

# Final Report of the Expert Group on e-Invoicing



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DG Internal Market and Services  
DG Enterprise and Industry



**Disclaimer**

All members of the Expert Group contributed as independent experts not representing their governments or organisations. The views expressed in this report are the views of the Expert Group and do not necessarily reflect the views of the European Commission or of the states and the organisations for which the members of the group work

## Preface

Europe is facing major challenges in the coming years as its enterprises and public sector need to become both significantly more productive and environmentally friendly. These needs are accentuated by the relative decline of population of working age and at the same time the growing demand for human resources in health and care sectors. It is more than obvious that very concrete, determined and widely impacting efforts have to be initiated to improve the competitiveness of European economies.

Many studies have pointed out that the digitalization and automation of administrative processes hold much, if not most, of the imminent productivity improvement potential. Migration to electronic structured invoicing is the most important step we can take in this direction – both as productivity and sustainability enhancers and as a key enabler for unification and automation in procurement, payment, tax, accounting processes and audits.

The work of the Expert Group and general market developments have convinced us that the preconditions for a determined and concerted effort are in place. This should be done in such a way that the Single Market is furthered and the adoption of the Single Euro Payments Area is supported. Further unification steps should be taken fast as processes otherwise will become fragmented and very difficult for small and medium-sized enterprises to handle.

The Expert Group started its work in early 2008 and has convened for a total of 24 days of physical as well as countless telephone meetings. Every meeting has increased the understanding of the importance of e-invoicing and created alignment towards the recommendations being made in this report. The report has been adopted by consensus of all Expert Group members with the exception of one dissenting opinion<sup>1</sup>. The recommendations of the report aim at being as clear and concrete as possible. All stakeholders should now do their part to build on this base.

Nevertheless it is clear, that the implementation of these recommendations and the fast migration to e-invoicing requires firm EU-level leadership. The recommended next step is that the Commission establishes an EU-level Multi Stakeholder Forum to promote the implementation of the recommendations, guide standardization efforts and champion the further development of e-invoicing into a Single Market practice. Similar bodies should be established on national level and be a key contributor to the EU-level forum.

I want to thank all Expert Group members, external experts and supporters from the Commission for so much hard work and their contribution to the good results of our collaboration.

We offer this Final Report to the European Commission and all other interested parties, and thank the Commission for giving us the opportunity to make this contribution.

Bo Harald  
Chair

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<sup>1</sup> See Annex 2 for a summary of the opinion of the dissenting Expert Group member.

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## Executive Summary

This report of the European Commission Expert Group on e-invoicing proposes the European Electronic Invoicing Framework (EEIF) as called for in the Terms of Reference created by the European Commission when the Group was established in late 2007. The EEIF is expected to establish a common conceptual structure, including business requirements and standard(s), and propose solutions supporting the provision of e-invoicing services in an open and interoperable manner across Europe.

The Expert Group<sup>2</sup> has concluded that it makes sense to define the EEIF as this Final Report containing as it does a set of actionable recommendations and proposals, for which the support of all interested parties should be sought. It is organised as a series of layers, which all interrelate on a coherent basis. It is not itself a formal scheme or contractual framework to which entities or persons are expected to formally adhere. The EEIF however, is a set of coherent recommendations designed to promote the uptake of e-invoicing and which requires a response by identified stakeholders.

The EEIF contains the elements identified in the headings below:

- An introduction and vision
- An overall conceptual structure for the EEIF
- Business requirements for all segments
- Legal and regulatory proposals
- Guidance recommendations for interoperability
- Content standards recommendations
- Organizational proposals for implementation
- A number of annexes including:
  - Code of Practice recommended by the Expert Group
  - Guidelines for small and medium-sized enterprises (SMEs)
  - a draft Communications Plan
  - note on SEPA
  - Minimum Core Data Set for an invoice
  - Terms of Reference for the Expert Group
  - summary of a dissenting expert opinion
  - Glossary

This report is addressed to the European Commission, the Member States, including their tax authorities, and a wide range of other stakeholders, including trading parties, their service and solution providers, professional advisers and standardisation organisations. The report has a focus on the needs of SMEs and all those who support, advise and provide services to such enterprises. All are urged to take full account of the EEIF in order to promote mass adoption of e-invoicing.

E-invoicing has great potential and the first chapter records that there are many instances where good progress has already been made by enterprises and the public sector as they have adopted e-invoicing as an integral part of their business processes. While e-Invoicing is already an accepted and rapidly growing practice, there are, however, a number of barriers standing in the way of wider adoption especially by smaller businesses and particularly when it comes to intra-European e-invoicing. The key benefits of e-invoicing include enhanced competitiveness, the potential for cost savings, improved cash flow, environmental benefits,

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<sup>2</sup> See Annex 2 for a summary of the opinion of the dissenting Expert Group member.

more efficient supply chains, the liberation of resources for more productive work, and support for the development of the Single Market. These benefits are very substantial.

The EEIF sets out a vision for the future European e-invoicing environment and presents a target picture as an objective for all stakeholders:

- Within five to eight years structured e-invoicing will become the predominant invoicing method throughout Europe. All sectors and market segments will be fully engaged.
- The legal and tax environment for the conduct of e-invoicing will have been harmonized across all Member States and trading parties will have access to clear, easy-to-use and unambiguous guidance as to achieving compliance. Electronic invoices will be treated on an equal basis with traditional paper-based invoices.
- Trading parties will have a wide choice of solutions and services to support e-invoicing, which may be conducted on a bilateral basis directly between counterparties, or through service providers of various kinds. Trading parties will be able to conduct structured e-invoicing in a highly convenient and secure manner.
- Standards for invoicing and related processes will have been widely adopted; in particular the UN/CEFACT Cross-Industry Invoice (CII) v.2 will have been implemented by the majority of trading parties. Other standards and formats will remain in use and appropriate facilities for format conversion will be readily accessible.
- European enterprises will have made further substantial investments in cost efficient procurement, payments and accounting processes and the supporting ERP (Enterprise Resource Planning) systems and services. Such processes will require minimal manual intervention, and. ERP systems will be fully capable of generating e-invoices both for direct transmission between trading parties and for service provider processing.
- End-users and SMEs in particular will be using low-cost and user-friendly solutions and services that can be easily accessed and integrated with internal systems as well as being interoperable with external systems. The absence of IT skills and resources will not act as a roadblock to e-invoicing adoption. Users will be able to reuse investments and business habits to the maximum degree possible.
- E-invoicing will have acted as a spur to the dematerialization and digitalization of other business documents and processes and to the reduction of administrative burdens on businesses. The ecosystem will be open and capable of maximum flexibility and evolution supporting both European enterprises and linkages to global supply chains.

To achieve this vision, implementation challenges will need to be tackled and overcome and are further described in Chapter 1 of this document. Note is taken of the European Commission Action Programme for Reducing the Administrative Burdens in the EU and it is clear that e-invoicing will be a key enabler and make a significant contribution in this direction.

The following sets out a number of key recommendations by the Expert Group (EG) to achieve this vision.

**Recommendation 1:**

**The EG recommends meeting the needs of SMEs as a priority focus, by concentrating on a number of specific business requirements**

**Recommendation 2:**

**The EG recommends 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**

**Recommendation 3:**

**The EG recommends the creation of an e-invoicing eco-system that provides maximum interoperability and reach**

**Recommendation 4:**

**The EG recommends that all actors within both the private and public sector adopt a common invoice content standard and data model – the UNCEFACT Cross-Industry Invoice (CII) v.2**

**Recommendation 5:**

**The EG recommends the establishment of an organisational process for implementation of the EEIF at Member State and EU level**

**Recommendation 6:**

**The EG recommends the wide communication of the key messages of this report**

Each of these recommendations entails a number of sub-recommendations which are listed in the remainder of the executive summary. Detailed descriptions of all recommendations incl. sub-recommendations can be found in the respective chapters of the report.

**Recommendation 1 (details in Chapter 3):**

**The EG recommends meeting the needs of SMEs as a priority focus, by concentrating on the following list of business requirements**

**R1.1:** The EG recommends the use of a common invoice standard which serves the needs of the invoicing process and also supports the entire physical and financial supply chain process;

**R1.2:** The EG recommends that e-Invoicing should enable SMEs to create savings in time and money through a favourable cost/benefit equation and that all e-Invoicing solutions and tools should be easy to use;

**R1.3:** The EG recommends the harmonisation of and the provision of clarity for all legal and compliance requirements



**R1.4:** The EG recommends to widely communicate and share good practices and to provide wide education and training programmes;

**R1.5:** The EG recommends to develop and maintain a competitive and trusted market place for services and solutions and assure trustworthiness and data protection.

Areas for improvement have been identified in each case and a detailed set of SME guidelines are provided as an annex to the report.

**Responsible for Recommendation 1:** All market participants supported by public authorities, based on a mindset that emphasises the virtuous circle benefits to the wider economy and the green agenda, as well as the benefits to individual trading parties.

