Interoperability Charter for the Transmission of Electronic Invoices

Forum National de la Facture Electronique et des Marchés Publics Electroniques

September 2019

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1. Preamble

The FNFE-MPE (Forum National de la Facture Electronique et des Marchés Publics Electroniques - National Forum on E-Invoicing and Marketplace & Public E-procurement) is an association created in 2016, gathering various public and private stakeholders, such as users, service providers, professional associations and communities, and government departments.

Its mission is to facilitate and promote the development of electronic invoicing and public procurement in France, in accordance with the regulations in force and in conjunction with the European authorities, notably the European Multi-Stakeholder Forum on Electronic Invoicing (EMSFEI) of which the FNFE-MPE is one of two members representing France.

As such, within the scope of the EMSFEI's activities, the FNFE-MPE supervised the drafting of a report on the interoperability and transmission of e-invoices with a special focus on the needs of SMEs, which was published by EMSFEI in November 2018.

As a follow-up to this report, to provide guidelines for stakeholders, senders, receivers, and their respective potential service providers, the FNFE-MPE created a working group to draft this Interoperability Charter.

2. Purpose of the interoperability charter

The purpose of this charter is to formalise **the best practices needed for the transmission of electronic invoices** between trading partners, **notably through the intermediary of service providers**.

Indeed, in their role as intermediaries, service providers turn data into original invoices or vice versa as they issue and receive original invoices on behalf of their respective customers. They therefore play a part in ensuring the legal and fiscal compliance of the electronic invoices exchanged.

Thus, the purpose here is to define the basic principles allowing Senders and Receivers to freely choose their solutions or service providers while also ensuring that their invoice creation, transmission and reception processes comply with regulations.

To this end, there is a particular focus on the need for a clear and shared vision of what constitutes the original invoice, the recommended Standards, the means of acknowledging receipt, and the procedures to be formalised between service providers in order to manage potential errors.

In this way, trading partners, senders and receivers of electronic invoices, and their third-party service providers will be able to make a public commitment to upholding these best practices and recommendations in their modes of operation.

3. Definitions

For better understanding, the following terms will be used in this document:

Electronic invoice: the most well established European definition of an electronic invoice is that included in the VAT Directive 2006/112/EC as amended by Directive 2010/45/EU, article 217. It is an invoice that contains the information specified in the Directive, and which has been issued and received in any electronic format. It can be:

- a structured format capable of being machine readable and automatically processed,

- or a non-structured format represented by a humanly readable visual presentation of an electronic invoice (such as a simple PDF)

- or a combination of a structured and non-structured format, often referred to as a 'hybrid' invoice.

In order to avoid any misunderstanding, in Directive 2014/55/EU on electronic invoicing in public procurement and the associated adoption of a European Standard for an electronic invoice in public

procurement, electronic invoice is defined specifically as an invoice that has been issued, transmitted and received in a structured electronic format which allows for its automatic and electronic processing. This stricter definition is relevant for electronic invoicing conforming to Directive 2014/55/EU with its application for the public sector in the EU. This is not the definition referred in this document.

Electronic Data Interchange (EDI): is a form of transmission used in numerous industries for the two-way transmission of standardized structured data on a point-to-point basis and is cited as a method in the 2010 VAT Directive. It offers structured data transmission in a peer-to-peer mode based on shared fully documented and structured formats, languages such as UN/EDIFACT or XML, protocols (such as AS2, AS4, FTP, FTPS, SFTP, OFTP, OFTP2, HTTPS, HTTP, SMTP, …) and using various file or message exchange tools, access points to exchange networks, or service providers.

Interoperability: the ability of a seller or a buyer acting as trading parties to exchange e-invoices and other documents that contains the information elements required by both seller and buyer in a compliant form, easily workable, irrespective of the information technology environment, e-invoicing solution or service used by each, and provided that the electronic network addresses used by the parties are known or easily discoverable.

Sender : is the Party that is legally the sender of the invoice, i.e. usually the Seller.

