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E-INVOICING GUIDE IN QUESTIONS AND ANSWERS

***An Essential Introduction to
Electronic Invoicing and its Aspects***

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An Essential Introduction to Electronic Invoicing and its Aspects

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INTRODUCTION TO THE GUIDE

It is with great pleasure that the authors' team working within the EU-funded *E-business Development Project* introduces this essential *Guide on e-Invoicing* to the Serbian market.

An invoice is a document that is most frequently used in the transactions established between two entities in the market. Invoicing has existed almost for as long as people have been doing business, being an essential tool for the transaction of trade and business activities in general. An invoice is an integral part of commerce providing the ground for payments and money flow. Today, in the era of digitalization, electronic invoicing is becoming a crucial part of everyday trade practices, leveraging the e-commerce tools, transforming business processes and offering new opportunities in almost all market sectors. Electronic invoicing is also a vital component in today's key technologies like big data, analytics, and fintech and contributes to driving business and public institutions' decisions to boost their effectiveness and competitiveness in the global economy.

E-Invoicing represents a matter of high importance and a priority within the European Union. The European Commission, in the EU Digital Agenda for 2020, aims for e-invoicing to become the dominant way of invoicing across EU Member States, due to the obvious benefits e-invoicing provides. For example, the savings the use of e-invoicing can provide are estimated to be at around EUR 64, 5 billion per year for businesses within SEPA only. The European Commission and the governments of the EU Member States put a great emphasis on electronic invoicing as a result of the latest developments in the EU legal framework. Furthermore, the European Commission decided to address the issues created by the use of a plethora of e-invoice formats used across the

EU by introducing a European Standard for e-invoicing which is going to be a mandatory option in a few years' time, for EU Member States contracting authorities of the public sector.

This Guide delivers concise, yet quite wide information about electronic invoicing and its aspects. The intention of the authors is to provide businesses and public institutions with unbiased information and insight into different aspects of e-invoicing and practical guidance on how to start dealing with it. The Guide combines legal compliance, business, technical, and practical information arming the interested reader with essential knowledge when deciding to take the next steps in electronic invoicing. Particular emphasis has also been given to EU legal framework and related compliance issues. A brief summary of the Serbian status of affairs in e-invoicing is also provided.

The Guide was developed with readers of various backgrounds (business, technical) within both the private and the public sector in mind. The Guide deals with all major aspects of e-invoicing in the form of questions and answers. The average reader can start reading about some of the very fundamental concepts related to e-invoicing and then continue with some more technical aspects. It's up to the readers to decide which of the subjects covered are suitable for their particular needs and deal with them directly, without going through the whole text of the Guide. However, a detailed list of reference links is also provided in Annexes of this Guide, allowing the reader to go deeper and further on the relevant topics.

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**QUESTIONS
& ANSWERS**

1. WHAT COULD BE CONSIDERED AS AN ELECTRONIC DOCUMENT?

As the concept of “electronic document” is considered in a wider context, covering the term “electronic invoice”, we have to make a prior reference to that concept, before analyzing in detail the electronic invoicing and its aspects.

The main purpose of electronic documents is to be readable to the user in a visualization form that is very close to a paper document. The data contained in the electronic document can be printed on paper, seen on a computer or a mobile phone screen of a in the form of text, graphics, or spreadsheets.

Electronic documents initially aimed to address the fundamental needs of an average reader who had access to a computer capable of storing, retrieving and presenting the electronic documents. Using electronic documents, having the content of documents recorded as data, allowed users to create, exchange, process and archive files that could be later retrieved and seen, re-processed, sent or printed at any given moment. The above also covers operational needs of an organization.

Filing cabinets, dossiers, shelves, and a whole range of supplies and equipment started becoming redundant. A paperless office, meaning minimizing the use of paper to the extent when it is absolute necessary, was and is the aim for many entities that understand the benefits the use of electronic documents can provide.

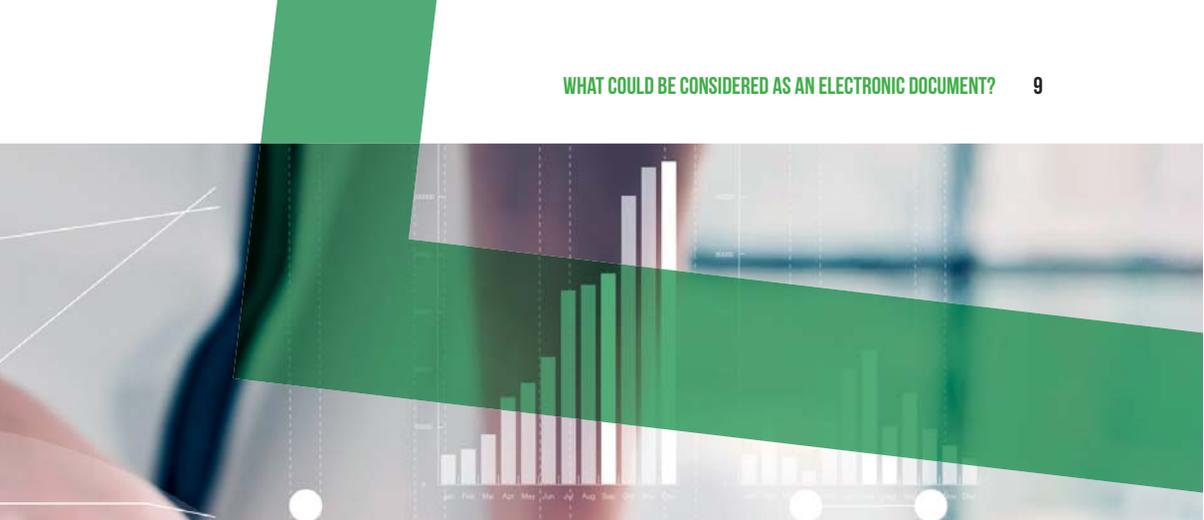


Despite its name, an electronic document is nothing but an electronic file, i.e. a specific and discrete piece of information stored by electronic means in a computer memory.

Examples of electronic documents are numerous; everyone browsing the web, reading information on websites, using software for word processing or developing spreadsheets is already familiar with the form of an electronic document. Another example of an electronic document is the scanned version of a paper document. In this case an existing hard copy is transformed into an electronic format.

There is a large number of formats in use as far as electronic documents are concerned, with all users being free to decide which one suits their needs best, unless other reasons restrict the choice (for example: company policy, agreement between two or more users to use a certain format). Some of the most commonly used electronic document formats are: *Microsoft Word and Excel* and other *Office* documents, *Google* documents, *epub*, *mobi*, *Adobe PDF*, various photo formats, etc. Besides the above, HTML is a standard electronic document format used over the web for creating and presenting the information, which can be visualized and then, if needed, printed as a hard copy which looks the same as the image the user sees on the screen.

An important point that should be made at this stage is the fact that many of the aforementioned electronic document formats are not structured. It means that the content of



the electronic document includes a plethora of information, but in a non-organized (not pre-defined) manner (text, numbers, dates, addresses). The information included in those electronic documents does not follow a specific structure; it is not organized in a pre-defined manner and it does not correspond to a well-defined meaning that is known in advance and seamlessly accepted by other users.

It is therefore understood that the existence of a plethora of various electronic documents formats - not fully compatible with each other - in many specific cases presents significant challenges and interoperability issues in computer data exchange processes. That means that exchange of unstructured electronic documents and making the processing of their content automated present a real issue that could significantly affect interoperated systems.

As technology further developed, additional benefits emerged that went far beyond the savings experienced due to the lack of need for large spaces or maintenance of micro fiches and dossiers. The use of information residing in documents and the ability to combine data existing in various electronic documents led to advanced data mining techniques and the more effective use of information.

Businesses and governments realized that the information residing in file cabinets was not used effectively. The complex document

exchange processes (and the numerous stamps required), large rooms needed for archiving, but also the need to deliver better, faster and less costly services to citizens or customers, pushed the governments at every level to look for new solutions. The effort for the document digitization began. The era of the formulation of digital strategies was just starting.

Until recently, a stand-alone PC with a word processor that could locally save an electronic document represented a model for the creation and processing of electronic documents within an organization. This is, however, an outdated model nowadays due to its significant limitations for the user, as well as the organization.

The use of mobile phones, as well as the cloud and collaboration tools is changing the perception on electronic documents fundamentally and rapidly. Contemporary cloud technologies such as *SaaS*, are becoming the standard model entities use to develop, access, process and archive their electronic documents.



2. WHAT IS AN ELECTRONIC INVOICE (E-INVOICE)?

Generally, an invoice (another term also being widely used is “bill”) is considered as a formal document, issued by a seller/supplier to a buyer, requesting payment, due to the sale of goods or provision of services. Thus, the invoice is an essential document for trading parties, supply chain, accounting, and, naturally, tax authorities.

Actually, the important is the information it contains, as well as the trustworthiness and integrity of that information. Wintegrity of that information. And this is the main reason why the information included in an invoice, is traditionally regulated by the respective legislation.

Typically, an invoice includes the amount that needs to be paid and the names of the trading parties. It also describes the reason for payment: the services provided or, in case of goods, lists, describes and quantifies the items. It can also mention, points like the date of shipment of goods and mode of transport, prices and discounts (if any), and delivery and payment terms. Invoices should not be confused with purchase orders, which are written requests from buyers to sellers authorizing the shipment or delivery of goods with agreement to pay. An invoice must state it is an invoice on the face of the bill. Also, it typically contains a unique identifier called the invoice number that is useful for internal and external reference, as well as the date, which represents the official date of billing which in turn dictates the due date of the bill.



A paper-based invoice is usually sent to the buyer by the well-known means of transport, like post and courier services. However, the advent of computers and electronic documents opened new ways of electronic delivery of invoices by simply scanning (or creating them directly in electronic format) and sending them by e-mail (usually as PDF files).

Electronic invoice is an electronic document (“e-Invoice”), which, like the paper based invoice, represents the “official” request for payment due to the sale of goods or provision of services. It is the immaterial, paperless version of the invoicing/billing process representing the electronic transfer of invoicing information (billing and payment) between business partners (supplier and buyer). Similarly to a paper invoice, an electronic invoice is an essential part of an efficient financial supply chain and it links the internal processes of enterprises to the payment systems.

All (or most) of the processes and steps included in the “traditional” paper-based invoicing process are followed in the case of e-invoice, but now the invoice is issued using electronic devices, (i.e. computers, smart phones, tablets, etc.). With invoicing representing the fundamental element for the business operations, similarly we need to think about the “e-invoicing” as an essential part of the e-commerce and e-business.

Nowadays, electronic invoicing is globally used by businesses and governments,



following numerous definitions standards and technical solutions. For the purposes of this Guide, the focus is primarily on electronic invoicing at the level of European Commission with the respective definitions, standards and legal framework taken into account. This means that e-invoicing should meet a set of rules that ensure the authenticity and integrity of its content, and thus its legibility.

According to the EU VAT Directive (as it has been amended in 2010 by another Directive (2010/45/EU)), the term “electronic invoice”, for the purposes of that specific Directive, means an invoice that contains the information required, and which has been issued, sent and received in any electronic format.”

As technology emerged, with businesses increasingly addressing the global environmental issues and with the public sector being further modernized, there is a real demand for electronic invoices that not simply contain the required data (in any kind of electronic format), but do so in a structured manner. This ensures the interoperability amongst various systems of clients/business and public sector entities, allowing the automated process of data exchange.

The need for an electronic invoice that effectively supports its users in an environment of increased complexity is reflected in the most recent EU Directive regarding e-Invoicing, the Directive 2014/55/ EU “on electronic invoicing in public procurement”. According to

this Directive an “electronic invoice” means an invoice that has been issued, transmitted and received in a structured electronic format which allows for the fully automated electronic processing of any received e-invoice.

Moreover, the Directive sets out the legal framework for the establishment of a European standard (EN) for the semantic data model of the core elements of an electronic invoice, and the final version of the standard is expected to be published in *Official Journal* of the European Union, by May 25th, 2017 at the latest.

This provides the ground for the wider adoption of structured electronic invoices among businesses as well, including SMEs, also facilitating them to conduct fully automated payments to suppliers with potential cost savings and liquidity benefits.

3. WHAT DOES EDI MEAN?

EDI stands for Electronic Data Interchange, and it is the computer-to-computer exchange of business electronic documents, such as purchase orders and invoices, in a standard electronic format between business partners, such as retailers and their suppliers, banks and their corporate clients, or car-makers and their parts suppliers. EDI was introduced in 1960 and today it covers several EDI standards along with standards for specific industries. Well known in common cross-industry standards are ANSI, primarily used in the United States, and EDIFACT, primarily used in Europe and Asia. In addition, there are standards for specific industries; for instance SWIFT is an EDI based standard used in the banking sector.

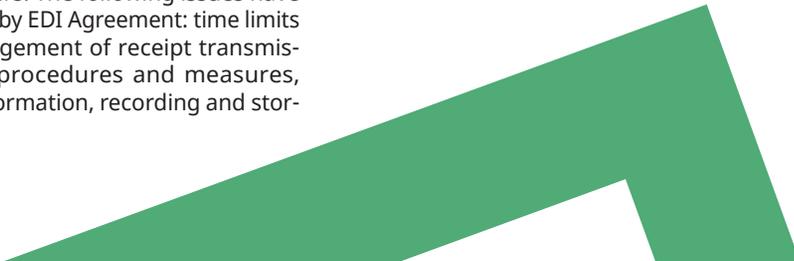
EDIFACT is an acronym for “*EDI For Administration, Commerce and Transport*”. It coordinates international standardization by working through the UN/ECE (United Nations/Economic Commission for Europe).

The EU Commission Recommendation 94/820/EC was among the initial EU legal documents which had defined a European Model EDI Agreement for organizations conducting their trading activities using EDI standards. This document specifies the legal terms and conditions as well as technical details under which the parties conducting transactions using electronic data exchange operate and have to be regulated between business partners. The following issues have to be regulated by EDI Agreement: time limits and acknowledgement of receipt transmission, security procedures and measures, confidential information, recording and stor-

age, operational requirements and technical specifications.

The Directive 2006/112/EU (after it has been amended by the Directive 2010/45/EU) on common VAT system, also mentions the EDI and Commission Recommendation 1994/820/EC on EDI agreement, as a technology example which can be used to ensure the authenticity of the origin and the integrity of the content of an electronic invoice, where the agreement relating to the exchange, provides for the use of procedures guaranteeing the authenticity of the origin and integrity of the data.

However, it has been made clear that nowadays the term EDI can refer to any standardized structured format of exchanged data and it does not refer only to EDIFACT, which is just one example of such formats. (The most widely used structured data format is XML, and the reference to it will be made later in answering other questions).



4. WHAT IS A STRUCTURED E-INVOICE?

In answer to the questions 1 and 2 referring to electronic documents and electronic invoices, it has been mentioned that the plethora of various electronic formats, which are not compatible with each other, present significant challenges and interoperability issues for data exchange in the modern, digitally interconnected world. And this is especially true for the invoice data exchange processes.

Using structured electronic invoices can overcome those issues and offers possibilities for a fully automated life cycle for invoicing – from order to payment.

A structured e-invoice is an electronic document, consisting of the required content (billing data) compiled into an agreed electronic message which has a known structure and format. This practically means that each piece of specific information (name, address, etc.) can be immediately identified and obtained, because it is known in advance how to access it.

We can think about a structured e-invoice as an identifiable piece of information in an organized text, similar to a simple table in a database. Each piece of included information has a predefined identifier providing the information about the substance and the nature of that particular piece of information. Some of the examples of such pieces of information are for instance, the name of the supplier (the seller), the VAT/TIN number, the date of issuance and the sequential number of the invoice, the address details, the amount of money due, the details of items sold or services provided, etc.

Using a structured e-invoice means that in contrary to the case with unformatted electronic text, a structured e-invoice has a predefined format which is known in advance to the trading parties and which allows their systems to process the data contained in an almost rapid automated manner.

The most common format of electronic structured data is the XML (XML stands for eXtensible Markup Language), which has been massively used in electronic data exchange since 1986. A very simplified extract of an XML file is given below, in order to allow the average reader to obtain a visual “taste” of how semantic identifiers (in blue) and invoice data (in green) stand within a structured e-invoice in the XML format.

Going further or deeper into XML is far beyond the scope of this Guide, and is up to the reader to further investigate this topic.

As already mentioned, The EU Directive 2014/55/ EU “on electronic invoicing in public procurement” defines the electronic invoice as an invoice that has been issued, transmitted and received in a structured electronic format which allows for the fully automated electronic processing of its content. The same Directive also provides the legal framework for the establishment of a European standard (EN) for the semantic data model of the (core) elements of a structured electronic invoice. The final version of the European structured electronic invoice standard (known already as CEN 434), is expected to be published in Official Journal of the European Union, by May 25th, 2017 at the latest (according to