This focus on SMEs should be adopted immediately and remain a continuous feature of all stakeholder activity.

#### **Recommendation 2 (details in Chapter 4):**

**The EG recommends 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 key components of this recommendation are:

**R2.1:** The EG recommends that equality of treatment is defined as follows: it should be as easy to issue, send and receive electronic invoices as it is with paper invoices. No legislative or other requirements should be imposed on electronic invoices above those that exist for paper invoices today.

**R2.2:** The EG recommends that all Member States adopt the Commission's January 2009 proposal for a new VAT Directive (COM(2009) 21 final) and transpose it into national legislation. In particular the provisions of Articles 232–237 of the current Directive on the Common System of Value Added Tax (2006/112/EC) should be removed so as to shift from technology based requirements to requirements based on equal treatment, technology neutrality and internal business process controls.

**R2.3:** The EG recommends that the European Commission supports the implementation of the Expert Group's Code of Practice based on 11 core principles by means of a European Commission Recommendation, which should also be endorsed by all Member States. When the above mentioned VAT directive is adopted, the European Commission Recommendation will provide complementary support and continuing guidance to all stakeholders.

**R2.4:** The EG recommends that the proposed European Commission Recommendation should be implemented by all stakeholders in the e-Invoicing environment, including trading parties, tax authorities and service providers.

**R2.5:** The EG recommends that in the short term, pending the adoption of the new VAT Directive, those Member States who have not yet done so, should implement the option of 'other means' as provided for in the current VAT directive (Directive 2006/112/EC) so as to enable the practical implementation of the Expert Group's Code of Practice.

**R2.6:** The EG recommends that all above recommendations should be implemented in such a way as that the investments already made by trading parties in their existing e-invoicing solutions are safeguarded.

**R2.7:** The EG recommends that, regardless of the way in which the legal framework evolves, absolute clarity in the specification of legal requirements should be provided, so as to give legal certainty to trading parties and all market participants. This clarity needs to cover the provisions of actual legislation, its interpretation, the practices of all tax authorities and the way legal requirements are communicated throughout the market.

**Responsible for Recommendation 2:** The European Commission and the Member States of the European Union to adopt the recommendations by end-2010 leading thereafter to the appropriate implementation.

### **Recommendation 3 (details in Chapter 5):**

**The EG recommends the creation of an e-invoicing eco-system that provides maximum interoperability and reach**

The following Guidance Recommendations for Interoperability are recommended for the use of all stakeholders:

**R3.1:** The EG recommends the consistent use of a terminology to describe and clarify the roles and responsibilities of actors;

**R3.2:** The EG recommends content standards that support the basic cross-industry e-invoicing business requirements;

**R3.3:** The EG recommends the use of common, non-proprietary European and international information technology standards;

**R3.4:** The EG recommends minimum business and technical requirements for connectivity and messaging;

**R3.5:** The EG recommends the development of an interoperable electronic addressing and routing process;

**R3.6:** The EG recommends the development and deployment of a variety of accepted business and implementation models;

**R3.7:** The EG recommends the use of well constructed good practice guidelines as self-assessment tools on a voluntary basis;

**R3.8:** The EG makes specific additional recommendations regarding bilateral scenarios, three-corner and four-corner network models;

**R3.9:** The EG recommends recognition of the importance of establishing sound and enforceable agreements;

**R3.10:** The EG recommends to provide interoperability within and between networks and network-based solutions.

The goal of interoperability is to allow information to be presented in a consistent manner between business systems, regardless of technology, application or platform and ensure that trading parties can effectively reach their counterparts.

In a network activity, interoperability can only be created through an appropriate mix of collaboration and competition. The required collaboration should focus on creating a layer of commonly accepted definitions, practices, standards and processes, which serve as the basis on which market players can effectively compete.

In the opinion of the Expert Group there are promising developments and there is no generalised market failure in the development of the required level of interoperability. However, market developments should be monitored and, where required, further support given for the development of a healthy and vibrant eco-system.

**Responsibility for Recommendation 3:** The multi-stakeholder e-Invoicing Forum recommended below to operate at European level should take the lead, supported by CEN, the service and solution provider community, as well as community projects, associations and user groups. Progress should be continuously monitored over the next two year period in the expectation that tangible progress will have been achieved by end-2011.

**Recommendation 4 (details in Chapter 6):**

**The EG recommends that all actors within both the private and public sector adopt a common invoice content standard and data model – the UNCEFACT Cross-Industry Invoice (CII) v.2**

For the purpose of the following recommendations, the Expert Group defines e-Invoice content standards as being 'the actual data set that constitutes the e-Invoice message and business header'. The long-term e-Invoice landscape needs to contain e-Invoice content standards, but in fewer formats and expressions than exist today as this is a barrier for mass adoption.

In this context, the makes the following recommendations:

**R4.1:** The EG recommends that the UN/CEFACT Cross-Industry Invoice (CII) v.2 is adopted by all actors within both the private and public sector, as the common reference semantic data model upon which future e-invoice content standard solutions are based. CII v.2 is currently the only international data model that covers the requirements of different industries and sectors. It provides the required connection between the various supply chain messages and is integrated with financial services requirements. UN/CEFACT products and standards are recognised and accepted globally.

**R4.2:** The EG recommends that structured invoices comply with this data model provided that the data elements required by the user are present in CII v.2.

**R4.3:** The EG recommends that trading parties, service and solution providers and especially ERP & application providers begin migration using the CII v.2 data model either within existing solutions or by converging on new ones.

**R4.4:** The EG recommends convergence in the area of syntax and methodology expression. This convergence will avoid standards fragmentation and unnecessary cost burdens. Whilst the ultimate goal should be the single syntactical format, it is clearly recognised that in the interim 2 or 3 mutually interoperable syntactical formats would foster mass adoption and provide support for the reference semantic data model.

**R4.5:** The EG recommends that UN/CEFACT and ISO, as global standards organisations, should continue to collaborate on the development and maintenance of the CII and implement the model in their own interoperable methodologies and data dictionaries to enable maximum integration of the procurement, invoicing, payment and reconciliation processes. This will continue to foster end-to-end STP and will support migration to SEPA. It will simplify message conversion, integration and communication. It will also help to minimise implementation costs for SMEs.

**R4.6:** The EG recommends inclusion of at least the proposed minimum core invoice data-set, based on the CII and described in Annex 7, in any e-invoicing solution.

**R4.7:** The EG recommends that users of e-invoice services should complement the recommended single semantic data model with standardised extensions in cases where this is needed by national regulations/requirements or due to industry specific requirements.

**R4.8:** The EG recommends that UN/CEFACT as the supplier of CII should deliver the mechanism to cater for such standardised extensions and recording of subsequent variant usage of the CII v.2 and to provide more detailed user guidance on the CII v.2.

**R4.9:** The EG recommends that the European user community should develop clear profiles and implementation guidelines based on common recommendations facilitated through CEN to support the use of e-invoicing and facilitate interoperability. These implementation guidelines should be made freely available and stored publicly. Until full standards convergence based on these implementation guidelines occurs, the use of choreography specifications and format conversion tools will continue to facilitate mapping between standards.

**R4.10:** The EG recommends that users of the referenced semantic data model should engage actively in the maintenance and further development of CII.

**R4.11:** The EG recommends that UN/CEFACT completes the necessary components to support implementation of the CII v.2 standard as soon as possible so that the whole package can be launched by the end of 2010.

**Responsible for Recommendation 4:** As stated above, UN/CEFACT and ISO, as global standards organisations should continue to collaborate on the development and maintenance of the CII. CEN should develop the required set of implementation guidelines as soon as possible and no later than September 2010. All user groups adopt or are helped to adopt the standard, and all service and solution providers (including ERP vendors) are expected to implement in all applications.

#### **Recommendation 5 (details in Chapter 7):**

**The EG recommends the establishment of an organisational process for implementation of the EEIF at Member State and EU level**

The Expert Group makes concrete proposals as to how the implementation of the EEIF should be organised. The implementation of these recommendations will require determined efforts by all stakeholders in the coming period.

Two clusters of activities need to be led and managed, being development and advocacy on the one hand and standards on the other:

### **Development and Advocacy**

A first cluster of required activities involves the continued development and advocacy of e-Invoicing among all interested parties and stakeholder groups. The strong leadership of the European Commission and certain Member States now needs to be complemented by activity at the level of all Member States. Two levels of activity are recommended:

**R5.1:** The EG recommends Member States to set up national e-Invoicing bodies.

**R5.1.1:** The EG recommends that each Member State should create or mobilize a new or an existing body to act as the champion and advocate for e-invoicing in their environment. Such bodies could be created or mobilised as appropriate by government, the private sector or a mixture of the two.

