfers

Use case: users can define and create Automatic Credit Transfers with their Mobile Personal Finance Mgmt. app, for example to sweep any month-end surplus from their checking to their savings account, or to top-up their checking account before it reaches negative balance.
Illustrative customer journey #16

Personal Loan application

Use case: A customer subscribes a personal loan from a ASPSP or a financial institution
Annex 6: Scheme layers overview

SEPA API access scheme layers

- **Legal baseline**
- **Market layer**
- **Scheme layer**

**(non-exhaustive)** Requirements, functionalities

- Scheme compliant Standardisation initiatives
- Specific Provisions for Basic Functionality
- Specific Provisions for Premium Functionality

**Infrastructure requirements for Access API's (standards, security etc)**

- **Example: Scheme Access API's to savings accounts**
- **Example: Scheme Access API's to securities accounts**

**General provisions for Access API's (liability, security etc)**

- **Scheme Access API's to payment accounts**

**Extension beyond payments**

**Specification layer** *(non-exhaustive)* Specifications

- ISO 20022
- JSON
- ETSI
- etc.

**Standardisation layer** *(non-exhaustive)*

- THE Berlin Group
- PolishAPI
- stet
- OPEN BANKING
- SEPA RTP, etc.
## Annex 7: Overview assessment of initiatives

<table>
<thead>
<tr>
<th>Id</th>
<th>Initiative</th>
<th>Code name</th>
<th>Geographical scope</th>
<th>Range</th>
<th>Positive impact</th>
<th>Negative impact</th>
<th>Layer</th>
<th>Underlying asset class</th>
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<tr>
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<td>3</td>
<td>Mobile Initiated SEPA (Instant) Credit Transfer Interoperability Guidance</td>
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<td>Global Open Finance Technical Standards Working Group (GOFTSWG)</td>
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Annex 8: Follow-up recommendations per layer

Legal baseline

<table>
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<tr>
<th>Id</th>
<th>Initiative</th>
<th>Code name</th>
<th>Geographical scope</th>
<th>Range</th>
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<tr>
<td>5</td>
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Follow-up recommendations

<table>
<thead>
<tr>
<th>Id</th>
<th>Initiative</th>
<th>Code name</th>
<th>Possible ways of connection/cooperation/interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>e-IDAS regulation</td>
<td>eIDAS</td>
<td>The future Scheme manager could liaise with the EC to promote a better inclusion of private initiatives in the eIDAS framework, especially interoperability obligations. In addition, it is recommended for the EC to take into account of the requirements of financial entities in an e-identity perspective (data standards, AML-CFT, PSD2). Note: the EC is currently assessing the opportunity to review the regulation. The EC launched a public consultation from 24 July to 2 October 2020. The EC has not yet published the results of this consultation.</td>
</tr>
<tr>
<td>17</td>
<td>European Strategy for Data</td>
<td>ESD</td>
<td>Cooperation with the EC must be searched to create clear differentiation and demarcation lines between “data sharing” and “data re-use”. The future Scheme manager must not confuse data re-use in Open Finance (as an extension of Open Payments/PSD2) with data sharing within a “Finance Data Space” (facilitating the sharing of finance data for industrial use or the public benefit).</td>
</tr>
<tr>
<td>19</td>
<td>Eurosystem’s oversight framework for electronic payment instruments, schemes and arrangements (PISA)</td>
<td>PISA</td>
<td>Discussion with ECB at an early stage regarding oversight, and expectations of the Scheme governance and rules.</td>
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ERPB Working Group on a SEPA API Access Scheme

Market layer

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<tr>
<th>Id</th>
<th>Initiative</th>
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<th>Geographical scope</th>
<th>Range</th>
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<th>Layer</th>
<th>Underlying asset class</th>
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<td>9</td>
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Follow-up recommendations

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<th>Additional details</th>
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<tr>
<td>9</td>
<td>European Payments Initiative</td>
<td>EPI</td>
<td>Suggested sync up between EPI and ERPB WG on SEPA API Access Scheme before the June 2021 ERPB Board meeting. Alternatively this action can be taken by the future Scheme manager.</td>
</tr>
<tr>
<td>10</td>
<td>European Mobile Payment Systems Association framework</td>
<td>EMPSA</td>
<td>An informational exchange should be suggested by the future Scheme manager to EMPSA with potential deep dive concerning selected topics.</td>
</tr>
<tr>
<td>18</td>
<td>European Retail Payments Framework (ERPF)</td>
<td>ERPF</td>
<td>The future Scheme manager shall highlight any potential conflicts or cross-fertilisation opportunities, in particular with regard to the alignment of standards, interoperability features and processes.</td>
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## Scheme Layer (infrastructure requirements)