Sending Party : is the Party that sends the e-invoice, on behalf of the Sender. It can be the Sender's Service Provider (named Service Provider-Sender or **SPS**) or the Sender itself.

Receiver : is the Party that is legally the recipient of the invoice, i.e. usually the Buyer.

Receiving Party: is the Party that receives the e-invoice (the original invoice), on behalf of the Receiver. It may be the Receiver's Service Provider (named Service Provider-Receiver **SPR**) or the Receiver itself.

Service Provider: in the context of e-invoicing is an organization that typically provides its customers with services for the creation, delivery and processing of e-invoices and other related e-business transactions as well as supporting software and services.

Compliant: applied to an e-invoice, it means that the e-invoice is compliant with the regulation (including fiscal) and with the documentation of the format used. For instance, a PDF invoice that claims to be PDF/A is not compliant if it does not comply with PDF/A standard; an invoice that claims its compliancy with UN/CEFACT CII D16B is not compliant if it does not respect the structure of data and the business rules.

It should be noted that the roles of Sender, Sending Party, Receiver, and Receiving Party may be fulfilled during the transmission process in whole or in part by parties other than the trading parties or their e-invoicing service providers. Examples include financial institutions (Payment Service Providers -PSP) or factors providing invoice finance, or other servicing entities such as accountants and business process outsource providers.

4. Review of the basic regulatory principles

4.1. The electronic invoice and legal and fiscal compliance

An electronic invoice is an invoice that is created, transmitted and received in an electronic format. It can be a structured data file (e.g. XML, UN/EDIFACT) or unstructured (e.g. PDF, HTML, text). It must be archived by each of the Parties exactly as it was issued or received.

To be considered an original invoice according to the tax regulations, invoices must contain all of the required information as defined in the tax, commercial, accounting and competition law regulations, as well as regulations specific to the issuer's sector of activity, and ensure its authenticity of origin, integrity of content and legibility.

To this end, according to the provisions of Article 233 of Directive 2006-112-EC amended by Directive 2010-45 EU, transcribed in France in Article 289 VII of the General Tax Code (CGI) and subsequent decrees, orders and Official Public Finance-Tax Bulletins (BOFIPs), there are three possible modes:

- Implementing documented business controls which creates a reliable audit trail between an invoice and a supply of goods or services. This also includes specifying the procedures leading to creation of the original invoice for the **Sending Party**, and those leading to book the invoice received by the Receiver based on the information stated on the original invoice received by the **Receiving Party**.

- Secure electronic signature of the electronic invoice with a qualified digital certificate, **whether the electronic invoice is in structured or unstructured format**. For the receiver, this mode requires verifying both the electronic signature and the digital certificate and ensuring that it is "qualified".

- Electronic data interchange (EDI) according to a standard agreed between the sender and the receiver, using procedures and technical means that ensure authenticity of origin, integrity of content and legibility[1].

If the electronic invoice is in structured data format (EDI), any of the 3 modes listed above can be applied. However, the obligation of presenting the electronic invoice in a human readable form remains, as does the obligation of having a document covering the structured interchange format, including indicating the meaning of the different codes used for certain invoice information and the applicable business rules.

It is also important to note that the tax and accounting regulations stipulate that every accounting entry must be able to be traced back to its origin (audit trail). In particular, this means being able to substantiate that the invoices correspond to real services to which the proper VAT rules are applied (with particular vigilance regarding exemptions for the supplier, and the reality of deliveries generating VAT deductibility for the buyer).

Thus, the reliable audit trail provisions (**BCAT** for "*Business Controls that create a reliable Audit Trail*") introduced with the transposition of Directive 2010 55 EU also represent a best practice for management, in terms of demonstrating the reality of business transactions beyond the mere formal compliance provided by an electronic signature or the EDI mode.

Finally, the tax regulations also define the sequence of operations for creating invoices, which must be done immediately on delivery of the goods or services, with a tolerance of several days and allowing for the option of periodic invoicing with a maximum billing period of one calendar month.

