

E-INVOICING SOLUTIONS RELATED TO RETAIL PAYMENTS – THE WAY FORWARD IN SEPA

1. Executive summary and next steps

To date in the EU the take-up of e-invoicing and the payment-related solutions is quite at an early stage. Due to the directive 2014/55/EU on electronic e-invoicing in public procurement the general focus regards to e-invoicing in Europe is mainly on governments and businesses. But for e-invoicing to become the predominant method of invoicing by 2020 in Europe¹, it is necessary to focus also on possibilities how the benefits of e-invoicing could be maximised for consumers, SMEs and micro enterprises in the Single Euro Payments Area, especially at the cross-border level. Therefore it is the right time to analyse the issues and give guidance to the market participants to avoid developing non-interoperable national solutions and services in SEPA.

The relevance of this dossier for the ERPB stems from the close links between invoicing and payment processes. E-invoicing not only enables end-to-end straight through processing (STP) in pre- and post-payment processes, it also influences how the payments are actually made. This has motivated the emergence of innovative payment types – combining e-invoicing and payments into electronic invoice/bill presentment & payment (EIPP/EBPP) solutions, which have taken off especially in the business to consumer domain.

This note deals with e-invoicing and retail payments in the SEPA context and will serve as a good starting point for the dedicated ERPB Working Group. The note also explains that the scope of ERPB's future work on this dossier should be on EIPP/EBPP solutions, focusing primarily on services which are provided by PSPs and used by consumers, SMEs and micro enterprises to enable one-off and/or recurrent payments of the corresponding invoices in the SEPA context. With the vision to facilitate and catalyse the market in delivering a harmonised e-invoice/bill presentment & payment service for payers; and an e-invoicing/billing network for the payees to reach all consumers and businesses in Europe. The matter how e-invoices are being processed and sent for payment in the Enterprise Resource Planning (ERP) or accounting system of the businesses is left out of scope.

This note confirms that the European standard on e-invoicing (as required by directive 2014/55/EU) will be, together with the SEPA payment instruments, one fundamental building block for enabling the development of fully automatic e-invoicing and payment solutions, which are interoperable at the pan-European level. In the note it is also clearly suggested that the semantic content used for EIPP/EBPP solutions should be harmonised based on this European standard on e-invoicing. However, as no final decisions have been made regards to the list of technical message formats accompanying the European standard, the note supports the possible inclusion of the ISO 20022 Financial Invoice message standard. Having the ISO 20022 Financial Invoice message standard as the underlining technical message format (syntax) for EIPP/EBPP solutions would maximize the benefits of the fully fledged pan-European SEPA

¹ A goal set by the European Commission in the Single Market Act II (COM/2012/573) and in EC communication COM/2010/712.

infrastructures. For the European Committee for Standardisation (CEN) this could provide a positive rationale in favour.

To provide momentum to the Working Group a number of barriers to the implementation of electronic invoice/bill presentment & payment (EIPP/EBPP) solutions have already been identified. The following outlines **the most prominent barriers hindering:**

(A) the general objective – the take-up of EIPP/EBPP solutions; and

1. Businesses and consumers have limited knowledge about the advantages and added value – not enough motivation to initiate change.
2. SMEs and micro enterprises perceive e-invoicing/billing and the integrated presentment & payment solutions as complex and expensive to implement.
3. Consumers lack access to comfortable and secure solutions for receiving and paying e-invoices/bills.
4. The payers (and even the payees) might experience a lock-in effect because of diverge service levels and complexity in switching.

(B) the core objective – EU integration EIPP/EBPP solutions

5. No EU-wide interconnected network for providing full reach.
6. Diverging standards and non-interoperable technical formats for e-invoicing/billing.
7. Diverging business rules and practices on top of the standards.

Altogether, in a two-sided market one side has to take the first step. This means that firstly the businesses, as the biggest benefiter of the cost savings, should move towards e-invoicing, thereby facilitating the awareness of their customers. It is acknowledged that many businesses have already implemented supply chain & public procurement specific e-invoicing in the business-to-government (B2G) or business-to-business (B2B) domain and use the dedicated networks for sending and receiving invoices. But for enabling simple EIPP/EBPP services to all customers, cooperation is needed between e-invoice service providers and PSPs. This way the supply side would be able to deliver a complete package – a harmonised e-invoice/bill presentment & payment service for payers; and an e-invoicing/billing network for the payees to reach all consumers and businesses in Europe – which would for the interested stakeholders facilitate optimal level cash in opportunities on benefits of e-invoicing and SEPA in business-to-consumer and B2B invoicing.

The ERPB is invited to:

- ***agree on the ERPB's focus and vision on this dossier;***
- ***agree to set up an ERPB Working Group and approve the mandate (see file "Mandate of the Working Group on e-invoicing solutions related to retail payments"); and***
- ***advise the ERPB Working Group to take into consideration the findings presented in the Secretariat note.***

2. Background

Migration to SEPA payment instruments was only one piece in a jigsaw of measures and initiatives being introduced with the aim of creating a more competitive Single Market in Europe. Also the adoption of electronic invoicing (e-invoicing) is expected to create additional benefits in efficiency and cost savings². Therefore the European Commission wants to see e-invoicing become the predominant method of invoicing by 2020 in Europe.