<table>
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<th>Code name</th>
<th>Geographical scope</th>
<th>Range</th>
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<td>11</td>
<td>Local Gateway PSD2 Initiatives (RedSys, LuxHub, CBI Globe, etc.)</td>
<td>locGat</td>
<td>Domestic</td>
<td>Beyond PSD2</td>
<td>Medium</td>
<td>Low</td>
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<tr>
<td>14</td>
<td>Open Banking Europe</td>
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## Follow-up recommendations

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<th>Code name</th>
<th>Description</th>
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<td>Local Gateway PSD2 Initiatives (RedSys, LuxHub, CBI Globe, etc.)</td>
<td>locGat</td>
<td>The future Scheme manager should monitor the activities carried out by local gateway initiatives.</td>
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<tr>
<td>14</td>
<td>Open Banking Europe</td>
<td>OBE</td>
<td>The future Scheme manager should explore various potential areas for cooperation with OBE, which could play several roles around scheme management, e.g. OBE could either develop a Scheme itself. OBE may provide resource into a Scheme developer body or provide operational capability to support the Scheme.</td>
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### Scheme / specification layer

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<th>Range</th>
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<tr>
<td>3</td>
<td>Mobile Initiated SEPA (Instant) Credit Transfer Interoperability Guidance</td>
<td>MSCT</td>
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### Follow-up recommendations

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<tr>
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<td>1</td>
<td>SEPA Proxy Lookup Scheme</td>
<td>SPL</td>
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</table>
The components of a SEPA API Access Scheme could leverage the SRTP scheme (together with additional services). On the other hand, the SRTP scheme could be used as ‘inspiration’ for the development of a SEPA API access Scheme. RTP related use case(s) to be included (developed by WS2&3).

Set up coordination calls between co-chairs and secretariats of the ERPB WG API and MSG MSCT. Common members (of the two groups) to exchange relevant updates during meetings. (Note: the two groups are currently ‘collaborating’ following the MSG MSCT request to assess the possibility to add a new functionality under the SEPA API access scheme).

The future cooperation should be also considered by the future Scheme manager.

The SEPA API Access Scheme and eID initiatives could work together in two main areas. First, the SEPA API Access Scheme could offer a solution to eID initiatives to transfer data from a participant to the eID scheme to another. Second, a cooperation could be initiated with an eID initiative to offer identification solutions within the SEPA API Access Scheme to facilitate on-boarding of users of the scheme participants.

<table>
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<tr>
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<td>8</td>
<td>The Berlin Group</td>
<td>BG</td>
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<td>Local PSD2 standardisation initiatives (PL, FR, CZ, SK)</td>
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<td>16</td>
<td>e-Invoice specifications (e.g. FeRD Initiative)</td>
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<td>21</td>
<td>Open Banking Implementation Entity (UK)</td>
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Follow-up recommendations

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<th>Initiative for SEPA API Access Scheme</th>
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<tr>
<td>8</td>
<td>The Berlin Group</td>
<td>BG</td>
<td>The cooperation should be focused on the re-use by the SEPA API Access Scheme of the API specifications, prepared by The Berlin Group. New use-cases, considered within the future Scheme, could also be prepared in close cooperation with The Berlin Group. It is recommended for the ERPB WG on SEPA API access scheme to start informal consultation with The Berlin Group to set the most effective way of preparing the technical requirements for future APIs.</td>
</tr>
<tr>
<td>12</td>
<td>Local PSD2 standardisation initiatives (PL, FR, CZ, SK)</td>
<td>locStand</td>
<td>The future Scheme manager should cross-check regarding API functionalities with potential API Scheme customer journeys.</td>
</tr>
<tr>
<td>13</td>
<td>Payments standards alliance (SWIFT)</td>
<td>PSA</td>
<td>The future Scheme manager should monitor the alliance activities.</td>
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<tr>
<td>16</td>
<td>e-Invoice specifications (e.g. FeRD Initiative)</td>
<td>eINV</td>
<td>The future Scheme manager should cross-check regarding API functionalities with potential API Scheme customer journeys.</td>
</tr>
<tr>
<td>21</td>
<td>Open Banking Implementation Entity (UK)</td>
<td>OBIE</td>
<td>The future scheme manager should establish a regular way of exchange information and plans. The cooperation should be focused on re-using the OBIE API specifications in some areas and learning how to handle disputes and complaints within the ecosystem. New use-cases considered within the future scheme could be discussed and consulted with the OBIE.</td>
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Standardisation layer