As the invoice date is normally the operative start of the term of payment, an actual transmission date that is too far from the invoice date may lead to invoice refusals from the buyer, simply because this would not leave enough time for compliance with the contractual terms of payment, based on invoice date and not invoice reception date. Moreover, an invoice date that is too far from the delivery date, due to late creation of the invoice, would violate the tax rule of invoice creation sequencing recalled above.

4.2. The original electronic invoice is strictly identical between sender and receiver

When electronic invoices are exchanged, whether in the form of structured (e.g. in XML or UN/EDIFACT syntax) or unstructured (e.g. PDF, HTML, etc.) electronic files, it is mandatory in France for **the original invoice issued** and which must be archived by the **Sender** (a service that may be subcontracted to one of

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[1] In France, this translates into the obligation to maintain and archive a file listing the partners with whom a liable party engages using this mode (the partner list) and a chronological summary list of electronic invoices issued or received, stating any errors (the summary list), and to verify that each invoice contains all mandatory fields; in addition, the digital solution must also be able to present all of the information contained in the electronic invoices in a human readable form.

the Sender's service providers) **to be strictly identical** to **the original invoice received** and which must be archived **by the Receiver** (a service that may be subcontracted to one of the Receiver's service providers).

This original electronic invoice is the supporting document for VAT collection (or exemption) on the supplier end, and for VAT deductibility on the customer end. It is also the supporting document for each party's accounts, justifying turnover for the supplier and the expenditure figure for the customer, with a direct impact on the gross profit or loss and therefore on the corporate tax.

Consequently, each liable party **must be able to demonstrate that its accounts**, and therefore by extension its tax returns, **are duly based on the invoice information contained in the original invoice**.

Moreover, it may be the case that the **Sender** and the **Receiver** exchange both an invoice data file and a readable version (e.g. in PDF format), which can both be considered the original invoice. This can lead to a discrepancy between what the **Sender** considers the original electronic invoice to be archived, and what the **Receiver** considers the original invoice, received electronically, to be archived as the minimum requirement.

It is therefore important that the chain of electronic invoice transmission, which may include service providers that are often tasked with creating the original invoice on behalf of the **Sender**, be able to ensure:

- that the **Sender** and **Receiver** share the same vision of what constitutes the original electronic invoice,

- that the original electronic invoice is created under the mandate of the **Sender** (the supplier) in accordance with the tax regulations,

- and that for the duration of the required archiving period each party is able to provide evidence that the information entered into its accounts is indeed the same as the information on the original invoice.

4.3. Freedom of choice of the invoice exchange and digital solution

Each liable party (**Sender** or **Receiver**) is free to use the above-listed mode of its choosing. However, this choice does depend on the form of the original invoice. For example:

- If the **Sender** (or more generally, the **Sending Party**) issues an unsigned electronic invoice, the **Receiver** (or more generally, the **Receiving Party**) cannot use the second mode: signed electronic invoice,

- If the **Sender** (or more generally, the **Sending Party**) issues a PDF invoice, whether signed or not, the **Receiver** (or more generally, the **Receiving Party**) cannot use the third mode--EDI--because the original invoice is not a structured data file.

If the parties exchange both a structured data file and a readable version, the mode implemented should apply to what is considered to be the original invoice and should be archived in the same manner by both parties.

A table showing the compatibility of Sender and Receiver processing modes is attached in **Appendix 6**.

5. Best practices for compliant transmission

5.1. Invoice format

REC-01:

The electronic invoice must be created under the supplier's mandate, if not created by the supplier itself, in a format compatible with long-term archiving.

REC-02:

If the electronic invoice exists in the form of a structured data file, the **Sender** and the **Receiver** must have at their disposal complete documentation on this format (including the codelists and the business rules).