The EU legislators define an “electronic invoice” as an invoice that has been issued, transmitted and received in a structured electronic format which allows for its automatic and electronic processing (Directive 2014/55/EU on electronic invoicing in public procurement). Therefore only machine readable invoices, which can be processed automatically and digitally by the recipient, are considered (for example, a scanned invoice sent by email is not an e-invoice as per this definition)

In Europe according to a research conducted by Billentis (2014: 12) the annual invoice volume is estimated to reach 35 billion and the general estimated volume of e-invoices is totalling up to 7.5 billion in 2015. More precisely, approximately half of the volume is sent to consumers (B2C); the other half to enterprises and the public sector (B2B/B2G/G2B). The biggest incentive for accelerating the general uptake of e-invoicing is the potential cost saving. Based on some actual case studies, it is highlighted that e-invoicing enables businesses to reduce per invoice processing costs up to 59% for invoice issuers and 64% for invoice receivers, depending on the size of the company and the number of processed invoices (*Ibid*, 2014: 51–52). Needless to say that e-invoicing is more efficient, quicker, comfortable, and environmentally friendly. It also opens additional possibilities which can be used in the context of real-time-economy and making economic forecasts.

The European Commission believes that the Directive (2014/55/EU) on electronic invoicing in public procurement will prevent the further fragmentation of the Internal Market and facilitate the general uptake of e-invoicing. The directive makes e-invoicing in public procurement mandatory by 2016 and calls for a European standard for the semantic data model of the core elements of an electronic invoice. With the directive (2014/55/EU) the basic (core) elements of an e-invoice will be harmonised in all Member States. The harmonisation of the core section of the e-invoice will enable cross-border interoperability and also legal compliance.

Consequently, the general focus in Europe with the call for a European standard on e-invoicing is more concretely on the domain between businesses and government. Approximately 45–65% of all companies are suppliers for the public sector and 100% of all companies and households receive in one or the other form invoices (requests to pay, e.g. land tax, public service charges etc.) from the public sector (Billentis, 2014). Therefore a greater uptake of e-invoicing solutions between businesses and government will increase also the usage of e-invoicing towards the consumers, SMEs and micro enterprises. With the European e-invoicing standard it is aimed that the standard and the defined list of possible technical message formats (syntaxes) should make it possible to set up user-friendly electronic invoicing systems, which also the businesses, especially SMEs could use. It will be developed by the European Committee for Standardisation (CEN); publication in the Official Journal of the European Union is envisaged by May 2017. This standardisation initiative (which is limited to the content and exchange on e-invoices) will be, together with the SEPA payment instruments, one fundamental building block for enabling the development of fully automatic e-invoicing and payment solutions, which are interoperable at the pan-European level.

² Reaping the benefits of e-invoicing in Europe, European Commission, 2010 ([link](#))

From the retail payments perspective there are emerging different solutions and services which merge electronic invoicing and payments from the payment service users' (PSUs) perspective (see also annex 1). Meaning that the basic e-invoicing (out of scope for ERPB) can be combined with payment services in a way which results in an innovative payment type, enabling the payer to flexibly manage and pay invoices/bills – i.e. **Electronic Invoice or Electronic Bill Presentment & Payment (hereinafter also EIPP/EBPP)³ solutions**. The EIPP/EBPP solutions are facilitated either directly or indirectly via PSPs and in practice they can be used in the business/government-to-consumer and business-to-business domains. For consumers it makes handling invoice payments easier and for businesses it increases efficiency throughout the payment as well as the reconciliation process. In some cases these services are clearly perceived by PSUs even as alternative payment solutions on top of the SEPA payment instruments. Unfortunately the market situation suggests that there is a need for further standardisation and harmonisation in order to make these solutions and services interoperable at the pan-European level.

To date in the EU the take-up of e-invoicing and the payment-related solutions is quite at an early stage. Therefore it is the right time to analyse the issues and give guidance to the market participants to avoid developing non-interoperable national solutions and services, which would also affect the single euro retail payments market.

3. Vision, focus and aim of the note

The **vision** is to facilitate and catalyse the market in delivering a harmonised e-invoice/bill presentment & payment service for payers; and an e-invoicing/billing network for the payees to reach all consumers and businesses in Europe.

The **focus** is on services which are provided by PSPs and used by consumers, SMEs and micro enterprises to enable one-off and/or re-current payments of the corresponding invoices in the SEPA context.

The **aim** is to outline the main findings of the research and analysis done by the ERPB Secretariat, with the objective to support the take-up and EU-level integration of electronic invoice/bill presentment & payment (EIPP/EBPP) solutions.

As the trend is towards electronic invoicing and also financial literacy is gaining ground in consumers' everyday lives there is a need for simple solutions to manage and pay e-invoices in the entire Single Market. Furthermore, due to limited IT skills and resources of SMEs and micro enterprises there is an increasing demand for extremely easy-to-implement/use tools & services (provided e.g. by PSPs or third parties) which enable the electronic sending, receiving and payment options of invoices/bills.

