
Reaping the benefits of electronic invoicing for Europe

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1. INTRODUCTION

The Europe 2020 strategy\(^1\) sets out a vision of a highly competitive European social market economy for the 21\(^{\text{st}}\) century and emphasises that it is crucial to reap the full economic and social benefits of a digital society. To this end, electronic invoicing (e-invoicing) is part of the European Commission’s flagship initiative *A Digital Agenda for Europe*\(^2\) which gives prominence to achieving a single digital market and calls for removal of the regulatory and technical barriers that prevent mass adoption of e-invoicing.

To the detriment of consumers and enterprises alike, the existing rules that govern e-invoicing in Europe are still fragmented along national lines and most of the potential of e-invoicing is still untapped. What is more, exchanging e-invoices is still too complex and costly, in particular for SMEs. While 42\% of large enterprises say they receive or send e-invoices, adoption rate among SMEs remain at a lower level (22\%)\(^3\). As a result the average market penetration of e-invoicing remains rather low in Europe and is currently estimated at around 5\% of all invoices annually exchanged\(^4\) for Business to Business relations.

This creates important opportunities for improvement. The mass adoption of e-invoicing within the EU would lead to significant economic benefits and it is estimated that moving from paper to e-invoices will generate savings of around EUR 240 billion over a six-year period\(^5\). Furthermore, due to the close link between invoicing and payment processes, the creation of the Single Euro Payments Area (SEPA) offers a launch pad for interoperable European e-invoicing schemes.

The Commission wants to see e-invoicing become the predominant method of invoicing by 2020 in Europe. The Commission is committed to working in close cooperation with the Member States and all other stakeholders who will need to play their part to achieve this target and create the right environment for the widespread deployment of e-invoicing.

Accordingly, this Communication addresses the following priorities:

– to ensure legal certainty and a clear technical environment for e-invoices to facilitate mass adoption

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\(^3\) Enterprises sending and/or receiving e-invoices, Eurostat, 2009.


– to encourage and promote the development of open and interoperable e-invoicing solutions based on a common standard, paying particular attention to the needs of SMEs
– to support the uptake of e-invoicing by setting up organisational structures, such as national e-Invoicing fora and a European Multi-Stakeholder Forum.

2. **BENEFITS FROM ELECTRONIC INVOICING**

Unlike paper-based invoices, e-invoices provide all data in digital format. Such e-invoicing offers substantial benefits over paper invoicing. It allows for shorter payment delays, fewer errors, reduced printing and postage costs and, most importantly, fully integrated processing. One distinctive feature of the e-invoice is therefore its potential for automation, especially if the invoice is sent in a structured format: e-invoices can be generated and transferred automatically and directly from the issuer’s or service provider’s financial supply chain systems to those of the recipient. Most of the economic benefits therefore do not arise from savings in printing and postage costs but rather from the full process automation and integration from order to payment between trading parties.

Furthermore, applying equal VAT rules on electronic and paper invoices is expected to reduce administrative burden on enterprises by up to a maximum of EUR 18 billion in the medium term as pointed out by the High Level Group on Administrative Burden.

Benefits from e-invoicing are also expected to affect consumers, in particular with regard to the convenience aspects of e-invoices in comparison with paper invoices. It should however be ensured that consumers with limited or no access to the internet should not be left behind and that consumers should always be allowed to ask for a paper invoice. In addition and in accordance with the EU Charter on Fundamental rights, e-invoicing should comply with the protection of personal data and the right of private life.

Finally, the environmental benefits of e-invoicing in terms of reducing paper consumption and energy costs for transportation are also significant, generating carbon savings which could amount to reductions in CO₂ emissions of 1 million tonnes per annum for the EU.

3. **INVOLVING STAKEHOLDERS**

Responding to market needs and the calls of stakeholders, the European Commission set up an Expert Group on e-invoicing to look at the barriers impeding a faster uptake of e-invoicing within the EU. At the end of 2009, the Expert Group published its final report, including a proposal for a European Electronic Invoicing (EEI) Framework.

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7 This is an extrapolation based on a study from the Department of Environmental Strategies research at the Royal Institute of Technology in Sweden, estimating the total effect of replacing paper with electronic invoices would lead to annual carbon reductions corresponding to 39°000 tot 41°000 tons of CO₂-equivalents per year.

Their main recommendations can be summarised as follows:

– Meeting the needs of SMEs as a priority focus, by concentrating on a number of specific business requirements.