REC-03:

Senders, Receivers and especially service providers in an interoperating model (so called 4-corner), must firstly use and accept Standard formats whose documentation is published and freely accessible, such as:

- **The European Standard EN16931 syntaxes, such as XML UN/CEFACT CII D16B or its hybrid version Factur-X / ZUGFeRD 2.0, UBL 2.1 (ISO/IEC 19845), and UN/EDIFACT INVOIC D16B, WHICH ARE STRONGLY RECOMMENDED FOR USE BETWEEN SERVICE PROVIDERS TO PROMOTE EFFECTIVE INTEROPERABILITY.**

- The PDF/A or PDF/A-3 standard if the original invoice is in PDF format.

- If applicable, other sectoral community standards that are widely used and well documented and maintained, and whose complete documentation is published and available, like for instance the message INVOIC D96A.

REC-04:

In the event that the **Sender** and **Receiver** exchange multiple presentations of the invoice, directly and/or through their respective service providers (the **Sending Party** and the **Receiving Party**), only the practices listed hereafter must be implemented:

- **REC-04-1:**
  If the **Sender**, or more generally the **Sending Party** acting on its behalf, considers that the original invoice is constituted by **both the data in the structured file** *(for automated accounting and processing)* **AND the human readable version** *(for visualisation, which is the approach closest to reality since both versions potentially play a part in processing of the invoice)*, then this must be clearly indicated, e.g.:

  - ✓ **By using the French-German Factur-x / ZUGFeRD 2.0 standard designed specifically for this need, and thus strongly recommended for this purpose.**

  - ✓ Or with the statement *"Readable version of the electronic invoice"* indicated in the readable format, and then encoded into the structured data file in a field designated for this purpose, qualifying this file as a readable version of the invoice.

- **REC-04-2:**
  If the **Sender,** or more generally **the Sending Party** acting on its behalf, considers that **the original invoice consists solely of the structured data file** and that the readable version is provided solely for convenience, then this document must clearly indicate this status, for example with a statement such as *"Readable version with no legal value"*. This way, if the Receiver uses this readable version, its status is immediately clear.

- **REC-04-3:**
  If the **Sender,** or more generally the **Sending Party** acting on its behalf, considers that the **original invoice consists of the readable version, in PDF/A format for example**, then it must clearly indicate that the structured data file that is also transmitted is not the original invoice. This may be conveyed either by a document type signifying that it contains invoice data for

accounting purposes as provided for by Standard EN16931 (document type code 751), or by a specific statement indicating whether the structured file is the original invoice or a duplicate. If the original invoice is encoded inside the structured accounting data file (thus serving as an envelope), in a field designated for this purpose, then this must be qualified as such.

REC-05:

Whatever the situation, the **Sender** or **Sending Party** and the **Receiver** or **Receiving Party** are strongly advised to archive all transmitted files relating to the electronic invoice, exactly as they are issued or received, in order to have at their disposal all elements demonstrating how the electronic invoice was processed and its status as the original invoice for VAT and accounting purposes.

5.2. Creating the electronic invoice

REC-06:

The original electronic invoice must be created by the **Sender** or **Sending Party** who, **if not the Sender** itself, **must have a mandate from the Sender in accordance with the regulations** (in France, see BOI-TVA-DECLA-30-20-10-20131018, Articles 360 and higher).

The **Receiver,** or more generally the **Receiving Party,** must process the electronic invoice received as an original invoice, knowing it has the option of refusing reception of an electronic invoice if its format or electronic mode is not to its satisfaction.

Consequently, modifying an electronic invoice received by the **Receiver** or the **Receiving Party** in any way whatsoever, such as changing the format or applying an electronic signature, is not a good practice. Appendix 7 describes how to proceed in this event.

5.3. Transmission and acknowledgement of receipt

REC-07:

Electronic invoices must be transmitted via means ensuring secure transmission with integrated technical acknowledgement of receipt and, as applicable, error messages in case of non-**Compliance**.

