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**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND
THE COUNCIL**

**on the Assessment of the European Standard on electronic invoicing, according to
Directive 2014/55/EU**

1. Background

The Directive 2014/55/EU on electronic invoicing in public procurement¹ (the "Directive") has the objective of promoting the uptake of electronic invoicing in public procurement, by ensuring interoperability and improving legal certainty. It was adopted on 16 April 2014 by the European Parliament and Council, following a thorough preparation process led by the Commission and involving a large number of stakeholders.

The Directive requires contracting authorities to receive and process electronic invoices which comply with a European Standard (EN) for electronic invoicing. The Directive also foresees that a process is started by the relevant standardisation organisations to define this standard. The obligation only concerns invoices related to public contracts which fall in the scope of the EU Directives on Public Procurement.

As the EN was not available at the time of adoption, the Directive entrusts (in Art.3) the Commission with the responsibility of carrying out an evaluation of the standard as regards its practicality, user friendliness and implementation costs for an end-user, before the standard become applicable. The EN has recently been adopted by CEN and this report presents the results of the evaluation carried out.

2. The development of the European Standard for eInvoicing

Further to the Directive, the Commission gave on 10 December 2014 a mandate² to the European Committee for Standardisation (CEN) to develop the EN on electronic invoicing and its related deliverables. In the mandate, the Commission requested CEN specifically to undertake the following tasks:

- to develop a European standard (EN) for the semantic data model of the core elements of an electronic invoice;
- to identify a limited number of invoice syntaxes which fully comply with the European standard;
- to develop syntax bindings, i.e. information specifying how the semantic data model could be represented in the listed syntaxes, and their automatic validation artefacts;
- to develop guidelines on interoperability of electronic invoices at the transmission level; taking into account the need of ensuring the authenticity of the origin and the integrity of the electronic invoices' content;
- to develop guidelines on the optional use of sector or country extensions in conjunction with the European standard, including a methodology to be applied in the real environment;
- to carry out the test of the European standard with respect to its practical application for an end user.

In order to undertake these tasks, CEN set-up a specific technical committee (TC434) and six working groups (one for each of the above mentioned topics). The Technical Committee is composed of technical experts on eInvoicing from the National Standardisation Organisations

¹ OJ L 133, 6.5.2014, p. 1–11

² M/528 COMMISSION IMPLEMENTING DECISION C(2014) 7912 final of 10.12.2014 on a standardisation request to the European standardisation organisations as regards a European standard on electronic invoicing and a set of ancillary standardisation deliverables pursuant to Regulation (EU) No 1025/2012 of the European Parliament and of the Council

(NSO) in several Member States. Private experts were also involved, as well as representatives of public administrations. This wide involvement of many stakeholders represents a strong guarantee that the EN is aligned to the latest developments of the market and to the needs of users.

As a result of this process, CEN formally issued the standard and the list of syntaxes on 28 June 2017, with the reference EN 16931.

The main deliverable of the Technical Committee is the standard itself, representing the core elements of the invoice. It underwent in March 2016 a public inquiry with all National Standardisation Bodies to which 600 comments were received. The Technical Committee subsequently addressed these comments and finalised the draft EN which was put to a vote. The EN was unanimously approved by the National Standardisation Organisations. All other deliverables were also subject to vote, the latest vote, on the syntax bindings technical specifications being closed on 29 June 2017.

Another important strand of work is related to the question of syntaxes, representing the software languages which can be used to implement the EN in practice. The Directive, and also the mandate from the Commission, mentioned that CEN should identify a "limited number of syntaxes", as there are several syntaxes used as format for the EN. The Technical Committee managed to reach agreement by a vast majority of the Members on a very limited number, namely two syntaxes: UN/CEFACT CII (Cross Industry Invoice) and UBL 2.1.

3. Evaluating the Standard

Article 3 of Directive 2014/55/EU states that prior to the introduction of the European standard on electronic invoicing in the Member States, the practical application of the standard should be sufficiently tested. This assessment should be done in conjunction with the drawing up of the standard and should involve end users. It should address, in particular, aspects of practicality and user-friendliness, and should demonstrate that the standard can be implemented in a cost efficient and proportionate manner.