– The harmonisation of and the provision of clarity for the legal and VAT framework across the EU on the basis of equal treatment between paper and e-invoices and supported by a Code of Practice prepared by the Expert Group.

– The creation of an e-invoicing eco-system that provides maximum interoperability and reach.

– The adoption by all actors within both the private and public sector of a common invoice content standard and data model – the UN/CEFACT Cross-Industry Invoice (CII) v.2.

– The establishment of an organisational process for implementation of the EEI Framework at Member State and EU level.

The report was subject to a public consultation enabling all stakeholders to react to the proposed recommendations. The majority of respondents agreed with the report’s main messages, recommendations and conclusions.

The stakeholder consultation process was concluded with a major conference on the topic of e-invoicing in Europe held under the auspices of the Spanish Presidency of the Council on 27 and 28 April 2010 in Madrid. The conference also validated the recommendations of the Expert Group whose proposals were globally supported.

4. **LANDSCAPE OF ELECTRONIC INVOICING IN THE EUROPEAN UNION**

4.1. **Adoption rate of electronic invoices**

To date, adoption rates of e-invoices are relatively low and vary widely among Member States. While 23% of enterprises say they receive or send e-invoices (ranging from 8% to 41% in EU27), the number of exchanged structured e-invoices still remains low, particularly among SMEs.

On the supply side, the e-invoicing market is largely fragmented. More than 400 e-invoicing service providers are active in the EU mainly at domestic level, offering a wide variety of e-invoicing business models.

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In some Member States, public sector initiatives have emerged or are emerging, to make e-invoicing mandatory for public procurement. These projects are critical to accelerate the market penetration of e-invoicing. At European level, the Commission has launched the PEPPOL project (Pan-European Public Procurement On-line) which aims to make electronic communication between enterprises (including SMEs) and government bodies possible throughout the EU for all procurement processes, including the exchange of invoices. The developed interoperable e-invoicing solution could be reused also beyond public procurement in the business to business context.

4.2. E-invoicing in the Single Euro Payments Area (SEPA)

Invoices represent just one step in the overall purchase-to-pay financial supply chain. In particular by virtue of the close link between invoices and payments, it is important to embed e-invoicing in the wider context of an integrated electronic payments market. The creation of a single integrated euro payments area which has been strongly supported by the Commission from the outset facilitates the linking of invoicing and payment processes.

While SEPA and e-invoicing are distinct projects, they are nevertheless mutually beneficial. SEPA could create a launching path for a successful e-invoicing initiative by promoting full process integration across the financial supply chain and mass adoption of e-invoicing could benefit SEPA migration due to the close link between payments and invoices.

SEPA aims at end-to-end straight-through-processing of payments. This eliminates the need for manual intervention, thereby creating substantial economic benefits. Therefore, an e-invoice standard should be coherent with the ISO 20022 financial services messaging standard, which is being used in the context of SEPA.

4.3. Current legal and technical environment for electronic invoices and potential burdens for adoption

4.3.1. Legal aspects

4.3.1.1. VAT and rules on electronic invoicing

Through the options available to Member States, the legal provisions currently in force on VAT regarding e-invoicing within the EU have produced a disjointed set of requirements. This has created complexity for trading parties wishing to use e-invoicing solutions, especially for enterprises which operate across borders.

However, on 13 July 2010 the Council adopted Directive 2010/45/EU amending Directive 2006/112/EC on the common system of value added tax as regards the rules on invoicing. This Directive, which will be transposed by 1 January 2013, sets out new VAT rules as regards e-invoicing and removes the obstacles to the uptake of e-invoicing by creating equal treatment between paper and e-invoices, while also ensuring that no additional requirements

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13 Further information on this initiative on [www.peppol.eu](http://www.peppol.eu).
are imposed on paper invoices. According to the new Article 233 of the Directive, businesses will be free to send and receive e-invoices providing they maintain "business controls which create a reliable audit trail between an invoice and a supply of goods or services" in the same way as is currently done for paper invoices.

4.3.1.2. Other legal aspects

Apart from legislation on VAT, e-invoicing is embedded in a patchwork of legal requirements which cover rules on accounting, auditing, protection of personal data, archiving and customs. While VAT is generally considered a key hurdle, it is necessary to identify if these other legal rules constitute further barriers to the uptake of e-invoicing within the EU.