**R5.1.2:** The EG recommends that the composition of such bodies should be balanced and represent a cross-section of interested stakeholders. It is essential that advocacy and development activities are now centred in the Member States to ensure proper engagement and integration into the commercial, taxation and procurement practices of each country environment. These bodies could be mobilised immediately.

**R5.2:** The EG recommends to set up a pan-European e-Invoicing Forum.

**R5.2.1:** The EG recommends that there should be a multi-stakeholder e-Invoicing Forum at European level, made up of 1 or 2 representatives of the Member State bodies meeting quarterly (or as required more frequently).

**R5.2.2:** The EG recommends that ten further seats should be added for experts, constituencies missing from the national selection processes, pan-European associations, and the Commission etc. The European Commission should ensure a balanced composition of interested stakeholders.

**R5.2.3:** The EG recommends that the body should elect a Chair and a Steering Committee and be supported by a Secretariat provided by the European Commission, who should take a pro-active role. It should have the necessary resources to undertake wide communication and maintain an active website.

**R5.2.4:** The EG recommends that the Commission should continue to drive the development by establishing the Forum for at least an initial period of two years as no market driven body able to take on this task has been identified.

**R5.2.5:** The EG recommends that the body should have the following concrete tasks in full liaison with the national e-Invoicing bodies:

- Support and monitor adoption of the Invoicing Directive and other regulatory simplification and harmonization recommendations;
- Maintain and further develop the Code of Practice;
- Support and monitor adoption of the CII and give continuing guidance to relevant standardization bodies for further development of standards;
- Support and monitor roll-out and observance of the Guidance Recommendations for Interoperability;
- Monitor adoption rates of e-invoicing and identify and share best practices;
- Identify and promote EU-wide action harmonization programs – such as automation of procurement, accounting and financing enhancements etc. – building on the e-invoicing platform;
- Undertake communication and promotion, regulatory relations, and stakeholder consultation and take responsibility for the proposed communications plan described in the next recommendation;
- Provide an environment for the progressive maintenance and further development of the European e-Invoicing Framework, as required.

## **Standards**

For standards, the recommendations are as follows:

**R5.3:** The EG recommends to take forward the CII v.2 content standard: including the preparation of a set of European implementation guidelines to be completed as soon as possible and no later than September 2010;

**R5.4:** The EG recommends to further develop the Guidance recommendations for interoperability including questions relating to addressing and identifiers;

**R5.5:** The EG recommends to develop reference implementation models and best practices for standards implementation.

**R5.6:** The EG recommends to formulate and channel specific requirements for the further development of the UN/CEFACT CII v.2 data model.

**R5.7:** The EG recommends to continue the current CEN Workshop and enhance its activities to take account of the Expert Group recommendations.

**Responsible for Recommendation 5:** The European Commission and Member States to establish the proposed forums by September 2010 with the engagement of all stakeholder groups. CEN is to facilitate the continuation of its Workshop in synchronisation with these activities.

## **Recommendation 6 (details in Annex 5):**

### **The EG recommends the wide communication of the key messages of this report**

**R6.1:** The EG recommends that the adoption of the EEIF should be supported by a soundly constructed and well-executed communications plan. A proposal is set out as Annex 5.

**R6.2:** The EG recommends that the key objectives of the communication plan should be the following:

- to ensure that e-invoicing moves towards the top of the agenda, in view of its huge potential benefits to the economy and society;
- to promote the EEIF and support its adoption by all stakeholders as appropriate to their situation;
- to create consensus, drive convergence, and reduce duplication;
- to ensure market adoption of e-invoicing by SMEs as well as large corporates and public administrations;
- to receive feedback in order to continuously improve the e-invoicing environment.

In support of these objectives, the following activities and approaches are recommended:

**R6.3:** The EG recommends to widely disseminate the EEIF, commencing with its publication and followed up by an open conference to take place during the first half of 2010 as part of a consultation process.

**R6.4:** The EG recommends that communication should be tailored towards 'multipliers and enablers' such as EU Member States, service providers and other influencers as well as towards end-users.

**R6.5:** The EG recommends focussing on communicating elements which directly drive and accelerate take-up of compliant electronic invoicing, avoiding legal (mis-)interpretation.

**R6.6:** The EG recommends that all communication efforts should be consistent and sustained over time and actively crafted for the various target audiences.

**Responsible for Recommendation 6:** The European Commission, Member States, all interested stakeholders and (in the future) the European e-Invoicing Forum and the equivalent forums at Member State level. These activities should commence immediately following publication of this report.

## **Conclusion**

It is important for all trading parties to recognize that e-Invoicing is working and legally accepted today. Already today multiple VAT compliant e-Invoicing solutions are available for trading parties.

However, there are a number of hurdles which represent major challenges for cross-border electronic invoicing and for an accelerated uptake of e-Invoicing, especially among SMEs.

The Expert Group is convinced that the above recommendations and the provisions of the EEIF meet the needs of all stakeholders and in particular SMEs.

# 1. Introduction and Vision

## 1.1. *Fundamental reasons for migration to e-invoicing*

Migration to structured electronic invoicing has been on the agenda of European Institutions and a number of Member States for some years and is receiving increasing policy encouragement.

Electronic Invoicing has been defined as the sending or making available of an invoice and its subsequent processing and storage, wholly by electronic means. The e-invoicing process needs to employ fully structured data, which is capable of being automatically processed by senders, receivers and other involved parties. The transmission of an electronic image of an invoice document, whilst common, is not strictly electronic invoicing.

Invoicing forms part of the trade process between trading parties and is one of a number of steps, which make-up the physical and financial supply chain and the related information flows. Many activities are in the course of implementation to facilitate the automation of these processes in the interests of efficiency and productivity. The e-invoice is a pivotal document, whose automation will generate savings in its own right, as well as contributing to many other benefits along the supply chain.

There are fundamental reasons for a widespread and rapid migration to electronic invoicing:

1. The digitalization of business processes in general and e-invoicing in particular is a prime opportunity to improve the competitiveness of European enterprises and raise productivity and customer satisfaction. This can apply to both private and public sector organizations, the latter being able to reduce fiscal pressures and promote efficiency throughout the economy.
2. Migration to e-invoicing creates substantial cost savings through a reduction in manual work, material and transport costs. In particular a full integration of procurement processes, invoicing and payments along the physical and financial supply chain is an essential driver for enterprise cost savings. Additional cost savings arise in fraud and loss prevention and auditing costs for trading parties and tax authorities.
3. E-invoicing can enable accelerated payments, improve cash flow and reduce credit losses with benefits for large and smaller enterprises alike. It can also form the basis of automated financing facilities which could benefit credit availability to SMEs. As a pivotal process e-invoicing acts as a precursor to higher levels of automation in payment and accounting practices within large organisations who then attract smaller enterprises forming part of their supply chain to take advantage of the same opportunities.
4. Electronic processes enable the transition of the workforce towards more productive work in the face of an expected decline in population of working age. E-invoicing can act as a learning and habit forming vehicle leading to further adoption of electronic practices throughout enterprise activities.
5. The adoption of e-invoicing will support the development of the Single Market and the Lisbon Agenda in a number of ways. For example it will support the development of the Single Euro Payment Area, contribute to skills transfer between Member States and promote greater integration and harmonization of practices between European enterprises.



6. E-invoicing makes a direct contribution to saving the environment and generating carbon savings.

These fundamental drivers could be considered as powerful arguments in their own right, but taken together it is clear that the rapid mass adoption of e-Invoicing should be of the highest priority for European policy makers, enterprises and solution and service providers.

## **1.2. Current progress<sup>3</sup>**

E-Invoicing is growing fast both at a national and global level. For example Billentis estimates that e-Invoicing is achieving growth levels in 2009 of the order of 40 % across Europe as a whole. Nevertheless this is from a low starting point and mass adoption, especially among SMEs, has not yet been reached. Growth rates could further be accelerated if all existing hurdles for e-invoicing would be removed. Country penetration varies across the European Union from less than 3 % of invoices being in electronic form to over 30 %. The number of enterprises employing e-Invoicing in one form or another is estimated to have reached 1 million out of a total of 23 million in Europe as a whole.

Many enterprises have equipped themselves to undertake e-invoicing either directly with their counterparties, or through the use of a service provider. Large corporate enterprises in particular have rolled out initiatives often in partnership with a service provider to automate their procurement and accounts payable management and attract their suppliers into these new processes.

Over 400 e-invoicing service providers are active in Europe as are a number of industry platforms for supply chain integration. Service Providers are increasingly cooperating through interoperability agreements.

In the Nordic area and a number of other Member States banking led initiatives have complemented those of other service providers, especially to support SME and consumer services through electronic (Internet) banking. The European banking industry is examining the feasibility of a pan-European e-invoicing network.

The public sector is playing a leading role in a number of Member States.

In Spain e-invoicing to the public administrations will be mandatory for all suppliers, irrespective of size or turnover, by November 2010. For this purpose, a national structured format called 'Facturae' has been defined in cooperation with the Spanish Banking Association.