The recommended transmission means are standard secure protocols such as AS2, AS4, SFTP, OFTP, OFTP2, HTTPS, secure messaging networks (Value-Added Networks) based on X400 standards, and webservices SOAP/HTTP ou API REST/HTTP …

REC-08:

Until a technical or functional acknowledgement of receipt has been received by the **Sender** or more generally the **Sending Party**, the invoice is not considered to have been transmitted and can be re-transmitted under conditions to be defined by agreement between the **Sending Party** and the **Receiving Party**. **As soon as the technical acknowledgement of receipt is received by the Sending Party, the electronic invoice is considered transmitted to the Receiving Party.**

5.4. Collaboration between service providers

REC-09:

For transmission between service providers, it is therefore recommended:

- **REC-09-1:**
  to set up a unique interchange channel for all interchange between their respective customers, with technical acknowledgements of receipt (e.g. native with the AS2 / AS4 or X400 protocols),

- **REC-09-2:**
  and to use a limited number of original electronic invoice formats, documented by both service providers for each of their respective customers, as recommended in paragraph 5.1 of this document.

REC-10:

Moreover, service providers must define the conditions of their collaboration in an interoperability agreement, specifying their respective responsibilities, notably those relating to:

- Verifying the electronic invoice's **Compliance** before it is sent,

- Creating the original electronic invoice

- Identification of the **Sender** and **Receiver** for addressing

- If applicable, commitments to verify the identity of the **Senders** and **Receivers** (KYS / KYC), and procedures for synchronising identification information in case of changes.

- Transmitting the electronic invoice, specifically its issue, receipt and the acknowledgement of receipt showing it was duly received. This should also specify whether or not invoices are issued in batches, and if so, how acceptance or refusal is managed (the entire batch or only the erroneous invoice) and how any re-issues are handled.

- Checking **Compliance** on receipt.

- Collaboration between service providers in case of non-**Compliance** detected on receipt or faulty transmission.

To this end, it is recommended to use the model interoperability agreement provided by EESPA, or any other equivalent model.

6. APPENDIX – Compatibility between invoice format and compliant processing mode

The compliant invoice processing mode is normally independent between the **Sender** and the **Receiver**. However, the choice made by the **Sender** or **Receiver** limits the choices of their business partners, as the table below shows (which sets out the possible modes of receipt and potential additional constraints according to the form of the original invoice file):

Original invoice creation and issue format (agreed between the Sender and the Receiver)	Possible compliant processing mode for invoices received, for the receiving party			
	Business **C**ontrols that create a reliable **A**udit **T**rail, based on the paper (or scanned) invoice	**B**usiness **C**ontrols that create a reliable **A**udit **T**rail, based on the electronic invoice received	Electronic invoice signed with verification of the electronic signature and the certificate	Complete EDI (With summary list, and partner list)
Paper	X			
EDI full structured file (UN/EDIFACT, XML) **WITHOUT** electronic signature		X		X
EDI full structured file (UN/ EDIFACT, XML) **WITH** advanced electronic signature (qualified or not)		X **with obligation to verify the advanced electronic signature and its certificate**	X **Only if the electronic signature is qualified with a qualified certificate (or RGS******)**	X **WITHOUT obligation to verify the electronic signature**
Unstructured or Factur-x (PDF) **WITHOUT** electronic signature		X		
Unstructured or Factur-x invoice (PDF) **WITH** electronic signature		X **with obligation to verify the advanced electronic signature and its certificate**	X **Only if the electronic signature is qualified with a qualified certificate (or RGS******)**	

7. APPENDIX – creation of the original invoice by the Receiver's Service Provider

Scenario description: the Receiver's Service Provider, with the **Receiver's** permission, wants to create the original electronic invoice,

- but the **Sender** has its own solution or a solution through one of its **Service Providers** that it wishes to use for **all** its invoices

- and therefore does not want to task the **Receiver's Service Provider** with processing and archiving its issued original invoices.