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    .....
  </invoice_items>
  ....
</invoices>

```

Article 3, Paragraph 2, of the above Directive) and should be adopted by all Member States along with other national standards that might be used.

It should be noted that the Directive focuses mainly on B2G approach on electronic invoice as an element of the post award phase of a public procurement process, obliging the public sector to develop the necessary operational, legal and technical infrastructure that allows the process of sending the structured electronic invoices by businesses. The aim is to establish a large interoperable market where a supplier from a Member State A can issue and send a structured electronic invoice to a buyer (from the public sector or even to a private business) in a Member State B, with the buyer being able to automatically process

the received structured electronic invoice, without having to print or enter any data.

Still, despite of its B2G essence, the Directive provides strong legal grounds for a wider adoption of structured electronic invoices amongst businesses and SMEs, also facilitating their implementation of fully automated payments to suppliers with potential cost savings and liquidity benefits. The example mentioned earlier, where suppliers, using the EU approved standard on electronic invoice can send it to any public sector entity in a Member State or a private sector entity using this standard is a strong indication of the e-invoice potential.

5. WHAT OTHER DOCUMENTS RELATING TO AN INVOICE CAN BE EXCHANGED ELECTRONICALLY?

There are numbers of other documents that are directly or indirectly linked to an invoice. They mainly relate to some of the key invoicing and accounting processes that each business has in place. These document scan also cover the need for information exchange between trading parties, under certain circumstances.

Some examples of such documents include:

- Purchase Order (PO),
- Goods Delivery Note (GDN) or Dispatch Note (DN),
- Goods Receipt Note (GRN),
- Credit Note (CN),

etc.

A more detailed description of how these documents are linked to the specific stages of the invoicing process is given under the question ***"How does e-invoicing work?"***.

The legislation sets no limitation when it comes to the type of documents that can be exchanged electronically. Actually, it can be concluded that electronic or hard copy forms of the documents should be equally acceptable.

However, in Serbia, despite the general intention to equalise legal power of electronic form of the document, in some cases hard copy documents still prevail either for technical reasons or due to the lack of alignment between different pieces of relevant legislation.

For example, documents for which a notary certification is required are considered to be in full force only if are printed on paper. This applies to electronic documents as well.

On the other hand trade regulations require businesses to ensure that goods dispatch note (GDN) is present in the vehicle during the transportation of the goods. However, the legislation does not specify that this document can be in electronic format. Therefore, although it is not forbidden by any law, the businesses are reluctant to replace paper GDN with an electronic one predominately because of the common practice established in previous years. Obviously, this is an area where lawmakers can support use of e-documents by simply amending the relevant rulebook to impose provisions that would specifically allow the use of electronic documents for the goods in transit.

In general, it can be concluded that there are no sound obstacles for the Serbian businesses to use the electronic form for documents that are most commonly exchanged by the businesses on a daily basis: purchase orders, goods dispatch notes, goods receipt notes, invoices, credit notes, various official notifications, etc.

6. HOW CAN AN E-INVOICE BE STORED IN SERBIA AND FOR HOW LONG?

Electronic documents have to be stored in an electronic form. It is not acceptable to print and then store electronic documents in hard copies as such documents would not be considered as original documents.

Serbian Accounting Law defines mandatory periods for which entities have to store their accounting documentation. These deadlines are applicable to both electronic and hard copy documents.

The Accounting Law defines the following periods per type of document:

1. Financial Statements and Audit report – 20 years
2. Annual report – 10 years
3. General ledger – 10 years
4. Supplementary records – 5 years
5. Payroll slips – permanent
6. Other documents that serve as a basis for booking – 5 years

The above periods start on the last day of business year to which a document relates.

It is worth mentioning, that almost about 40% of EU Member States have already defined the duration of invoices/e-invoices (and/or e-invoice data) to 10 years, while for the remaining countries it varies between 5 to 7 years.

Proper and secure storage of documentation is one of the most important considerations for businesses when considering the implementation of EDI. In that respect, they can choose either to invest in own storage capacity or to outsource these services to specialised firms. This sort of “make or buy” decision-making should take into account the costs of each option but also the availability of documentation and reliability of service providers. It is important to note that whichever option is applied, the business itself remains liable towards government bodies for alignment with above mentioned periods for which documentation have to be stored.

7. WHAT IS THE DIFFERENCE BETWEEN AN ELECTRONIC INVOICE AND A RECEIPT?

From the business process and/or accounting and bookkeeping perspective there is a substantial difference between an invoice and a receipt. Both serve the same purpose of billing – as an evidence of sales-purchase transaction performed. And, of course, both can be issued electronically.

In practice, it is common that invoices are issued in B2B transactions while receipts are used in B2C retail transactions. The latter is also known as retail receipt, or just receipt. It is obvious that the main difference between an invoice and receipt is that a receipt lacks the data of the buyer/recipient as the sale takes place on an ad-hoc basis and the buyer is not known in advance to the seller.

In some EU countries (Bulgaria, Poland, Italy, Greece, Slovenia, Sweden, to name a few) specific legislation governing the issuance of retail receipts in general or for specific areas of economic activities, is in place (or used to be until recently). Mainly, the legislation of those countries obliges economic operators to use special hardware (cash registers) meeting specific technical characteristics defined by the law. The main purpose is to limit any possible manipulation of the sales data already stored in the memory of the cash registers and thus prevent the VAT and income tax loss from such fraudulent interventions. The cash registers in accordance with these technical characteristics are widely known as fiscal cash registers (and/or fiscal printers) and the respective receipts are called fiscal receipts.

Serbia, is also the country that according to the Law on Fiscal Cash Registers, (which is the legislation covering retail transactions),

strictly requires the issuance of paper receipt by means of fiscal cash registers. However, online sellers are exempt from the above obligation and they need to send the transaction details, to the recipient, electronically, i.e. by e-mail.

However, proven technologies that are relying on electronic signatures, which are used for safeguarding of e-invoicing transactions for many years, could be considered as a promising optional replacement of fiscal hardware (i.e. fiscal cash registers) in the near future. Since the content of a receipt could be considered as a subset of an invoice data, (which is similar to “simplified invoice” as it has been defined in the EU VAT Directive 2006/112/EU), it is also expected that the content of receipts will be incorporated in the future e-invoicing standards, in order to cover the B2C invoices. This will allow businesses to use unified technologies and integrated business procedures covering a fully paperless “e-billing” environment.

8. WHAT IS THE KEY EU LEGAL FRAMEWORK FOR ELECTRONIC INVOICING?

A strong legal framework is in place, supporting the decision of the EU countries and the European Commission to introduce a European approach for e-invoicing, which will represent the norm that Contracting Authorities will be obliged to accept.

The key directives relevant to electronic invoicing are the following:

1. Directive 2010/45/EU: on the common system of value added tax as regards the rules on invoicing.
2. Directive 2014/55/EU on electronic invoicing in **public procurement**
3. Regulation 910/2014 (eIDAS Regulation) on electronic identification and trust services for electronic transactions in the internal market

1. VAT DIRECTIVE 2006/112/EU (AS IT HAS BEEN AMENDED BY 2010/45/EU REGARDING E-INVOICING)

This Directive focuses on VAT matters referring to conditions and rules concerning value added tax (hereinafter 'VAT') with respect to invoices, in order to primarily ensure proper functioning of the internal EU market.

In this Directive, the electronic invoice is approached mainly from the tax perspective and a record-keeping point of view, as a tool to ensure uniformity of information exchanged and submitted in relating to statements on matters on the movement of goods and pro-

vision of services, as well as the timeliness of the exchange of information.

The Directive also addresses matters related to the payment of VAT to the competent authorities and especially small and medium-sized enterprises that encounter difficulties with paying VAT before receiving payment from their customers. It also aims to improve the functioning of the internal market, by imposing a harmonized time limit for issuing of an invoice with respect to certain cross-border supplies.

The Directive defines certain requirements concerning the information to be provided on the invoices to allow better control of the tax, create a more uniform treatment between cross-border and domestic supplies and help promote electronic invoicing.

Important key points relevant to e-invoices are defined in this Directive, with the key ones being the following:

- **Paper invoices and electronic invoices should be treated equally by EU Member States without increasing the administrative burden.** *Since the use of electronic invoicing can help businesses to reduce costs and be more competitive, current VAT requirements on electronic invoicing should be revised to remove existing burdens and barriers to uptake. Paper invoices and electronic invoices should be treated equally and the administrative burden on paper invoicing should not increase.* This means that **Tax Authorities from EU Member States** should accept the equal treatment between electronic invoice and paper invoice, and be indif-

ferent whether a taxable person chooses to issue paper invoices or electronic invoices: *Equal treatment should also apply as regards the competences of tax authorities. Their control competences and the rights and obligations of taxable persons should apply equally whether a taxable person chooses to issue paper invoices or electronic invoices.*

- **Taxable persons should not be required to use any particular electronic-invoicing technology.** The authenticity and integrity of electronic invoices can be ensured in a number of ways. *The authenticity and integrity of electronic invoices can also be ensured by using certain existing technologies, such as Electronic Data Interchange (EDI) and advanced electronic signatures. However, since other technologies exist, taxable persons should not be required to use any particular electronic-invoicing technology.*

The use of an electronic invoice shall be subject to acceptance by the recipient.

- **Authenticity, integrity and legibility of invoices (whether on paper or in electronic form) should be ensured.** *Invoices must reflect actual supplies and their authenticity, integrity and legibility should therefore be ensured. Business controls can be used to establish reliable audit trails linking invoices and supplies, thereby ensuring that any invoice (whether on paper or in electronic form) complies with those requirements.* This means that each taxable person shall determine the way to ensure the authenticity of the origin, the integrity of the content and the legi-

bility of the invoice. This may be achieved by any business controls which create a reliable audit trail between an invoice and a supply of goods or services.

- “Authenticity of the origin” means the assurance of the identity of the supplier or the issuer of the invoice.
- “Integrity of the content” means that the content required according to this Directive has not been altered.

In that respect, the authenticity of origin, the integrity of content and the legibility of an invoice, whether on paper or in an electronic form, shall be ensured from the moment of issuance until the end of the prescribed storage period for the invoices. **Advanced or qualified signature is simply one of the ways to ensure authenticity of origin**, not the only way and, of course, its use is not obligatory since other means are also acceptable.

- Storage:
 - In the case of invoices stored by electronic means, a Member State may require that the data guaranteeing the authenticity of the origin of the invoices and the integrity of their content, also be stored by electronic means.
 - It should be clarified that, where taxable persons store online invoices which they have issued or received, the Member State in which the tax is due, in addition to the Member State in which the taxable person is established, should have the right to access those invoices for control purposes.

2. DIRECTIVE 2014/55/EU

This is perhaps the most recent development in the EU legal framework regarding e-invoicing and especially regarding e-invoicing in public procurement.

The Directive aims to provide a solid legal basis on the use of electronic invoices in public procurement, simplifying the plethora of electronic invoice standards (national, regional, proprietary) that exist and are currently used in EU Member States, standards that are not interoperable and discourage economic operators who wish to carry out cross-border procurement activities, facing various country specific technical and legal obstacles.

The set of definitions and rules presented in the Directive, ensure semantic interoperability and improve legal certainty hence promoting the uptake of electronic invoicing in public procurement. This means that the benefits of electronic invoicing could be maximized when the generation, sending, transmission, receipt and processing of an invoice can be fully automated. For this reason, only machine-readable invoices which can be processed automatically and digitally by the recipient should be considered compliant with the *European standard on electronic invoicing*. A mere image file should not be considered an electronic invoice for the purpose of this Directive.

Some of the points of this Directive that should be referred here are:

Definition of the e-invoice. According to Article 2 of the Directive an electronic invoice should have a structured format: “‘electronic invoice’ means an invoice that has been issued, transmitted and received in a **structured electronic format** which allows for its automatic and electronic processing”.

The core details contained in an e-invoice.

In the same article, the Directive refers to the content of an e-invoice: “‘**core elements of an electronic invoice**’ means a set of essential information components which an

electronic invoice must contain in order to enable cross-border interoperability, including the necessary information to ensure legal compliance”.

Moreover the core elements of an e-invoice according to Article 6 of the Directive are (inter alia):

- invoice identifier(s);
- the invoice date and period;
- seller information;
- seller’s tax representative information;
- buyer information;
- contract reference;
- delivery details;
- payee information;
- payment instructions;
- allowance or charge information;
- invoice items information;
- invoice totals;
- VAT totals and breakdown.

The announcement of a European Standard. As mentioned earlier, the Commission has requested that the relevant European Standardization Organization will draft a European standard for the **semantic data model** of the **core elements** of an electronic invoice (the ‘European standard on electronic invoicing’). The publication of this standard is expected to by May 27th, 2017.

The EU Member States have to implement the provisions of that Directive no later than November 27th, 2018. However, the Member States have to adopt, publish and apply the provisions necessary to comply with provisions of Article 7 to receive and process electronic invoices no later than 18 months after the official publication of the reference of the *European standard on electronic invoicing*.

The Commission shall require that the *European standard on electronic invoicing* complies at least with the following criteria:

- it is technologically neutral,
- it is compatible with relevant international standards on electronic invoicing,
- it takes into account the need for per-

sonal data protection in accordance with Directive 95/46/EC, the 'data protection by design' approach, and the principles of proportionality, data minimization and purpose limitation,

- it is consistent with the relevant provisions of Directive 2006/112/EC,
- it allows for the establishment of practical, user-friendly, flexible and cost-efficient electronic invoicing systems,
- it takes into account the special needs of small and medium-sized enterprises as well as of sub-central contracting authorities and contracting entities,
- it is suitable for use in commercial transactions between enterprises.

Interoperability should not be based on proprietary solutions. *The goal of interoperability is to allow for the presentation and processing of information in a consistent manner between business systems, regardless of their technology, application or platform.*

Electronic invoicing solutions should be user-friendly and take into account the potential limited capacities of contracting authorities and other entities with limited resources (including limited financial resources). In order to ensure that small and medium-sized enterprises can also benefit from electronic invoicing in public procurement, the European standard on electronic invoicing should make it possible to set up user-friendly electronic invoicing systems, namely ones which are easy to understand and easy to use. In this respect, the fact that small and medium-sized enterprises, in particular, as well as smaller contracting authorities and contracting entities have limited staff and financial resources should also be taken into account.

3. REGULATION NO 910/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

Regulation No 910/2014 on electronic identification and trust services for electronic trans-

actions (widely known as "eIDAS") repeals Directive 1999/93/. EC Regulation 910/2014 aims to enhance trust in electronic transactions in the internal market by providing a common foundation for secure electronic interaction between citizens, businesses and public authorities, thereby increasing the effectiveness of public and private online services, electronic business and electronic commerce in the Union. Electronic invoicing and trust is one of the key points of EIDAS. The establishment of trust between a seller in country A, and a buyer in country B is a pillar for the conduction of cross-border electronic invoicing.

The role of the relevant national authorities/supervisory bodies empowered to appoint and monitor the providers of trusted services is crucial. These national authorities should follow the processes and technical solutions compliant with the relevant internationally recognized standards so that they themselves can be trusted by the respective authorities of other countries. Establishment of trust of the national authorities responsible for trusted services is important for the service providers of trusted services that the authorities have in their registry. Finally, and in addition to the need for compliance with internationally recognized standards and the maintenance of their registry), national authorities responsible for the monitoring of trusted services should seek to establish agreements with respective authorities of other countries, for the mutual acceptance of trusted service providers. This allows a trusted service provider of country A to be accepted as a trusted service provider in country B. This of course relates directly to the providers of QES and advanced QES.

The need for the establishment of trust between trading parties affects the technical solutions and the architecture applied in cross-border e-invoicing, with 4-corner or 3-corner models being implemented and with service providers playing a major role. This architectural solution is described later in the document.

Regulation 910/2014 (eIDAS) came into force on July 1st, 2016. eIDAS Regulation sets the rules for EU Member States on electronic identification and trust services for electronic transactions in the EU market and provides a legal framework that enables secure and seamless electronic interactions between businesses, citizens and public authorities across EU.

eIDAS Regulation addresses e-business (B2B and B2G) as well as e-government (G2C and G2G) and its aim is to ensure that individuals and businesses can use their own national credentials, to access public services in other EU countries where compliant credentials are available. Furthermore, it ensures that electronic trust services, namely electronic signatures, electronic seals, time stamp, electronic delivery service and website authentication, work across borders and have the same legal status as traditional paper based processes. Only by providing certainty on the legal validity of all these services, will the businesses and citizens use the digital interactions as their natural way of interaction.

Following July 1st, 2016, the rules on trust services under the eIDAS Regulation will apply directly in the 28 Member States. eIDAS revokes the existing the Electronic Signature Directive (Directive 1999/93/EC), which has been in place for 15 years. As a result of this, in case a national standard of a non-EU member state such as Serbia is compliant with the Directive which has been revoked (1999/93/EC), this standard needs to be modernized in order to ensure compliance with eIDAS Regulation.

The listed key points of eIDAS Regulation are essential for compliance with EU regulations as far as “trust” is concerned. It should be mentioned that all of these points will be effective in EU Member States after July 1st.

- eSignature can only be used by an individual to “sign”, i.e. mainly to express consent to the data the eSignature is put on.
- Legal persons will be able to use certificates for eSeals (whose purpose is not to sign but to ensure the integrity and origin of data), therefore certificates for eSignatures will not be issued to legal persons anymore and existing qualified eSignatures certificates issued to legal persons will not be used to create a legally valid (qualified) eSignature.
- All Member States need to have a supervisory body in place in order to allow market players to become compliant with eIDAS in due time.
- A national Trusted List is published and maintained.