<table>
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<tr>
<td>7</td>
<td>W3C Decentralized identifiers (DIDs)</td>
<td>DID</td>
<td>The EC is currently undertaking a review of eIDAS and contemplating the introduction of an EU-ID. Multiple approaches for this are considered, incl. FIDs and DIDs and the most prominent use case examples investigated are eKYC and SCA, which are both highly relevant for the Working Group. Therefore, it is recommended for the future Scheme manager to establish an ongoing link with the EC’s eID activities to get early visibility of the direction these are going.</td>
</tr>
<tr>
<td>15</td>
<td>OpenID Foundation (OIDF)</td>
<td>OIDF</td>
<td>If case of needed functions that are not realised as yet, the future Scheme manager could directly work within the working groups or just send change requests to one of their members.</td>
</tr>
<tr>
<td>20</td>
<td>Global Open Finance Technical Standards Working Group (GOFTSWG)</td>
<td>GOFTSWG</td>
<td>The future Scheme manager could participate in this Working Group through the relevant eligible organisations (e.g. The Berlin Group).</td>
</tr>
</tbody>
</table>
Annex 9: Pros/Cons of business condition models

Outside the Scheme Models

Model #1: Unilateral Offering Only

**Pros:**
- Relatively safe option for the Scheme, from competition law compliance perspective

**Cons:**
- No transparency on the level of fees to any party outside the bilateral agreement.
- Increases fragmentation and operational inefficiency.
- Decreases the attractiveness of the scheme by not providing certainty on fees and fee structure when a party joins the scheme and by forcing parties to check each offer upfront.
- Increases entry costs: the need to discover each unilateral fee.

Model #1: Bilateral Agreements Only

**Pros:**
- Relatively safe option for the Scheme, from competition law compliance perspective

**Cons:**
- No transparency on the level of fees to any party outside the bilateral agreement
- Increases fragmentation and operational inefficiency.
- Decreases the attractiveness of the scheme by not providing certainty on fees and fee structure when a party joins the scheme and by forcing parties to conclude agreements bilaterally and separately with all other scheme participants, which may not be feasible.
- Increases entry costs: the need to conclude bilateral contracts.
Inside the Scheme Models

**Model #3: Multilateral Remuneration Model**

**Pros:**
- Single fee that can be bilaterally reduced.
- Increased chances for the take-up of the Scheme.
- Decreased entry costs and barriers.
- Increased competition in the market vis-à-vis other existing solutions.

**Cons:**
- The EC assessment and enforcement on single IFs is quite consolidated in scope.
- Might not suit the needs of a SEPA API AS, considered the different roles of the involved actors and the business needs of the Scheme.

**Model #4: Default Remuneration Model**

**Pros:**
- Facilitate market integration (being agreed by all sides of the market) and allow companies to market their goods and services across the whole SEPA, leading to increased consumer choice and decreasing prices.
- Reduced transaction costs for consumers in case PSD2-premium services are offered.
- Remuneration is based on transparent, justifiable criteria.
- Lower entry barriers, fosters competition on the merits.
- Ensure competition on the offer, as Asset Brokers and Asset Holders shall always have the possibility to amend (by lowering it) the fallback DA-Fee(s) bilaterally.

**Cons:**
- A proper analysis and thorough cost calculation and remuneration methodology would have to be produced by experts and discussed with the EC.
- Must balance out the necessity of such measure, the appreciable gains and competition loss.
Annex 10: Infrastructure requirement for Scheme participants

End-users

Asset Broker

Client apps

Requirements for technical integration with the adopted billing system, based on agreed business model

Minimal security requirements on the scheme participant level (e.g., identification of API consumers)

Functional requirements related to a particular service:
- use-case + customer journey
- range of data necessary to execute a particular service (i.e., list of mandatory fields)
- possible specific requirements for the service

Minimal security and integrity requirements on a data level (e.g., authentication and authorization of end-users, data validation, accountability of events, etc.)

Basic requirements for API interface (architectural style, e.g., REST)

Minimal system infrastructure requirements on a security level (e.g., network configuration, access control, high availability, etc.)