The Finnish Government has announced that it will only accept e-invoices from 1 January 2010. All government agencies will be ready to send e-invoices at the latest by end of 2010. It is proposed to re-use generally accepted market solutions for e-invoicing (standards, networks and service providers). The programme forms part of the Finnish government's SEPA migration plan.

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<sup>3</sup> For recent information about current E-invoicing activities across Europe:  
E-invoicing 2008 published by the Euro Banking Association and Innopay ([www.abe-eba.eu](http://www.abe-eba.eu); [www.innopay.com](http://www.innopay.com));  
Electronic Invoicing as a 'keystone' in the collaboration between companies, banks and PA by the Politecnico di Milano (<http://131.175.28.103/web/einvoice/einvoice.htm>);  
Study on the Invoicing Directive by PriceWaterhouseCoopers ([http://ec.europa.eu/taxation\\_customs/taxation/vat/traders/invoicing\\_rules/index\\_en.htm](http://ec.europa.eu/taxation_customs/taxation/vat/traders/invoicing_rules/index_en.htm));  
The Billentis website ([www.billentis.com](http://www.billentis.com)) provides useful facts, figures and analysis;  
The Gateway of CEN on e-invoicing ([www.e-invoice-gateway.net](http://www.e-invoice-gateway.net)).

The Swedish government decided to fully enable e-invoicing for public procurement as from 1 July 2008.

In Italy, e-invoicing for the supply of goods and services to the public sector has started to become mandatory under a phased timetable.

The Danish government and its suppliers have already acquired substantial experience in the conduct of e-invoicing, with savings to society of upwards of EUR 100 million annually already achieved. Paper invoicing for trading with the public sector has been abolished since 2005.

Other Member State governments are working on similar e-invoicing initiatives, often led by autonomous agencies such as health service providers. The European Commission has launched the PEPPOL initiative (Pan-European Public Procurement On-Line) in which public administrations of multiple Member States participate to promote electronic communication between enterprises and public authorities. PEPPOL includes a work stream on electronic invoicing which aims to enable economic operators, with special attention to SMEs, in any European country to send invoices electronically to any European awarding entity.

In addition, the European Commission is implementing a pilot project to enable electronic invoicing within its own purchasing activities.

In overall terms, e-Invoicing has made progress, but more can and should be done in order to achieve mass adoption.

### **1.3. *The vision and target picture***

Looking forward to the time when this proposed European e-Invoicing Framework and all the other initiatives encouraging the wide adoption of e-invoicing have taken effect, it is reasonable to foresee the following picture:

- Within five to eight years at the latest structured e-invoicing will become the predominant invoicing method throughout Europe and apply to both domestic and intra-Member State business flows. All sectors and market segments, including the very important SME sector, will be fully engaged, including consumers, enterprises of all sizes and the public sector. In many countries and sectors the transition will have occurred much sooner often stimulated by public administrations.
- The legal and tax environment for the conduct of e-invoicing will be harmonized across all Member States and trading parties will have access to clear and unambiguous guidance as to achieving compliance with applicable regulations. Electronic invoices will be treated on an equal basis with traditional paper-based invoices.
- Trading parties will have a wide choice of solutions and services to support e-invoicing, which may be conducted on a bilateral basis directly between counterparties or through service providers of various kinds. Trading parties will be able to reach each other in order to conduct structured e-invoicing in a convenient and secure manner with full interoperability.
- Standards for invoicing and related processes will have been widely adopted; in particular the UN/CEFACT Cross-Industry Invoice (CII) standard will have been implemented by the majority of trading parties within both the private and public sectors. Other standards and formats will undoubtedly be in use and appropriate facilities for format conversion will be readily accessible.

- Much greater levels of interoperability between actors will have been achieved independent of any single infrastructure or technology and involving levels of interoperability such as business, application and infrastructural layers.
- European enterprises will have made further investments in cost efficient procurement, payments and accounting processes and the supporting ERP (Enterprise Resource Planning) systems and services. Such processes will require minimal manual intervention and transaction references will be carried end-to-end to support control and the production of useful and timely management information. ERP systems are fully capable of generating e-Invoices both for direct transmission between trading parties and for service provider processing.
- End-users and SMEs in particular will be using low-cost and user-friendly solutions and external services that can be easily accessed and integrated with internal systems when such are used. Limitations of IT resources and expertise will not represent a roadblock to e-invoicing adoption. Users will be able to reuse investments and business habits to the maximum degree possible.
- E-invoicing will have acted as a spur to the dematerialization and digitalization of other business documents and processes and to the reduction of administrative burdens on businesses. The ecosystem will be open and capable of maximum flexibility and evolution supporting both European enterprises and linkages to global supply chains.

This European Electronic e-Invoicing Framework (EEIF) is based on this common vision. The primary objective of the EEIF is to encourage and facilitate European mass-market adoption and the needs of SMEs in particular are given the right priority.

There is a strong emphasis on promoting certainty and quality in the key areas of legal and fiscal compliance, standardization, delivery systems, inter-operability and implementation planning, all building on the core elements and principles proposed in this document.

It will take time to realise these targets on a European-wide scale. Progress is best achieved by moving forward locally in incremental steps, building on best practice and supported by an overall European framework, the requisite political support and clear communication and promotion activities.

#### **1.4. Implementation challenges**

In order to implement the vision set out above the following efforts are required:

1. All stakeholders should continue to measure and communicate the full benefits – both for society at large and for individual enterprises and work together to achieve concrete results.
2. Solution and service providers should deliver the right products and tools involving little or no IT expertise or investments for smaller enterprises.
3. ERP system vendors and service providers delivering solutions for larger enterprises should propagate standards and maximize interoperability so as to give benefits to both the larger enterprises themselves and other involved parties, whilst making available appropriate format conversion facilities and the means for compliance with legal and accounting standards.

4. Networks and network based solutions should be encouraged to interoperate through the adoption of open concepts and standards including the CII data model and an interoperable addressing process, so as to make it easy and cost effective to connect to a service, easily reach all trading parties throughout Europe, and, as required, switch service or solution provider.
5. Where trading parties conduct e-invoicing and other automated processes between themselves on a bilateral basis, they should nevertheless still use commonly used standards and components.
6. Invoice receivers especially among larger enterprises and in the public sector should establish the requirement that structured invoices will become a precondition for their procurement policy and this should be widely communicated.
7. Transparent pricing and cost recovery of traditional and new invoicing methods should be adopted.
8. It should be clearly communicated that converting documents and data to and from paper or unstructured PDF formats, as opposed to a structured data set, will entail the loss of value and the creation of unaffordable processing costs. While unstructured electronic invoices can be a first step, the true benefits come with integrated and structured electronic invoice processes.
9. It would be important that the efforts of the public and the private sector are aligned through a strong partnership approach.
10. It is important to ensure rapid progress in e-Invoicing adoption and to avoid fragmentation through the adoption of generic solutions based on widely recognised standards.

It has to be recognized that even after removing legal and regulatory obstacles, establishing improved interoperability and introducing common standards, progress can be accelerated only if all stakeholders – not least public policymakers – make substantial efforts towards mass adoption, especially among SMEs. Note is taken of the European Commission *Action Programme for Reducing the Administrative Burdens in the EU* and it is clear that e-invoicing will be a key enabler and make a significant contribution in this direction<sup>4</sup>.

It is important for all trading parties to recognize that e-Invoicing is working and legally accepted today. Already today multiple VAT compliant e-Invoicing solutions are available for trading parties.

However, there are a number of hurdles which represent major challenges for cross-border electronic invoicing and for an accelerated uptake of e-Invoicing, especially among SMEs.

A major communication effort will be required to promote e-invoicing, especially among SMEs. A communication plan is attached in Annex 5 designed to bring e-invoicing to the 'top of the agenda' using a multiplier channel approach, which is consistent, sustained and positive, focussing on the benefits rather than the perceived problems.

The Expert Group recommends the adoption by all involved parties of the principles and recommendations of the European e-Invoicing Framework as set out in this report.