- Public sector bodies are able to recognize the formats of advanced eSignatures and eSeals whenever they require an advanced eSignature or eSeal.
- Voluntary use of EU Trustmark is available. The trustmark clearly differentiates qualified trust services from other trust services; the aim is to foster confidence in essential online services, so that the users to fully benefit from and consciously rely on electronic services. The Trustmark is defined in Commission implementing Regulation (EU) 2015/806.

9. WHAT HAVE OTHER EUROPEAN COUNTRIES DONE IN E-INVOICING ADOPTION?

The European strategy towards 2020 forms a clear vision of a highly competitive European market economy for the 21st century digital society. E-invoicing is part of the European Commission's flagship initiative. The Digital Agenda for Europe which gives prominence to achieving a single digital market also calls for removal of the regulatory and technical barriers that prevent mass adoption of e-invoicing.

To this end, the European regulatory framework (which is going to be presented in detail later as an answer to the respective question) shapes the legal basis for further harmonization of the internal European market and boosts a wider adoption of e-invoicing among businesses, with the aim to make e-invoicing the dominant way of invoicing by 2020.

As we have already mentioned, the Directive 2014/55/EU has set some important milestones, as well as deadlines to public procurement authorities in Member States, for the adoption of e-invoicing, including the adoption of structured e-invoices on the basis of the upcoming European Standard (CEN 434), in addition to any other existing national standard. The deadline for the implementation of the Directive (as well as for the acceptance of the standard) has been set to no later than 18 months after the publication of the reference of the European electronic invoicing standard in the *Official Journal of the European Union*, i.e. no later than November, 27th 2018 (provided that the standard is published on May, 27th 2017). However, Member States are entitled to a 12-month postponement for the implementation of the Directive, as far as the contracting authorities at the central level are concerned.

Country	Started/Starting Date
Austria	January, 1st 2014
Denmark	February 2005
Estonia	January, 1st 2017
France	January, 1st 2017
Italy	June 2014
Portugal	2012
Spain	January, 15th 2015
The Netherlands	Late 2016 (announced)

The majority of EU Member States like Spain, Austria, Poland, Denmark, Sweden, Finland, Norway, France, Estonia, Italy, Slovenia, Belgium, the Netherlands and Portugal have worked extensively towards compliance with the Directive. Some of these countries have decided to oblige the supplier to use electronic invoices when invoicing the public sector. The table below presents indicatively a limited list of European countries which have already legislated the obligatory sending and receiving of e-invoices to public procurement authorities.

It is worth mentioning that a number of countries (e.g. Denmark) had started creating a favorable business environment for e-invoicing earlier. According to an ACCA (*Association of Chartered Certified Accountants*) paper on 2012, Finland and Denmark were clear leaders in e-invoicing adoption, topping Eurostat rankings in terms of adoption by large enterprises (Finland 89% and Denmark 76%), medium-sized companies (Finland 78% and Denmark 58%) and small businesses (Finland 59% and Denmark 52%).



- e-invoicing in public sector is already mandatory, or it has been announced to be
- e-invoicing in public sector to be mandatory by 2018 at the latest (EU 2014/55 Directive)

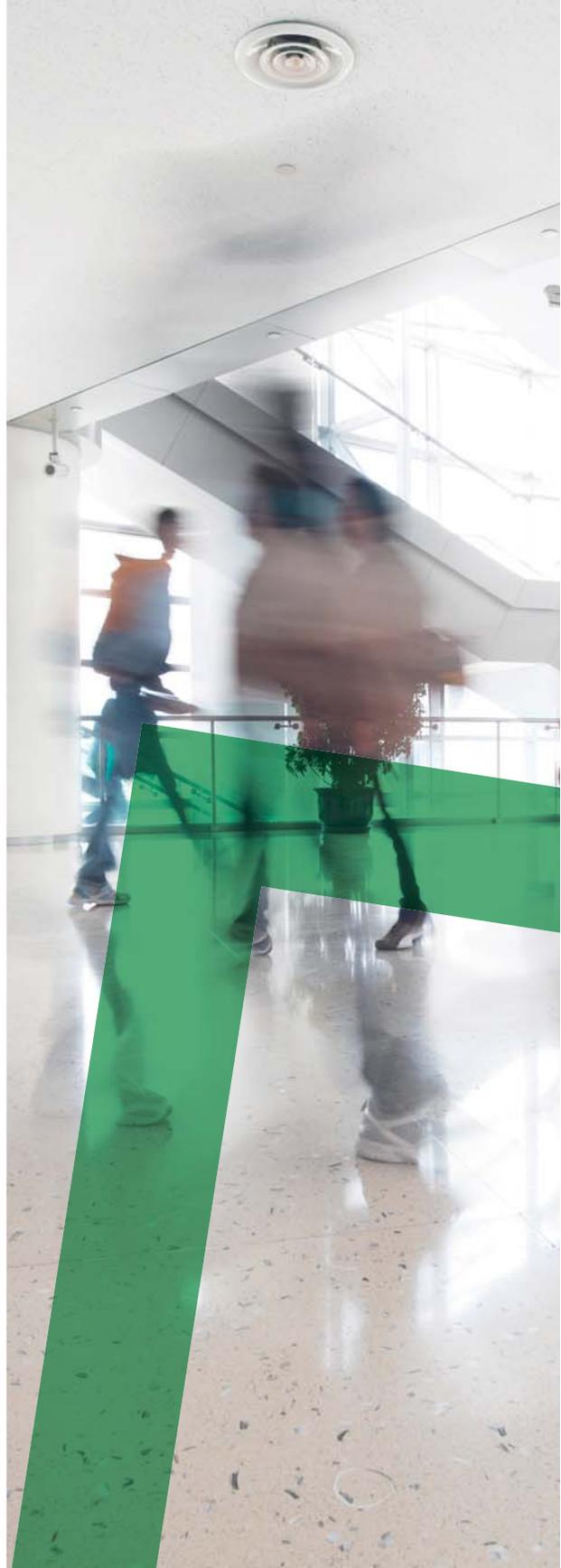
Another important point is the fact that some countries (e.g. Portugal) have also approached the e-invoicing and e-invoices as part of their tax auditing policy and have imposed some specific requirements for e-invoicing reporting, trying to prevent the VAT fraud.

Billentis¹ report from 2016 mentions that “the public sector is in an excellent position to initiate the breakthrough in the mass market. In many countries, 45 to 65 percent of local enterprises are suppliers to the public sector. The government has the power to push these suppliers to send invoices electronically. They are also in the position to modify the legislation in a user friendly way if necessary.” “The Directive 2014/55/EU seems to pave the road in that direction.

The European Commission, via its Directive 2014/55/EU obliges EU Member States to support electronic invoices that are compliant with the upcoming EU standard on electronic invoicing and reap the benefits of automated processing. The implications of implementation of the Directive go beyond the public sector affecting businesses that are suppliers of the public sector.

It should be emphasized that Directive 2014/55/EU approaches the e-invoice as a post award phase of a public procurement process. Further integration with e-procurement, aiming for enhanced (to full) automation, should be expected until October 2018 due to the implementation of Directive 2014/24/EU (pre-award).

¹ Billentis is a Swiss company specialized in e-billing and e-invoicing services, and it well-known for publishing of annual market reports on e-invoicing and e-invoicing aspects. (<http://www.billentis.com>)

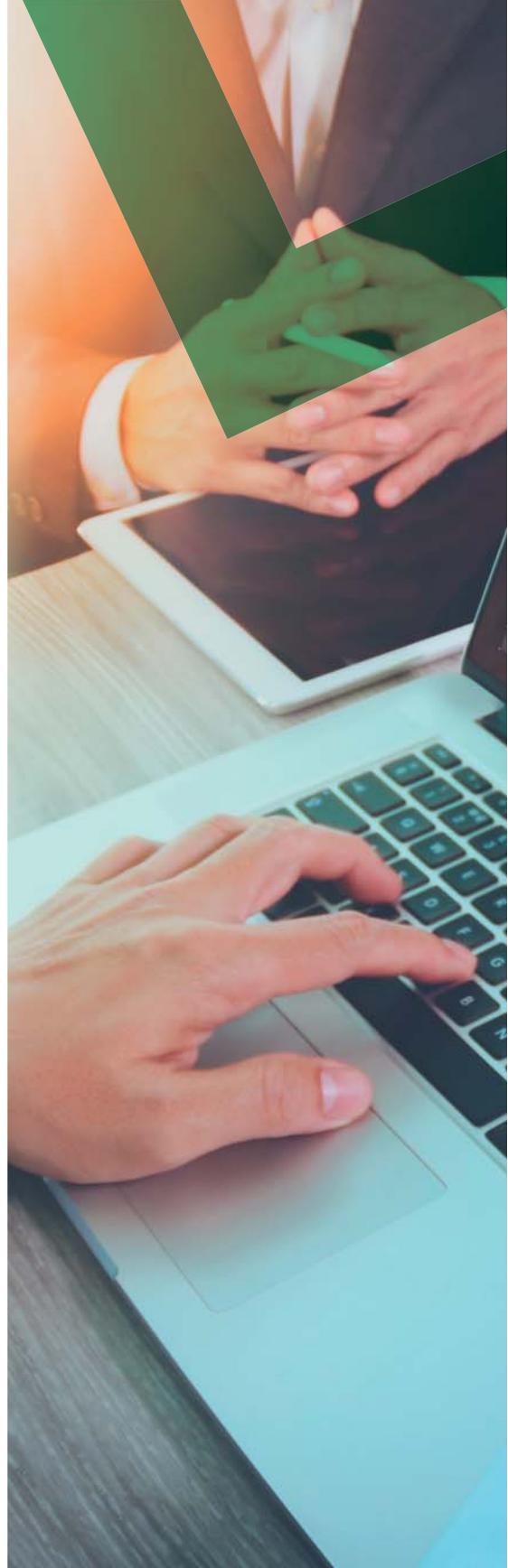


10. WHAT IS THE STATUS OF E-INVOICING IN SERBIA?

In a nutshell e-invoicing is feasible and allowed under the existing legal framework in Serbia. E-invoicing can be applied with no prior approval from any government body. Therefore, as far as all applicable pieces of legislation are concerned, businesses are allowed to exchange invoices electronically.

However, we have to say that relevant pieces of the existing legislation do not always provide full clarity and sometimes are not mutually aligned. In addition, relevant legislation is relatively outdated in certain aspects as compared to EU practice which has seen significant development over recent years, as it has been clearly stated in answering other questions. Having said the above, the penetration of e-invoicing in Serbia is still relatively modest but with visible improvements in recent years.

Competent Serbian authorities (MTTT, Tax Administration, e-Government, etc.) are in close cooperation with business stakeholders and are working intensively on improving the respective legal framework towards establishing a more favourable business environment for the adoption of e-invoicing. The Serbian Government has clearly stated its aim to make e-invoicing mandatory in public procurement by 2020, following the rest of the European countries in that area.



11. WHAT IS THE RELEVANT LEGISLATION IN SERBIA?

E-invoicing is not specifically addressed in Serbian legislation but e-invoices have to fulfil general requirements that are applicable for invoicing in general. Creation and exchange of electronic documents are governed by two specific laws:

- Law on Electronic Document (Official Gazette of the Republic of Serbia no. 51/2009)
- Law on Electronic Signature (Official Gazette of the Republic of Serbia no. 135/2004)

Although without specific focus to invoicing existing laws and other regulations contain provisions that set the scene in this respect. VAT Law is somewhat different as it contains a list of requirements an invoice has to meet in order to be considered “correct”. These requirements are relevant only from the VAT perspective. In general, the following laws are relevant for invoicing and consequently e-invoicing (including related bylaws):

- Law on Accounting (Official Gazette of the Republic of Serbia no. 62/2013)
- Law on Trade (Official Gazette of the Republic of Serbia no. 53/2010; 10/2013)
- Law on Value Added Tax (Official Gazette of the Republic of Serbia no. 84/2004, 83/2015)
- Law on Payment Terms in Commercial Transactions (Official Gazette of the Republic of Serbia no. 119/2012, 68/2015)
- Rulebook on Records of Turnover (Official Gazette of the Republic of Serbia no. 99/2015)

A longer list of the most relevant laws and by laws covering invoices and invoicing, is provided in **Annex 2**.



12. WHAT ARE SOME OF THE KEY AREAS IN SERBIAN LEGAL ENVIRONMENT THAT SHOULD BE CLARIFIED IN ORDER TO FACILITATE E-INVOICING?

It is clear that regulations and practices followed in Serbia in the area of invoicing do not differ significantly from the common European practice. In addition, Serbia has the legislation that provides a solid basis for application and development of e-invoicing in transactions between commercial entities.

However, it is obvious that in practice possibilities that e-invoicing provides are rarely used by the Serbian businesses. For that reason adaptation of the Serbian legal framework to the EU legislation is expected to create a more favorable business environment and will increase the competitiveness of the Serbian economy.

There are many points in Serbian legislation that could be adjusted accordingly to meet the requirements of the EU legal framework. The following list indicatively presents, some of the main Serbian laws and the points that should be clarified and/or amended accordingly.

LAW ON VALUE ADDED TAX

Article 42 of the Law should be amended to take into consideration electronic form of invoices, particularly in Paragraph 4, which prescribes at least two copies of an invoice as well as the manner of handling the invoices, which implies that the invoice is in a paper form.

Article 41 confers the power to the competent Minister to more closely define the require-

ments and the specifications of the record keeping application. These provisions also need to be reexamined in the future, and either abolished or adjusted accordingly in order to be compliant with the contemporary interconnected infrastructures and modern cloud based value added services for enterprises, such as SaaS, AaaS, etc.

LAW ON ACCOUNTING

Provisions of Articles 8 and 9 should be further clarified concerning electronic invoices. These provisions already recognize electronic invoices, but they are not always easy to interpret, particularly regarding requirements for the signature and electronic delivery (proof of trusted delivery of goods by electronic means).

Article 8 needs additional clarification related to Paragraph 5 which states that photocopied accounting document has to be signed ('potpisana'), particularly when an invoice is scanned or printed instead of photocopied.

Transposition of eIDAS Regulation will introduce new trusted services like trusted delivery, and the Law on Accounting will need to consider these kinds of services in the Article 8.

Also, Article 24 on preservation of accounting documents should consider the use of independent electronic preservation services. Currently the preservation of accounting document may be outsourced only through a bookkeeping service.

LAW ON LATE PAYMENTS IN COMMERCIAL TRANSACTIONS

Electronic trusted delivery, as a manner of interpretation of delivery and evidence of receipt of electronic invoices should be defined in the provisions of this Law.

LAW ON ENFORCEMENT AND SECURITY

Provisions of Article 18 should be clarified in order to avoid interpretation of authentic documents and invoices as paper documents. Such interpretation is possible because this Law emphasizes the necessity of a written proof of delivery ('pismeni dokaz').

LAW ON TRADE

Provisions of Article 35 already prescribe that documents accompanying the goods in transport could be original or copied, in the written or electronic form. Although Rulebook on Records of Turnover which came into force on January, 1st 2016 introduced the possibility of having electronic evidence of documents accompanying the goods as well as electronic business documents accompanying the goods, it is not quite clear how these provisions need to be applied in practice.

LAW ON TAX PROCEDURE AND TAX ADMINISTRATION

Provisions of the Law on Tax Procedure and Tax Administration are adapted so as to take into account the usage of information tech-

nologies used for keeping accounting books and completely accept electronic business documents according to the rules regulating electronic documents in general.

The Law, with corresponding bylaws, precisely regulates electronic format for submission of records from the accounting books to the Tax Administration officers during supervision, but appropriate details of reconciliation of electronic accounting documents are not prescribed.

In that respect it is also recommended to reconsider the mandatory use of qualified electronic signature (and related obstacles) for the e-invoices as this requirement was abolished in 2010 in the EU Legal framework (Directive 2010/45/EU amended VAT Directive 2006/112/EU abolished the mandatory use of electronic signatures for e-invoicing).

In addition, there is room for improvement of legislation in terms of standardization of the structure of e-invoices which would be particularly important for invoices issued by governmental bodies. In that respect, it is worth mentioning again, that Directive 2014/55/EU envisages that structured e-invoices should be mandatory for G2B (public procurement) transaction, by 2018 for European Member States.

Moreover, it seems that there is a lack of awareness of the possibilities provided by the legislation and, thus, businesses in Serbia are not fully aware of the benefits that can be achieved through full or even partial implementation of structured e-invoicing (i.e. EDI). Given that the implementation of EDI solutions contributes to the reduction of overall costs of business operations there is also a plenty of room for governmental involvement in this field through the promotion of these solutions amongst businesses.

13. HOW DOES E-INVOICING AND ITS ASPECTS AFFECT THE SUPPLY CHAIN?



The question how invoicing/e-invoicing works and what are the key steps in the life cycle of the e-invoicing process, has been addressed elsewhere in the Guide. From the business perspective, it is quite clear that invoicing has a crucial role in business processes and practices. The automation and digitalization of e-invoicing from the beginning to the end, from purchase to payment (P2P), becomes also a critical factor for each contemporary company and its competitiveness.

Cloud, mobile, and big data are changing the competitive dynamics of the global economy, creating significant value for businesses wishing to leverage these technologies, and enabling organizations wishing to increase their efficiency and provide better services to their citizens and businesses.

It is therefore understandable that both public sector and businesses are increasingly turning to state of the art technology in order to manage a highly complex process such as the purchase to payment (P2P) one – wanting to improve collaboration and automate manual, paper-based and data-entry intensive P2P processes. By automating the P2P process, organizations in the public and private sector gain better control over purchasing (aiming for best value for money or the cheapest choice), spending and payments.

Invoicing (issuing, approval, payment) is a key part of the *procure to pay* process. Electronic invoice can be the point around which the automation of P2P process can be built. At the post-award stage, suppliers can receive purchase orders electronically

and upon filling the order, they can rapidly send an electronic invoice to the purchaser by transforming the purchase order (PO) into an e-invoice. This also provides a significant benefit to the purchasing company in that the electronic invoice gets routed directly to the accounts payable department and contains all the necessary data — such as PO number, product description, and price — and enables the accounts payable (AP) system to perform automatic invoice validation and approval.

Full automation of P2P process leads to more effective control of the whole supply chain, connecting procurement and invoicing operations through an intertwined business flow supported by an up-to-date and user friendly IT infrastructure. Key benefits include increased control of the process, better understanding of financing and procurement, efficiency, cost savings as well as reduced processing times and straight-through processing where the incoming invoices are handled without any manual intervention.

THE DYNAMICS OF E-INVOICING IN SUPPLY CHAIN FINANCING.

Anyone can understand that e-invoicing fits in the middle of the three main components that are seen as separate in the supply chain process:

- Physical supply chain – the movement of physical goods from suppliers to buyers
- Information supply chain – **e-Invoicing**:



tracking, recording and evaluating information related to the supply chain

- Financial supply chain – how money flows through the supply chain to fund the purchase of goods and services

The invoice is issued by a seller to a buyer, and must reflect actual supplies. It is a commercial document with legal substance; it represents a formal request for payment with VAT implications. The invoice is registered in the accounts receivable of the ERP accounting system of the seller and it is expected to be paid within a certain time frame.

Similarly to a paper invoice, an electronic invoice also represents a payment request registered in the accounts receivable, which has legal substance as well as VAT implications.

In the past, businesses have leveraged the hidden value of the invoice to a certain extent, by using relevant financial products of the banking sector such as factoring. However, today's business environment is different to what it was a few years ago. New financing tools have been developed and new actors have emerged in the field of finance, disrupting the traditional banking business model.

Electronic invoice enables the service providers as well as businesses to leverage the hidden value of their e-invoices and gain access to a set of financial products and services that will allow them to improve their cash flow and working capital. The potential of using an electronic file such as an e-invoice in order to shape and offer the financial products that serve the financial needs of businesses,

puts e-invoice at the heart of Fintech, causing disruption to the traditional financial model where only banks were those offering financial products to businesses.

Generally speaking, it works under the cloud-based software platforms which are operated by a service provider - a fintech company. When a given supplier, who is already a registered user of such a platform, uploads an invoice to the platform, the invoice is approved by the buying firm. Then, a number of processes can take place on this fintech's platform. For instance, the supplier is able to make a discount and obtain the payment at chosen time which could be a big benefit ("early payment", and/or "dynamic discount").

So, it becomes obvious that in the era where credit comes at a premium especially for SMEs, alternative financing solutions offered by suppliers can provide solutions to important financial issues they face.

The main models of these alternative forms of finance are described below.

SUPPLY CHAIN FINANCE (SCF)

According to Billentis report for 2016, "Supply Chain Finance refers to the set of solutions available for financing specific goods and/or products as they move from origin to destination along the supply chain".

SCF has been available to businesses since

the beginning of the 1990's. The recent economic crisis accelerated its use. The technological advancements that disrupted many business models including banking business model, the financial environment that made access to finance more difficult, the increased global trade that created lengthy and complex supply chains, and the regulatory environment all created a favorable setting for SCF to grow.

SCF, also known as “alternative” or “reverse factoring”, has the potential to develop to a business-to-business payment model, in which banks may or may not have a role. SCF involves a third-party financier, that can be a bank or any other entity allowed to deliver this kind of financial services, in order to fund the supplier's early payment by leveraging the buyer's creditworthiness. This serves a number of business purposes. On one hand, suppliers are mostly focused on the enhancement of their cash flow through financing and faster payments. Buyers, on the other hand, are interested in leveraging their working capital - hence improving their profitability by, for example, linking early payments to discounts.

The above described business needs create an opportunity to service providers to approach both parties and suggest possible solutions/products that go beyond e-invoicing.

Although SCF is not a-one-size-fits-all solution, as certain industries are more suitable than others, it still has great potential that remains to be further explored by banks and fintechs.

DYNAMIC DISCOUNT

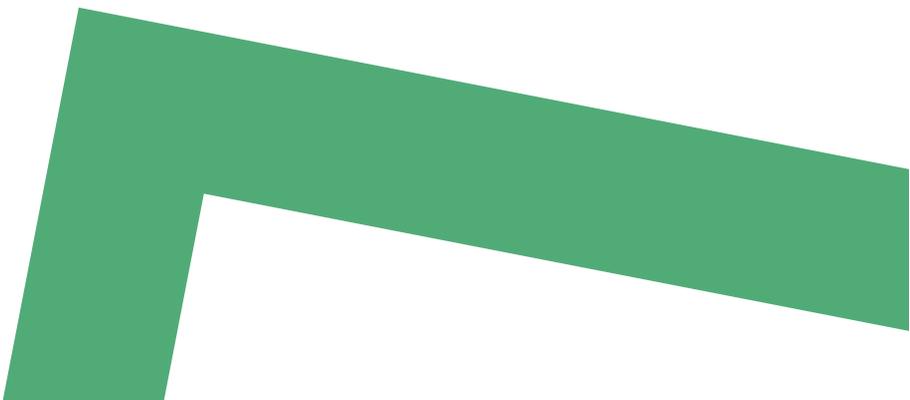
Dynamic Discounting is the process which allows a buyer and a seller of goods or services to alter the payment terms initially foreseen in the contract, where early payments are linked to a discount. The process can be automated, linking the accounts receivable to a certain time range for early payment which corresponds to a defined range for a discount for the goods and services purchased - hence the term “dynamic”.

In *dynamic discount* the buyer leverages his working capital, providing the limit for liquidity and the applicable early payment interest rates to the seller. The process can be standardized and automated. It is possible for *dynamic discount* to be applied as an add-on in existing ERP systems or accounting software packages of both the buyer and the seller - or their electronic invoice service provider.

This approach is quite different from the SCF one, as in the case of *dynamic discount* the supplier improves its cash flow without having to ask for a loan or a third party financing product and the buyer can use their own cash to generate additional purchasing discounts - hence enhanced profitability.

ANALYTICS

As is the case with all electronic files, the raw data included in the electronic invoice can be processed with the appropriate software





tools and used for further analysis, allowing companies and organizations to understand more about their business, and take more educated decisions at operational and strategic levels.

The use of analytics can positively affect a number of important areas, allowing businesses to:

- proceed to a proactive collection and cash flow planning,
- pinpoint areas that still have potential for enhancement of margins,
- make cross-section comparisons between business units and/or entities,
- strengthen customer relationships,
- decrease financial costs,
- achieve better business growth by being more accurate in their selling/business development function.

14. WHAT IS THE LINK BETWEEN PROCUREMENT AND E-INVOICING?

A BRIEF OVERVIEW OF PUBLIC PROCUREMENT

Public procurement can be defined as the process that leads to the acquisition of goods, services, or works by public bodies. Public procurement can take place at a national or an international level.

With public expenditure on goods, works, and services representing approximately 14% of EU GDP, public procurement is critical to the European economic recovery. The magnitude of the market combined with the expressed will of the EU Member States to proceed to further integrate the Single Market in economic/business terms, led to the creation of rules that encourage transparent, fair, and competitive public procurement across the Single Market, presenting opportunities to European SMEs and businesses across the EU – hence contributing to economic growth and job creation.