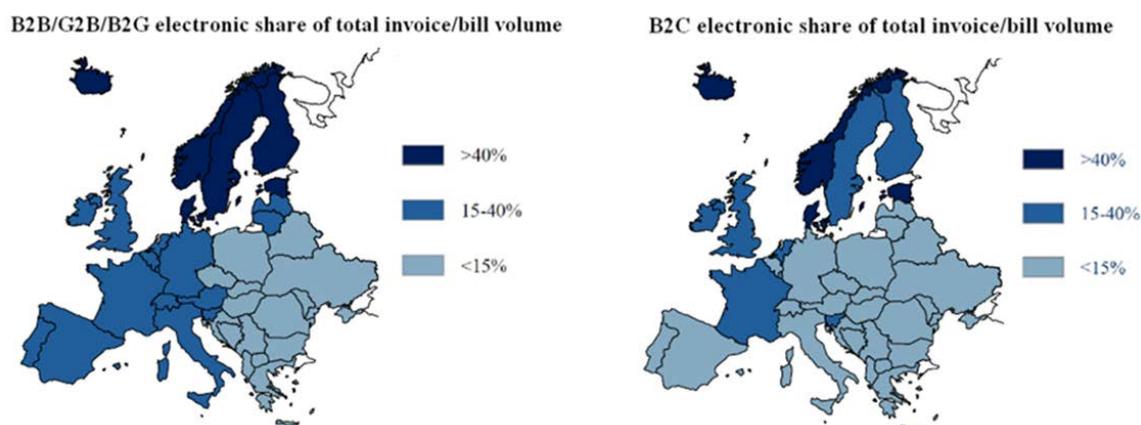
In the context of the note, e-invoicing solutions which are fully integrated into the Enterprise Resource Planning (ERP) and/or accounting software and are already supporting straight-through-processing (STP) – i.e. the payment orders are sent directly to the PSP via a SEPA compliant channel – are out of scope. This note is also not concentrating on the deliverables of the directive 2014/55/EU, i.e. the European standard for the semantic data model of the core elements of an e-invoice, because the latter focuses concretely on e-invoicing in public procurement, supporting also complex supply chains, and thus has a much richer content than needed for EIPP/EBPP.

4. General state of play in Europe

In Europe the e-invoicing market is growing, but the market penetration varies quite a lot. According to Billentis the general estimated electronic proportion of electronic invoice/bill volume is predicted to reach

³ E-invoice (used in B2B/B2G) and e-bill (used in B2C) are synonyms, in this note the abbreviation – EIPP/EBPP – names both.

16% for consumers and 27% for businesses and governments in 2015. The B2C electronic share of total invoice/bill volume is above 15% in Finland, Sweden, France, Ireland, the Netherlands and the United Kingdom; and exceeds 40% only in Denmark, Norway and Estonia. In general electronic invoicing/billing is still more used in B2B/G2B/B2G, the respective share in the majority of Europe is 15-40% or above. The Directive (2014/55/EU) on electronic invoicing in public procurement will facilitate the general uptake of e-invoicing even more. This gives more ground for saying that in the coming years e-invoicing/billing will become more available also to consumers, SMEs and micro enterprises.



In Europe there are over 620 e-invoicing service providers (operators), which are based either on three- or four-corner e-invoicing models. They offer different web-based, Software as a Service (SaaS, e.g. piece of software which connects to the ERP/accounting systems) and other solutions, which enable payees to issue e-invoices and send/receive them directly or via a consolidator/aggregator. Regarding distribution channels in B2B/B2G/G2B invoicing the 'buyer/supplier direct' and 'consolidator models' are used more or less equally, if one considers only the presentment of the invoice. However, in the B2C invoicing the supplier direct model is used the most. This is because most consumers prefer to receive electronic invoices via e-mail. Therefore it is estimated that e-mailing could be the preferred delivery channel for 2/3 of European consumers in the mid-term. Invoice presentment on the supplier portals and via internet banking does not yet play a major role in most European countries. An exception build the Nordic countries, where the exchanged e-invoice volume via online banking portals is almost as high as the one distributed by other channels. (Billentis 2014 and 2015)

In the future, with stronger discipline regarding e-invoicing standards, as being applied e.g. in Finland, it will be possible to launch piloting in respect of accounting based on statements of account and VAT reporting. Such pilot projects will subsequently enable implementation of cash-flow forecast automation and broader reporting automation. As more e-invoicing networks enable immediate processing, it might be even possible to monitor the business cycle in real-time at a company as well as country level.

In 2014 the migration to SEPA credit transfers and direct debits reduced the complexity of implementing e-invoicing solutions and enhanced the benefits of automated reconciliation – latest by February 2016 all stakeholders are using ISO 20022 XML standards for initiating bulk payments and receiving reconciliation messages. Therefore the harmonisation of the "payment leg" and the messaging channels between the PSPs and PSUs has made it easier for the sellers and buyers to integrate e-invoicing into their ERP/accounting systems. The migration has even motivated PSPs in some Nordic-Baltic Member States⁴ to move more towards B2C/B2B e-invoicing/e-billing, by replacing legacy direct debits with EIPP/EBPP solutions, i.e. combining e-invoicing and SEPA credit transfers to facilitate comfortable payment of one time and regular invoices.

⁴ Finland, Estonia and Latvia

In the Nordic-Baltic countries (i.e. Finland and Estonia) the impact on the uptake of B2C invoicing has been remarkable, because the SEPA migration provided an incentive to make the invoicing and payment procedures more efficient, resulting in the switch of legacy direct debits to e-invoices/bills which are being comfortably paid with SCTs. As both countries use a national four-corner e-invoicing model, the payees can make use of e-invoice sending and receiving possibilities offered directly by their PSPs or third party e-invoicing service providers (SaaS or web-based), unfortunately this interoperability is possible only at national level. Based on the practice of Finnish and Estonian PSPs the payers (consumers as well as businesses) are comfortable with the EIPP/EBPP solution and according to the competent authorities and consumer protection bodies there have been no complaints regards to the need for a refund recorded during 2014.

The decision how the payers want to pay the incoming e-invoices/bills always depends on different factors, e.g. the nature of the “business” transactions they are conducting; and also the financial situation of the payer, which will also influence the payment decisions through the level of the payer’s financial literacy. Based on these factors the payers are free at any time to choose whether they want to pay their e-invoices using one-off or automatic (re-current) payment options, and change their decision at will. But it can be said that the payers (especially consumers) tend to use the EIPP/EBPP service more for automatically paying regular e-invoices/bills, at least in the on boarding phase.