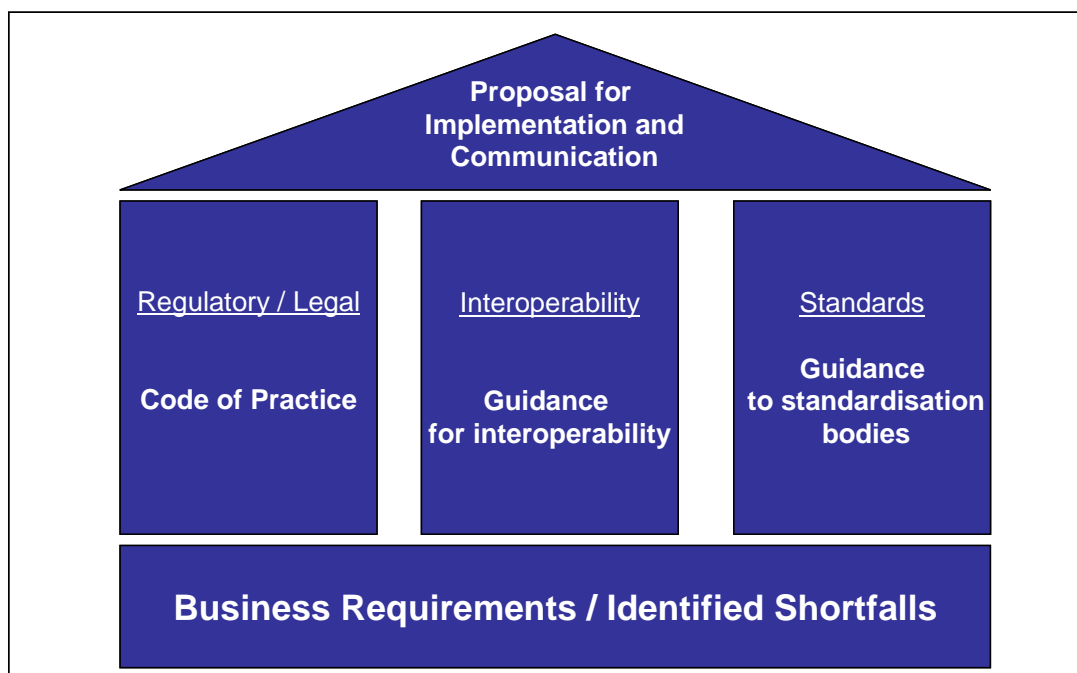
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<sup>4</sup> More information on this topic at [http://ec.europa.eu/enterprise/policies/better-regulation/administrative-burdens/index\\_en.htm](http://ec.europa.eu/enterprise/policies/better-regulation/administrative-burdens/index_en.htm).

## 2. Definition and scope of the European e-Invoicing Framework

In the Commission Decision dated 31 October 2007 setting out the tasks, membership and procedures for the Expert Group on e-Invoicing, the following reference is made to the proposed 'Framework' to be delivered by the Group:

**"The European e-Invoicing Framework is to establish a common conceptual structure, including business requirements and standard(s), and propose solutions supporting the provision of e-Invoicing services in an open and interoperable manner across Europe."**



**Figure 1:** The content of the European e-invoicing framework

The European e-Invoicing Framework consists of a number of building blocks (see Figure 1) notably the recommended Code of Practice for legal and fiscal compliance to accompany the Commission proposals for a revised VAT Directive, a set of guidance recommendations for interoperability, and content standards guidance, which includes the definition and use of data elements to be used in the procurement, invoicing and payment process (identified in the Figure I above). The framework is based a coherent set of business requirements with a particular focus on SMEs and includes proposals for implementation and improved communication to promote accelerated market adoption of electronic invoicing.

It was clearly important to develop a definition and clarify the scope of this key deliverable, so as to set expectations and ensure a common approach to its completion among members of the group.

During the first meetings of the Expert Group, the term 'Framework' has been used in different ways to convey different conceptions of what it might be e.g.

- Taking the above definition, it could be the final encapsulation or summary of the recommendations of the Expert Group within a conceptual structure together with a set of proposals.
- It could be a vision or model setting out a number of layers of elements that need to be defined and which all mutually support each other.
- It could be an 'eco-system' in which players come together both in cooperation and in competition to deliver solutions.
- It could be a declaration or a set of policy provisions to which industry players sign-up or adhere.
- Some have referred to it as broadly synonymous with a Network Model.

Having considered these various concepts and ideas, it was decided to take the approach set out in the next paragraph.

After due reflection and consideration the Expert Group concluded that the EEIF should take the following form:

- The Framework will be primarily a set of actionable recommendations and proposals, for which the support of all interested parties will be sought.
- It is organised as a series of layers that need to be addressed and which all interrelate on a coherent basis.
- It is not itself a formal Scheme or contractual framework for others to formally adhere to.
- It is however a set of strong recommendations and a call to action.
- It will include the elements identified and set out in the headings below:
  - An introduction and vision
  - An overall conceptual structure or vision for the Framework
  - Business requirements for all segments
  - Legal and regulatory proposals
  - Guidance recommendations for interoperability
  - Content standards recommendations
  - Organizational proposals for implementation

and a number of annexes:

- List of Expert Group Members and observers
- A Code of Practice for compliance in Europe
- SME Guidelines
- Recommendations for a communications plan
- The link between the Single Euro Payments Area and e-invoicing
- Minimum core invoice data set
- Terms of Reference of the European Commission Expert Group on e-Invoicing
- Glossary of terms

## 3. Business requirements

### 3.1. Introduction

Automation of the supply and payments chain requires integrated processes with business partners. The invoice is an integral part of this process chain.

The invoice is usually preceded by an order and/or a contract and followed by financial settlement. The whole process involves the exchange of orders and related information, as well as data related to delivery, invoicing and payment. In a successful e-invoicing environment, processing time, data quality and cost effectiveness would be improved. The stakeholders of e-Invoicing are many, mainly trading parties of all sizes, service providers of various kinds, and tax authorities.

Whilst the focus of the Expert Group relates to invoicing, other parallel European initiatives are aiming at improving the procurement and the payments environment.

Procurement process optimisation is mainly driven by the private sector, especially larger enterprises, but is strongly supported by current initiatives of the public sector at EU level, such as PEPPOL (Pan-European Public Procurement On-Line), European e-Government Services (IDABC initiative) and various Member State initiatives. These European public sector projects will be an important driver in accelerating efforts to implement electronic processes for procurement, as about 15 % of all orders originate from public sector. Indeed in a number of EU countries e-Invoicing has been declared mandatory for dealings with public administrations.

For payments, the Single Euro Payments Area (SEPA) will facilitate payments efficiency for payments made in Euro and improve straight through processing (STP) with respect to payment and reconciliation processes. As such as, it could act as an 'accelerator' for the uptake of e-Invoicing in Europe and vice-versa. Of course, making a payment is a distinct activity and any payment product may be used to settle a dematerialized invoice. It is not the objective of the European e-Invoicing Framework (EEIF) to promote any given payment method. It is however recommended that the use of SEPA compliant payment instruments be promoted for Euro payments in the interests of the Single Market. SEPA is described in more detail in Annex 6.

The EEIF primarily aims at accelerating the dematerialization of invoices. The main benefits of this dematerialization to enterprises include the avoidance of manual entry and intervention, capturing and maintaining accurate information in ERP systems and services, fast accounting reconciliation, prompt customer payments, high levels of security, better credit risk and financing management, and better customer service and perception.

It is a requirement that the benefits should be achievable, regardless of the location of the trading parties and invoice dematerialization should be equally feasible for a national transaction and a cross-border transaction within the EU (and the remaining EEA countries), as well as for global transactions involving business outside the EU.

The following business requirements have been gathered and developed with a priority focus on SMEs and their relationships with trading partners such as public authorities, large corporate enterprises and consumers. This is because SMEs will eventually need to be part of mass adoption as they work with each other and with larger organisations and their own customers. SME needs in terms of simple to use tools, payments and accounting automation, legal clarity and standards should be addressed.

The requirements of other market segments of course have been understood and fully recognized.

The key business requirements for widely used e-Invoicing are therefore as follows.

### **3.2. *The use of a common invoice standard which serves the needs of the invoicing process and also supports the entire supply chain process***

The main benefit of the exchange of structured e-invoices resides in the automatic reusability of the information contained in its data elements within the entire supply chain. This enables all involved parties to optimise their workflows if they use the same data structure.

This structure should be sufficiently flexible and rich so as to support integration with other elements of the supply chain. The latter includes the physical supply chain which involves the order, its process and delivery and the financial supply chain which involves the integration with the payment cycle and other important financial processes such as tax, accounting and audits.

In order to achieve this, the invoice has to be created in a structure, which is unambiguously intelligible. This information structure should become interoperable and able to work for all parties (business, public sector, consumers, and service providers).

A balance as to the mix of data elements that are included in the e-invoice must be found. As it is not possible to foresee all future data elements that may be required by current and future industries and applications, a flexible and extensible structure appears to be necessary – starting with a base 'minimum e-invoice data-set'.

The e-invoice should bring high automation rates for users and should have a compatible and standardised way of handling extensions and additional data.

The minimum e-invoice data-set should:

- be clearly defined as what minimum data requirements will constitute a valid VAT invoice based on a commonly respected data dictionary;
- be consistent and recognized in all countries and accommodate both domestic and cross-border transactions.

Buyers and suppliers must be able to add data specific to their industry or sector practices to the minimum invoice or as required under their contractual agreements, in accordance with standard rules and under clear implementation guidelines.

In the area of technical implementation, standards and best practices covering authenticity, encryption and data integrity should be adopted. Solutions should support buyers with or without an ERP application, and enable suppliers with or without an automated invoicing application to take part.