The recent technological developments, the cloud and *SaaS* and the possibilities presented by the use of electronic tools, allowed for an entirely new approach to the public procurement which, through the improvement of efficiency of the public sector, the simplification of procedures and the reduction of barriers, created a more citizen and business-friendly environment at the same time supporting the fight against corruption in public procurement and creating the culture of integrity.

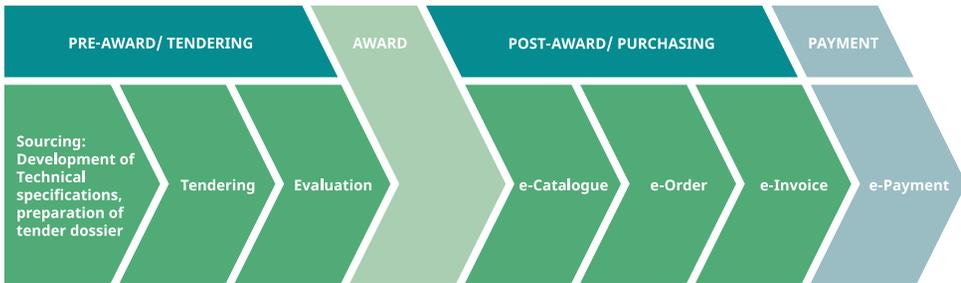
ELECTRONIC PROCUREMENT

In analogy to the definition provided for public procurement, e-procurement can be defined as the acquisition of goods, services, or works by public bodies - over the internet and using necessary web-enabled tools that can potentially allow automation of stages of the process. The definition provided is in line with the description provided on the web site of the European Commission in regard to e-procurement, which mentions that “e-procurement goes beyond simply moving to electronic tools; it rethinks various pre-award and post-award phases with the aim to make them simpler for businesses to participate in and for the public sector to manage. It also allows for the integration of data-based approaches at various stages of the procurement process.”

The above reasoning places e-procurement at the heart of key reforms introduced to the most recent EU public procurement directives: Directive 2014/24/EU and Directive 2014/55/EU.

Whilst Directive 2014/24/EU focuses on the pre-award stage of public procurement, Directive 2014/55/EU is related to the post-award phase, being specific about using electronic invoicing in public procurement.

The following graph provides an overview of the procurement process, differentiating the pre-award or tendering phase and its elements, to the post award phase to which the electronic invoice belongs.



PROCUREMENT AND ELECTRONIC INVOICING

The European Commission is working intensively towards the removal of barriers (technical, legal) focusing its efforts to a broad-scale adoption of electronic invoicing in Europe. As a part of these efforts to create a stable legal environment as far as e-invoicing in public procurement is concerned, the EU is promoting a common e-invoicing standard.

Directive 2014/55/EU links procurement to electronic invoicing, positioning electronic invoicing at the heart of the public procurement strategy across all EU Member States. The deadline for EU Member States to fully adopt Directive 2014/55/EU is November 2019, meaning mandatory acceptance of e-invoices (as these are defined by the Directive, meaning structured e-invoices) by all public buyers after that date. Member States such as Austria and Denmark have already made the submission of electronic invoices to the public sector mandatory, rejecting non-structured electronic and paper invoices.

Furthermore, electronic invoicing and public procurement are not only seen as key elements for the modernization of the public administration and as useful tools in the combat against corruption. They are also seen as enablers of economic growth, being high on the EU agenda and representing key elements in Europe's Digital Agenda, which is Europe's strategy for a flourishing digital economy by 2020.

BUSINESS POINT OF VIEW

From the business point of view procurement is integral part of the *purchase to payment* and/or *order to cash* flow. At the same time this is one of the areas where EDI solutions can bring the most benefits.

In this respect, procurement is analysed as a process of buying goods and services. The integral part of procurement process is order placement. Placement of orders is not specifically addressed in the legislation. There is no specific request that an order has to exist; consequently its form is not regulated.

It is common practice than Sales and Purchase Agreement defines general conditions for sales/purchases. As these conditions normally depend on volumes of transactions scales, they are provided in the agreement. Therefore, in practice it may happen that agreements are not precise in terms of volumes of goods that will be subject to sales. Instead, POs are used to specify quantities for each delivery based on the needs of customer. In that respect use of POs is also important for parties in order to have the evidence of ordered goods so as to monitor the execution by the supplier – for example, if supplier responded to the PO within the agreed deadline or if supplier delivered the ordered quantity, etc. These kind of Key Performance Indicators (KPIs) are vital for large customers so as to rate reliability of different suppliers.

In addition, orders placed by the customers in the sense of acceptance of official offer

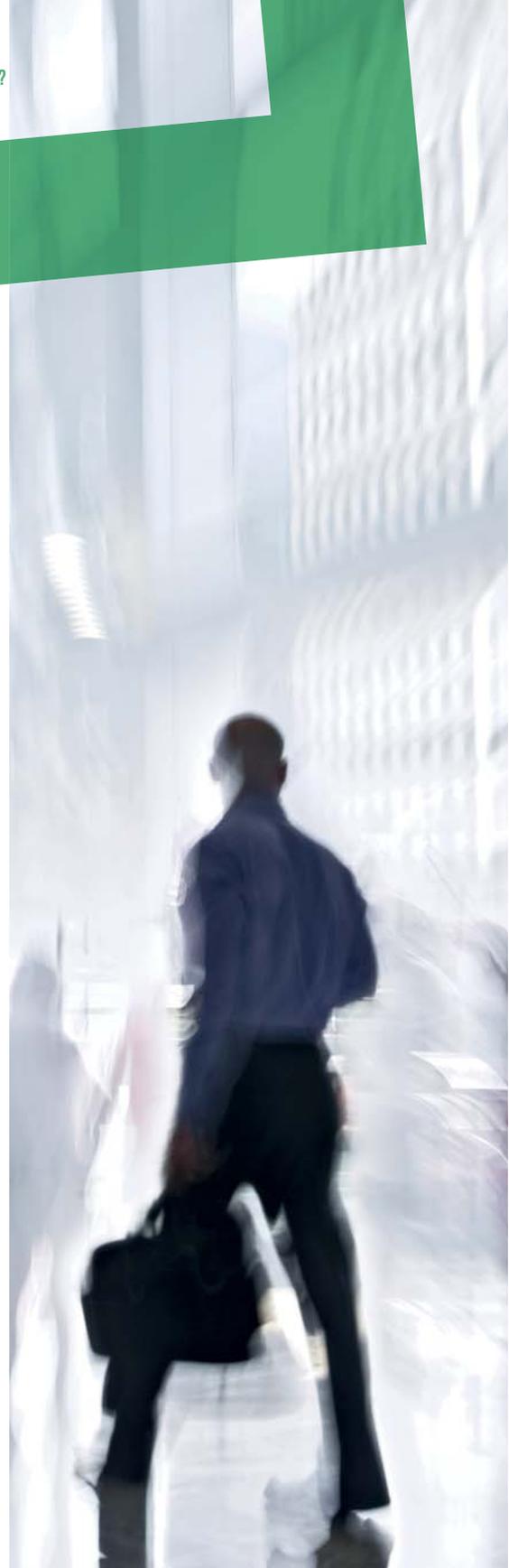
issued by the seller constitutes a legal relation between them with legal power equal to a written Sales and Purchase Agreement.

In practice, PO is issued by a customer's employee who is authorized to place PO on behalf of his/her company. In order to avoid any doubts it is recommendable that Sales and Purchase Agreement precisely defines process of placing of PO – who is sending PO to whom.

When PO is received by the supplier the process of delivery should start – the supplier prepares the goods, loads them onto the truck and delivers them to the customer. A deadline for the delivery depends on agreed terms between the parties but it is primarily influenced by the characteristics of the industry. For example, in retail industry the usual deadline would be around 24 hours, but it can take more than a year to deliver an aircraft or a boat.

The form of the PO in general contains data on type of goods, quantity, price, and delivery terms. In practice POs are sent in hard copy or through e-mail as a PDF document. However, some businesses use the option for sending POs through EDI functionalities. There are no obstacles for sending POs through EDI.

As mentioned, this area is one of the most beneficial for using EDI solutions. Benefits are not only associated with cost of labour and printing material but are directly linked with operational efficiency of the business. For example, in the EDI environment, the information flow on orders is immediate; processing time of order at sellers' can be significantly decreased having in mind that the sellers' logistic software can be automatically updated with new orders.



15. WHAT ABOUT BENEFITS FOR GOVERNMENTS?

The benefits the adoption of e-invoicing and the automation of the relevant business processes bring to governments are numerous.

Some of the benefits are measurable and become apparent during a short to mid-term time horizon, whilst others have a positive but indirect impact that cannot be accurately measured but do affect positively the economic well-being of a country and represent a strong and positive statement on policy matters that businesses and citizens appreciate, such as the combat of corruption. Furthermore, the adoption of electronic invoicing can create opportunities for the private sector, acting as a catalyst for the wider adoption of digital processes in B2G interaction points.

FINANCIAL BENEFITS

One of the main drivers behind the establishment of the electronic invoice is the financial benefits that e-invoicing and the automation of relevant processes provide to the public sector and businesses in the form of savings.

Of course, the degree of savings that can be achieved is in analogy with the degree of automation of the e-invoicing processes. A 'minimalist' approach will deliver very modest savings and may actually cost rather than save money. A 'maximalist' approach will also require some investment, but is likely to deliver significant savings and benefits, especially if developed towards full automation.

Automating the entire end-to-end e-procure-

ment chain and ensuring the use of automated matching of orders to invoices, work flow technology and well executed integration with the organization's host systems will deliver more savings than a semi-automated approach. (The adoption of e-invoicing in public procurement, EU Commission Publication, March 2016).

In many countries, the public sector is the driving force of the economy with a large share of all businesses being suppliers to the public sector and sending invoices to it. E-invoicing initiatives by the public sector are the key for the economic development of a country. Unfortunately, despite the huge potential for savings, this sector remains to be further explored.

In order to better understand the financial impact that the introduction of electronic invoicing, as part of an automated invoicing process, will have on the public sector and businesses, a plethora of relevant studies has been developed by EU Member States, businesses as well as the European Commission.

The research conducted using only sources of verified and the conducted analysis provided the following findings:

- A study conducted by the European Commission, within the Single Euro Payments Area, estimated that the e-invoicing initiative will provide savings of around EUR 64,5 billion per year for businesses. The savings at EC-wide level are even bigger.



- The EU Multi-Stakeholder Forum on e-Invoicing (EMSF) in its “Experience and Good Practice” report, mentions 60% cost savings and efficiency for both parties (buyers and sellers).
- An independent study of RICOH Europe, a company heavily engaged in the electrification of invoices, estimated that the reduction of costs combined with the increase in efficiency due to the streamlining of processes, can cut the costs of handling invoices by up to 70%.
- *Gartner*, an influential research and analysis group, concluded following a nation-wide analysis across UK that the cost of processing an invoice in the UK typically averages between GBP 4 and GBP 25, and in some cases even up to GBP 50, per individual invoice. Savings on these numbers can reach 60% in case of a fully automated e-invoice approach.
- The European Commission, in its Paper titled “*E-invoicing in public procurement: another step towards end-to-end e-procurement and e-government in Europe*”, mentions that switching from paper to fully automated invoicing can cut the costs of receiving an invoice from EUR 30-50 to EUR 1.
- A Press release by the European Commission (2013) on Belgium adopting the European Commission system for e-invoicing, indicated that for Belgium e-invoicing is a major project in the context of administrative cost savings for the companies and part of the modernization of the public service, which has the role to lead as an example. For 2012, the Federal public service received about 1.2 million invoices. The Belgian Government estimates that electronic invoicing can save EUR 1.84 per invoice for the supplier and EUR 6.49 for the receiver. The potential benefits per year can therefore reach EUR 2 million for the suppliers and EUR 7.5 million for the public service.
- *Basware*, one of the biggest e-invoicing service providers in the world estimated that Germany would save EUR 800 million (USD 873 million) per year on processing costs, if it were to introduce e-invoice at G2B level.
- As part of the same study, *Basware* estimates that governments in Europe issue 3.15 billion invoices each year at an average cost of EUR 60 (USD 65.94) per invoice.
- A Commission Staff Working Document, published on the June 26th, 2013 mentions that Austria, a country whose population is comparable to Serbia (Austria made electronic invoicing mandatory for B2G transactions in 2014) estimated that in total, the administrative burden for businesses will be reduced by EUR 14 million, and the Government will save approximately EUR 5 million.
- According to the same paper of the Commission, the Finnish State Treasury and some Finnish companies have estimated that an incoming paper invoice



incurs costs amounting to EUR 30-50 to the receiving company. By switching to electronic invoicing, these costs can be lowered to EUR 10 by semi-automating the invoicing process, and to EUR 1 by fully automating the process.

- The European Association of Corporate Treasurers estimate that processing of paper invoices is around 60% to 80% more expensive than electronic invoices, estimating that companies could save up to 80% of their current costs by processing invoice data automatically, i.e. removing paper and manual efforts.
- A recent report from Billentis of Switzerland, a firm specialized on e-invoicing matters with world-wide reputation, suggests the average saving per electronic invoice is GBP4.80 which, with a bit of number crunching, suggests that the total amount saved by EESPA members across Europe in 2014 was a figure in the region of GBP 4.8 billion.
- A Commission Staff Working Document on the *Impact Assessment of electronic invoicing in public procurement* mentions that limited data is available concerning the implementation costs of e-invoicing systems. Only a few Member States have made an attempt to estimate the costs, such as Belgium (cost of EUR 300,000 for the country's pilot project), Spain (EUR 100,000 per year), or Scotland (GBP 500,000 during the first two years of implementation). As previously mentioned,

these estimates are significantly smaller than the expected benefits.

- Belgium estimates that the costs of implementation of its e-invoicing pilot project in the federal government will amount to approximately EUR 370 000 for basic infrastructure and support services, while yearly savings in excess of EUR 3 million will be generated (not including the judicial sector).
- In Spain the costs and benefits of an introduction of e-invoicing in the central government administration and related bodies (excluding the social security agency) are estimated to be about EUR 100 000 per annum, based on the creation of a central management model/platform to receive all e-invoices submitted to the central government administration. Savings to the central government from the move towards e-invoicing are estimated to be about EUR 2.5 million per annum.
- Norwegian municipalities estimated that a requirement to switch to structured e-invoicing based on a common standard for all incoming invoices would generate costs for suppliers peaking at some NOK 400 million (about EUR 54 million at current exchange rate) per annum 3 years after the introduction of the scheme. Then costs would steadily decrease and savings accruing to suppliers would exceed their costs by the 4th year. The total NPV of the benefits accruing to

suppliers was estimated to be NOK 2077 million over a 10 year period (about EUR 280 million). A similar assessment of the introduction of mandatory e-invoicing in the Norwegian central government administration made in 2008 also concluded that there would be a net present value for suppliers, estimated at NOK 178 million (about EUR 24 million at current exchange rates).

- In an attempt to provide a more accurate estimation of the savings, the Finnish State Treasury in cooperation with Finnish companies developed 2 distinctive categories for e-invoicing: semi-automated and fully automated. According to their estimations, an incoming paper invoice incurs costs amounting to EUR 30-50 to the receiver company. By moving to electronic invoicing, these costs can be lowered to EUR 10 by semi-automating the invoice process and to EUR 1 by fully automating the process. Similarly, according to *Politecnico di Milano* the switch from paper based to automated invoicing may generate benefits of up to EUR 65 per invoice in the case of full integration of the trade process. The European Associations of Corporate Treasurers has reached similar results, estimating that companies could save up to 80% of their current costs by processing invoice data automatically, removing paper and manual efforts.

A list of references of the sources of the

above-mentioned examples for estimations of financial benefits is given in **Annex 1**.

INSIGHT ON THE FINANCIAL BENEFITS

It's worth noting that in the cases presented, the effort to quantify the financial impact of electronic invoicing focuses on the estimation of operational savings via the comparison of costs between automated and paper based invoicing.

Operational costs, however, (and therefore the respective savings) vary across countries. Hence conclusions can be drawn only at a generic level.

It is important to note that the distribution of the potential economic benefits would not be evenly spread among the different users. In particular, the costs and efforts of processing invoices are much more significant on the receiving side than on the sending side – while the sender only needs to print out the invoice, put it in an envelope and send it, the recipient must register it, verify it, transfer it to the accounts payable, which must match the invoice against an existing purchase order, input the data into the ERP or accounting system, archive it, etc. By eliminating the need for these processes, the potential savings are by default greater for the recipient than for the sender. A consequence of the asymmetrical distribution of the additional costs of manual processing of invoices between send-

ers and recipients of invoices is that public authorities' losses due to higher transaction costs are more significant than those of firms participating in public procurement.

In addition, savings are obviously greater for large businesses and public bodies who deal with a significant volume of invoices than for small businesses and localities which process only a few invoices a month or even a year.

INDIRECT BENEFITS

One of the issues that can be overlooked when discussing electronic invoicing is the indirect benefits its introduction can bring. As described earlier in the text, the automation of the invoicing process can provide measurable financial benefits. However, there is a bigger picture that the introduction of e-invoicing can contribute to.

E-invoicing helps speed up the time of payments: greatly reduced errors due to data entry, almost instant delivery and acceptance confirmation. This leads to an improved movement of cash, which helps smooth out complications and problems in the economy. Free-flowing capital helps to promote trade, especially amongst smaller businesses, for whom cash flow is a key determining factor in their financial stability. This supports the economy in becoming more effective, more competitive; and it also helps SMEs grow.

Electronic invoicing can also be an effective tool in modernizing the public administration, at least at the parts that are related to the processing of payments. Formalizing/standardizing the process will provide great benefits, and could also improve the perception businesses have of the public sector.

Export/import focused SMEs who work with suppliers from EU Member States, will benefit from the use of a Serbian e-invoice that is compliant with EU legislation, and especially if their suppliers also use e-invoice. The high degree of automation will result in faster payments, increased efficiency and improved accounts payable processing.

E-invoicing can also greatly contribute to tax and VAT Compliance – at national as well as international/EC level.

Electronic invoice can have a pivotal effect in the enhancement of transparency, accountability, and traceability. The use of appropriate authentication methods, the electronic recording of every stage of the process in terms of time, activity and user, lead to a well recorded audit trail that leaves very little room for gaps and/or misunderstandings.

Finally, but very importantly, and for the reason mentioned earlier where every step is recorded, electronic invoices minimize the risk for fraud due to fake invoices, thus protecting the interest of the public sector, the interests of businesses and provide the key data for law enforcement.

16. WHY BUSINESSES SHOULD START PREPARING THEMSELVES FOR E-INVOICING?

Although legal and compliancy reasons have been separately addressed in some of the answers given to other questions, it is worth systemizing general benefits of implementing EDI in businesses.

Benefits can be separated in three segments:

1. SPEED

EDI transactions are recorded instantly and potentially with no manual intervention. A combination of these functionalities with other internal systems could add significant efficiencies to the processing of orders, picking, packing, shipping, invoicing, etc.

2. ACCURACY

Direct exchange of data between computers with no manual intervention minimises the potential for human errors. Apart from protecting businesses from over or underpaying their liabilities these

functionalities make the process of reconciliation of balances between the partners much smoother and more efficient.

3. COST EFFICIENCIES

As mentioned before, cost efficiencies are mainly linked with savings in terms of labour, **printing material**, postal services and **storage expenses**.

It is also fair to mention that the use of EDI is also connected with certain expenses. These expenses include hardware and software investments, but there are also transaction costs that are charged by service providers acting as intermediaries. Therefore, it is important that businesses perform their own cost-benefit analysis before initiating such a project.

It has been already mentioned that a thorough list of business cases and estimations of cost savings, as well as their reference links is provided in **Annex 1**.



17. WHAT KINDS OF BUSINESSES WILL BENEFIT THE MOST FROM THE USE OF E-INVOICE?

In general, all businesses would find benefits from implementing EDI solutions. However, in some industries these benefits are more significant than in others.

It is reasonable to conclude that the most benefits from introducing EDI solutions would be achieved in businesses that cooperate with large numbers of external partners and exchange large numbers of documents both with partners and internally. The examples are Retail, FMCG, Consumables, but also utility and public companies that serve large number of customers.

As far as the businesses and their processes are concerned, the highest benefits of EDI solutions implementation can be achieved in the area of booking of incoming invoices. In that respect there are two typical options:

- Full implementation of EDI solution – in this option the buyer’s accounting system receives a structured electronic message which is automatically translated to a journal entry. This option is rare in practice (not only in Serbia) as it requires significant investments from both parties as well as implementation of compatible solutions so that they can communicate.
- OCR based solutions – OCR stands for *Optical Character Recognition*. This tool enables the accounting system to “read” the data from the documents (scanned copies of hard copy documents or PDF versions). When the data are recognized the system creates an EDI message

(similar to the one previously explained) and auto posting is enabled.

Any of the above solutions enables significant savings in labour costs but also result in higher accuracy of the postings as possibilities for errors are very limited. It is for this reason that the implementation of EDI solutions is in principle pushed by entities that receive high volumes of invoices. The best example would be a retail company.

On the other hand, businesses that issue large numbers of external invoices can also realize savings primarily in terms of printing and postal services. Additional benefits can flow through shortening of time needed for the customer to receive the invoice which can positively influence the collection of receivables and consequently the cash flow. Also, one of the EDI functionalities enables issuer of the invoice to see the status of its invoice and to have immediate confirmation of receipt. This is an important benefit in the reconciliation process between the partners.