5. Barriers to take-up and integration

E-invoicing is a network business and there is a concrete need to avoid fragmentation and interconnect all service providers in order to achieve maximum reach to all businesses and consumers. Currently the use of e-invoicing is not widespread throughout the European Union and the use of EIPP/EBPP solutions is even less.

Regards to take-up, it is quite common that the migration to e-invoicing faces the well-known chicken-and-egg dilemma. Meaning that some businesses might argue that they don’t need to start using e-invoicing, because their customers (suppliers/consumers) don’t demand it. And vice versa the suppliers and consumers are just incapable of demanding services related to e-invoicing if the companies are not offering them.

Regards to EU integration, the work that is going to be done under the aegis of Directive 2014/55/EU is addressing the general standardisation and interoperability issues of e-invoicing – by means of the European standard on e-invoicing and the limited list of syntaxes with relevant guidelines on interoperability at the transmission level. By law e-invoicing will be compulsory only in the procurement process, between businesses and public authorities. However, as the migration to the European e-invoicing standard is voluntary for private businesses (B2B and B2C invoicing) it affects also the EIPP/EBPP services offered to SMEs, micro enterprises and consumers. The most important remaining barriers are listed in the following table.

The following list of barriers is based on a Eurosystem analysis, the Billentis e-invoicing / e-billing report (autumn, 2014) and the European Commission’s final report of the expert group on e-invoicing (November, 2009), etc.

The 7 key barriers to be addressed

Influencing the general take-up and implementation of EIPP/EBPP solutions

1. Businesses and consumers have limited knowledge about the advantages and added value – not enough motivation to initiate change.
2. SMEs and micro enterprises perceive e-invoicing/billing and the integrated presentment & payment

solutions as complex and expensive to implement.

3. Consumers lack access to comfortable and secure solutions for receiving and paying e-invoices/bills.
4. The payers (and even the payees) might experience a lock-in effect because of diverge service levels and complexity in switching.

Influencing EU integration of EIPP/EBPP solutions

5. No EU-wide interconnected network for providing full reach.
6. Diverging standards and non-interoperable technical formats for e-invoicing/billing.
7. Diverging business rules and practices on top of the standards.

6. Concluding considerations for the ERPB

As described before, the potential benefits (see also annex 2) of the adoption of e-invoicing in general and EIPP/EBPP solutions more specifically are quite important not only for the stakeholders but also for the whole economy. A central point for achieving migration to e-invoicing is that payees are convinced of the added value (i.e. cost savings, speed, security and simplicity) of e-invoicing/billing and more innovative EIPP/EBPP solutions which clearly involve also payees/payers with no technical capability of automatizing its own payment processes.

Based on Eurostat 7.3% of all enterprises in EU28 are SMEs (10-249 employees) and 92.5% are micro enterprises (less than 10 employees). For e-invoicing/billing to become predominant in Europe, the vast majority of SMEs and micro enterprises must also be enabled to issue and pay e-invoices/bills in a simple and cheap manner. In a two-sided market this would also ensure that consumers can fully benefit from e-invoicing/billing, because it would give a greater incentive to PSPs, e-invoicing service providers and larger payees for developing EIPP/EBPP services targeting directly consumers.

By addressing the “seven key barriers” identified in the previous chapter the following possibilities for supporting the take-up and EU integration of EIPP/EBPP solutions are identified (as numbered before).

6.1. General objective – support the take-up of EIPP/EBPP solutions

For supporting the proliferation of the electronic invoice/bill presentment & payment solutions the following conclusions should be considered by the ERPB.

1. **Better communication of the potential benefits to the supply and demand side of the market is needed already at country level.**
 - a. A supporting role could be played by the relevant national fora and initiatives.
 - b. For highlighting the social and private benefits of automated e-invoice and payment processes in the B2G/B2B/B2C and G2C domains, the relevant authorities could consider including it also in the scope of cost studies on retail payments.

Based on the available reports analysing the barriers hindering the up-take of e-invoicing it is obvious that one common issue is related to the knowledge of the business owners. Because even if there are convenient and cost effective EIPP/EBPP solutions available, the business owners tend not to know what are the real benefits for the company.

2. **Businesses need easy-to-use and cheap-to-implement EIPP/EBPP solutions (e.g. web/portal-based or Software as a Service), enabling them the possibility to reach any payer in the European Union.** [Developments could be made by ERP/accounting software providers; e-invoicing service providers; and also PSPs.]

- a. The ERP/accounting software providers have a key role to play – many of their solutions already enable e-invoicing, the question is how to easily send the invoice via a PSP or e-invoicing service provider's network to any payer in the EU.

In general, it is aimed that by 2020 e-invoicing becomes the predominant way of invoicing in the European Union. The directive 2014/55/EU makes e-invoicing in public procurement mandatory by 2016. This will probably ensure the critical mass of adopters, because it is estimated that approximately 45–65% of all companies are suppliers for the public sector (Billentis, 2014). For increasing the take-up of EIPP/EBPP services, the businesses already using e-invoicing in the B2G domain should be enabled to apply that also in their B2B and B2C business, e.g. by making available necessary conversion facilities. In addition also the vast majority of SMEs and micro enterprises should be able to issue e-invoices.

3. **Consumers need that the stakeholders, enabling them to receive, manage and pay e-invoices/bills in the B2C/G2C domain, establish easily accessible and secure service environments, which can also be used remotely via mobile devices or even phone calls.** [Developments could be made by e-invoicing service providers; and PSPs.]

Consumers lack access to comfortable and secure solutions for receiving and paying e-invoices/bills. Smartphones, tablets and mobile internet is becoming widespread and affordable to everybody. Also banking and e-invoicing/billing is steadily moving into mobile channels/devices.