Recommendation: to satisfy the respective choices of both the Sender and the Receiver, the **Sending Party** and **the Receiver's Service Provider** need to formally adopt a system by which creation of the original invoice is subcontracted to the **Receiver's Service Provider**. To this end:

- A formal invoicing mandate must be established between the **Sending Party** and the **Receiver's Service Provider**,

  ✓ assigning the **Receiver's Service Provider** the right to create the original electronic invoice on behalf of the **Sender** (the supplier)

   ✓ specifying:

      ▪ the format transmitted by the Sending Party and the format used for the original invoice (with the respective documentation),

      ▪ any changes made to the data file initially transmitted by the **Sending Party**,

      ▪ and, if applicable, the implementation of a qualified electronic signature.

- **The Sending Party** transmits an invoice data file to the **Receiver's Service Provider**

- **the Receiver's Service Provider** creates the original electronic invoice and must send it back to the **Sending Party**, for acknowledgement of receipt and creation, using the same means of transmission as for the invoice data file initially transmitted by the **Sending Party**,

   ✓ In case of non-compliance, including with rules of the **Receiver's** trade, the electronic invoice is not created by the **Receiver's Service Provider**, who immediately notifies the **Sending Party** indicating the reason for the error observed.

- As soon as it receives the original invoice, the **Sending Party** can proceed to process it (compliance controls) and to digitally archive it on behalf of the **Sender**.

   ✓ If the **Sending Party** finds non-compliance, it must immediately inform the **Receiver's Service Provider** in order to proceed with compliant reprocessing of the invoice.

8. APPENDIX – EMSFEI report, extracts

To recall, the key principles and the recommandations of the EMSFEI report are provided in this appendix, the definition used in this document are those used in the EMSFEI report.

8.1. Key principles

The following principles have been developed as a way of encapsulating the key drivers for efficient and cost-effective transmission:

- **Principle 1 on reach and automation:** Economic operators should be able to reliably send, or make available, and receive e-invoices and related documents to and from all types of trading partner, public or private, in Europe and elsewhere. Transmission should support the automation objectives of these economic operators, whilst also supporting the need to employ manual processes when necessary, for example in the event of discrepancies or when automatic matching and processing is not possible for a receiver owing to the relative immaturity of its information systems and procedures (especially relating to smaller organizations).

- **Principle 2 on choice and interoperability**: All economic operators acting as suppliers should be able to choose the transmission tools, mechanisms, or service and solution providers that meet their requirements, provided that these are interoperable and compatible with the transmission mechanisms of buyers, whoever they may be. It is recognized that connections between highly heterogeneous economic operators need to made and sustained.

- **Principle 3 on solutions**: The use of service and solution providers is strictly a matter for economic operators. Providers offering business, information technology and communication services are encouraged to develop and continuously evolve efficient and cost-effective (not exceeding the cost of paper invoicing) products and services, which support business and technical interoperability, and, wherever feasible, remove the need for human intervention. The latter is dependent on the preparedness of economic operators to adapt their processes and deploy the necessary skills. The market for services should be competitive, innovative and offer choice to users of all sizes.

- **Principle 4 on fiscal compliance**: Transmission solutions should enable all economic operators to fully meet their obligations in respect of compliance with applicable fiscal rules, in particular VAT regulations, and requirements for authenticity, integrity and legibility relating to e-invoices. This may increasingly require reporting and registration facilities to meet the requirements of tax authorities.

- **Principle 5 on standards**: The environment should embrace standard definitions, open and non-proprietary technical standards and well-established business practices to support ease of implementation, continuing use and maintenance. It should support the common models and methods of e-invoicing and electronic data interchange, and include provision for confidentiality and non-repudiation, appropriate levels of security, timely receipt and response messages, and, as required, visualization in human-readable form.

- **Principle 6 on addressing**: addressing, routing and identification mechanisms should be progressively standardized by the industry and should be easily discoverable through a registry or directly in an e-invoicing solution.

- **Principle 7 on governance**: Stakeholders need to take care to create and safeguard boundaries between the competitive space and the areas of cooperation appropriate to networked environments. Appropriate governance should be established for such cooperation models.