Some e-invoicing solutions make use of electronic signatures (e-signatures). However, the diversity of legal requirements among Member States for e-signatures have led to cross border interoperability problems which contributed to slow down the uptake of cross-border e-invoicing solutions in so far as they make use of e-signatures. Despite the positive impact of existing legal provisions on the use of e-signatures and the political commitments taken by the Member States and the Commission, a more coordinated and comprehensive approach is needed to facilitate the EU-wide cross-border interoperability of e-signatures. To this end in the framework of the Digital Agenda, the Commission proposed to revise the current Directive 1999/93/EC on e-signatures.

4.3.2. Interoperability and reach

Interoperability of e-invoicing solutions provides trading parties with the ability in practice to exchange e-invoices across multiple technologies and organisational boundaries, based on common legal requirements, business processes and technical standards.

The lack of interoperability between distinct business models and solutions entails the risk that enterprises and especially SMEs may need to invest in multiple systems and solutions when exchanging e-invoices. This leads to unnecessary costs and further hampers mass adoption. By means of interoperable e-invoicing solutions, it will be possible to create over time a number of interconnected and interoperable networks where a maximum number of trading parties can be reached.

4.3.3. Standards

In the current environment, there is no globally used standard for e-invoicing. The diversity of data and usage requirements, and very different approaches to their implementation, have led to market fragmentation.

None of the existing formats has so far achieved dominance. Electronic Data Interchange (EDI) which is still used by many multinational companies is often impractical for the mass of SMEs. Likewise many proprietary formats are only used by one multinational company and its suppliers. As a consequence, market players, such as enterprises, software companies and financial service providers nowadays need to support multiple formats, necessitating the

\[\text{Directive 1999/93/EC,}\]

\[\text{Commission Recommendation 1994/820/EC,}\]
need for substantial mapping and conversion exercises to cope with data expressed in different syntaxes.

Several international and European standardisation organisations are currently working on e-invoicing standardisation. At international level, the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) has developed and is maintaining the Cross-Industry Invoice (CII) standard and data model, and has cooperated with the Organisation for the Advancement of Structured Information Standards (OASIS), for the convergence between the Universal Business Language (UBL) invoice and the CII standard. Moreover, UN/CEFACT is cooperating with ISO (International Organisation for Standardisation) for the integration of the CII data model in the ISO 20022 Invoice message. At European level, the European Committee for Standardization (CEN) is running a number of workshops on specific e-invoicing implementation issues\textsuperscript{18}.

5. **A STRATEGY TO FOSTER THE UPTAKE OF ELECTRONIC INVOICING**

5.1. **Key priorities to promote e-invoicing within the EU**

On the basis of the recommendations of the Expert Group and the conclusions of the public consultation, the Commission proposes to support the mass uptake of e-invoicing by focusing on the following four key priorities.

5.1.1. **Ensure a consistent legal environment for e-invoicing**

As of 1 January 2013, new VAT rules on e-invoicing provided for by Council Directive 2010/45/EU will require Member States to adhere to the principle of equal treatment between paper and e-invoices. Member States will no longer be allowed to add specific requirements such as insisting that e-invoices be based on advanced electronic signatures or EDI. Instead these technological choices will become options which can still be used, as can business controls, by businesses to guarantee the 'authenticity of the origin' and the 'integrity of the content' of e-invoices.

Any differences in the interpretation and subsequent transposition of the rules by Member States could present practical difficulties for the use of e-invoices. This could increase burdens and compliance costs on business, thereby restricting the uptake of e-invoicing. Therefore, the Commission will work closely with the Member States to ensure a common understanding of the new e-invoicing rules to help achieve a consistent and coherent transposition of the Directive 2010/45/EU.

**Actions:**

1.1 To ensure a consistent and timely transposition of the new VAT Directive, the Commission will organise a Fiscalis\textsuperscript{19} seminar, involving all Member States’ tax

\textsuperscript{18} The CEN Workshop on e-Invoicing set up the E-Invoice Gateway (http://www.e-invoice-gateway.net), an independent portal that provides guidance and country-related information on e-invoicing.

\textsuperscript{19} Fiscalis 2013 is an EU cooperation programme enabling national tax administrations to create and exchange information and expertise, for more information: http://ec.europa.eu/taxation_customs/taxation/tax_cooperation/fiscalis_programme/fiscalis2013/index_en.htm.
administrations in February 2011. After this, the Commission will assess the need for further guidance to Member States and businesses.

1.2 To anticipate the principle of equal treatment as laid down in the new VAT Directive; Member States are called upon to allow invoices to be sent and made available by 'other electronic means' as provided for in Article 233 of the current VAT Directive (2006/112/EC).