This report presents the results of this assessment, based on two main sources:

- The **CEN Technical Report** of WG6 of TC434, called "Test of the European standard with respect to its practical application for an end user", mainly dedicated to testing the technical aspects of the standard.
- A **complementary study** conducted by an external contractor, PWC, for the Commission, between end March 2017 and July 2017. The study focused more on the practical impact for end-users and is available on Commission's website, DG GROW/ Public procurement/ Studies.

3.1 Results of the CEN testing

The Technical Report describes the testing of the EN at a semantic and syntax level. It also includes the methodology and testing of the validation artefacts. These validation artefacts represent mandatory elements and rules of the EN in an open source code and ensure that conformance of an invoice with the EN can be checked automatically.

The report includes three main sections. The first one concerns the semantic testing where an overview of the methodology, the testing and the results are described. Similarly, the second

section covers the syntax methodology, testing and results. The final section has two sub-chapters describing the tests performed to ensure the EN is suitable for payments and automatic processing respectively.

No major issues were raised during the testing process. This was probably because CEN Working group responsible for the EN had already undertaken its own quality assurance testing. Also, testing ran alongside EN development so that issues could be raised in parallel without building to significant numbers.

At the semantic level, the process did improve the EN since the resulting updated definitions and usage notes will help implementers and end users to understand it more easily.

Syntax testing was primarily focused on ensuring the validation artefacts were suitable for checking conformance and was also based on lessons learned from the CEN WS/BII project (CEN Workshop on Business Interoperability Interfaces for public procurement in Europe). The availability of validation artefacts is key to facilitate the practical use of the EN for implementers.

3.2 Complementary study on the practical impact for an end-user

In order to complement the technical results of the CEN testing, the Commission decided to perform an additional study, which was carried out by PWC. The objective of the PWC study was to assess the EN with respect to the three main criteria listed in the Directive 2014/55/EU, as follows:

- A. **Practicality:** This criterion refers to elements such as being effective, useful and suitable for a particular purpose or situation.
- B. **User-friendliness:** This criterion involves an assessment of the easiness to use and to implement the standard, in particular taking into account existing systems, such as Enterprise Resource Planning (ERP).
- C. **Implementation costs:** This criterion refers to the implementation costs to be borne by end-users (contracting authorities and their suppliers) for supporting the standard, covering the full set of identified scenarios.

The methodology used for the study started by defining a number of different implementation scenarios. The final set of scenarios covered six countries: France, Ireland, Italy, the Netherlands, Norway and Poland. These countries were selected for in-depth analysis in order to reflect the diversity of situations in the EU, based on the following areas:

- Area 1: Level of (de)centralisation for eInvoicing at the national level
- Area 2: eInvoicing maturity level
- Area 3: Use of eInvoicing standards

The second phase of this project focused on gathering and consolidating data that were required for assessing the EN and analysing these data. The study built upon the test results of the CEN report, which looked at the practical application (fitness for purpose) of the EN from a technical perspective. Furthermore data was gathered by means of desk research. This

research was undertaken to clarify the eInvoicing models that are in place, their capabilities offered and pricing models.

Finally, targeted interviews were held with Member State, regional authorities and industry representatives, service providers and software vendors. During these interviews, a predefined set of questions was presented to the representatives. These meetings were recorded, documented in meeting minutes and approved by the corresponding representatives.

4. Outcome of the evaluation

The three criteria mentioned by the Directive are addressed one by one below.

A. Practicality

The practicality of the European standard for eInvoicing, in terms of its fitness for purpose has been confirmed by the Member State authorities and stakeholders interviewed. No major technical problem was identified. In addition, the EN has been unanimously approved by all National Standardisation Bodies.

The EN for eInvoicing is based on existing international standards widely adopted in Europe. The decision to limit the number of formats for implementing the semantic data model of the core invoice to UBL 2.1³ and UNCEFACT/CII will result in further simplification, since these are two very common syntaxes already in use in the market. Most of the contracting authorities interviewed for this study will prioritise the support for only one syntax, UBL 2.1.

B. User-friendliness

By identifying a common set of information elements of an invoice that cover the majority of business and legal requirements, the core invoice semantic data model is of great value for the establishment of user-friendly and cost-efficient eInvoicing systems.