In addition, businesses that have to deal with numerous low-value purchase orders can create significant efficiencies through imposing EDI solutions in this area and specifically through linking them with internal logistics software. By doing this these businesses can have an almost fully automatized and unmanned process of preparation of electronic data related to the dispatch of goods.

18. WHAT ARE THE MAIN BENEFITS FOR SMEs FROM IMPLEMENTING E-INVOICING?

The level of benefits from implementing EDI solutions are mainly dependant on the business in which particular SME operates. Obviously, businesses that deal with large number of documents on a daily basis are more inclined to seek a more efficient solution. We can imagine that for example a FMCG Company that deals with thousands of invoices on a monthly level can have more benefits from EDI than a luxury car trader that receives and issues less than fifty invoices per month.

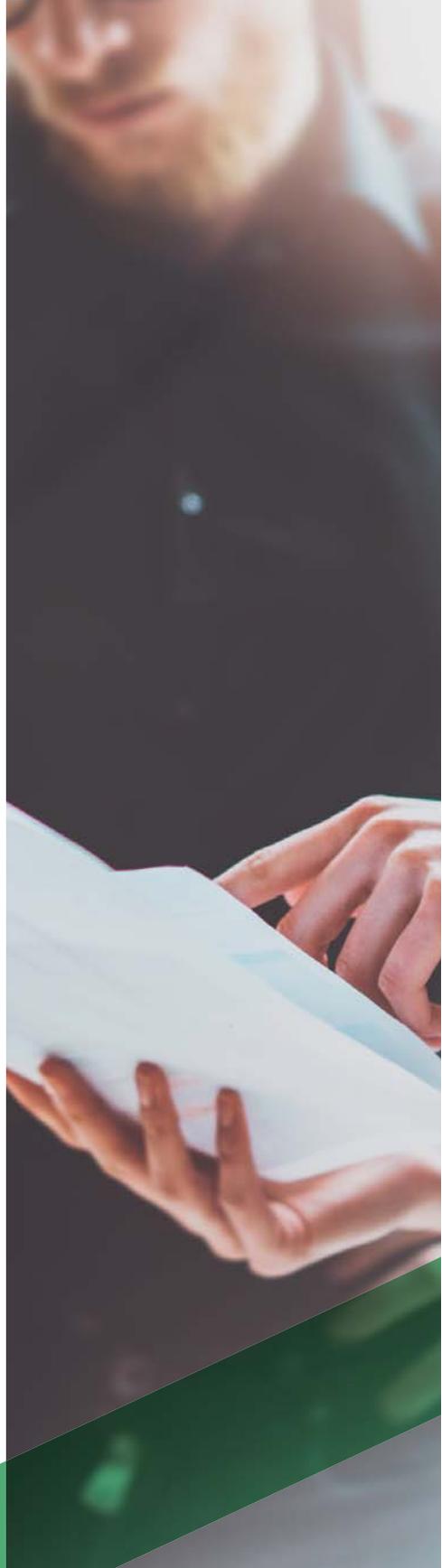
Benefits from implementing EDI are not only related to the associated cost savings. These benefits also include increased control over booking entries made in accounting systems as the possibility of human error is significantly decreased. Business transactions are recorded with no delay which improves the basis for management decision making.

On the other hand, there is a huge potential for cost savings. EDI implementation enables the businesses to reduce labour hours spent in accounting – instead of manually booking each document, the role of accountant in EDI environment is focused on controls over the technology which should ensure correctness of automated postings of EDI documents.

Experience shows that through EDI implementation the businesses can save 30%-40% of labour time spent on issuing outgoing invoices. The savings relate mostly to printing, enveloping and sending the invoices.

The potential savings in labour hours is significantly higher when EDI is implemented in the incoming invoices area – it can be as high as 65%-75% of labour hours used to book incoming invoices manually.

A thorough list of business cases and estimations of cost savings, as well as their reference links is provided in **Annex 1**.



19. WHAT ARE THE ELEMENTS, AN SME SHOULD CONSIDER WHEN DECIDING TO ADOPT OR REJECT E-INVOICE?

Despite the described objective obstacles, businesses are becoming more aware of benefits that EDI implementation can bring.

Obviously, the figures presented in answering question 20, should motivate businesses to perform thorough analysis of possibilities for implementing EDI in their particular situation and to try to find a way to overcome described obstacles including those relating to existing legislation and practical framework. On the other hand, this should also alert government bodies to put efforts into resolving all potential barriers that can demotivate businesses to take this important step.

In practice, elements that have to be analysed in the decision making process are:

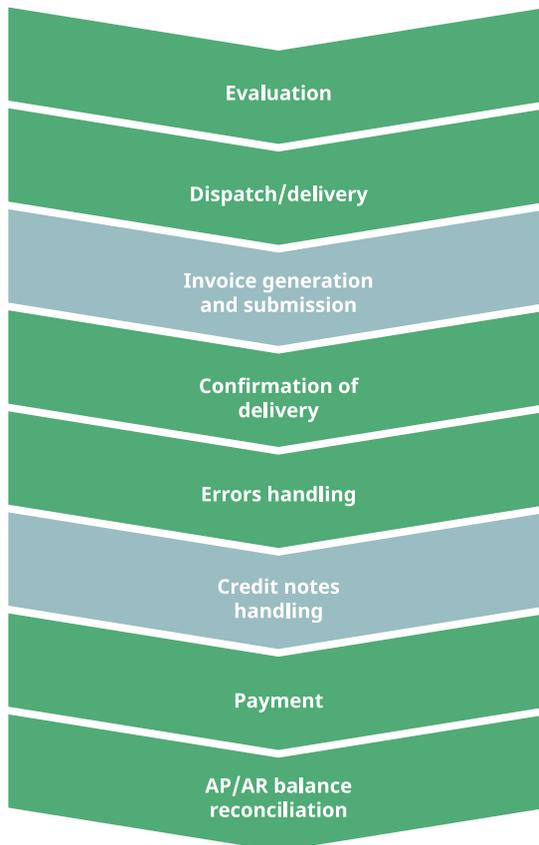
- Number of documents sent/received – the greater number of exchanged documents, the higher benefits from EDI.
- Cost per document (hard copy vs. e-invoice) – costs of labour, material, storage, postal services that exist in traditional way of exchanging documents should be compared with decreased costs of labour and costs of intermediary services needed for the exchange of documents.
- Reaction of business partners who need to accept the new way of cooperation – EDI requires certain adjustments by all participants in the business transactions. The party initiating EDI implementation should assess the possibilities for influencing other parties' decisions in this respect.

20. HOW DOES E-INVOICING WORK?

In modern trade transfer of goods from a seller to a buyer involves certain common administrative steps. These steps are presented in the graph. The steps that are directly linked to e-invoicing are coloured slightly different than the rest of them.

These steps include issuance of e-invoice and electronic CNs and DN.

The described steps (with obvious necessary adjustments) are applicable to the transfer of services as well.



The following text provides brief overview of each step.

Ordering - there are no legal requirements for placing Purchase Order (PO) for purchase. However, this document is quite commonly used in cooperation between sellers and their customers.

In practice, a PO is issued by the customer's employee who is authorized to place the PO on behalf of his company (for example store manager in a retail company). In order to avoid any doubts it is recommended that Sales and Purchase Agreement precisely defines the process of placing of PO – who is sending PO to whom.

When the supplier receives the PO, the process of delivery should start – the supplier prepares the goods, loads them on the truck and delivers to the customer. A deadline for delivery depends on the agreed terms between the parties but is primarily influenced by the characteristics of the industry. For example, in retail industry a usual deadline would be around 24 hours, but it can take more than a year to deliver an aircraft or a boat.

The form of the PO in general contains data on type of goods, quantity, price, and delivery terms.

In practice POs are sent in hard copy or through e-mail as PDF documents. In addition, some businesses use possibility of sending POs through EDI functionalities. There are no obstacles for sending POs through EDI.

Dispatch/delivery - This activity is followed by the issuing of a dispatch/delivery note. This is a mandatory document prescribed by the Rulebook on Evidence of Turnover, which is the by-law linked to the Law on Trade.

In accordance with the Rulebook, all transfers of goods have to be recorded in a specific ledger based on the document that follows the goods (Article 12). In practice, the

transfer of goods is commonly followed by the dispatch/delivery note. This document should be physically present with the goods.

It is common practice that businesses issue invoice/delivery note as a single document that follows goods. This is acceptable from the legislation point of view.

The required physical presence of dispatch/delivery note in the truck with the goods **is one of the main obstacles** for the broader use of EDI (i.e. e-invoicing) solutions in the invoicing cycle.

Namely, although it is not specifically forbidden, businesses are **reluctant** to start creating electronic dispatch/delivery notes. There are several reasons for that:

- Dispatch/delivery note have to physically follow the goods in transit – that means that truck drivers would need to be equipped with devices that enable display of electronic documents (tablet, lap top, smart phone.). In addition, documents of this form may lead to discussions with the police officers who perform routine controls in traffic and who are used to traditional hard copy documents.
- Dispatch/delivery note templates normally have a field where recipient of goods signs confirmation that the goods are delivered. Obviously, this is not feasible with electronic documents, so in that case, an additional document is created as a receipt confirmation.

The above difficulties with electronic dispatch/delivery notes have to be carefully considered when businesses decide to apply EDI solutions in invoicing. In practice, this problem is resolved by separating invoice and dispatch/delivery note so instead of one document, two documents are

issued – electronic invoice and traditional (paper) dispatch/delivery note. Obviously, this solution affects cost-benefit analysis of EDI implementation for sellers as from their perspective, the number of created documents increases.

Invoice generation and submission – An invoice is normally issued for each delivery of goods/services.

Invoicing is ruled by different pieces of legislation.

The most extensive requirements are set by VAT legislation^[2]. Although not explicitly written Law on VAT implies that each delivery of goods or services has to be followed by an invoice^[3]. Additionally, the following rules apply:

- Consecutive deliveries can be invoiced periodically but at least once in 12 months (e.g. 31 daily newspapers delivered throughout the month can be covered with one invoice issued at the end of the month);
- Continuing services are to be invoiced at the last day of the period for which the service fee is agreed, but at least once in 12 months (e.g. rent fee agreed on quarterly level is to be invoiced at the last day of the quarter);
- If the period of invoicing is not specified by the contract, invoice is to be issued

at the end of each VAT period (calendar month or quarter depending on the level of turnover of VAT payer);

- If payment is performed before delivery an “advance payment invoice” is to be issued.

In practice, when paper-based documents are used, the invoice is delivered to the customer together with the goods. When electronic invoicing is used, the invoice is issued when goods are dispatched from the supplier’s warehouse. That means it is possible for an invoice to arrive to the customer before the goods. However, the customer is not in a position to book such an invoice until physical delivery of goods takes place.

For the provision of services, an invoice is issued after the completion of the service or at the last day of the VAT period.

Accounting for an invoice in the issuer’s books - Modern accounting systems used for issuance of invoices are set to perform automatic accounting of the entries for each invoice issued.

Obviously, EDI solutions cannot add significant value to the process of accounting for invoices in issuer’s books as this process is pretty much automated in any case. This is one of the reasons why EDI solutions are more interesting to the entities that receive large number of invoices than it is to those who issue invoices. For example, a retail company that buys goods from hundreds of suppliers and receives millions of invoices per year is more interested to have EDI in place than any of those single suppliers who issue few hundreds of thousands of invoices per year which are automatically booked in their systems anyhow. Additionally, even if with EDI sellers are forced to use paper dispatch/delivery notes (for reasons explained in previous section); it is obvious that their motivation for implementation of EDI **is limited**.

² Note that VAT legislation is relevant only for transactions made between VAT registered entities. However, given the immaterial level of trade between non-VAT registered entities the text is prepared assuming that the VAT rules are generally applicable.

³ The Law on VAT prescribes deadlines in which VAT is to be calculated on deliveries of goods. There are no explicit requirements for an invoice to be issued within those deadlines, but as the invoice is normally trigger for assessing VAT in accounting systems of companies it is common that deadlines for VAT assessment are practically considered as applicable for issuing invoices as well. This text is based on that assumption.

Accounting for an invoice in the recipient's books - Contrary to the previously explained issuers' invoice accounting, automation of the invoice bookings in the recipient's accounting system is not so easily achieved.

Actually, in most cases in practice, the invoice is booked manually.

Working time needed for booking of one incoming invoice depends on the complexity of the invoice. For example, the invoice can be very simple (one line) but, on the other hand, can comprise several pages (few hundred lines). Therefore, on average, booking of one invoice can take between 2-3 minutes up to 7-8 minutes (based on the experience of retail companies).

It is the area of booking of incoming invoices where the highest benefits from the implementation of EDI solutions can be achieved. In that respect there are two typical options:

- Full implementation of EDI solution – in this option the buyer's accounting system receives a structured electronic message which is automatically translated into a journal entry. This option is rare in practice (not only in Serbia) as it requires significant investments of both parties as well as implementation of compatible solutions in order to communicate.
- OCR based solutions – OCR stands for *Optical Character Recognition*. This tool enables accounting systems to "read" data from the documents (scanned copies of hard copy documents or PDF versions). When the data are recognized, the system creates an EDI message (similar to previously explained one) and auto posting is enabled.

Any of the above solutions enables significant savings in labour costs, but also result in higher accuracy of the postings as

possibilities for errors are very limited.

Confirmation of delivery - Confirmation of delivery is provided by the customer through signing supplier's dispatch/delivery note.

The customer's handwritten signature serves as a proof that the supplier delivered goods listed on the note. The legislation does not prohibit some other ways of providing confirmation of delivery – in the case of using an electronic dispatch note, providing handwritten signature is not an option. Actually, there are no technical possibilities to add additional signature to the electronic document and to maintain legal correctness of electronic document. Therefore, in the case of using electronic dispatch note, the only option for providing proof of delivery is creation of separate document that serves solely as a proof of delivery. This separate document can be in paper or electronic form.

At the same time customer creates internal document (*Goods Receipt Note - GRN*) that serves as a basis for update of inventory ledger (for the quantity of goods). GRN is not a financial document (no entries in financial accounts are done based on it), but there is a possibility of setting up accounting system to create a journal entry for the invoice based on the GRN. This approach enables savings in time needed for bookings, as there is only one manual entry (GRN) to be made instead of two.

Errors handling - Errors occur when a supplier issues an invoice which is not in line with either agreed terms (price) or actual quantities provided.

There are two typical situations:

- Price difference – this happens when supplier charges different price than agreed. In the case of partners with long term and honest cooperation, this type of error should not block the receipt of

goods – the recipient normally accepts the goods, books the invoice (with “wrong” price) and waits for seller’s CN/DN to adjust for the difference in price. From a practical VAT point of view, the initial invoice should not be considered incorrect just because an error in the price occurred. This means that recipient of the invoice can book it and recover related VAT irrespective of the expected CN/DN.

- **Quantity difference** – this happens when a supplier charges for a different quantity of goods than actually delivered. In practice, in the situation when customers receive less quantity than invoiced, they book the invoice, but claim input VAT only up to the limit that relates to the quantities actually received. This can be done by setting accounting system to automatically create internal virtual credit note that would decrease liability towards supplier and VAT receivable in the accounts. Thus, the “proper” amount of VAT will be claimed in the respective period and no additional correction would need to be made following the receipt of actual credit note from the supplier.

However, the above described approach is not risk free. If the buyer wants to be on the “safe” side, he should not book the invoice for which he knows to be incorrect at the moment of receipt (meaning that it refers to the quantity of goods different from actually delivered). This is primarily based on Article 9 of the Accounting Law which practically allows only booking of documents confirmed as “accurate and true”. In this case the buyer can reject the invoice and ask for new one.

In the situation where the buyer receives more quantities than invoiced, the input VAT can be claimed based on the invoice received and additional VAT should be claimed in the period in which a debit note is received.

Credit notes handling - Credit/Debit notes are issued when an initially issued invoice

needs to be amended. CN is used to decrease an invoiced amount and DN is issued for its increase.

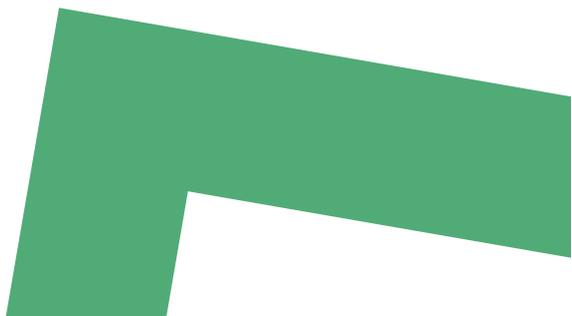
In practice CN is the only valid document that can be used when the invoice is to be fully cancelled.

Payment - Payments are processed based on the due date of the invoices which is assigned to the invoice on booking. Due date depends on the payment terms agreed between the parties – it can be disclosed on the invoice or it can be calculated either manually or by the system on booking.

Apart from agreements between the parties, payment terms in Serbia are limited by the provisions of the Law on Payment Terms in Commercial Transactions. Article 3 of this Law sets the maximum payment term to 60 days. The parties can go beyond this limit only in case when the buyer presents a bank guarantee, thus ensuring that the payment will be executed.

AP/AR balances reconciliation - This activity represents standard accounting procedure that is required by the Accounting Law.

In Serbia, Article 18 of the Accounting Law envisages that the businesses are obliged to reconcile their balances with counterparts before each reporting date, practically at least once a year. This is done through exchange of reconciliation letters through which parties sign excerpts from their accounts showing balances for the particular counterpart. This is also one of the standard activities in the course of external audit of financial statements.



21. HOW CAN THE EXCHANGE OF E-INVOICES BE ACHIEVED?

The exchange of e-invoices can take place via a number of scenarios, and depending on whether it relates to the exchange of e-invoices between businesses (B2B) where two firms can agree to exchange what can essentially be an electronic document in a mutually agreed format, or between a business and a public sector entity (B2G) as a result of an award of a public procurement contract – hence the exchange is about a structured electronic invoice whose authenticity, integrity of content and legibility needs to be ensured end-to-end.

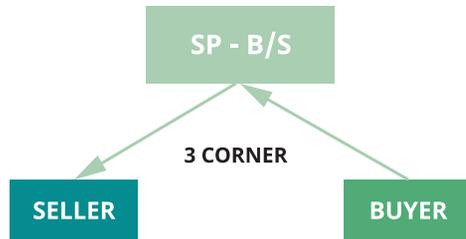
The 3 main models used for the transmission of e-invoices, are briefly presented below.

MODEL A: DIRECT MODEL



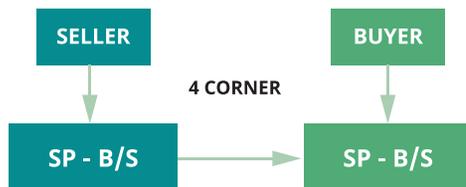
In this case the seller and the buyer exchange an electronic invoice in a direct manner. This is a common model at B2B level, where the format of the e-invoice can be whichever the two parties agree to be. No intermediaries (i.e. service providers) are engaged in this scenario.

MODEL B: 3 CORNER MODEL: EXCHANGE OF DATA BETWEEN BUYER AND SELLER VIA AN INTERMEDIATE ENTITY - SERVICE PROVIDER



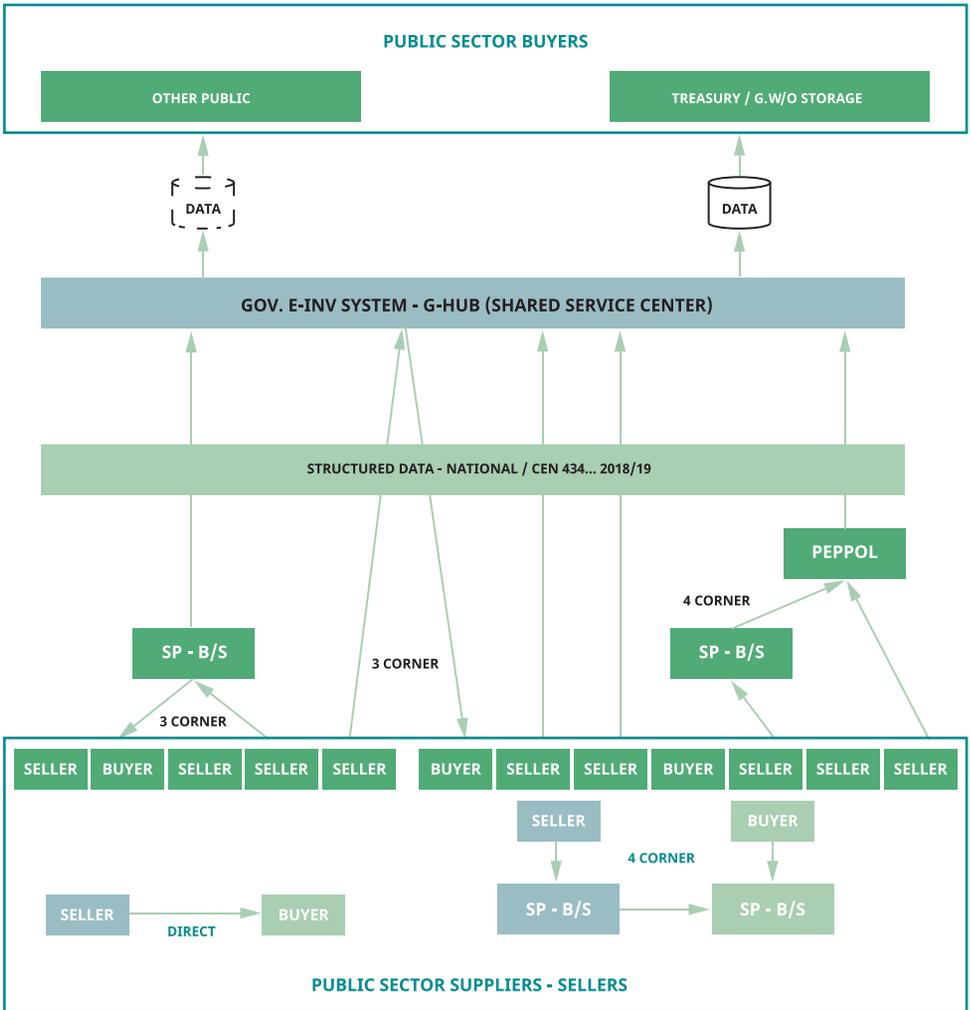
In this scenario, known as the 3-Corner Model, electronic invoices are exchanged between the buyer and the seller via an intermediary (a service provider), who acts as a facilitator in data exchange between the 2 trading parties. The format of the e-invoice data can be whichever the buyer and the seller agree to use in case of B2B exchange or any other format which has been agreed between buyer, seller and service provider.

MODEL C: EXCHANGE OF DATA BETWEEN BUSINESSES VIA 2 SERVICE PROVIDERS (4 CORNER MODEL)



In this scenario, known as the 4-Corner Model, e-invoice is exchanged between the buyer and the seller via two different service providers; with the seller and the buyer using their own different service provider. The format of the e-invoice can be whichever the buyer and seller agree to use with each of their service providers.

The drawing below provides an overview of a possible e-invoicing landscape between private and public sector, through a central governmental hub, serving as an intermediary service center for public contracting authorities.



22. WHAT IS THE ROLE OF INTERMEDIARIES: E-INVOICING SERVICE PROVIDERS?

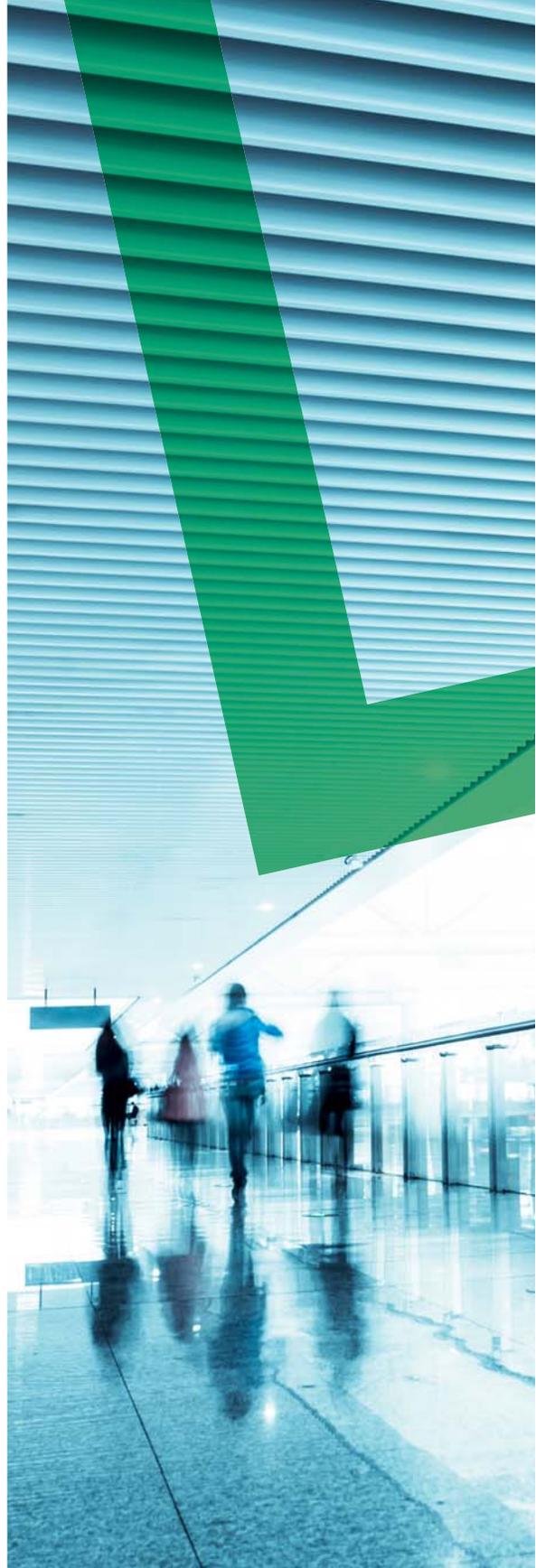
Service providers have a pivotal role in supporting/facilitating business traders to exchange and process invoices electronically. They act as intermediaries facilitating trading parties in the e-invoicing data exchange. And this is of high importance when it comes to cross-border electronic invoicing.

E-invoicing service providers are entities that play an intermediate role between the buyer and the seller, creating and, if asked to do so, transmitting to the buyer and on behalf of the seller an electronic invoice in a format that is acceptable to the buyer. In the case of a structured electronic invoice the service provider matches and aligns the fields and the codes of the appropriate data between the sender and the receiver using the mapping(s) provided by the buyer, or the buyer's service provider.

Although the core service of the e-invoicing service providers is the creation and transmission of e-invoices (structured or not), they can offer a number services to their clients, such as trusted service, ensuring authentication of origin when required, or storage of electronic invoices.

Recent reports (i.e. EESPA – *European E-invoicing Service Providers Association*) show that more than 1 billion e-invoices, per year, are processed electronically via service providers, with a growing rate reaching up to 15-17% annually.

At the European level, EESPA, the *European E-Invoicing Service Providers Association*, is an international not-for-profit trade association representing the interests of its members, having an active role in the promotion of adoption of electronic invoicing.



23. WHAT ARE THE MAIN CRITERIA FOR CHOOSING A SERVICE PROVIDER?

Providing services, and especially e-invoicing services, is generally a free market activity. Invoicing services, for either paper based invoices or e-invoices, have already been well-established in the relevant European legal framework. According to the EU VAT Directive, invoices (and e-invoices) can be issued from 3rd parties (i.e. service providers) in the name of a taxable entity and on its behalf. However, especially for the exchange of electronic invoices, a prior agreement between a seller-issuer and a receiver-buyer is necessary. Similarly, the electronic transmission of an e-invoice is subject to receiver's acceptance.

Furthermore, the eIDAS Regulation 910/2014/EU, which we have already referred to when answering other questions, also provides the legal ground for service providers of electronic identification and trust services between citizens, businesses and public authorities.

Choosing a proper service provider is up to each company according to its specific needs, volume of exchanged e-invoices, business practices being followed, price, etc. However, a number of other factors could also be taken into account by each company wanting to send or receive electronic invoices via a service provider. Some of the policies that a service provider can follow are indicated below and they can serve as some of the criteria when choosing a service provider.

- To be registered and/or accredited
- To follow predefined and agreed minimum criteria (i.e. guaranteed

interoperability trading parties)

- To implement a predefined Code of Conduct
 - To follow specific Data Security Policy
 - To provide a minimum SLA (Service Level Agreement)
 - To provide other services relevant to e-invoicing that might be required under specific conditions, i.e. electronic signature and trusted services, etc.