Preferably the e-invoice and/or e-invoicing data will be produced by the supplier's ERP-system and submitted to the buyer electronically. Given the fact that many SMEs do not yet have software to import and export structured invoice data, such SMEs require the means to issue and/or receive such data.

Based on the above, it should be recognized that the exclusive use of an electronic image of an invoice document, which does not contain structured data, capable of being automatically processed, does not offer the real benefits of e-invoicing.

### **Area requiring improvement particularly concerns the use of standards**

Well accepted global standards if embedded in e-Invoicing software will speed up development of standardised and low cost solutions for all players. Ideally, the market should converge towards a single, freely available, global e-invoicing standard that can be adopted by the public sector and private commerce. Software vendors should start producing pre-formatted e-Invoice templates and upgrade their software accordingly. That is the first step in getting to the 'easy to implement' stage.

### **3.3. *Saving money and time through a favourable cost/benefit and ease of use***

Cost benefit effectiveness means that the use of e-invoicing reduces the total cost for all participants compared with paper invoicing. Business process analysis has shown that reductions in processing costs are often higher on the side of the receiver of an invoice compared with the sender. For senders, however there are other kinds of benefit associated with cash flow acceleration and financing efficiency. Business models and their implementation should be designed so as to provide benefits to all participants (sender, receiver, service provider etc).

The implementation of e-invoicing solutions should provide a favourable return on investment. For SMEs, the investment in IT-infrastructure and IT-skills should have a low threshold and this requirement must be recognised by all service and solution providers and the trading partners of SMEs.

E-invoicing solutions need to be easy to use, search within, maintain, and implement, and must work well both through integration with internal systems and with the systems of trading partners; otherwise they will not be adopted widely by millions of companies and tens of millions of households. Ease of use is thus one further important business requirement beyond pure cost/benefit effectiveness.

### **Areas requiring improvement include better client software, efficient solutions and single point of contact with external parties**

- SMEs need access to simple e-Invoicing software that is able to import and export standardised invoice data and can be easily integrated with their accounting systems at an acceptable cost. This can be software already extracting and mapping data on the supplier or recipient side. It is also desirable that service providers and corporates promoting e-invoicing work towards creating an interoperable environment. This means, that the trading party requesting a switch to e-invoicing should consider the situation of the counterparty and offer a range of appropriate options, such as freely available software or easily accessible services.

- It is important that a trading party can use the offered solution to send/receive e-invoices to/from the maximum number of other trading parties.
- There needs to be an improvement in the availability of services and solutions for structured electronic invoices for small organisations. The large majority of SMEs are currently using or planning to use electronic images of invoices (such as simple PDF, scans, fax etc). While current market developments will allow to them to extract data from an invoice image, the availability of software solutions for structured e-invoicing is still absolutely key to e-Invoicing adoption by SMEs and for interoperability. Therefore, the software and ERP community needs to be involved and made aware of any new developments in the standards/formats area.

### **3.4. Harmonisation, simplification and clarity of legal requirements**

There should be a fundamentally harmonised and consistent application of a simplified set of legal requirements covering invoicing across the EU, based on equality of treatment of paper and electronic invoices. Please see Chapter 4 for recommendations with respect to the legal framework.

Users and service providers need clear laws and regulations that are easy to understand and which set out compliance requirements both in a domestic and EU-wide context. Contractual agreements for the usage of e-Invoicing services should be simple to understand from an SME perspective. Clarity is an overriding requirement, perhaps even more important than total harmonisation.

Each country should make its legal requirements publicly available on official websites, in order to provide clarity and reduce legal compliance costs. This information should be available in the national language and, ideally, in another commonly used EU business language.

The European Commission already provides a mapping tool, where interested parties can find detailed information about e-Invoicing related rules applicable in all EU Member states and the practical application required<sup>5</sup>.

Cross-border legal compliance is a critical issue for EU enterprises. Currently, legal responsibility and exposure falls entirely on trading parties. Therefore, users need to have certainty with respect to VAT compliance throughout the Single Market.

A consistent national implementation of the proposed new Invoicing Directive and any further evolution of this legislation is a pre-condition for the creation of a common legal framework across Europe. Member State governments should eliminate any national discrepancies with the harmonised provisions of European legislation, thereby removing the unnecessary complexity that is currently a major barrier for technical interoperability.

Archiving rules should take into account the existence of centralized IT infrastructures that may even be outside the EU. Integrity and accessibility of the archives need to be the focus, rather than location. Users need clarity as to what constitutes the 'original' invoice data-set and how to identify it. Tax authorities have a key role to play in this respect.

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<sup>5</sup> <https://globalvatonline.pwc.com/uk/tls/gvol2/gvol2.nsf/AllByCode/RJAI-7CHKUU?OpenDocument&nf&noback>

If trading parties voluntarily choose to use electronic signatures, greater standardisation in this field would be of value, enabling technical interoperability. Mutual recognition of Certification Authorities (CA) across the EU would also be valuable, making it possible for users of certificates from one Certificate Authority to apply them to all e-Invoices sent out to counterparties within EU Member States.

### **Areas requiring improvement include providing greater clarity and improved knowledge of legal and regulatory requirements**

- Legal complexity and lack of legal knowledge, especially among SMEs, has been identified as one of the major barriers to adoption. However, current market developments are addressing this key market issue. A number of measures and initiatives are under development and should be encouraged and properly funded.
- The European Commission has provided for a Central Repository where the various EU legislative requirements are described. This information needs to be constantly kept up to date, improved in range and quality and enhanced with further information about the critical issues for enterprises willing to switch to e-Invoicing.
- The current EC proposal for a Council Directive amending Directive 2006/112/EC<sup>6</sup> on the common system of value added tax as regards the rules on invoicing is fully in line with business requirements gathered by the Expert Group.
- Certain Member States have made available on their official websites all the required legal information to enable a switch to e-Invoicing. This should provide enterprises with a tool to create legal certainty and should be further encouraged.

### **3.5. *Communicating and sharing good practices***

All involved parties in the e-Invoicing process should have the means to share their experiences and good practices. This would encourage uptake, clear away uncertainties, and help improve control. EU Governments that have made e-Invoicing mandatory for public administrations should be the first movers in providing the necessary clarity and awareness to their citizens and enterprises. The European Commission should also receive up to date information on such procurement programmes from the Member States concerned and make it available on a central database or website.

A major market issue that is hampering e-Invoicing adoption is the lack of education among SMEs and also of tax authorities. Trying to find competent training on e-invoicing best practice/development/mapping/implementation, etc. – even at the level of basic concepts and terminology – is quite difficult and expensive.

Training for users and tax authorities is therefore needed and should be offered on a national basis at minimum cost. In the current legal environment, many enterprises consider e-Invoicing to be too costly in terms of adapting internal systems for issuing, receiving and storing invoices and training staff to handle the process changes in accounting and other IT systems. Some tax authorities have no or little experience with the concept of e-Invoicing and have therefore been reluctant to give pre-approvals or advice in relation to e-Invoicing arrangements; this should be improved. Providers of e-business knowledge and training, including academic institutions, should be encouraged to include information about e-business technologies, their usage and appropriate business controls.

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<sup>6</sup> COM(2009) 21 final of 28.1.2009.

Solution and service providers should make well structured supporting information (user manuals, legal documentation, implementation guidelines, sample files, responses to frequently asked questions, etc.) available on their websites and in their solution packages.

For further details, see Annex 5: Communication plan.

**Areas requiring improvement mainly involve the mindset of decision makers in relation to e-invoicing, and correcting misunderstandings about e-invoicing, and its real benefits and risks**

- The first and most obvious starting point for an SME in relation to e-invoicing is to send an electronic version of the paper invoice and save a stamp. As explained above, this is an insufficient approach, because the structured data within invoices is very valuable and is capable of being automatically processed. This goes well beyond e-commerce operations such as selling goods or services via a website, or communicating with the clients using e-mail. Rather, it is about obtaining full transparency of the trading situation of enterprise. To derive instantly accurate information about the commercial circumstances, structured and consistent information is important in managing:
  - customer and supplier status and trends;
  - metrics per customer (scoring, credit, profitability etc.);
  - working capital control;
  - days sales outstanding.
- There is also a major misunderstanding about the risks of e-invoicing. Security measures at the transport level do not protect parties from fraudulent behaviour. If, for example, a company (fraudster) issues an e-invoice for products that have never been produced or with different bank account details, the security transport mechanism will have absolutely no power to protect the receiver. Too much focus has been put on the transmission of data files, whereas the true risks arise in the acceptance, processing and payment processes within the receiver system and its internal controls (as in the paper environment).
- Electronic public procurement has a positive impact on the whole private sector and could change the mindset of many enterprise managers. That is why one of the best accelerators of e-Invoicing adoption would be a move by the national Governments of the largest countries, as well as smaller countries (many of whom are already active) to commence best practice examples based on the automation of public procurement. In order to understand the importance of this procurement process, governments and other public institutions requesting electronic invoices should also communicate the motives behind their decision in order to promote better understanding.
- Best practice guidelines regarding internal controls relating to the acceptance, matching, processing and payment of e-Invoices should be made available in a central repository with all related e-Invoicing compliance documentation.
- Freely available Implementation Guidelines for trading partner set-up would save enormous costs in terms of expert consultancy costs and speed up adoption.
- Implementation Guidelines for the adopted e-Invoicing standards are needed in order to avoid divergent implementations which hamper interoperability.
- Public administrations, universities, research centres, private sector enterprises and associations, service and solution providers, banks etc. should provide affordable IT training and education to SMEs and especially their professional advisers such as accountants.