Basic requirements for the infrastructure (e.g., protocols, communication standards)

Minimal requirements in the prevention of abuse and attacks area

Minimal organizational & procedural requirements (e.g., policies, BCM, risk management, etc.)

*how the API is exposed (API gateway, developer portal, etc.)

Implementation guidelines prepared by respective standardisation initiatives (e.g., The Berlin Group) in cooperation with the Scheme

Subject of the assessment and certification**

Outside the Scheme

**The Scheme manager may contract a homologation body for this purpose
Annex 11: Scheme structure related to payment accounts

The initial phase of the ERPB WG project (Phase 1) considers only the segment API-payments (i.e., PSD2 “Premium”). A potential Phase 2 might expand the work to other Asset Classes.

For Phase 1, the WG should select one Scheme Manager, tasked with the development of a single Rulebook for (initially) one Scheme containing:

- a section on Generic Requirements +
- an Asset-Specific Section (for Phase 1 it will be PSD2 “premium” payment APIs).
## Annex 12: Overview customer journeys (including applicable domain(s))

(Note: Value “1” refers to the fact that the use case is applicable for the respective domain(s); value “NA” means “not applicable”)

<table>
<thead>
<tr>
<th>2019 Use cases</th>
<th>Journey number</th>
<th>Description</th>
<th>B2C</th>
<th>B2B</th>
<th>P2P</th>
</tr>
</thead>
</table>
| **E-Commerce payment**         | Journeys #1    | 1a - After completing the checkout in an eCommerce scenario, a user pays from his bank account for the first time in a Payment service that requires onboarding  
1b – After completing the checkout in an eCommerce scenario, a user that has already onboarded on a payment service that requires so, performs a subsequent payment  
1c – After completing the checkout in an e-&m-Commerce scenario, a user that has already onboarded on a payment service, proceed with one click consent and authentication on their mobile device | 1   | 1   | NA  |
| **Mobile payment at POS**      | Journeys #2    | 2a –Enrolment: a user contracts a mobile payment service and enrols a bank and its accounts for the first time to the service; This enrolment shall be linked to e-commerce enrolment for each merchant (If a customer has been enrolled in either channel, he is automatically enrolled in the rest of the digital channels)  
2b – Consecutive payments with & without payment guarantee: A user wants to pay in a physical store with a payment service where the user is already registered | 1   | 1   | NA  |
<p>| <strong>E-identity for KYC purposes</strong> | Journey #3     | A user is willing to buy a product or service online that requires that he is properly identified. It could be for AML purposes, mitigation of risk, or other reasons.                                                                 | 1   | 1   | NA  |
| <strong>Mobile payment at unattended petrol station (POS)</strong> | Journey #4 | A user wants to fill his deposit and pay for it at an unattended petrol station with a payment service that already has the user registered                                                                 | 1   | 1   | NA  |
| <strong>Mobile app payment: one click pay later</strong> | Journey #5 | A shopper delays payment to after their goods have been shipped on agreed payment term(s)                                                                                                                   | 1   | 1   | NA  |
| <strong>PFM / Money Management : Bank Enrolment</strong> | Journey #6 | A user contracts a Personal Financial Management (PFM) or Money Management and enrolls a bank and its accounts for the first time to the service                                                                         | 1   | 1   | NA  |</p>
<table>
<thead>
<tr>
<th>Prioritised Use cases</th>
<th>Journey number</th>
<th>Description</th>
<th>B2C</th>
<th>B2B</th>
<th>P2P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pay by Link</td>
<td>Journeys #7</td>
<td>7a – Initial payment &amp; 7b – Subsequent payments: A payee initiates a payment request and redirects the payer to the payment authentication context using a link transmitted by any available channel (QR Code, NFC, messaging, redirect…)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Payment with unknown amount - Food</td>
<td>Journey #8a</td>
<td>A user orders online fresh food. To ensure completeness of the order over-weighted food products may get delivered at user’s home, pre-authorisation of higher amount. The user get charged for the total amount as effectively delivered – variance up to 15% in value.</td>
<td>1</td>
<td>1</td>
<td>NA</td>
</tr>
<tr>
<td>Payment with unknown amount - Rental</td>
<td>Journey #8b</td>
<td>A customer downloads an app, onboards and rents two cycles for a two-hour journey</td>
<td>1</td>
<td>1</td>
<td>NA</td>
</tr>
<tr>
<td>Payment with unknown amount - Travel</td>
<td>Journey #8c</td>
<td>A user orders online a flight ticket and he wants to use an opportunity to combine it with other services offered by the airlines company. The crucial aspect of this transaction is that he confirms everything by one click and the following transaction happens seamlessly.</td>