 - To follow the compliance with the International (ISO) standards, some of which are listed below:
 - ISO/IEC 17011: Conformity Assessment – “General requirements for accreditation bodies accrediting conformity assessment bodies” (2004)
 - ISO/IEC 17020: “General criteria for the operation of various types of bodies performing inspection” (2012)
 - ISO/IEC 17021: “Conformity assessment. Requirements for bodies providing audit and certification of management systems” (2011)
 - ISO/IEC 17024: “Conformity Assessment. General requirements for bodies operating certification of persons” (2012)
 - ISO 15489-2 : Records management Guidelines
- etc.

24. WHAT DOES **INTEROPERABILITY** MEAN AND WHY IS IT IMPORTANT FOR ELECTRONIC INVOICING?

It seems that there is no universally accepted definition of interoperability. At its most simplistic level, interoperability is viewed as being one-dimensional, limited to IT only, equating interoperability with compatibility. However, interoperability is not achieved by simply integrating two or more IT systems. Compatibility (or broadly integration) of IT systems is the last stage of a “harmonization process” towards interoperability, which addresses key elements such as the legal framework and interoperable operational processes. Harmonizing initiatives can foster interoperability, i.e. help to avoid diverging and parallel solutions.

A more tangible example of interoperability definition has been given within the European Interoperability Framework (EIF). The EIF for the European public services defines interoperability as “the ability of disparate and diverse organizations to interact towards mutually beneficial and agreed common goals, involving the sharing of information and knowledge between the organizations, through the business processes they support, by means of the exchange of data between their respective ICT systems.”

So, when it comes to the interoperability of two or more IT systems exchanging invoices’ data electronically, national and international aspects have to be considered, (i.e. political context, legal environment, organizational/process interoperability, semantic and technical interoperability), the latter being of particular importance for contemporary global trade (cross-border) perspective.

NATIONAL LEVEL E-INVOICING INTEROPERABILITY

At the national level, both the buyer and the seller operate under the same set of rules: regulatory and legal framework. In this case, interoperability is limited to technical compatibility that includes syntax and semantic interoperable schemes, and an aligned set of processes that ensure that the non-technical part of the e-invoice processing is performed in the envisaged manner.

At the national level, achieving interoperability on B2B e-invoice exchange can be as simple as the exchange of electronic invoices/documents between the seller and the buyer under a mutually agreed format.

Key points in ensuring interoperability in B2G e-invoicing at the national level are:

The use of structured electronic invoice.

As defined by Directive 55/2014, e-Invoice is an invoice that has been issued, transmitted and received in a structured electronic format which allows for its automatic and electronic processing. This means that PDF and other forms of non-structured electronic documents, do not qualify as electronic invoices.

The National Core e-invoice standard is compatible with the EU e-invoice standard.

End-to-end authenticity of origin, integrity of content and legibility needs to be ensured (Directive 45/2010/EU).

CROSS-BORDER E-INVOICING INTEROPERABILITY

In order to approach the e-invoice interoperability at the cross-border level, an understanding of the “bigger picture” needs to be established.

In general, *cross-border e-invoice* refers to the electronic invoice a seller based in country A issues to a buyer based in country B for the provision of goods or services the seller has provided to the buyer. At B2G level, the issue of the e-invoice takes place following the award of an international procurement process. Similarly to the paper invoice, the electronic invoice is a fundamental document for the conducting of cross-border trade.

CROSS-BORDER LEGAL COMPLIANCE

Existence of legal compliance between two countries is fundamental for the functioning of cross-border electronic invoicing, ensuring interoperability that goes beyond system compatibility at the technical level. Lack of legal compliance negatively affects both B2B and B2G e-invoicing, providing not only interoperability but also adjustment of e-invoicing on a case by case basis and depending on the requirements of each national legislation raises complexity, time and costs.

Examples of how the lack of harmonization leads to what in essence is a failure in interoperability are the following:

Example 1: one of the national legislations does not recognize electronic invoices having the same status as paper ones. This makes the whole e-invoicing process void.

Example 2: Another example of the problems the lack of legal compliance creates to the functioning of the cross-border e-invoicing

process would be the obligation certain countries apply to firms for all invoices to be signed, as this is prescribed in the national legislation of one of the parties. Although this can be addressed with the use of QES, imposing it as an obligation for electronic invoices is a burden for businesses and decreases the efficiency of the process. Furthermore, and very importantly, the obligatory use of QES for all issued e-invoices is in conflict with the EU Directives.

At the EU level, the degree of legal harmonization amongst EU Member States is currently considered high, and it is expected to become even higher in the upcoming years, forming therefore a large market that is interoperable at legal, operational and technical level. With the EU being a considerable trade partner of Serbia, compliance with EU regulations and standards would facilitate trade between Serbia and EU Member States. Especially, within the EU, interoperability at B2G level, means compliance of both the seller and the buyer with a well-defined set of rules. Directives 55/2014, 45/2010 and eIDAS Regulation already referred to elsewhere in the Guide) define the legal and regulatory framework that sellers wishing to cooperate with the public sector in public procurement need to comply with.

TECHNICAL COMPLIANCE

Technical compliance at the B2B level can be achieved simply with the two cooperating businesses having a mutually accepted format that is in compliance with the legal obligations applicable to both.

At the B2G level, since this refers to a post-award stage of a public procurement process, compliance with Directive 55/2014/EU is the key. In this case, e-invoice is “an invoice that

has been issued, transmitted and received in a structured electronic format which allows for its automatic and electronic processing”.

Having in mind that transmission considerations of electronic data between 2 systems, cover a much wider area of electronically transmitted data, and have to meet standards that are already in place, the focus here should be on the format of the e-invoice data. It is obvious, that technical interoperability is achieved when a set of minimum technical requirements are met ensuring syntax and semantic compliance that lead to the automation of the e-invoicing process. “Syntax” means the machine readable language or dialect used to represent the data elements contained in an electronic invoice. Semantic compliance corresponds to the use of a predefined “semantic data model” which means a structured and logically interrelated set of terms and their meanings that specify the core elements of an electronic invoice.

Matters related to syntax and semantic compliance will be addressed soon via the use of the European e-invoicing standard that is expected to be finalized in 2017 and to that standard as well as to the “core invoice” the reference will be made when answering the respective question elsewhere in the Guide.

CROSS-BORDER TRUST

The need for the establishment of trust between the trading parties affects the technical solutions and the architecture applied in cross-border e-invoicing, with 4-corner or 3-corner models being implemented and with service providers playing a major role. This architectural solution has already been described in the Guide. It is important that these service providers operate under the same set of trust regulations, in order to ensure authenticity of

origin, integrity of content and legibility – in line with EU Directive 2010/45/EU.

It was already mentioned that at the EU level, Regulation 910/2014 is governing matters of trust.

Regulation 910/2014 (eIDAS) “seeks to enhance trust in electronic transactions in the internal market by providing a common foundation for secure electronic interaction between citizens, businesses and public authorities, thereby increasing the effectiveness of public and private online services, electronic business and electronic commerce in the Union.” Electronic invoicing and trust is one of the key points of eIDAS Regulation. The establishment of trust between a seller in country A, and a buyer in country B is a basis for the conducting of cross-border electronic invoicing.

Regulation 910/2014 (eIDAS) came into force in July 1st, 2016 and it sets the rules for EU Member States on electronic identification and trust services for electronic transactions in the EU market and provides a legal framework that enables secure and seamless electronic interactions between businesses, citizens and public authorities across EU.

eIDAS Regulation addresses e-business (B2B and B2G) as well as e-government (G2C and G2G) and its aim is to ensure that people and businesses can use their own national credentials, to access public services in other EU countries where compliant credentials are available. Furthermore, it ensures that electronic trust services, namely electronic signatures, electronic seals, time stamp, electronic delivery service and website authentication, work across borders and have the same legal status as traditional paper based processes. Only by providing certainty on the legal validity of all these services, will the businesses and citizens use the digital interactions as their natural way of interaction.

Following July 1st, 2016, the rules on trust services under the eIDAS Regulation will apply directly in the 28 Member States. eIDAS Regulation revoked the existing Electronic Signature Directive (Directive 1999/93/EC), which has been in place for 15 years. As a result of this, in case a national standard of a non-EU member state such as Serbia is compliant with the Directive which has been revoked (1999/93/EC), this standard needs to be modernized in order to ensure compliance with eIDAS Regulation.

The listed key points of eIDAS Regulation are essential for compliance with EU regulations as far as “trust” is concerned. It should be mentioned that all of these points are enforceable in EU Member States after July 1st, 2016.

- eSignature can only be used by an individual to “sign”, i.e. mainly to express consent on the data the eSignature is put.
- Legal persons will be able to use certificates for eSeals (whose aim is not to sign but to ensure the integrity and origin of data), therefore certificates for eSignatures will not be issued to legal persons anymore and the existing qualified eSignatures certificates issued to legal persons will not be used to create a legally valid (qualified) eSignature.
- All Member States need to have a supervisory body in place in order to allow market players to become compliant with eIDAS Regulation in due time.
- A national Trusted List is published and maintained in line with the Commission Implementing Decision (EU) 2015/1505.
- Public sector bodies are able to recognize the formats of advanced eSignatures and eSeals (according to the Commission Implementing Decision (EU) 2015/1506) whenever they require an advanced eSignature or eSeal.
- Voluntary use of EU Trustmark is

available. The trustmark clearly differentiates qualified trust services from other trust services; the aim is to foster confidence in and of essential online services, for users to fully benefit and consciously rely on electronic services. The trustmark is defined in Commission implementing Regulation (EU) 2015/806.

It should be noted that the subject of eSignatures and encryption, providing some very basic information, is covered elsewhere in the Guide.

The role of the relevant national authorities/ supervisory bodies empowered to appoint and monitor the providers of trusted services is crucial. These national authorities should follow processes and technical solutions compliant with the relevant internationally recognized standards so that they themselves can be trusted by the respective authorities of other countries. Establishment of trust of the national authorities responsible for trusted services is important for the service providers of trusted services that the authorities have in their registry. Finally, and in addition to the need for compliance with internationally recognized standards and the maintenance of their registry), national authorities responsible for the monitoring of the trusted services should seek the establishment of agreements with the respective authorities of other countries, for the mutual acceptance of trusted service providers. This allows a trusted service provider of country A to be accepted as a trusted service provider in country B. This of course relates directly to the providers of QES and advanced QES.



25. HOW CAN CROSS-BORDER E-INVOICING BE ACHIEVED?

Cross-border e-invoicing is a matter that depends on the technical as well as legal compliance between the seller and the buyer. If service providers are engaged (4 Corner model), then the exchange of e-invoices at cross-border level greatly depends on the establishment of trust between the service providers. Mutual recognition of security and authentication matters is essential for the use of electronic invoicing for cross-border trade. eIDAS Regulation is an essential tool for the establishment of trust.

Compliance with EU Directives by both parties is essential, at least at the B2G level.

In order for cross-border interoperability to function in the manner described, e-invoices need to be compliant with syntax rules and semantics that are the same for both countries – compatible of course with the trust requirements described in the previous section.

Whilst syntactic interoperability is about the packaging of data (the fields themselves as well as types of fields) semantic interoperability is concerned with the meaning of the transmitted data. For example, the field A1 should correspond to a field that is required to contain data, which should be free text, numeric or alphanumeric both in the sender's system as well as in the recipient's system. However, pure syntax is about the meaning of the field content. It is about the field meaning "PO box" in both systems. In case the field

"date" of one system means PO Box the other system, there is no interoperability; not in the automated foreseen manner.

Syntactic interoperability is a prerequisite for semantic interoperability. Syntactic interoperability refers to the packaging and transmission mechanisms for data. Semantic interoperability is about the meaning of data and can be achieved by adding metadata for each field, linking each data element to a controlled, shared vocabulary – creating a platform of common understanding. The meaning of the data is transmitted with the data itself, in one self-describing "information package" that is independent of any information systems.

Syntactic and semantic interoperability are linked with the used e-invoice standard, with which both trading parties should comply. This explains the effort at the EU level to develop the European e-invoicing standard.

In order for cross-border e-invoicing to function successfully, and as described previously through the presentation of eIDAS Regulation, establishing trust between the trading parties is a prerequisite.

Two businesses can agree to exchange electronic invoices directly under a format that is mutually agreed and meets the requirements of the tax authorities. The seller is responsible for the validation of authentication, and the buyer can accept or decline the invoice received.

26. WHAT IS PEPPOL?

PEPPOL stands for *Pan-European Public Procurement Online*. This was an e-invoicing initiative which started on 2008 and ended in April 2012. PEPPOL continued its work under the openPEPPOL name. The PEPPOL framework has gained significant adoption amongst procurement authorities and businesses and seems to have a predominant position in some countries (i.e. Nordic countries).

PEPPOL is in essence a closed framework system with a defined structure, operating under strict technical requirements that ensure interoperability (syntactic and semantic). Also, due to the processes PEPPOL follows and its compatibility with trust standards, trust amongst its certified service providers (called *Access Points*) is established.

The main goal of PEPPOL was to align business processes for electronic procurement across all governments within Europe, aiming to expand market connectivity and interoperability between e-services.

Compared to the requirements set by EC Directives, PEPPOL is less flexible requiring mandatory electronic signatures for the authentication purposes whilst EC Directives ask specifically for electronic signatures NOT to be an obligation upon SMEs.

A detailed presentation of the PEPPOL is out of the scope of the Guide; however it is worth making reference to the key structure components of the PEPPOL infrastructure.

PEPPOL has two organizational layers:

1. PEPPOL Authority.

PEPPOL Authority is a legal entity authorized by PEPPOL to perform activities responsible for PEPPOL at the national level. PEPPOL authorities are responsible for the certification and monitoring of PEPPOL Access Points, being able to revoke the certification in case compliance with PEPPOL rules is compromised.

2. PEPPOL Access Point

PEPPOL Access Point is a service provider audited by the PEPPOL Authority of the country and found compliant with PEPPOL requirements.

Also, the key components in the PEPPOL networked transport infrastructure are:

- SML (*Service Metadata Locator*) – A Domain Name System (DNS) that returns the address to the SMP that holds the metadata of a PEPPOL receiver.
- SMP (*Service Metadata Publisher*) – Publishes metadata about a PEPPOL receiver and which Access Point is used to receive a certain document type.
- AP (*Access Point*) – connects with other PEPPOL Access Points to securely exchange files. OpenPEPPOL (acting as the PEPPOL Coordinating Authority) publishes a list of all Access Points with valid certificates on the PEPPOL website.

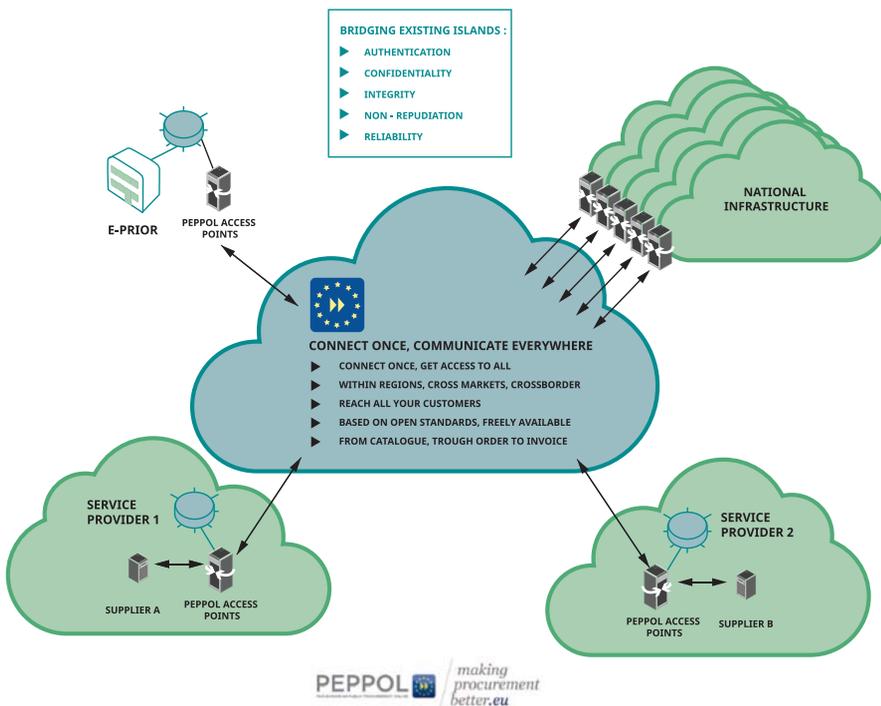
In practice, service providers offer both Access Point and SMP services. (It is estimated that there are already about 160 Access Points all over the Europe). This means

that these two components are distributed throughout the PEPPOL Network. National PEPPOL Authorities are responsible for AP certification.

The SML is the only centrally operated component in the PEPPOL transport infrastructure. It is managed by OpenPEPPOL and operates out of Brussels by EU DG/DIGIT. However, openPEPPOL has a user driven

approach and it will continue having a high focus on e-invoicing, since it is a cornerstone in the procurement process.

The controlled nature of PEPPOL ensures that electronic invoices sent across the border (in essence exchanged between two PEPPOL Access Points that operate using the same standards) are processed as expected, with authentication and security issues effectively



(Source of the picture above: http://www.peppol.eu/peppol_elements/-transport-infrastructure)

addressed. PEPPOL offers businesses and public entities its access points as trusted service providers in order for e-invoices and electronic documents to be exchanged via them. PEPPOL deploys the 4-corner or 3-corner models.

PEPPOL represents a reliable choice for cross-border trade with proven reliability. Until recently, as we have already mentioned before, its use was limited outside the Nordic countries. However, EU Member States such as Austria, Spain and Poland have established compatibility with PEPPOL.

It should be also emphasized that in 2016 EESPA (an association which includes Europe's leading service providers that provide e-invoicing and supply chain automation solutions to businesses of all sizes, as well as consumers), announced its cooperation with openPEPPOL in supporting the rapid adoption of e-invoicing across Europe. The cooperation aims at developing common positions on EU public policy support for e-invoicing, promoting interoperability and rolling out easy-to-use services.

E-PRIOR

At this point, it is also worth making a brief reference to e-PRIOR (open e-PRIOR). Open e-PRIOR is an open-source e-procurement platform that allows practical implementation of interoperable electronic services within any public administration.

It plays the role of intermediary between the back-office applications of the public administration and the Pan-European Public Procurement Online (PEPPOL) interoperability initiative. It has been designed to interoperate with a large number of applications of heterogeneous nature. The platform is connected to PEPPOL via its own Access Point, facilitating the cross-border exchange of e-procurement documents between, for example, a public administration in country A with suppliers in country B.

Open e-PRIOR currently covers:

- e-submission, i.e. submission and opening of tenders;
- post-award e-procurement, i.e. documents exchanged between the public administration and its contractors after the award of a contract, such as invoices.

The Open e-PRIOR package also includes a web portal allowing suppliers, such as SME and individuals, to manually encode their invoices via a web form.

The platform has been developed under the ISA (Interoperability Solutions for European Public Administrations) program, by the Directorate-General for Informatics (DIGIT) of the European Commission and it was deployed within DIGIT in 2009. Other Directorate-Generals, European agencies and institutions are implementing the system and it is freely available to all Members States wishing to exchange standardized electronic procurement documents via secured communication channels.

27. WHAT IS AUTHENTICITY AND INTEGRITY OF AN E-INVOICE?

Although there are many approaches in the market in regard to what authenticity of **origin** and integrity of **content** are, and most importantly how these can be ensured, for the purpose of the Guide, the Council Directive 2010/45/EU and Directive 2014/55/EU, applicable to EU Member States were chosen as guidelines.

The following definitions are the definitions provided in the Council Directive 2006/112/EU:

- “Authenticity of the origin” means the assurance of the identity of the supplier and/or the issuer of the invoice. Moreover, authentication means an electronic process that enables the electronic identification of an individual or legal person, or the origin and integrity of data in electronic form to be confirmed.
- “Integrity of the content” means that the content required according to this Directive has not been altered.

When it comes to electronic invoices, structured or not, the Directive requires that the authenticity of the origin, the integrity of the content and the legibility of an invoice, whether on paper or in an electronic form, shall be ensured from the moment of issue until the end of the period for storage of the invoice.