4. **A harmonised description of the basic features/principles of the EIPP/EBPP service would avoid complexity in changing service providers.** [In cooperation of PSPs and e-invoice service providers.]
 - a. It also ensures a level playing field for the relevant stakeholders in the cooperative space.
 - b. The service providers are free to develop additional added value offerings, bearing in mind the EBA guidelines for security of internet payments (EBA/GL/2014/12).

From the consumers' (and possibly many micro enterprises') perspective it would be efficient and convenient to receive, manage and pay all e-invoices in one easily accessible environment.

6.2. Core objective – support EU integration of EIPP/EBPP solutions

For increasing integration the ERPB should consider the following.

5. **Leveraging the potential of SEPA payment infrastructures in cooperation with existing e-invoicing infrastructures could result in a pan-European e-invoicing network enabling the payees/payers to route or send all e-invoices/bills based on IBANs and/or payment card details to any payer's account in the European Union. The invoicing leg could operate in real-time.** For that cooperation is needed between PSPs, e-invoice service providers, SEPA infrastructures and if needed also card payment processors in SEPA.
 - a. Also conversion facilities to ISO 20022 XML formats are needed for including the different e-invoicing syntaxes.
 - b. This could be applied at least in the B2C and G2C domain and if applicable also for micro enterprises and SMEs.

Despite the cooperation efforts between the existing e-invoice service providers, the general e-invoicing network is still limited and doesn't reach many SMEs and the majority of micro enterprises and consumers in the EU. However, the PSPs' network interconnects all payees and payers in the EU, therefore the e-invoice envelope (and also e-receipt) could be sent to the payer using the SEPA payments infrastructure.

6. For benefiting of the fully fledged SEPA infrastructures the EIPP/EBPP solutions, which enable consumers, SMEs and micro enterprises to initiate one-off/re-current payments of the corresponding invoices, should ideally be based on the ISO 20022 Financial Invoice messages (syntax). See rationale in annex 3. [In cooperation of PSPs and e-invoice service providers.]

- a. Harmonisation of the semantic content should be made based on the European standard on e-invoicing. The European standard should be implemented at least to an extent necessary for providing EIPP/EBPP services.
- b. The ISO 20022 Financial Invoice syntax could also be mapped to enable technical interoperability between all identified syntaxes for the European standard (i.e. by means of conversion facilities); in particular the CEN could include it as one of its recommended syntaxes.

Making use of the ISO 20022 Financial Invoice syntax enables the service providers and payees to take advantage of the fully fledged SEPA infrastructures and the ISO 20022 XML compliant channels between the payees and PSPs.

7. Harmonisation of business rules and practices and interoperability between different EIPP/EBPP solution providers domestically and on the cross-border level is urgently needed.

In this respect, the possibility of creating a European scheme, i.e. a scheme for EIPP/EBPP services, which makes better use of the existing payment schemes, could be explored. [In cooperation of PSPs and e-invoice service providers]

- a. The scheme should be open to all SEPA payment instruments, ensuring flexibility based on the business needs of the involved parties; and
- b. it should be based on the existing payment instruments, enabling the payer to flexibly manage/initiate one-off and re-current payments at the service provider's environment (incl. authorisation of the automated payments of already received regular e-invoices and bills).

In principle and by drawing parallels from the definition⁵ of a payment scheme, such a harmonisation of rules, practices and/or implementation guidelines could lead to the development of a European scheme for EIPP/EBPP solutions and services. On top of that a scheme ensures that the services are provided on the same essential conditions and modalities throughout SEPA, and also that the payees and payers have the possibility to use a single payment account irrespectively the Member State for using the services. Such a scheme would facilitate the elimination of borders and make it possible for consumers, SMEs and micro enterprises to use EIPP/EBPP solutions and services in SEPA with the same level of simplicity and adequate security as within the national environment. Ultimately a European scheme would also benefit the development of a healthy and competitive market where the EIPP/EBPP solution and service providers can enjoy a level playing field.

6.3. Possible action points to the dedicated ERPB Working Group

In the following the above listed conclusions are transformed into more concrete action points for further investigation.

- **ISO 20022 Financial Invoice message standards v/s ISO 20022 Payment message standards.**
The ERPB WG should initiate:

⁵ 'payment scheme' means a single set of rules, practices, standards and/or implementation guidelines agreed between PSPs for the execution of payment transactions across the Union and within Member States, and which is separated from any infrastructure or payment system that supports its operation (Article 2, Regulation 260/2012/EU)

- *a feasibility assessment for leveraging the potential of the SEPA payment infrastructures – either by (A) additionally supporting the transmission of ISO 20022 e-invoice envelopes, or (B) merging both message standards – to support EIPP/EBPP services that reach every payer (identified by an IBAN or card details) in the European Union (i.e. full reachability using the PSPs' and the automated clearing houses or the card processing infrastructures); and*
 - *a query on how the EPC's scheme rulebooks and the practice of PSPs might support or restrict this.*
- ***Pan-European reachability:*** *in relation to the feasibility assessment, specified above, the ERPB WG should initiate an analysis for the development of a framework for the pan-European e-invoicing/billing network, also taking into account the developments of e-invoicing networks in the B2G domain and considering interoperability options.*
 - ***Avoiding complexity in changing service providers:*** *the ERPB WG could propose a harmonised description of the basic features/principles of the EIPP/EBPP service, which could be included in a European scheme for EIPP/EBPP services.*
 - ***Harmonising the business rules, practices and implementation guidelines:*** *for EIPP/EBPP solutions (targeting SMEs, micro enterprises and consumers), the ERPB WG should describe a set of “minimum criteria” for business interoperability that all service providers respect in providing the respective services in the EU. The relevant market stakeholders should discuss and agree on the way forward regards to the establishment of the European scheme for EIPP/EBPP services.*
 - ***Facilitating different payment habits:*** *from the payers' perspective it is comfortable to manage the payment option (one-off/automatic) of incoming one-off and regular e-invoices at the payer's PSP (i.e. authorise the automated payments of invoices after receiving the e-invoice). This might have the potential to motivate the uptake of e-invoicing in the B2C and also B2B domain. The ERPB WG could investigate whether the needs of all invoice issuers/payers in Europe could be supported by the existing payment schemes and propose ways to address this if it is not the case.*