1.3 An external study for the Commission is looking at alternative VAT collection methods including the role of e-invoicing. The Commission will present these findings and publish before the end of 2010 a *Green Paper on the future of VAT* to stimulate debate on issues such as how the new developments in IT technologies could facilitate VAT collection.


5.1.2. *Achieve mass market adoption by reaching Small and Medium-sized Enterprises*

The objective of fostering the uptake of e-invoicing in the EU cannot be achieved without SMEs which represent more than 99% of European businesses. While many large enterprises already use e-invoices, the adoption level by SMEs remains relatively low. The *Small Business Act*\(^\text{20}\) committed the EU to the 'Think Small First' principle, i.e. to focus on the needs of SMEs. This should also apply to the e-invoicing market, which should offer simple, cheap, reliable and VAT-compliant solutions to SMEs.

Small enterprises work with many different trading parties (large enterprises, consumers, public authorities, other SMEs) who may require them to use e-invoicing according to different technical solutions. The development of interoperable processes and standards along the supply chains, including e-invoicing, will facilitate mass adoption by SMEs. To increase the participation of SMEs in digital supply chains, the Commission supports large-scale demonstration actions in industry and service sectors (fashion, automotive, transports and logistics). These projects aim to improve business transactions and contribute to the increase of innovation capacity and competitiveness of enterprises.

Therefore, it is not only important that small businesses are prepared internally (in terms of knowledge and infrastructure) for this transition but also that, externally, the e-invoicing service providers develop services and solutions that require a low investment in infrastructure and skills so that e-invoicing enables SMEs to improve efficiency and create operational savings.

The Commission considers that the following actions will help SMEs to reap the full benefits of the dematerialisation of invoices.

**Actions:**

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2.1 The Commission will thoroughly assess the effect of any future technical and legal requirements for e-invoicing on SMEs by applying the 'Think Small First' principle and the 'SME test' and expects Member States and standardisation organisations to do the same.

2.2 The Commission will organise and participate in awareness-raising activities to inform SMEs about the potential of e-invoicing. Synergies with existing promotional activities (e.g. the European SME week, E-skills week) and networks (e.g. European e-Business Support Network, European Enterprise Network) will be explored.

2.3 The Commission will continue and expand initiatives that promote the participation of SMEs in digital supply chains. In 2011, two new actions will be launched in the framework of the Competitiveness and Innovation Programme (CIP).

5.1.3. **Stimulate an environment that creates maximum reach**

It is vital to create an environment that enables a maximum number of trading parties to exchange invoices to ensure the mass uptake of e-invoicing. While actions currently under way will improve interoperability of e-invoices, the Commission sees the need for further actions at the organisational and technical level. Major progress on these recommendations should be achieved before the transposition deadline of the VAT Directive (1 January 2013).

First, clear roles and responsibilities of trading parties and service providers as regards interoperability at organisational level should be defined and adopted by market participants through a Code of Practice. Furthermore, the adoption and use of unambiguous and widely recognised identifiers and/or addresses of trading parties and service providers would facilitate the processing of e-invoices.

In addition, to ensure that e-invoicing models are able to interconnect, trading parties and service providers should search alignment on matters such as risk management, addressing and routing, roaming agreements, standards, communication workflows and security requirements.

The following actions are required to ensure that over time, trading parties can interconnect and create an EU or even wider network delivering mass adoption of e-invoicing.

**Actions:**

3.1 CEN should develop by end of 2011, a Code of Practice taking into account the work of the Expert Group on e-invoicing. This Code of Practice, to be adopted by trading parties, services providers and public authorities, should include a consistent terminology and a definition of roles and responsibilities of the distinct actors within the e-invoicing process.

3.2 CEN should analyse by end of 2011 the need and propose actions for the adoption of interoperable addressing and routing procedures by the e-invoicing industry participants.

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21 Along the lines of the forthcoming European Interoperability Framework (EIF) for public services, four layers of inter-operability can be distinguished: legal, organisational, semantic and technical.
5.1.4. Promote an e-invoice standard data model

One of the key challenges for e-invoicing deployment is to define a single and clear semantic data model describing the information elements required for e-invoices. One common data model will facilitate semantic interoperability and ensure technology neutrality. As per the recommendations of the Expert Group, "the UN/CEFACT Cross-Industry Invoice (CII) v.2 should be adopted as the common reference semantic data model upon which future e-invoice content standard solutions are based". It should be left to the market to define how this data model is subsequently adapted to suit it to specific business needs. All market actors within both the private and public sectors are encouraged to develop and implement, or to converge on, solutions that are compliant with the CII v.2 data model.