8.2. Recommendations

1. Stakeholders are urged to implement the **defined principles herein** at all levels of the eco-system and pay attention to the **CEN Guidelines for Interoperability at the Transmission level.**

2. Service and solution providers **need to meet the expectations of customers** in terms of convenience, ease of use, and value for money, covering timely and transparent services for e-invoice creation, validation, transmission and processing, clarity on fiscal compliance, visual presentations (where required), service level agreements, and archiving etc. **All records need to be survivable in the event of a contractual relationship ceasing.**

3. Transmission and interoperability mechanisms should be **cost effective and tailored to the needs of user segments** by providing both 'core and basic' levels of service with scope for additional value-added services.

4. The service and solutions industry and its governance frameworks **should more concretely support the needs of SMEs** with a very immediate focus on providing easy-to-use services for creating and delivering invoices containing invoice data in a structured format such as those required to be conformant with EN16931. **Such services need to provide easy-to-use and transparent facilities to enable users to switch service providers.**

5. Service and solution providers are encouraged to support interoperability according to the EESPA Model Agreements and PEPPOL, and preferably both as client demands require. They both represent best practice examples for interoperability and are discussing convergence of standards and practices, which is welcome. The services and solutions industry is encouraged to be open to the emergence of equivalent or improved frameworks in the future.

6. **All interoperability arrangements should be documented** by customer agreements and service provider-to-service provider agreements that include service descriptions and the allocation of tasks and responsibilities. Such agreements should create a clear end-to-end chain of authority and mutual obligations between the parties. In a four-corner model, SPR and SPS will satisfy themselves as to the status, technical and compliance capabilities of the other party acting in their own and their client's interests. SPS and SPR should be able to validate the compliance of each other to the terms of an interoperability agreement. All parties should be open to reasonably sharing information about the roles performed in their dealings along the chain of agreements.

7. Transmission protocols should make use of open and non-proprietary standards and there should be widespread adoption of technical and business-level response messages.

8. Further efforts should be made to promote more standardization in the use of identifiers, electronic addresses and routing. This should include the concept of a federation of registries. This should also address the issue of portability, which is the possibility for a trading entity to change its service provider with a minimum impact on the existing routing and addressing set-up for its trading parties.

9. National Platforms should adopt well-accepted standards and practices and consider the re-use of existing well-proven artefacts and network services. Such national initiatives should foster competition and innovation in support of the market for services and solutions and not provide inappropriate state-funded competition. **National Platforms should provide appropriate PEPPOL capabilities to support intra-EU capability at least for inbound public sector invoicing transactions.**

10. Through cooperation with the payments industry more pervasive EIPP services should be made available to provide more convenience for consumers and small business in aggregating and paying invoices, including the necessary linkages to enterprise systems used by SMEs.

11. **Attention should be paid to portals which are proliferating.** It should be possible to develop a set of standards and best practices for the way these operate to create a more uniform customer experience for end-users in terms of ease of use and cost-effective solutions. **Application Programming Interfaces (API) should be evaluated as to their potential in relation to the customer experience. Given the availability of interoperability agreements service providers should provide facilities for receiving e-invoices through their portals destined for buyers on other platforms, especially for SMEs, who would benefit from a 'one-stop shop'.**

12. Email should not be recommended for transmission within an automated process environment. It is recognized however that email is a common and accepted means of transmission for SMEs and will likely remain a means for 'first mile' invoice (or data) collection in an automated process chain, and as an important exchange mechanism between SMEs themselves. As long as email usage persists it is recommended that it is reinforced by additional means such as digital signatures or e-seals applied to the e-invoice, acknowledgement and response messages, and potentially by means of Electronic Registered Delivery Services, as recognized by the e-IDAS regulations.

13. Developments in e-invoice reporting and registration for fiscal purposes **should be harmonized on common definitions**, practices and messaging requirements as has been proposed in a recent EMSFEI paper.

14. The topic of fiscal compliance should be the subject of a separate project within the EMSFEI agenda.

15. Investigation should be made of the potential and concrete **benefits of the Zero-corner model and Block-Chain** to e-invoicing.

16. EMSFEI should consider a future project to examine and extract **lessons from the numerous country experiences** already available[2].

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