Annexes

Annex 1. Combining e-invoicing and retail payments

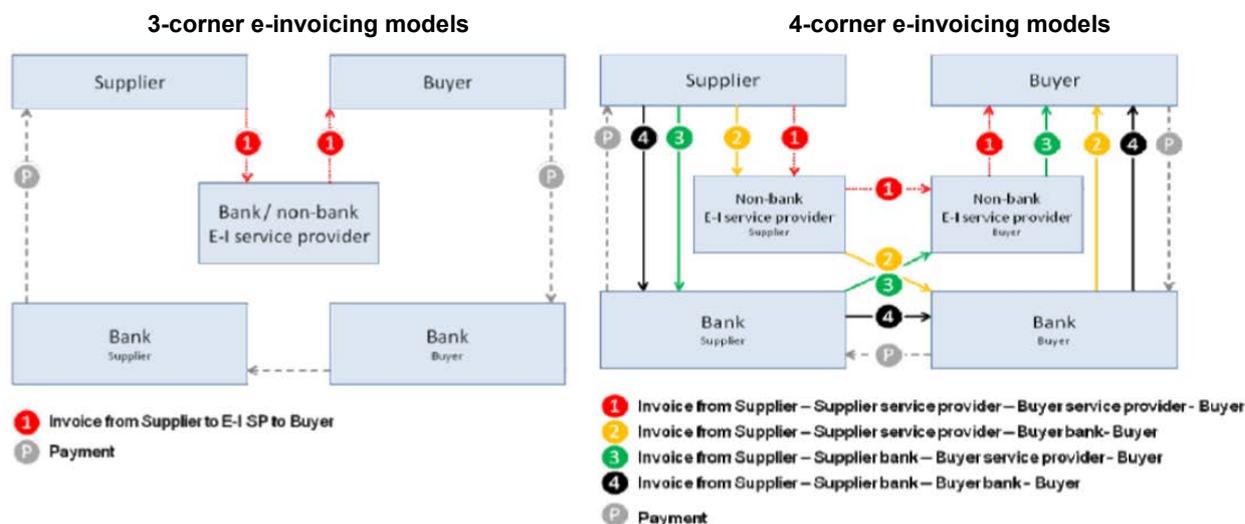
E-invoicing is the electronic transfer of invoicing information between business partners (seller and buyer). It is an essential part of an efficient financial supply chain and it links the internal processes of enterprises to their payment systems. However, the benefits of electronic invoicing are maximised when the generation, sending, transmission, reception and processing of an invoice can be fully automated.

In general e-invoices can be routed and displayed to the payers (consumer, SME & micro enterprise) via different channels. The payee has the possibility to:

- issue e-invoices directly to the payers (e.g. using a supplier/buyer direct model)⁶, if it has enough resources to integrate e-invoicing into the ERP/accounting system; or if not
- use a service provider (a PSP or a 3rd party), which can provide an easy-to-use solution for compiling e-invoice envelopes, also enabling aggregation possibilities (consolidator model)⁷.

This enables to make the connection between the general e-invoicing and the automation of the presentment and payment of the invoice (i.e. EIPP/EBPP) towards the payers. It also includes the after-payment processes, enabling automated reconciliation⁸ of outstanding e-invoices and payments made/received.

The following figures show the involved parties and illustrate the possible e-invoice flows in case of 3-corner and 4-corner models (non-exhaustive)⁹. It has to be noted that more and more e-invoicing networks are processing information flows in real-time.



It is important to stress that all EIPP/EBPP solutions enable *via* the PSPs the buyer-side (payer) to initiate an electronic payment either using a credit transfer, a direct debit, or a card payment (as described in the following table). In addition the seller-side (payee) can enjoy automated reconciliation in its ERP/accounting systems (or via an accounting service provider).

⁶ The **seller direct model** implies that the vendor possesses the EBPP system on which invoices are presented to customers (one-to-many relationship). In the **buyer direct model**, the customer controls the EBPP application (many-to-one relationship). The vendor either posts his invoices on the customer's system or the customer creates the invoice himself from his own order.

⁷ The **consolidator model** promotes many-to-many relationships between payees and payers. A consolidator (e.g. a third party/PSP) acts as an intermediary, collecting or aggregating invoices from multiple payees for multiple payers, eliminating the need for point-to-point connections.

⁸ Within SEPA the automation of reconciliation can be achieved by using the ISO 20022 XML messages for Account Reports in the payment service provider (PSP) to customer domain.