This means that certain measures/processes have to be in place from the moment the process of the creation of an e-invoice is initiated and until its storage (and for the whole period defined by law as obligatory for storage of e-invoices) in order to ensure the authenticity of origin and integrity of content.

When it comes to storage, Council Directive 2006/112/EU mentions that *“In the case of invoices stored by electronic means, the Member State may require that the data guaranteeing the authenticity of the origin of the invoices and the integrity of their content, as provided for in Article 233, also be stored by electronic means”*.

The requirement to ensure authenticity of origin and integrity of content from the moment of the creation of the e-invoice until its storage and throughout the period of its storage protects the interest of both the seller and the buyer, presents a powerful tool against fraud and a strong argument for businesses and the public sector to adopt e-invoicing.

28. HOW CAN THE AUTHENTICITY OF ORIGIN AND INTEGRITY OF CONTENT OF AN E-INVOICE BE ENSURED ACCORDING TO THE EU LEGAL FRAMEWORK?

Article 233 of Council Directive 2010/45/EU mentions that *“each taxable person shall determine the way to ensure the authenticity of the origin, the integrity of the content and the legibility of the invoice. This may be achieved by any business controls which create a reliable audit trail between an invoice and a supply of goods or services.”*

In addition to the above, the same Directive mentions that *“The authenticity and integrity of electronic invoices can also be ensured by using certain existing technologies, such as Electronic Data Interchange (EDI) and advanced electronic signatures. However, since other technologies exist, taxable persons should not be required to use any particular electronic-invoicing technology”*

It is clearly understood from the above that EU Member States shall allow their businesses to determine the manner of ensuring the authenticity of the origin and the integrity of the content themselves by using their own business rules and controls which create a reliable audit trail between an invoice and a supply of goods or services.

The use of QES (*Qualified Electronic Signatures*) as the only way of ensuring authenticity of origin is being gradually abandoned by the by the EU Member States for reasons of compliance with EU Directives (all EU Member States will have to comply with 2006/112/EU (as it has been amended by 2010/45/EU) by the end of 2017) but also for the creation of a competitive and functional business environment.

Member States such as Poland which used to impose the use of qualified electronic

signatures to businesses for each e-invoice as the only acceptable way for ensuring authenticity of origin, soon realized that this decision imposed on businesses and SMEs is not functional, as it imposes an additional burden and cost to SMEs and also, it is in conflict with 2014/55/EU. It is particularly interesting to mention that the above Directive states: *“While the sender of an electronic invoice should continue to have the possibility to guarantee the authenticity of the origin and the integrity of the content of the invoice by several methods, including by means of an electronic signature, in order to ensure compliance with Directive 2006/112/EC, the European standard on electronic invoicing should not contain as one of its elements a requirement for an electronic signature”*. Consequently, Poland abolished the obligatory use of QES for ensuring authenticity in order to comply with the requirements of Directive 2014/55/EU, and also decided to be PEPPOL compatible. [Source: <http://eeiplatform.com/3764/poland-no-onger-requires-qualified-signature-or-edi-with-e-invoicing/>]

However, there is no doubt that the use of electronic signatures offers a real solid ground for ensuring and guaranteeing authenticity and integrity of any electronic document, as well as for electronic invoices. This is also especially important for cross-border trade when an electronic, remote possibility for identification of trading parties and authentication of exchanging documents becomes very crucial for both trading parties and competent authorities. And this is exactly where the last Regulation 2014/910/EU comes. (A concise reference to that Regulation is made elsewhere in the Guide).

29. WHAT ARE ELECTRONIC SIGNATURES ACTUALLY?

In a very simplified definition one can say that electronic (or digital) signatures are the “digital fingerprints” of an electronic document (or a set of electronic data, i.e. an electronic file), guaranteeing the authenticity and integrity of the respective electronic data set, in an indisputable manner. As anyone can easily understand, this is of high importance when sending and transmitting an invoice electronically, because e-signatures can eliminate any unauthorized access to the content of the transmitted invoice. At the same time they enable the recipient to check the authenticity and identification of the sender, as well as the integrity of the content.

Since the electronic signatures are based on cryptography and the encryption of data, a short introduction to the concepts relevant to them will be made. The short text explaining in a very simplified manner each of the main concepts and terms relevant to e-signatures is provided below.

ENCRYPTION (CRYPTOGRAPHY)

Encryption is the transformation of data (text, messages, information, etc.) into a not comprehensible – encrypted form. The text or other information can be changed so as to become meaningless and/or impossible to read by somebody who does not have the corresponding un-encryption (decipherment) algorithm and the “key” or “code”.

The aim of encryption is to secure the privacy of information by maintaining the secrecy of sensitive data from those who have no

authorization to see or use them even if they have right to access them.

Two basic types (methods) of encryption based on encryption algorithms and keys:

- Methods of Symmetric Encryption (with one, secret key) and
- Methods of Asymmetric Encryption (with a public and a private - secret key).

Those methods are also known as “Public Key Algorithms”

SENDING AN E-INVOICE VIA ENCRYPTION ...

A simplified process of encryption for an e-invoice transmission (i.e. of an XML text - message) could be briefly described as follows:

- a. the sender creates the initial e-invoice (XML text) and
- b. then the sender uses a specific encryption algorithm as well as a “private encryption key” to encrypt the e-invoice text, and finally he sends it to the recipient
- c. the recipient, then uses the un-encryption algorithm with a key and un-encrypts the message.

PUBLIC & PRIVATE KEYS

One can think of them as a pair of codes (like passwords). One code is the secret (i.e. the

private) key and the second is a code that is publicly available and can be used by anyone.

SESSION KEY (OR “SYMMETRIC SESSION KEY”)

This is the code that is being used for the real e-invoice text encryption (symmetric: means that this is the same for both the sender and the recipient). The “symmetric session key” certainly needs to be encrypted as well and this is done using the asymmetric public key of the recipient.

HASH FUNCTIONS

Hash Functions are mathematical unidirectional (one-way) functions, i.e. it is impossible to recover the original text (or message) from the string created after hashing by applying any type of mathematical calculations to the string. (Example: SHA-1 – Secure Hash Algorithm 1 from NIST)

HASH VALUE (OR SYNOPSIS)

This is actually the “digital fingerprint” of a specific text (i.e. e-invoice). Any change in the original text will result in an absolutely different synopsis (hash value). It is impossible to recover the original text (i.e. e-Invoice) from the string created after hashing by applying any type of mathematical calculations to the string.

The following drawing provides a bloc diagram of a typical process of sending an e-invoice by using encryption and PKI techniques.

ADVANCED ELECTRONIC (DIGITAL) SIGNATURE

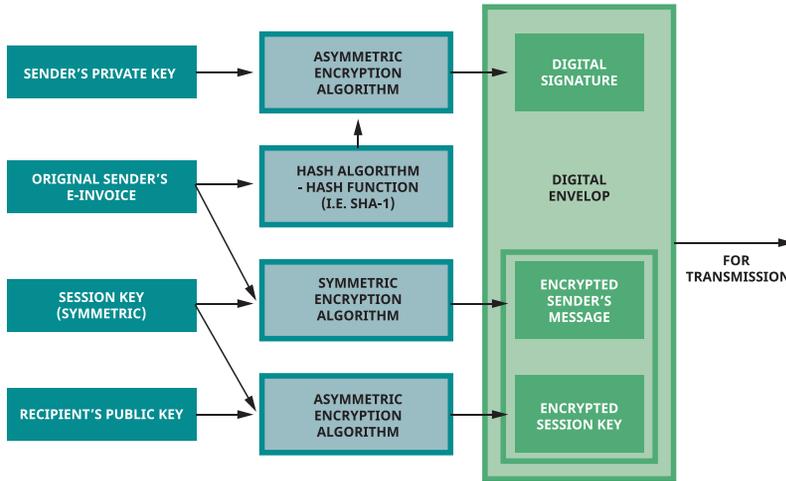
An advanced electronic signature, is nothing else but the coded – encrypted hash value of a message (e-invoice) using the private key of the sender. According to the eIDAS Regulation, an advanced electronic signature should meet the following requirements:

- it is uniquely linked to the signatory;
- it is capable of identifying the signatory;
- it is created using electronic signature creation data that the signatory can, with a high level of confidence, use under his sole control; and
- it is linked to the data signed therewith in such a way that any subsequent change in the data is detectable.

QUALIFIED E-SIGNATURES

They are advanced electronic signatures that are issued on the basis of a Qualified (digital) Certificate.

*e-Signature or Digital Signature (i.e. of an e-invoice in XML text)
This is an encrypted hash value. It consists of letters and numbers, it is of a specific size (has a fixed length) and it characterizes in an absolute and non-disputable way the e-Invoice message (the text/data of e-invoice) from which it results.*



DIGITAL CERTIFICATES

They are actually in electronic files. A digital certificate provides:

- Determination of Identity: it relates or “links” a public key to an individual, an organization, a company, a specific company position, or some other specific entity.
- Determination of Authorizations: it determines or delimits the actions or the possible activities the holder of a specific certificate can and cannot perform.
- Guarantee of Confidential Information, e.g. of the encryption of the symmetric session key for the confidentiality of the related data.

- the name of the authority that issued the certificate
- a serial number that uniquely identifies the certificate
- any relative policies describing how the certificate was published and/or how it can be used, the digital signature of the certificate provider and perhaps other information

TYPICALLY, A QUALIFIED CERTIFICATE WOULD CONTAIN THE FOLLOWING INFORMATION:

- a public key
- a name
- a date of start and/or a date of expiration

CERTIFICATION SERVICE PROVIDER (CSP) AND THE ROLE OF CSPS

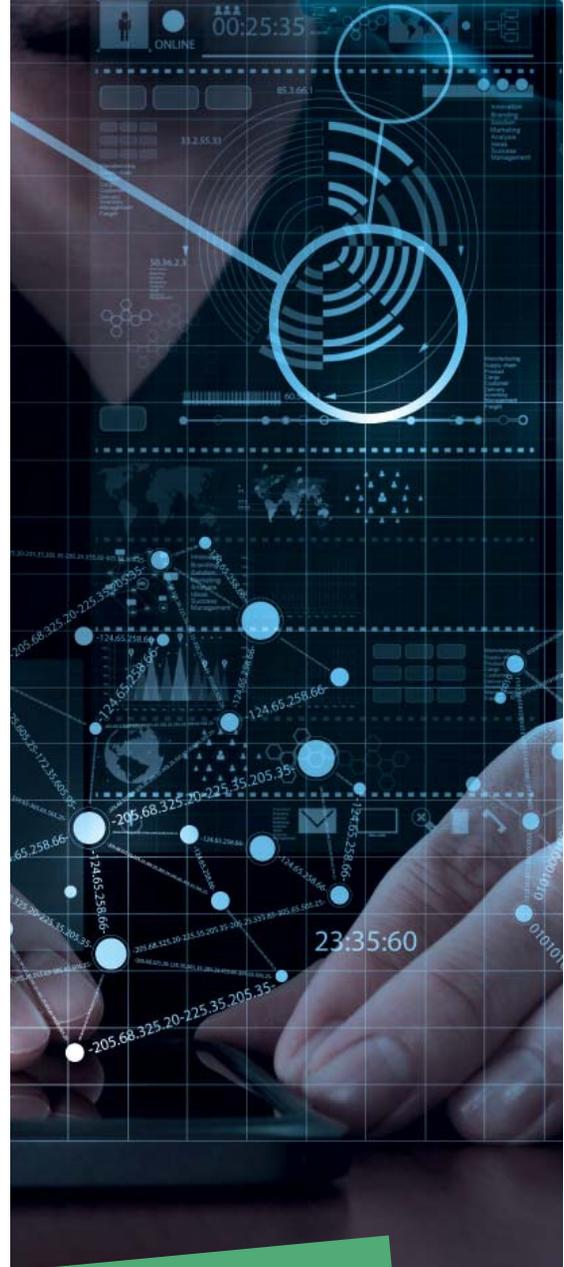
They are 3rd trusted parties (certified entities, businesses, organizations). They provide their infrastructure to authenticate, register and then to create and assign private and public keys to anyone who is interesting in or obliged to use e-signatures (individuals or legal entities). They authenticate them and they also maintain lists with registered persons. Finally they provide publicly the public keys (and the corresponding Certificates) of the registered persons or entities.

In almost any country, Certification Service Providers are supervised by respective national Certification Authorities (CA).

PUBLIC KEY INFRASTRUCTURE (PKI)

This is a network of entities (i.e. public or private companies) having the appropriate infrastructure for public & private keys creation, assignment and maintenance. They are certified by competent authorities and they are all linked together and in an opposite tree structure (root, trunk and branches). The “root” authority (CA) is in the top of the certification process. In Serbia the competent top authority is MTTT. Other certification providers are Post Service [Pošta Srbije - <http://www.ca.posta.rs/>], Chamber of Commerce and Industry of Serbia, and Ministry of Interior (Police), which also can assign e-signatures to individuals or authorize other CSPs.

At the EU level, most of the above concepts and terms are covered by the eIDAS Regulation (Regulation 2014/910/EU) which repeals and replaces the ex e-signatures Directive (Directive on Electronic Signatures 1999/93/EC). The thorough explanation of the eIDAS Regulation is given elsewhere in the Guide.



30. HOW AN E-INVOICE COULD BE DIGITALLY SIGNED IN SERBIA?

Serbian legislation provides for mandatory use of qualified electronic signature. This is governed by legislation on accounting, VAT and electronic documents.

The Accounting Law prescribes that postings on accounts of assets, liabilities and equity, income and expenses are based on credible accounting documents. An accounting document is defined as a written document or electronic record of a business transaction, which includes all information required for posting in the accounting records in such a manner that based on such an accounting document one can unambiguously find out the basics, the type and content of the transaction.

The Accounting Law prescribes that documents delivered and received through telecommunication system as well as documents delivered and received through services for Electronic Data Interchange (EDI) are considered as accounting documents. Accounting documents, compiled in an electronic form, must contain the signature or other identifying mark/e-signature of the responsible person or persons authorised to issue the accounting documents.

When the invoice is issued by a domestic legal person or individual, and e-signature is used as identification, such signature has to be in line with the Law on Electronic Signature ordinary (unqualified) or qualified signature. The Law on Electronic Signature recognises e-signatures and qualified e-signatures. This Law prescribes that a qualified e-signature is an e-signature that reliably guarantees the identity of the signer, the integrity of e-documents, and prevents subsequent denial of responsibility for their content, and meets the requirements established by the

Law. The qualified e-signature is exclusively linked to the signatory and clearly identifies the signatory. Qualified e-signature has the same legal power as a handwritten signature and seal (on the hardcopy original document).

If legislation prescribes written form as a condition for validity of a legal act, legal transaction or other legal actions, the corresponding e-document is signed by a qualified e-signature in accordance with the law governing e-signature. Only an e-document that was initially created in an electronic form is considered as an original document. Further, electronic document created by digitalising the original hard copy document is considered a copy, not the original.

Issuing of e-invoices is neither explicitly allowed nor prohibited by the relevant VAT regulations. However, there are several opinions issued by the Ministry of Finance dealing with this subject. According to the stated opinions, issuing of e-invoices is acceptable from the VAT perspective, provided that: (1) the e-invoice contains all necessary elements prescribed by the VAT Law and (2) e-invoice is issued in accordance with the Law on Electronic Document. In addition, the Opinion of the Ministry of Finance dealing with the validity of invoice issued electronically without stamp and signature envisages that invoice does not have to contain stamp and signature if it is signed in an electronic form by the entity authorised for its assembling and control, in accordance with the Law on Electronic Signature. Invoices issued by foreign taxpayers do not have to contain the above listed elements since domestic legislation cannot apply for invoices issued by foreign entities.

31. IS THE CONTENT OF AN E-INVOICE REGULATED BY THE LEGISLATION?

The issuance of an invoice (in paper or in electronic form) is an action that automatically triggers the process of a payment request. So, detailed information of the transaction, i.e. the content of an invoice, becomes of high importance for the two counterpart businesses, i.e. the seller and the buyer. This is true for any tax administration, as well. Trading operators are not only interested in the transaction itself (buying and selling). They also have to use the invoice as a valid document for the proof of the transaction for any legal purposes and disputes. Moreover, they have to use it as the base document for any relevant recording into their accounting books.

The main goal of any tax authority is to limit or prevent the cases of fictitious invoices or invoices with manipulated details. This is the exact reason why almost all tax administrations (and/or other governmental authorities) in different countries define specific requirements for the issuance and the content of the invoices. Both European Union and Serbia have similar (if not identical) requirements for the invoice content.

According to the VAT European Directive 2010/45/EU, (which amended the Directive 2006/112/EU which applies to the Electronic Invoicing for VAT purposes), the minimum mandatory content of an invoice (whether in paper or electronic) must include:

- the date of invoice issuance
- the Invoice number (a unique sequential number/one or more series)
- the effective date or completion of delivery or service

- the VAT Nr or TIN - tax identification number of issuer (liable entity)
- the full name of the issuer
- the full address of the publisher
- the VAT number or TIN number of the customer (recipient)
- the full name of the recipient
- the full address of the recipient
- the type/nature of goods or services
- the amount or extent and type of service
- the taxable amount per rate or exemption
- the unit price exclusive of VAT
- any discounts (except unit price)
- the VAT rate(s) applied
- the amount of total VAT due

The European Directive 2014/55/EU goes a step further defining the “core elements of an electronic invoice”. That means, a set of essential information components which an electronic invoice must contain in order to enable cross-border interoperability, including the necessary information to ensure legal compliance”. Moreover the core elements of an e-invoice according to Article 6 of the Directive are (inter alia):

- (a) Process and invoice identifiers;
- (b) The invoice period;
- (c) Seller information;
- (d) Buyer information;
- (e) Payee information;
- (f) Seller’s tax representative information;
- (g) Contract reference;
- (h) Delivery details;
- (i) Payment instructions;
- (j) Allowance or charge information;
- (k) Invoice line item information;
- (l) Invoice totals;
- (m) VAT breakdown.

A hand holding a pen is pointing at a complex business diagram. The diagram features various charts, graphs, and data points. A prominent line graph shows a fluctuating trend over time, with a peak in January and a dip in February. A bar chart is visible in the upper right corner. The background is a light blue grid with various geometric shapes and lines, suggesting a technical or analytical context. The overall aesthetic is professional and data-driven.

Serbian VAT Law contains provision in terms of minimum information that each invoice has to have. These elements are:

- Name, address and tax identification number (TIN) of the taxpayer/invoice issuer;
- Name, address and TIN of the taxpayer/invoice recipient;
- Location, date of issue and invoice number;
- Type and quantity of goods delivered, or type and volume of services;
- Date of supply of goods or services and the amount of advance payments (not applicable in case of Advance Payment Invoice);
- Taxable base amount;
- Applicable tax rate;
- VAT amount calculated;
- An appropriate note on tax exemption (if applicable);
- Note that VAT cash accounting scheme applies (if applicable).

As mentioned, these requirements are set by VAT Law and they relate only to invoices issued by VAT payers. In the case that an invoice fails to meet the above criteria it is considered incorrect from the VAT point of view and no input VAT recovery is allowed on the basis of that invoice. Therefore, the recipient of the invoice is interested in checking in detail each invoice received and asking its supplier for correction of any formal error on the invoice in order to make sure that input VAT recovery will be undisputed.

32. WHAT IS THE STANDARD FORMAT OF A STRUCTURED ELECTRONIC INVOICE?

One can think of “**standard**” as a pre-agreed and commonly used document that sets out the requirements for a specific item, material, component, system or service, or describes in detail a particular method or procedure. The standardization of the format of e-invoices becomes a key interoperability element, having a major role in the automation of the e-invoicing process.

Actually, there is a plethora of standards existing around the globe regarding e-invoices, and their development started few decades ago. Their development is also linked to the technology progress. Unfortunately, it seems that none of the existing standards has

Due to the importance they have for the European market, and also because they are linked to the recent developments of the EU legal framework, the reference will be made only to the following 2 standards (which actually are very close to each other):

- **The Basic Invoice within PEPPOL public initiative** and
- **The CEN TC 434 (following the CEN Workshop Agreement (CWA) MUG project on Core Invoice) and which is the upcoming European Standard according to the Directive 2014/55/EU**

Standard	Countries (m-s)
UN CEFAC	Sweden, Germany, Italy
ISO 20022 (Financial)	Finland, Germany
CEN BII / UBL	Sweden, Denmark, The Netherlands, Italy, Croatia
PEPPOL	Sweden, Italy

(Source: EMSFEI)

a clear dominant position all over the world; however, some of them tend to dominate specific market sectors or geographical regions.

The above table indicates some of the EU Member States and the standards (either unmodified or derived) used for e-invoice submission to the public sector contracting authorities.

THE PEPPOL “PEPPOL BIS 4A INVOICE”

The reference to PEPPOL is specifically made elsewhere in this Guide. Therefore, only the reference to one of the main documents related to e-invoices will be made.

As PEPPOL supports both pre-award and post-award business processes, its Access Points have to support one or more of the

PEPPOL post-award business processes (pre-award processes are optional). The PEPPOL processes are specified in documents called **Business Interoperability Specifications (BISs)**.

The BIS 4A Invoice document formulates the set of details of an e-invoice, as a message which is part of a business process which takes place between a seller (creditor or invoice issuer) and a buyer (debtor or invoicee). This document is a BISs document prepared on the basis of the CEN CWA BII workshop. The purpose of this document is to describe a common format for the invoice message in the European market, and to facilitate an efficient implementation and increased use of electronic collaboration regarding the invoicing process based on this format.

According to this document (which is very close to MUG CWA 16356 *Core Invoice*), a Data Model is a set of elements that the receiver must be able to process. As *Core Invoice* is considered the minimum set of information elements required to fulfill legal requirements for an invoice.

CEN AND CWA SHORT INTRODUCTION

CEN, (*Comité Européen de Normalisation*, or in English: European Committee for Standardization), is a nonprofit association that brings together the National Standardization Bodies of 33 European countries. CEN is one of three European

Standardization Organizations (together with CENELEC and ETSI) that have been officially recognized by the European Union and by the European Free Trade Association (EFTA) as being responsible for developing and defining voluntary standards at the European level.

CWA, stands for CEN Workshop Agreement. This is an agreement that has been developed and approved in a CEN Workshop. The result is actually a document published by CEN.

THE MUG CWA 16356 CORE INVOICE