The role of ERP and software vendors is considered to be crucial by central, regional and local authorities. In particular, the implementation of the EN natively in their solutions will reduce the need for format conversion, thus significantly decreasing complexity and costs to end-users.

The EN is considered to be flexible due to the possible use of optional elements, free text fields and code lists included. However, this advantage may result in excessive proliferation of Core Invoice Usage Specifications (CIUS) and extensions. The CIUS are specifications, which are aimed to help implementers of solving the practical aspects of defining the IT systems based on the EN. The use of CIUS and extensions should be monitored and limited, possibly through a coordinated European initiative, in order to safeguard interoperability across borders.

C. Possible implementation costs

³ UBL 2.1. has been identified by the Commission for referencing in public procurement by Commission Decision. 2014/771/EU: Commission Implementing Decision of 31 October 2014 on the identification of Universal Business Language version 2.1 for referencing in public procurement Text with EEA relevance

The costs of implementing eInvoicing are largely dependent on the two key variables in each country: the level of maturity and the architecture chosen by the public sector for eInvoicing.

eInvoicing maturity at national level is determined by the adoption rates in the public and the private sector, the existence of a competitive market for eInvoicing services and solutions, and the level of organisational and IT readiness. The impact of the EN, in terms of costs and complexity, will be lower in Member States with high maturity levels. It will be higher in Member States where eInvoicing adoption is low, where the number of solution and service providers is limited and the national IT infrastructure is not very advanced.

The impact of the EN will also depend on the national legislation, policy and related requirements. Governments will benefit from defining a strategy to implement Directive 2014/55/EU (from minimal compliance with the Directive to full invoice process automation), and planning a national roll-out. Several countries have had positive experience with such strategies. The use of eInvoicing for suppliers to the public sector may be mandated, including the use of specific formats.

Two different **architectures for eInvoicing** in public procurement can be identified and are already in place in most of the Member States, namely:

- a central hub (or a combination of several hubs) that receives all eInvoices from suppliers and dispatches them to the relevant contracting entity/authority (centralized system); or
- a distributed system where the eInvoices have to be sent by the suppliers directly to the relevant contracting entity/authority (distributed system).

Member States with a high level of eInvoicing maturity are characterised by high adoption rates, a competitive environment for eInvoicing service and solution providers, and an advanced organisational and IT readiness.

Member States with a mature and decentralised eInvoicing architecture will rely on eInvoicing service and solution providers to upgrade their systems to support the EN, offering competitive solutions to public and private entities of all sizes. In this scenario, the impact of the implementation of the EN is expected to be low or moderately low, depending on the situation. The cost for upgrading the systems will be borne by the service providers and consequently by end-users (contracting authorities and their suppliers). It will be marginal if the service providers are supporting standards already aligned to the EN, while it will be relatively higher in the opposite case. All ERP vendors and eInvoicing service providers interviewed for the study stated they will offer solutions conformant to the EN based on market demand. However, the cost for implementing the EN will increase if a high number of extensions will be used at a national and sectoral level, significantly reducing the benefits of a common standard.

In Member States where a mature and centralised eInvoicing architecture is in place, the impact of the EN on end-users will be generally low. Any change required to support the EN and the related cost will be borne mainly by the entities managing the central eInvoicing system. In France for example, the system in place since January 2017, Chorus Pro, is based on the implementation of a shared solution for all suppliers (both private and public) of the public sphere. The EN will have no impact on (small) public administration as Chorus Pro is

provided at no cost for administrations or suppliers. The EN does not disrupt SMEs either as they remain free to send PDF invoices to public administrations.

Small contracting authorities will decide the level of investment and process automation of the eInvoicing services and solutions they will use, based on the national requirements and their business case. The cost to purchase the EN from CEN is not a major issue but the availability of information through CEF and CEN related to the European Standard and its ancillary deliverables free of charge is considered to be important.