⁹ EBA e-invoicing initiative – Service Description & Rulebook – Version 2.0, published 2011 (see pages 85–86)

Electronic Invoice or Electronic Bill Presentment & Payment (EIPP/EBPP) solutions		
1. PRESENTMENT	PSPs' Internet Banking websites;	
	3rd Party Service Providers' websites/secure e-mails (non-PSPs); Payees' websites.	acquiring the payment option via PSPs
2. PAYMENT	Credit Transfers, Direct Debits, or Card Payments	

Recognizing that for EIPP/EBPP solutions the payees can use their own websites, it has to be stressed that PSPs and non-PSP third party service providers (e.g. e-invoicing operators/service providers) are better placed for proliferation of e-invoicing in Europe. The e-invoicing operators can provide easy-to-use and simple-to-implement e-invoicing solutions for issuing invoices (which is their primary business), but also address the payers' needs by offering EIPP/EBPP services to consumers, SMEs and micro enterprises.

The PSPs network provides strong authentication of the payees/payers as well as strong authorisation of payments. The PSPs are also inter-connected via the SCT and SDD infrastructures into a pan-European network, which reaches all stakeholders. Currently in the Single Euro Payments Area (SEPA) there are three EU-wide payment schemes developed by the European Payment Council: one for credit transfers (SEPA Credit Transfer Scheme) and two for direct debits (SEPA Direct Debit Core and B2B Scheme). For making inter-bank payments the PSPs make use of relevant infrastructures and the corresponding services for clearing and settlement of credit transfers and direct debits

The following table shows how it is possible to combine e-invoicing, different payment instruments and related infrastructures to enable comfortable payment of an invoice.

EIPP/EBPP solutions			
e-invoicing standard/format	e-invoicing file/envelope		
payment instrument	credit transfers	direct debits	card payments
and infrastructure	SCT infrastructure	SDD infrastructure	processing infrastructure
At the service level the payers are enabled to make	<ul style="list-style-type: none"> - one-off payments (<i>for one time or regular e-invoices</i>); and/or - re-current payments (<i>for regular e-invoices</i>) 		

As the table is generic, it is flexible towards the different needs and payment habits of the payment service users in Europe. From the security perspective the EBA guidelines on the security of internet payments are applicable to all combinations.

Annex 2. Benefits of using electronic invoicing

The implementation of e-invoicing brings benefits for the society as a whole – convenience for consumers, efficiency and productivity for businesses as well as for public administrations. The digitalization of business processes in general and e-invoicing in particular is a prime opportunity to improve the competitiveness of European enterprises and raise productivity and customer satisfaction. In addition to the reduction of private costs also the environmental benefits of e-invoicing must be considered. E-invoicing helps to reduce paper consumption and energy costs of transportation, generating significant carbon savings and reducing the ecological footprint of companies¹⁰.

¹⁰ Economically friendly electronic invoice, Federation of Finnish Financial Services, 2010

The structured e-invoicing enables integration of processing in the ERP and accounting software and will make it possible to fully automate buyer and seller business processes (i.e. starting from placing the order, to the actual payment and reconciliation of the invoice). This leads to improved STP (straight-through-processing) for payments and reconciliation of outstanding invoices. With faster invoice approval times the payment delays will be shorter, and if needed the businesses will have also faster payments and improved supply chain finance opportunities, enabling them to generate more value. The EIPP/EBPP services offered by PSPs and e-invoicing operators make these benefits easily accessible to consumers, SMEs and micro enterprises, enabling them to issue and pay e-invoices in a simple, secure and efficient manner. So, with EIPP/EBPP services it is a win-win situation to businesses/consumers as well as to the PSPs and e-invoicing service providers. By introducing new convenient services the PSPs and the e-invoicing service providers are able to find new sources of income flows and thereby also to better acquire new customers and satisfy/retain the current customer base.

In addition, general migration to e-invoicing benefits the “real-time economy” in the entire EU, i.e. will help to create an environment where all transactions are digital, automatically generated and in real time (Bank of Finland, 2015)¹¹. For companies, public authorities and consumers this means that orders, order confirmations, invoices and payments move from one system to another without delay. This will also enable the uptake of electronic filing, electronic accounting and automated financial administration and standardised, structured and automated reporting (towards relevant authorities). Full migration to e-invoicing will enable governments to fight against grey economy and tax evasion; it will also make it possible to accurately monitor the health of the economy as a whole.

In the following the most important benefits, categorised by stakeholder groups, are outlined¹².

For businesses as sellers/payees and buyers/payers

Cost reduction – e-invoicing creates substantial cost savings through a reduction in manual administrative work, material and transport/postal costs. In particular a full integration of procurement/purchase processes, invoicing and payments along the physical and financial supply chain is an essential driver for enterprise cost savings. Straight through processing (STP) and semi/full automation of the invoice presentment and payment makes the whole process more efficient (e.g. no mistakes in the payment orders and less problems in reconciliation). Additional cost savings arise in fraud and loss prevention and auditing costs for trading parties and tax authorities.

Faster processing and payment cycles – e-invoicing enables instant and secure delivery of multiple invoices to the payers, i.e. ensuring also faster invoice routing and approval times. It also enables faster payments, either initiated through the payer’s own automated ERP and accounting software (exporting payment data to PSPs) or via EIPP/EBPP solutions enabling easier and more efficient payment opportunities for SMEs, micro enterprises and consumers. By using the automated ISO 20022 XML account reports messages in the ERP and accounting software, the businesses can make use of enhanced account reconciliation. This enables also better monitoring of the days sales outstanding, i.e. acknowledgement of invoice receipt and transparency of the payment status.

Faster business cycle – due to the faster approval and processing of e-invoices, businesses can increase their working capital by making use of flexible supply chain financing, i.e. they have the opportunity to borrow against approved receivables, thus increase the speed and productivity of their business cycle.

¹¹ Payments in an increasingly digital economy, Payments Council Working Group 2, Bank of Finland, 2015

¹² This part has benefited from different sources released by commercial and public sector entities. Including also the “Final report of the expert group on e-invoicing”, published by the European Commission in November 2009. The benefits for the Public Administrations are not described as they are out of the scope of this report.