In addition, the implementation of this data model should be supported by international standards organisations to ensure accessibility and stability in terms of ongoing governance, maintenance and quality. In Europe, CEN, through its technical committees and workshops, should act as a facilitator to drive forward the implementation of relevant standards and supporting implementation guidelines, and to ensure international standards bodies support the European requirements. However, in the short term, the convergence to a single standard should not prevent existing e-invoicing solutions from being used, provided those solutions conform, or converge towards, the requirements of the common e-invoice data model.

**Actions:**

4.1 In 2011, CEN will design implementation guidelines for the CII v.2 data model. These guidelines should be based on the core invoice data set proposed by the Expert Group on e-invoicing and take into account the ISO 20022 Invoice message, the work of the CEN e-Invoicing, BII and EBES workshops, and other initiatives such as the PEPPOL project. Depending on market demand, the development of further guidelines covering other domains/business processes should be envisaged.

4.2 CEN will work with international standards organisations, such as UN/CEFACT and ISO, and communicate specific requirements for further development of the CII data model.

4.3 UN/CEFACT is invited to pursue the fast development of e-business messages that are complementary to the e-invoice, and will improve the ability of businesses, trade and administrative organisations to exchange products and relevant services effectively.

5.2. Organising the deployment of e-invoicing within the EU

Coordinated action is necessary both at national and at European level to support the deployment of e-invoicing. This will promote compatible national solutions to improve the functioning of the internal market by making cross-border transactions more efficient and less burdensome for consumers, businesses and public authorities.
5.2.1. Promoting e-invoicing at national level

Member States are well-placed for advocating, developing and facilitating the use of e-invoicing. They should ensure that their national commercial, taxation and procurement practices contribute to the development of an e-invoicing environment with EU-wide reach.

**Action:**

5.1 Member States should develop a strategy to promote e-invoicing at national level. This strategy should have the objective to:

- advocate the use of e-invoicing, in particular by SMEs
- coordinate at national level existing and forthcoming initiatives to promote the uptake of e-invoicing, including the legal, standardisation and interoperability aspects with a European dimension
- monitor and set targets for the adoption level of e-invoicing.

5.2 To support the realisation of these objectives, Member States should put in place national multi-stakeholder e-invoicing fora and inform the Commission of their establishment by June 2011. National fora should ensure a balanced representation of stakeholders, with sufficient participation of public authorities and users of e-invoicing services including consumers, SMEs and large businesses.

5.2.2. Promoting e-invoicing at European level

The actions at Member State level should be coordinated to make sure that e-invoices can be freely exchanged within the EU. Particular attention should be given to facilitating cross-border transactions, especially for SMEs.

**Action:**

6.1 The Commission will establish for 3 years a European multi-stakeholder e-invoicing forum, hereinafter 'the European E-invoicing Forum', composed of delegates from national fora and representatives of relevant European associations from the users’ community, CEN, the European Central Bank (ECB) and the Article 29 Data Protection Working Party. The European E-Invoicing Forum’s main tasks will be to assist the Commission in the following areas:

- monitor the development of the e-invoicing market and the e-invoicing adoption level in industry and services sectors across Member States
- bring about an exchange of experience and good practice that facilitates the emergence of inter-operable e-invoicing solutions

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– point out problems encountered, in particular as regards cross-border transactions, and propose appropriate solutions

– support and monitor work leading to the adoption of a e-invoice standard data model

6.2 The Commission and all the other EU institutions should lead by example by implementing e-invoicing for their own public procurement purposes. In particular, the Commission will pursue the roll-out of the e-Prior project.

6.3 In 2011, the Commission will work towards better statistical monitoring of e-invoicing adoption.

6. CONCLUSION

The mass adoption of e-invoicing is expected to bring benefits to the EU as a whole and to contribute to its competitiveness. Outside the EU, the market penetration of e-invoicing is growing substantially and it is critical that the EU is not lagging behind these developments.

Member States and stakeholders are invited to endorse the proposed key priorities and actions to achieve the objective of mass adoption of e-invoicing. The Commission will monitor closely all actions and the uptake of e-invoicing and will, by end of 2013, present a progress report to the Council and the European Parliament. In case the progress report shows unsatisfactory progress of e-invoicing adoption and ongoing fragmentation, further actions and recommendations could be taken to address those areas that are preventing mass adoption.

The deployment of e-invoicing by setting-up governance structures such as the National Fora and the European Multi-Stakeholder Forum should help to build a consistent EU approach on e-invoicing and facilitate the emergence of an interoperable pan-European e-invoicing environment.