Member States with low eInvoicing maturity adopting a decentralised architecture will face challenges to ensure the take up and implementation of the EN. However, this may be mitigated by the government providing clear guidance and rules, such as the use of standards. In addition, awareness, advocacy, senior sponsorship, training, competence centres and shared services will play a significant role in supporting the use of the EN. In this scenario, the impact of the EN and the related costs are expected to be significant. Unless Contracting Authorities choose the option to use shared services, which would hugely reduce and mutualize costs or to apply a share and re-use policy, there will be an impact on their budget. In **Member States with low eInvoicing maturity which chose to implement a centralised eInvoicing system**, the impact of the EN will depend on the national requirements and the level of readiness in the public and the private sector. Countries that have mandated the use of standards already aligned to EN will not face any major technical challenge. If the level of readiness is high, eInvoicing adoption would increase accordingly. Contracting authorities will be supported and enabled through the centralised system; while suppliers will rely on commercial operators, and in some cases, free of charge services will be offered for a limited number of invoices. However, in order to materialise these benefits, a certain investment is needed by the central authorities to put in place such a central system.

5. Impact on specific stakeholders

Impact on small contracting authorities

The interviews with regional and local authorities show that:

- The usage of standard is crucial for local authorities in order to reduce the costs.
- The most common way to implementing the EN is expected to be through the upgrade of ERP (Entreprise Resource Planning) systems natively supporting the standard.
- As long as extensions can be avoided, implementing the EN is expected to be inexpensive for all public administrations.

The benefits for simplifying payment procedures are therefore considered to outweigh the limited costs for implementation.

As mentioned before, Directive 2014/55/EU only applies to contracts with a value above the EU thresholds, thus limiting the number of small contracting authorities concerned by this obligation. In general, it will be up to each contracting authority to decide the level of automation and IT sophistication of their systems and the investment they are willing to make. This will be based on their business case and on national requirements. The funding provided by CEF Telecom is considered to be a useful instrument to support the implementation of the EN.

Impact on SMEs

There is no obligation stemming from the Directive for private parties to use eInvoicing, although national rules may make it mandatory. However, in case they decide to use

eInvoicing in procurement, the EN will have a positive effect on SMEs, by preventing public administrations in different countries to require different eInvoicing specifications. In some Member States, eInvoicing services are offered free of charge to SMEs for a limited number of eInvoices. In Italy, the Chamber of Commerce provides such a service, also including e-archiving.

Finally, the EN is agnostic to the use of eSignatures. Any cost related to the use of eSignatures for eInvoicing to the public sector, in Member States where their use is mandatory, should be foreseen by SMEs in their budgets.

6. Challenges ahead

The contacted stakeholders put forward a number of measures to support the roll-out of the EN and maximise the benefits. These are listed below in order of recurrence:

- the existing **test environment**, freely accessible (no authentication required) to be further enhanced (e.g. more meaningful explanations for errors, updated as validation artefacts evolve) and provide examples of complex and simple invoices;
- a **central European registry** listing all service and solution providers which are supporting the EN or the CIUS, as key element of a governance system;
- **clear documentation about the EN** and its implementation;
- a **technical Service Desk** to provide support through the implementation of the EN;
- **validation artefacts for the EN** to be publicly accessible and the testing services available through an application programming interface (API) promoted to a wider audience;
- **financial support for the implementers**;
- the ISA² core vocabularies and relevant semantic specifications could be considered.

The roll-out of the EN will require maintenance and governance. For instance, a governance system should be put in place for evaluating the extensions at both the semantic and syntactical level and to look for commonalities between countries and sectors, based on a controlled process.

In addition, there are benefits for public buyers adopting a ‘maximal strategy’ based on full process automation. In order to promote this, the role of the Technical Committee and the European Commission will be critical to provide the necessary support.

7. Conclusion

This Report concludes the work on the preparation of the European Standard for eInvoicing. The three criteria mentioned in the Directive itself, (practicality, user-friendliness and possible implementation costs) have been evaluated. According to the two main sources, the CEN Technical Report and the PWC Study, the EN is considered fit for purpose.

In parallel to the transmission of this Report to European Parliament and Council, the reference to the EN will be published in the Official Journal of the European Union. Pursuant to article 11 of the Directive, this publication is the starting point for the implementation of the deadlines in the first subparagraph of Article 11(2) of Directive 2014/55/EU.