Improved cash management – for businesses the ability to optimise their working capital is essential. It improves business agility and can minimise the need for external financing. By shrinking the order-to-pay and order-to-cash cycles, e-invoicing allows businesses to receive payments in a timely manner and take advantage of any trade discount schemes that may be available.

Improved compliance and security – businesses can take advantage of e-invoicing service providers (PSPs or e-invoicing operators) whose solutions ensure security and regulatory compliance, i.e. VAT compliance of invoices. For example: enabling e-invoices to be signed by a qualified electronic signature and used/accepted as source documents in accounting, i.e. making the whole accounting process more efficient.

For consumers as buyers/payers

Convenience and control of finances – all purchases end with a paper or electronic invoice/receipt, with EIPP/EBPP services consumers have simple and easy access to their invoices at the payees' digital environment, at the PSPs' internet banking environment or 3rd party service providers' digital environment (including notifications/monitoring via e-mail or SMS). With the latter two it is possible also to collect all invoices into one place, which gives the consumer a good overview of expenditures, enabling to better plan one's finances. Including choosing when, where and how to pay. It makes also possible to access archived invoices for warranty purposes, etc.

Better payment choices – with EIPP/EBPP services the consumers are always in charge, i.e. having an overview of outstanding invoices and choosing payment options best fitting their financial needs (e.g. using one-off or re-current payments). As the invoices are presented to the payer well before the due date, the payer can check the details and rightfully change also pre-authorised re-current payments. The payers will enjoy all benefits of the SEPA payment instruments.

Increased security – with e-invoicing the payer cannot make any mistakes in the payment order, because the latter is generated automatically from the e-invoicing envelope sent by the payee. This means that the invoice is always paid correctly, i.e. with the right payer and recipient name, account and reference number and other relevant remittance data. In addition with using EIPP/EBPP services the payer will always receive the invoice, it won't get lost in post.

Annex 3. Rationale of using ISO 20022 Financial Invoice messages for EIPP/EBPP

The EIPP/EBPP solution providers, which enable consumers, SMEs and micro enterprises to initiate one-off/re-current payments of the corresponding invoices, should be incentivised, by the ERPB, to migrate to the European e-invoicing standard and the ISO 20022 XML Financial Invoice messages as one of the potential¹³ interoperable syntax. As the European e-invoicing standard (i.e. the semantic data model of the core elements of an e-invoice) provides more information than needed for providing EIPP/EBPP services, it should be implemented at least to an extent necessary for providing the service to consumers, micro enterprises and interested SMEs. In addition making use of the syntax based on the ISO 20022 methodology would enable the service providers and payees to take advantage of the fully fledged SEPA infrastructures especially reaching consumers and businesses with simpler supply chains. See the elaborated rationale in the following table.

It has to be noted that even if the ISO 20022 Financial Invoice would not be included in the final list of syntaxes that will accompany the European standard on e-invoicing, there is a possibility to establish interoperability based on other syntax (i.e. UN/CEFACT Cross Industry Invoice). This can be done by means of conversion services which the EIPP/EBPP service providers could include in their value

¹³ Currently the assessment of the syntaxes that are to be included in the final list is on-going in the CEN/PC434.

proposition to the payees/payers. In practise this would facilitate the businesses, which have implemented some other syntaxes in the B2G domain, to send “requests to pay” to consumers, micro enterprises and SMEs by making use of EIPP/EBPP services.

Rationale of using ISO 20022 Financial Invoice messages (syntax)	
<p>Strengths</p> <ul style="list-style-type: none"> - It is a XML global message fully based on the ISO20022 standard; it is based on the same methodology as the payment messages used for SEPA Credit Transfers and Direct Debits. - It is entirely based upon the CII Version 2.0 (Cross Industry Invoice) data model as the overall business reference model for invoicing and fully maps to that model. - It provides an immensely useful and useable sub-set of the UN/CEFACT CII data model by means of a minimum core dataset. It will meet the majority of commercial requirements for a general purpose invoice, as well as being capable of extension to more specialised requirements. 	<p>Weaknesses</p> <ul style="list-style-type: none"> - It intentionally does not cover the features of entire UN/CEFACT CII model, which reflects an enormous range of specialised requirements intended for the needs of supply chain management, specific sectors and functions, customs, and transport etc., but it does provide the necessary flexibility for such requirements to be added by selection from the CII data model. - The UBL (Universal Business Language) e-invoice message structure encompasses a wide range of e-business messages (purchase to pay, order to cash, pricelist, tender...). The ISO 20022 standard does not yet encompass that variety of messages.
<p>Opportunities</p> <ul style="list-style-type: none"> - It does cover all currently identified financial requirements for use in the financial environment, both in terms of the invoice content itself, as well as the integration to other financial messaging and business requirements such as requests for payment initiation, direct debits, card payments, electronic bill presentment and payment, trade and invoice financing, factoring, and supply chain finance. - It might enable the businesses, PSPs and ERP/accounting software developers to exploit the same ISO 20022 compatible channels, which were developed in the course of the SEPA migration. - It might enable the usage of the SEPA payments infrastructure, i.e. full reachability to all EU payers and payees via the interconnected SEPA infrastructures. 	<p>Threats</p> <ul style="list-style-type: none"> - From a syntax point of view it is based on a different methodology from the commercial messages forming part of ISO15000 and therefore will not be identical in all respects to other syntactical representations of the UN/CEFACT CII that may be developed (for example as part of ISO15000). - The public sector has invested heavily in other syntaxes and therefore might oppose stronger support of ISO 20022.