### **3.6. *A competitive market for solution and service providers in all layers***

Open competition for products and services is a fundamental factor in promoting European-wide e-Invoicing adoption. Competition must be supported and assured through the creation of a level playing field for supporting solutions and services that does not hamper the business activity of players of different sizes and from different countries. Proprietary solutions and dependency on a small number of suppliers with consequent cost impacts must be avoided.

To realise the vision of an open and interoperable European e-Invoicing ecosystem, current networks and platforms will need to interoperate, compete and co-exist. The ecosystem should support non-proprietary, internationally established standards and ensure effective, reliable and efficient semantic interoperability between communities of users exchanging structured e-Invoices and related data.

To avoid locked-in solutions and enhance competition, portability of business identifiers in the ecosystem and its networks must be supported, so that users can easily switch providers without incurring high costs and complexity.

**Areas requiring improvement: are the availability of fairly comparable offers of services and solutions, enhanced cooperation and the use of standards**

- The need for vigorous and open competition, where customers can easily compare the products and prices is a precondition for a well functioning market. Given the presence of over 400 existing service and solution providers in Europe alone, this is not a structural problem, and the provision of services through a range of providers such as IT companies, ERP vendors and banks will assist market development, provided that potential users have the means to compare and evaluate them.
- In order to reduce switching costs and avoid locked-in situations, stakeholders need to co-operate in the area of interoperability to promote standardized solutions, for example in the area of identification, addressing and routing.
- The adoption of an open, commonly used content standard will reduce the need for invoice data translation and enhance interoperability and standardisation.
- E-invoicing systems have to be interoperable with other electronic systems (such as accounting software) in the company in order to achieve the full benefits.

### **3.7. *Trustworthiness and data protection***

Trust and compliance are important issues to address if e-Invoicing in Europe is to attain mass adoption. This is especially valid if businesses think of outsourcing their invoice processes to service providers.

It is essential for users that privacy and data protection are ensured at all levels in the end-to-end process. Invoice data is critical to any enterprise and constitutes important information about the trading parties and their supply chains.

In cross-border e-Invoicing, the perception of risk is even higher than in a domestic scenario, as the sender is typically not so aware of the receiving environment and definitions in use, and vice versa. It should be possible for the user to obtain status information on the progress of a transaction from their solution/service provider. E-invoice data should be delivered in a timely fashion from end to end.

## **Areas requiring improvement mainly involve strengthening the trust environment**

Service providers should be encouraged to meet the following requirements, including a range of normal terms within their contractual agreements with users. Such provisions should encompass inter alia:

- Confidentiality of the content of the submitted documents.
- The possibility to exclude listings of data in public directories unless permission has been granted.
- Access to addressing data should not be granted to any private entities that intend to make use of it for commercial purposes.
- Giving users the possibility to export all of a user's data in an open format as required.
- Provide delivery of messages in a timely fashion from end to end.
- Offering a fair pricing model that recognises the real needs of trading parties to benefit from a coherent and well-connected environment for interoperability.
- Where two trading parties engage the same service provider, the service provider shall clearly separate which actions are taken on behalf of each trading party.
- A service provider may subcontract obligations vis-à-vis its principal to other parties on the condition that the service provider carries the full responsibility for adherence to its obligations, including those of its sub-contractor.
- Unless specifically contracted by its principal, a service provider should not open, interpret or manipulate electronic messages without specific authority. Unauthorised information-transformation may initially be seen as only an information integrity issue, but with a growing number of commercial documents exchanged electronically, many organisations may also find it to be of commercial concern.
- A service provider should support, and use as the primary messaging technique, the concept of electronic envelopes and be able to exchange messages based on the address information available on the envelope.
- A service provider shall adhere to the laws of the country where its principal is registered in his dealings on behalf of the principal. The third party shall inform his principal, and obtain his acceptance, before any part of the contracted services is moved outside the territory and legislative framework in which the principal is registered.
- Solution and service providers should provide tools and support mechanisms to allow seamless switching between service providers' solutions such as transition tools, transfers of identifiers, addressing and re-routing procedures.

As appropriate, such provisions should also apply to trading parties in relation to each other in order to safeguard data and avoid unauthorised disclosures and unrequested process steps.

## 4. Legal and regulatory proposals

### 4.1. Introduction

The Expert Group supports the vision of a clear, simplified, harmonised, and uniformly applied legal framework for e-Invoicing.

The Expert Group has evaluated the areas which have been identified as major legal obstacles; in practice the principal work of the Expert Group has centred on issues relating to VAT requirements for the very reason that the VAT legislation at both European and national level specifies legal and regulatory requirements for electronic invoicing. The Expert Group came to the conclusion that these requirements are the key legal obstacles for the uptake for e-invoicing in practice both domestically and intra-community.

Concurrent with the Expert Group's work, the European Commission undertook a review of the current legislative framework for Invoicing, as set out in Directive (2001/115/EC resp. 2006/112/EC). This review has been completed<sup>7</sup>. The European Commission has presented its report and conclusions to the European Council and the European Parliament, submitting a proposal for a Council Directive amending Directive 2006/112/EC on the common system of value added tax as regards the rules on invoicing.<sup>8</sup> The key article in the current regulations is Article 233 of Directive 2006/112/EC.

COUNCIL DIRECTIVE 2006/112/EC  
of 28 November 2006 on the common system of value added tax

ART. 233

1. Invoices sent or made available by electronic means shall be accepted by Member States provided that the authenticity of the origin and the integrity of their content are guaranteed by one of the following methods:

a. by means of an advanced electronic signature within the meaning of point (2) of Article 2 of Directive 1999/93/EC of the European Parliament and of the Council of 13 December 1999 on a Community framework for electronic signatures ;

b. By means of electronic data interchange (EDI) as defined in the Commission Recommendation of 19 October 1994 relating to the legal aspects of electronic data interchange ("EDI Recommendation"), if the agreement relating to the exchange provides for the use of procedures guaranteeing the authenticity of the origin and integrity of the data.

Invoices may, however, be sent or made available by other electronic means, subject to acceptance by the Member States concerned.

2. For the purposes of point (a) of the first subparagraph of paragraph 1, Member States may also ask for the advanced electronic signature to be based on a qualified certificate and created by a secure-signature-creation device, within the meaning of points (6) and (10) of Article 2 of Directive 1999/93/EC.

3. For the purposes of point (b) of the first subparagraph of paragraph 1, Member States may also, subject to conditions which they lay down, require that an additional summary document on paper be sent.

<sup>7</sup> [http://ec.europa.eu/taxation\\_customs/common/publications/studies/index\\_en.htm](http://ec.europa.eu/taxation_customs/common/publications/studies/index_en.htm)

<sup>8</sup> Communication from the Commission to the Council: The technological developments in the field of e-invoicing and measures aimed at further simplifying, modernising and harmonising the VAT invoicing rules, COM(2009) 20 final, 28.1.2009.

In reviewing the current legislative framework, the Expert Group has identified the following key issues:

- The present European landscape of e-invoicing legislation is disharmonised. The methods set out in Article 233 of Directive 2006/112/EC have been implemented in Member States' national legislation in widely different ways. This leaves trading parties experiencing difficulties in finding the right degree of clarity and legal certainty to encourage adoption of e-Invoicing.
- Internal business controls did not receive appropriate attention in the current legislative framework and its implementation. This is unfortunate because such controls are essential to all invoicing processes and, for most, whose systems are mature and robustly auditable, can actually provide the necessary assurance and without creating technical and operational complexity.