<td>1</td>
<td>1</td>
<td>NA</td>
</tr>
<tr>
<td>Mobile payment with unknown amount -</td>
<td>Journey #8d</td>
<td>A user wants to fuel his car and pay seamlessly the final amount at an unattended petrol station with a payment service that already has the user registered (enrolment done).</td>
<td>1</td>
<td>1</td>
<td>NA</td>
</tr>
<tr>
<td>Petrol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payment to multiple merchants</td>
<td>Journey #9a</td>
<td>Single payment to multiple merchants (chained payments) - After completing the checkout in a marketplace scenario, a user issues a single transaction, which is later divided and transferred to each individual seller. The marketplace acts as the collecting agent</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>(Counterparties)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payment to multiple merchants</td>
<td>Journey #9b</td>
<td>Single transaction / several payments to multiple merchants / counterparties (parallel payments) - After completing the checkout on a marketplace (product aggregation website), the user authorises a single bulk transaction composed of several payments which are sent directly to multiple receivers.</td>
<td>1</td>
<td>1</td>
<td>NA</td>
</tr>
<tr>
<td>(Counterparties)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recurring payments</td>
<td>Journeys #10</td>
<td>10a - A customer subscribes for a service/good (such as a streaming platform or a magazine subscription). 10b- Deferred recurrent payments with flexible execution time and amount (below authorised amount). A shopper buys and receives goods and services with a commitment to begin making payments at a future date</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Full / Partial Refund (Instant)</td>
<td>Journey #11</td>
<td>Customer/merchant requests a partial/ total refund</td>
<td>1</td>
<td>1</td>
<td>NA</td>
</tr>
<tr>
<td>SCA - Delegated</td>
<td>Journey #12a</td>
<td>After completing the checkout in an e-&amp;m-Commerce scenario, shoppers can SCA with one touch and without switching app or device</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>SCA - Embedded</td>
<td>Journeys #12b</td>
<td>12b-1 - After completing the checkout in an e-&amp;m-Commerce scenario, shoppers can SCA by entering their bank PIN and then receiving and entering an OTP/ TAN 12b-2 - After completing the checkout in an e-&amp;m-Commerce scenario, shoppers can SCA with one touch using their authentication app triggered by the asset broker</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>SCA - Decoupled</td>
<td>Journeys #12c</td>
<td>12c-1 - After completing the checkout in an m-Commerce scenario, shoppers can SCA with one touch using their authentication app triggered over-the-air by their bank 12c-2 - After completing the checkout in an e-Commerce scenario, shoppers can SCA with one touch using their authentication app triggered by themselves</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>SCA - Redirection</td>
<td>Journeys #12d</td>
<td>12d-1 - After completing the checkout in an m-Commerce scenario, shoppers can SCA with one touch using their authentication app triggered by the merchant/asset broker app 12d-2 - After completing the checkout in an e-Commerce scenario, shoppers can SCA with legacy web redirection triggered by the merchant/asset broker web page</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Future dated payments (Pay later)</td>
<td>Journey #13a</td>
<td>It allows the Payment Initiating Parties to initiate payments to be executed by ASPSPs at a given date in the future. The actual execution date may differ from the one defined in the request, depending on rules for processing payments in weekends and banks holidays the ASPSP applies.</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Deferred payment</td>
<td>Journey #13b</td>
<td>It allows the Payment Initiating Parties to initiate payments to be executed by ASPSPs at an undefined date in the future, linked to a specific event/trigger (e.g. order is sent/received).</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>IBAN validation</td>
<td>Journey #14</td>
<td>An institution from the public or private sector seeks for confirmation of an IBAN or the combination of IBANxTAX ID, IBANxName etc. from the Payment Service User (PSU)</td>
<td>1</td>
<td>1</td>
<td>NA</td>
</tr>
<tr>
<td>Mobile Personal Finance Management Automated Transfers</td>
<td>Journey #15</td>
<td>Users can define and create Automatic Credit Transfers with their Mobile Personal Finance Management app, for example to sweep any month-end surplus from their checking to their savings account, or to top-up their checking account before it reaches negative balance</td>
<td>1</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Personal Loan application</td>
<td>Journey #16</td>
<td>A customer subscribes a personal loan from a ASPSP or a financial institution</td>
<td>1</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>