MUG stands for *Message User Guidelines*. This is the name with which a joint project of CEN e-Invoicing, BII and eBES Workshops has become broadly known. They jointly developed a common invoice content standard referred to as a **CORE European invoice** - a reference semantic data model - and implementation guideline for the UN/CEFACT CII syntax. The resulting CWA 16356 documents describes the European reference semantic **data model** for the **CORE invoice**. The work of this project is also known as CWA 16356 "Guide for a European Core Invoice data model with UN/CEFACT CII Implementation Guideline". And it has been made in three parts. Part 2 is all about **European CORE INVOICE data model**, which actually provides a suggestion for a common European Standard for e-invoice content details.



The implementation guidelines and syntax mapping of the reference data model are done on the basis of UN/CEFACT CII D09B **XML Schema**. This will enable use of that syntax in the European context and guide implementers in that market. Full description is given in Part 3 of CWA 16356: “European CORE INVOICE syntax mapping”. The standardization process according to the above specifications based on CWA 16356 documents are of **high importance**, as they are direct linked to the Directive 2014/55/EU for e-Invoicing in Public Procurement. According to the point 19 in the “Whereas” section of this Directive: **“The European standard on electronic invoicing should be based on existing technical specifications developed within the framework of European standardization organizations such as CEN (CWA 16356-MUG and CWA 16562-CEN BII) ...”**

THE NEW EUROPEAN STANDARD - CORE INVOICE

A lot of progress has already been made in developing the European electronic invoice Standard after the MUG **CWA 16356** and **now the upcoming standard** is already known as CEN TC 434. The final version of the standard is expected to be published in the Official Journal of the European Union, by the May Journal of the European Union, by the May 25th, 2017 at the latest (according to Article 3, Paragraph 2, of the Directive).

The European standard on electronic invoicing is expected to comply with the following criteria, as these are defined in Directive 55/2014/EU:

- it is technologically neutral,
- it is compatible with relevant international standards on electronic invoicing,
- it has regard to the need for personal data protection in accordance with Directive 95/46/EC, to a ‘data protection by design’ approach and to

the principles of proportionality, data minimization and purpose limitation,

- it is consistent with the relevant provisions of Directive 2006/112/EC,
- it allows for the establishment of practical, user-friendly, flexible and cost-efficient electronic invoicing systems,
- it takes into account the special needs of small and medium-sized enterprises as well as of sub-central contracting authorities and contracting entities,
- it is suitable for use in commercial transactions between enterprises.

The use of the core e-invoice by both parties ensures interoperability. By core e-invoice we mean a set of essential information components which an electronic invoice must contain in order to enable cross-border interoperability, including the necessary information to ensure legal compliance.

Directive 2014/55/EU sets out the legal framework for the establishment of a European standard (EN) for the semantic data model of the core elements of an electronic invoice to support the interoperability for electronic invoicing.

According to the proposed approaches of the standardization of e-invoice, there are 3 main sections of data that any invoice can be composed of. The Core Section is going to be covered by the upcoming standard.

1. The Core Section

The Core Section contains the basic information elements of an invoice, (i.e. the core elements referred to in the Directive) required to exchange electronic invoices between all kinds of trade entities (basic needs of cross-border and cross-sector e-invoicing).

The Core Section consists of a Legal Part plus a Common Part. The Legal Part is concerned with both the observance of tax and commercial laws and regulations pertaining to electronic invoicing commonly in force throughout the EU. The Common

Part contains commonly used and accepted information elements, which are not sector or country specific.

2. The Sector Section

The Sector Section contains the information elements which are only a concern of a specific industry sector, community, supply chain or buyers and sellers of a particular type of product. Such information elements may be incorporated in an invoice as an 'Extension' of the Core Section information elements.

3. The Country Section

The Country Section contains the information elements which represent the specific requirements of a particular Member State above and beyond the Core. It must be stressed that, in line with the Directive, all contracting authorities and contracting entities in the EU will be obliged to receive and process an e-invoice as long as it contains all of the core elements of an invoice defined in the European standard. The inclusion of any information which is not contained in this core will be at the sender's discretion. As such, any Country or Sector extension in an e-invoice must be optional by definition, and therefore these sections cannot be considered as an integral part of the European standard.

This means that the core section – or otherwise core e-invoice – is of particular importance and should be adopted during any governmental IT infrastructure implementation. It is obvious that the upcoming European Core Invoice model is quite close to covering a future national standard of Serbia as well.



33. WHAT ARE THE OTHER IMPORTANT STANDARDS THAT COULD BE USED IN E-INVOICING?

There are many other standards which are widely used for standardization of various details/elements of an invoice. These standards are applicable to many data groups used in invoices.

Most of them are **standard look-up code tables (code lists)** that are used for picking up the appropriate code value, instead of a word. Using look-up tables facilitate the process of entering the right code instead of text. And using a code – in many cases – is much more preferred than using plain text. It takes much more time to fill-in the text (sometimes long text strings) and in the same time there is a high possibility for typing errors.

Standard tables for Countries and Currencies are just 2 of the examples of standard look-up tables. For instance, the Country Codes Table provides a list of countries with the following codification:

- two letter code (ISO alpha-2)
- three letter code (ISO alpha-3), and
- the UN numeric code (ISO 3166-1 numeric-3),

According to this list, **Serbia** as a country can be presented with one of the following codes:

- RS (ISO alpha-2)
- SRB (ISO alpha-3)
- 688 (ISO 3166-1 numeric-3)

Below is a list with the most common standards which are used for standardization of details of an e-invoice:

Language ID

Coding according to ISO 639-1–*Codes for the Representation of Names of Languages*

Currency ID

Coding according to ISO 4217: 3-character Alphabetic Code for currency designators

Business activity ID

Coding according to (EC) 1893/20.12.2006 (CPA 2008)

Country ID

Coding according to ISO 3166-1 alpha-2–2 letters of Latin alphabet, or ISO alpha-3–3 letters code and ISO 3166-1 numeric-3–3 decimal digits

Banking IDs

BIC–Bank Identifier Code–SWIFT–Society for Worldwide Interbank Financial Telecommunication

IBAN – International Bank Account Number according to ISO 13616:1997

CPV ID

CPV: Common Procurement Vocabulary (last version 2007 (2008 - Regulation EC 2195/2002 (as it has been amended by Regulation EC 596/2009)

Customs Tariff code

TARIC (for cross-border invoices)

TARIC (6 ñ 8-digit code) according to Regulation EC 2658/87

Quantity measurement unit id

According to units based on SI–Système International d'Unités, SI

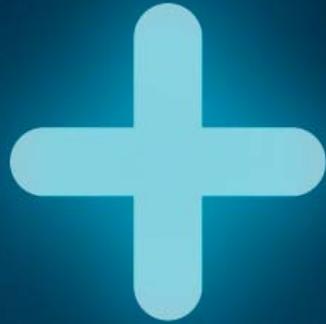
Finally, national level standards have to be taken into account as well, wherever they exist and apply. For instance, some of those standards could be: national standards for post (zip) codes, administrative geographical divisions (i.e. regions, municipalities), VAT rates, VAT exceptions, etc

TERMS, ACRONYMS AND ABBREVIATIONS

ACCA	Association of Chartered Certified Accountants
AP	Access Point
B2B	Business-to-Business
B2C	Business-to-Citizens
B2G	Business-to-Government
BIC	Bank Identifier Code
BII	Business Interoperability Interfaces
BIS	Business Interoperability Specifications
CA	Certification Authority
CEFACT	Centre for Trade Facilitation and Electronic Business - Centre for Trade Facilitation and Electronic Business
CEN	<i>Comité Européen de Normalisation</i> - European Committee for Standardization
CENELEC	<i>Comité Européen de Normalisation Électrotechnique</i> - European Committee for Electrotechnical Standardization
CII	Cross industry invoice
CN	Credit Note
CPA	Classification of Products by Activity
CPV	Common Procurement Vocabulary
CSP	Certification Service Provider
CWA	CEN Workshop Agreement
DG/DIGIT	Directorate-General for Informatics (DIGIT)
DN	Debit Note
EAN	European Article Number
eBES	e-business Board for European Standardization
EC	European Commission
EDI	Electronic Data Interchange
EDIFACT	EDI For Administration, Commerce and Transport

EESPA	European E-invoicing Service Providers Association
EFTA	European Free Trade Association
eIDAS	Refers to EU Regulation No 910/2014 on electronic identification and trust services for electronic transactions in the European internal market
EIF	European Interoperability Framework
EN	European Norm
epub	Refers to an electronic book file format that can be downloaded and read on devices like smartphones, tablets, computers, or e-readers. It is a free and open standard published by the International Digital Publishing Forum (IDPF)
ETSI	European Telecommunications Standards Institute - European Committee for Electrotechnical Standardization
EU	European Union
FINTECH	Refers to emerging financial services, based mainly on software solutions and provided mostly by technological innovative companies
G2B	Government-To-Business
GDN	Goods Dispatch Note
GDP	Gross Domestic Product
HTML	Hyper Text Markup Language
IBAN	International Bank Account Number according to ISO 13616:1997
IEC	International Electrotechnical Commission
ISA	Interoperability Solutions for European Public Administrations
ISO	International Standardization Organization
KPI	Key Performance Indicator
mobi	Refers to an electronic book Mobipocket file format that can be downloaded and read on devices like smartphones, tablets, computers, or e-readers
MTTT	(Serbian) Ministry of Telecommunications, Transportation & Tourism
MUG	Message User Guidelines
PDF, pdf	Portable Document Format

PEPPOL	Pan-European Public Procurement Online
PKI	Public Key Infrastructure
PO	Purchase Order
QES	Qualified Electronic Signature
SaaS	Software-as-a-Service
SCF	Supply Chain Finance
SEPA	Single European Payments Area
SI	<i>Système International d'Unités</i> - International System of Units
SLA	Service Level Agreement
SME	Small-to-Medium size Enterprise
SML	Service Metadata Locator
SMP	Service Metadata Publisher
SP	Service Provider
SP-b/s	Service Provider for either a buyer or a seller
SWIFT	Society for Worldwide Interbank Financial Telecommunication
TARIC	<i>Tariff Intégré Communautaire</i> - Integrated Tariff of the European Communities (Customs Tariff code)
TIN	Tax Identification Number
VAT	Value Added Tax
web	Refers to World Wide Web "the Web", a hypertext system that operates over the Internet
XML	eXtended Markup Language a computer text based language/technology concerned with the description and structuring of data.





ANNEXES

ANNEX 1

COST SAVINGS ESTIMATIONS LIST

1. European Commission (For SEPA)

Savings estimated at around EUR 64.5 billion per year for businesses within SEPA http://ec.europa.eu/finance/payments/einvoicing/index_en.htm European Commission - Banking and finance - Payment Services - e-Invoicing

2. European Commission (For e-invoicing in EU public procurement)

The Commission estimates that the adoption of e-invoicing in public procurement across the EU could generate savings of up to EUR 2.3 billion http://europa.eu/rapid/press-release_IP-13-608_en.htm Press release: Brussels, 26th June 2013 - E-invoicing in public procurement: another step towards end-to-end e-procurement and e-government in Europe

3. Michel Barnier - Commissioner for Internal Market and Services

Switching from paper to fully automated invoicing can cut the costs of receiving an invoice from EUR 30-50 to EUR 1 http://europa.eu/rapid/press-release_IP-13-608_en.htm

4. EU Multi-Stakeholder Forum on e-Invoicing (EMSFEI)

It is estimated that the average user has been able to reduce processing costs by 50-75%, with a return on investment (ROI) of over 60% p.a. http://ec.europa.eu/finance/payments/einvoicing/index_en.htm http://ec.europa.eu/internal_market/payments/docs/einvoicing/activity2_profiles-2012_09_26_en.pdf (EU Multi-Stakeholder Forum on e-Invoicing, e-Invoicing in public procurement: Activity 2 – Experience and Good Practice, 2013).

5. US Department of The Treasury

In the case of the Federal Government,

the Treasury estimated that implementing electronic invoicing would reduce the cost of invoicing by as much as **50 percent** — to the tune of **USD 450 million per year**... By switching to electronic invoicing, paper is eliminated and the amount of time required to enter, process, and respond to invoice-related inquiries, is slashed. In addition, the amount of time from invoice to payment is slashed from an average of 17 days to just three days. <http://www.treasury.gov/press-center/press-releases/Pages/tg1238.aspx> and <http://thefutureofthings.com/9247-why-electronic-invoicing-represents-the-future-of-payment-processing/> The Future of Things (TFOT) - Why Electronic Invoicing Represents the Future of Payment Processing

6. Belgian Government

The Belgian Government estimates that electronic invoicing can save EUR 1.84 per invoice for the supplier and EUR 6.49 for the receiver. The potential benefits per year can therefore reach EUR 2 million for the suppliers and EUR 7.5 million for the public service. http://ec.europa.eu/isa/news/2013/e_invoicing_en.htm News from ISA programme (Interoperability Solutions for European Public Administrations) - Belgium adopts European Commission system for e-Invoicing

7. Swedish Postal Authority

If you receive **20,000 invoices per year, you can save at least USD 100,000**. This is a conservative estimate, based on these assumptions: Cost for manual handling, **per invoice: USD 20 – 60**. Potential saving if the entire process is automated: 25 – 50%. 20,000 invoices/year x USD 20 x 25% = USD100,000/year in savings! And that is a conservative estimate. http://www.tryamm.ro/custom_images/continut/Business_Solution_Invoices.pdf

8. Austria

Austria has started introducing e-Invoicing as mandatory option for G2B transactions, since 2014. It has been estimated that in total, admin burden for businesses will be reduced by EUR 14 million, and the

government will save approximately EUR 5 million. (Source: EU Multi-Stakeholder Forum on e-Invoicing, e-Invoicing in public procurement)

9. Gartner Research

According to research and analysis group, **Gartner**, typically the cost of processing an invoice in the UK averages between GBP 4 and GBP 25, and in some cases even up to GBP 50, per individual invoice. <http://www.itesoft.com/faq/how-calculate-cost-processing-invoice> ITESOFT (On the basis of the report: The Gartner Group, "The redesign of the B2B Order to Cash Process" – 2001 (<https://www.gartner.com/doc/322010/redesign-bb-ordertocash-processes>))

10. Billentis 2015 report

According to Billentis' 2015 report, 170 billion invoices are sent and received between businesses and government each year, with proven savings of up to 90% through electronic processing of invoices. http://www.basware.com/blog/2015-09-21/dont-get-left-behind-why-businesses-must-be-the-driving-force-for-governments-to-go?elqCampaignID=8033&CMP=64a4e79e-2647-e511-811e-fc15b4263e1c&LST=MUL-15Q3-e-invoicing-phase3-linkedin&utm_source=linkedin&SRC=100,000,032&utm_campaign=GLB-linkedin-MUL-15Q3-EIN-e-invoicing-phase3&utm_medium=social&utm_term=GovernmentEInvoicing&utm_content=GovernmentEInvoicing&GEO=MUL

11. Supply Management (through Billentis)

An electronic invoice is cheaper to create and administer than its paper predecessor, largely because the whole process is automated. A recent report from **Billentis** suggests the average saving per electronic invoice is **GBP 4.80** which, with a bit of number crunching, suggests that the total saved by EESPA members across Europe in 2014 was a figure in the region of GBP 4.8 billion. That's a lot of money by anyone's standards. But the benefits of e-invoicing extend further than just cost savings. <http://www.supplymanagement.com/>

blog/2015/10/benefits-of-e-invoicing-goway-beyond-savings#sthash.NsT3QOom.dpuf

12. Esa Tihilä - CEO, Basware Corporation

In the UK, for instance, the government could save more than GBP3 billion per year on the costs of invoicing by making the process automated and electronic. <http://www.basware.co.uk/blog/2015-07-14/national-governments-need-more-cost-saving-initiatives-try-e-invoicing> and at CNBC: <http://www.cnbc.com/2015/06/01/electronic-invoicing-could-save-state-governments-billions-in-cost-and-efficiency.html>

13. RICOH Europe

Electronic invoicing enables businesses to remove manual processes, speed up invoicing cycles and eliminate non value add activities – reducing costs by up to 70% http://www.ricoh-europe.com/Images/e-invoicing-whitepaper_t_57-29043.pdf

14. Billtrust

(It) cost your business USD 1.10 - USD 2.20 per invoice just to get paid. If you are sending 25,000 bills per month this would reduce your annual profits between USD 330,000 and USD 660,000. And that does not even take into account the time factor. What other productive things could your employees be doing if they didn't have to spend so much time sending invoices and processing payments? <http://www.billtrust.com/sites/default/files/content-pdfs/HiddenCostofBilling.pdf>

15. Bilderberg Hotels & Restaurants case study (based on Basware Solution)

Bilderberg processes approximately 40,000 invoices each year. They implemented Basware's accounts payable automation solution coupled with e-invoicing with very positive results: today, they receive 80% of their invoices electronically, and the number of employees processing invoices has dropped dramatically from 40 to 3. <http://eeiplatform.com/17502/invoice-automation-case-study-bilderberg/>

ANNEX 2

Serbian Laws and other Serbian legislation relevant to e-Invoicing

Year of Introduction	Official Gazette of the Republic of Serbia	English name	Serbian name
2011	31/2011, 99/2011, 109/2013, 55/2014, 139/2014	Law on Enforcement and Security	Zakon o izvršenju i obezbeđenju
2002	80/02, 84/02, 23/03, 70/03, 55/04, 61/05, 85/05, 62/06, 61/07, 20/09, 72/09, 53/10, 101/11, 2/12, 93/12, 47/13, 108/13, 68/14, 105/14, 91/15, 112/15, 15/16	Law on Tax Procedure and Tax Administration	Zakon o poreskom postupku i poreskoj administraciji
2011	31/2011, 85/2012, 19/2013, 55/2014, 93/2014, 121/2014, 6/2015 106/2015	Law on Public Notaries	Zakon o javnom beležništvu
2004	84/2004, 86/2004, 61/2005, 61/2007, 93/2012, 108/2013, 6/2014, 68/2014, 142/2014 and 5/2015	Law on Value Added Tax	Zakon o porezu na dodatnu vrednost
	123/2012, 86/2015	Regulation on the determination of cases with no obligation of issuing an invoices and on accounts in which certain information can be omitted	Pravilnik o određivanju slučajeva u kojima nema obaveze izdavanja računa i o računima kod kojih se mogu izostaviti pojedini podaci
2013	62/2013	Law on Accounting	Zakon o računovodstvu i reviziji
2010	53/2010, 10/2013	Law on Trade	Zakon o trgovini
2004	135/2004, 93/2012	Law on Fiscal Cash Registers	Zakon o fiskalnim kasama; Zakon o izmenama i dopunama zakona o fiskalnim kasama (2012)

Year of Introduction	Official Gazette of the Republic of Serbia	English name	Serbian name
2013	119/2012 and 68/2015	Law on Late Payments in Commercial Transactions	Zakon o rokovima izmirenja novčanih obaveza u komercijalna transakcijama
2009	41/2009 and 95/2013	Law on Electronic Commerce	Zakon o elektronskoj trgovini
2009	51/2009	Law on Electronic Documents	Zakon o elektronskom dokumentu
2004	135/2004	Electronic Signature Law	Zakon o elektronskom potpisu
2015		Law on Information Security	Zakon o informacionoj bezbednosti
2009	104/2009	Data Secrecy Law	Zakon o tajnosti podataka
2008	97/2008, 107/2012	Law on Protection of Personal Data	Zakon o zaštiti podataka o ličnosti
2002	42/2002 and 111/2009	Law on Security Information Agency	Zakon o Bezbednosno-informativnoj agenciji
2007	116/2007	Law on the Base Regulating Security services of the Republic of Serbia	Zakon o osnovama uređenja službi bezbednosti Republike Srbije
2004	55/2004, 111/2009 and 99/2011	Law on the Serbian Business Registers Agency	Zakon o agenciji za privredne registre
2011	099/2011	Law on the Procedure of Registration with the Serbian Business Registers Agency	Zakon o postupku registracije u APR
2009	104/09	Law on Classification of Business Activities	Zakon o klasifikaciji delatnosti
2010	54/2010	Regulation on Classification of Activities	Uredba o klasifikaciji

ANNEX 3

USEFUL REFERENCE LINKS

e-Invoicing in EU (e-Procurement)

http://ec.europa.eu/growth/single-market/public-procurement/e-procurement/e-invoicing_en

The adoption of e-invoicing in public procurement - Guidance for EU public administrations <http://ec.europa.eu/DocsRoom/documents/17301/attachments/1/translations/en/renditions/pdf>

European Single Procurement Document

http://ec.europa.eu/growth/single-market/public-procurement/e-procurement/espd_en

Consolidated text of Council Directive 2006/112/EC on the common system of VAT

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:2006L0112:20110101:EN:HTML>

Council Directive 2014/55/EU on electronic invoicing in public procurement

<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014L0055>

Regulation (EU) No 910/2014 on electronic identification and trust services for electronic transactions in the internal market (eIDAS)

http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_2014.257.01.0073.01.ENG

PEPPOL – Pan-European Public Procurement On-Line

<http://www.peppol.eu/>

e-PRIOR

<https://joinup.ec.europa.eu/software/openeprior/description> and http://ec.europa.eu/isa/ready-to-use-solutions/open-e-prior_en.htm

The ISA² program (Interoperability Solutions for European Public Administrations)

http://ec.europa.eu/isa/isa2/index_en.htm

EIF - The European Interoperability Framework

<http://ec.europa.eu/idabc/en/document/2319/5938.html> and <http://ec.europa.eu/idabc/servlets/Docb0db.pdf?id=31597>

E-Invoicing Standardization Overview, issues and conclusions for future actions
'e-Invoicing Standardization Overview, issues and conclusions for future actions'

CEN/TC 434 - Electronic Invoicing

CEN Project Committee on Electronic Invoicing

Connecting Europe Facility (CEF)

The Connecting Europe Facility (CEF) supports trans-European networks and infrastructures in the sectors of transport, telecommunications and energy CEF Legal basis and fundamental info at Digital Economy & Society site: <https://ec.europa.eu/digital-single-market/connecting-europe-facility>

CEF Digital Single Web Portal

<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/CEF+Digital+Home>

And the eInvoicing area at CEF portal:

<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eInvoicing>

EESPA – European E-invoicing Service Providers Association

<http://eespa.eu/>

e-Invoicing platform

<http://eeiplatform.com/>

UN/EDIFACT

<http://www.unece.org/cefact/edifact/welcome.html>

ISO 20022 - Universal financial industry message scheme

https://www.iso20022.org/trade_services_messages.page and <http://tfig.unece.org/contents/iso-20022-invoice.htm>



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