**Based on the principles of equal treatment between paper and electronic invoices, technology neutrality and internal business controls, the Expert Group makes the following recommendations:**

- Equality of treatment should be defined as follows: it should be as easy to issue, send and receive electronic invoices as it is with paper invoices. No legislative or other requirements should be imposed on electronic invoices above those that exist for paper invoices today.
- The Commission's January 2009 proposal for a new VAT Directive (COM(2009) 21 final, should be adopted by all Member States and transposed into national legislation. In particular the provisions of Articles 232–237 of the current Directive on the Common System of Value Added Tax (2006/112/EC) should be removed so as to shift from technology based requirements to requirements based on equal treatment, technology neutrality and internal business process controls.
- The European Commission should support the Implementation of the Expert Group's Code of Practice based on 11 core principles by means of a European Commission Recommendation, which should also be endorsed by all Member States. When the above mentioned VAT directive is adopted, this European Commission Recommendation will provide complementary support and continuing guidance to all stakeholders.
- The above proposed European Commission Recommendation should be implemented among all stakeholders in the e-invoicing environment, including trading parties, tax authorities and service providers.
- In the short term, pending the adoption of the new VAT Directive, those Member States who have not yet done so, should be encouraged to implement the option of 'other means' as provided for in the current VAT directive (Directive 2006/112/EC) so as to enable the practical implementation of the Expert Group's Code of Practice.
- These recommendations should be implemented in such a way that as far as possible the investments already made by trading parties in their existing e-invoicing solutions are safeguarded.

The Expert Group fully supports the proposed new VAT directive for the following reasons:

- It clearly provides for the elimination of the distinction between paper and electronic invoices for VAT purposes.
- It deletes reference to specific technologies such as EDI, electronic signatures and other technical options.
- It eliminates the requirement for authenticity and integrity as a feature of the transmission process for electronic invoices.



## **4.2. Expert Group's Code of Practice on Electronic Invoicing in Europe**

Businesses, solution providers and tax administrations need legal certainty, a key element for a proper functioning of the Internal Market and for realizing the huge process, labour and cost-efficiency benefits, which electronic invoicing processes could provide. Legal certainty requires clear, easy to apply and EU wide harmonised regulations that are uniformly implemented by Member States across the EU and uniformly applied by the relevant tax administrations in the Member States. It is a key requirement that provisions impacting e-Invoicing demonstrate a 'light touch' and meet the needs of businesses of all sizes, but especially an 'SME test' – ease of use and cost effective for small and medium-sized business.

This can be achieved through the adoption of the Code of Practice, and its 11 core principles recommending good practice to businesses and solution providers, and recognised by tax administrations.

This Code of Practice has been adopted by the Plenary meeting of the Expert Group in its meeting on 24 March 2009. The agreed Code of Practice is attached to this Final Report as Annex 3.

The objective of this Code of Practice is to:

- provide legal certainty for business in the EU in processing invoices by electronic means;
- foster an e-invoicing friendly environment in the EU by increasing mutual trust between all involved parties in the processes applied; and
- provide consistency throughout the EU.

Full harmonization of provisions governing electronic invoicing within the EU27 should be a key objective in the interests of the Single Market and ease of use for trading parties across Europe to create a level playing field and legal certainty. There should be no distinction between invoicing carried out on a domestic basis or between Member States. The same harmonized provisions should apply for both e-invoices related to domestic transactions and for those related to intra-community transactions. The Code of Practice could encourage and remove barriers to the mass-adoption of e-Invoicing in contrast to the way that in the opinion of many the current legal environment deters adoption.

Each implementation of electronic invoicing in the EU should be based on the 11 core principles of the Code of Practice. Many of these principles are already practiced in the EU27, and in some member states these principles are explicitly stated in National Guidance Documents.

## 11 Core Principles of the Expert Group's Code of Practice

**Equality of treatment:** It should be as easy to issue and receive electronic invoices as it is with paper invoices. No legislative or other requirements should be imposed on electronic invoices above those that exist for paper invoices today.

**Technology neutrality:** Technological neutrality should be maintained in order to provide trading parties with choice over current and future solutions and to ensure the integrity of their processes.

**Business controls:** The prime means of providing legal certainty in the e-invoicing process should be the administrative, risk management and business control framework of the trading parties. These may include the matching of relevant documents and data throughout the ordering and invoicing processes, accounting and archiving procedures, and auditability by internal and external auditors, or any other means or processes implemented by trading parties that provide the equivalent level of assurance.

**Mutual Recognition:** To ensure a proper functioning of the Internal Market Member States should mutually accept the business control framework and other recognised implementation methods of trading parties involved in EU cross-border transactions (e.g. a German supplier's business control framework / recognised implementation methods should be accepted by its UK customer's tax authority).

**Auditability:** Businesses must be able to demonstrate and explain their administrative and control capability. Businesses must maintain an audit trail, including the underlying transaction data and any relevant supporting documentation and data, which must be accessible towards external auditors, both statutory and tax. Accessibility must be ensured for at least six years.

**Readability:** Businesses must ensure that the competent tax authority and all other relevant parties can humanly read, readily interpret and audit the underlying transaction data and any relevant supporting documentation and data.

**Maximum choice:** In order to ensure that technologies and business processes can freely evolve, and to allow enterprises to optimize these business processes and administration in a manner that best suits their unique business environments, Member States should allow enterprises to freely choose how they structure and operate the relevant business processes within the framework set out in this Code of Practice.

**Proportionality:** Businesses should not be required to implement control measures for auditability purposes that are disproportionate to their individual circumstances. Circumstances that must be taken into account include, but should not be limited to, the size of a company, the nature of its business, the value and frequency of its transactions, its number of trading partners and the stability of its trading partner network.

**Use of service and solution providers:** Where required, trading parties are free to use service and solution providers. Where they have agreed to use one or more providers, they should explicitly authorise such provider(s) to perform the agreed outsourced processes, including tax relevant processes, on their behalf, whilst considering that each trading party is responsible in its role as a taxpayer for the validity of its returns and claims.

**Public and private sector:** It is important that provisions regulating invoicing processes apply equally to trading involving both the private and public sectors and facilitate the whole procurement process and the data exchanged in the process.

**Legal harmonisation and simplification:** Member States may not impose, both in VAT and in other areas of law, any obligations or formalities other than those laid out in the Commission's proposal in relation to the transmission and storage of invoices.

towards a common approach. Legislative changes are required to create legal certainty, mutual trust and therefore a level playing field across the EU, which the Commission wants to achieve with its recently published Invoicing Proposal.

**Nevertheless from the Expert Group's discussions the principles of internal business controls and audit-ability have emerged to be essential:**

- Internal Business Controls: The prime means of providing legal certainty in the e-invoicing process should be the administrative, risk management and business control framework of the trading parties. These may include the matching of relevant documents and data throughout the invoicing process, accounting and archiving procedures, and audit-ability by internal and external auditors, or any other means or processes implemented by trading parties that provide the equivalent level of assurance.
- Audit-ability: Businesses must be able to demonstrate and explain their administrative and control capability. Businesses must maintain an audit trail, including the underlying transaction data and any relevant supporting documentation and data, which must be accessible towards external auditors, both statutory and tax. Accessibility must be ensured for at least six years.

In order to provide assistance to businesses and tax authorities in adequately implementing the above defined Core Principles, it is fundamental to identify and clearly describe the implications of the Core Principles for the different market participants. Two main actors have been identified:

- tax authorities; and
- businesses exchanging e-invoices and their service and solution providers.

The Code of Practice describes in detail the key implications for these actors. It is important to note, that service and solution providers have not been individually addressed in this document as they will be responsible for delivering solutions that fully meet business requirements in accordance with the Core Principles.

The provisions of the Code of Practice would be considered as advisable for implementation by businesses in a number of ways, as follows:

- The provisions of the Code of Practice could be incorporated in a bilateral agreement entered into between trading parties on a voluntary basis.
- The provisions could be incorporated in an organisation's general terms and conditions and placed on record for its trading parties.
- Service Provider Agreements could contain the same provisions, which become binding for its users.
- In all cases, the trading parties are responsible for taking the necessary practical steps to give effect to the recommended practices, cooperating as required with its trading parties as part of its normal commercial relations.

In the final analysis each business is responsible for the integrity of its own control systems and in its role as a taxpayer for the validity of its returns and claims.

The Code of Practice should be used in the ongoing discussion on changing the legal framework for electronic invoices in the Commission but also support the discussion in the European Members States in aligning their legislation to a single uniform set of rules. It is the Expert Group's view that the Code of Practice on Electronic Invoicing in Europe should be implemented when and if the Directive on VAT as proposed by the European Commission in January 2009 comes into effect.

The Code of Practice must be interpreted in the light of evolving technologies as well as business and audit processes and should create a freedom and environment for such technologies and processes to develop. Therefore it will be of great importance to have a representative body that represents all e-invoicing stakeholders and provides a forum to discuss, evaluate proposals, identify and promote best practices and monitor market developments in order to achieve legal certainty.

### **4.3. *European Electronic Invoicing Recommendation (EEIR)***

The Expert Group recommends that consideration be given to the adoption and issuance of a European Electronic Invoicing Recommendation by the Commission. This recommendation should contain the Code of Practice and endorse its use by all stakeholders.

The Code of Practice should be endorsed by a Commission Recommendation rather than a legislative measure. As was the case with the EDI Recommendation of 19 October 1994 referred to above, the EEIR should be based on industry contributions rather than through regulatory activities of the European Commission or the Member States. Recommendations differ from regulations, directives and decisions, in that they are not binding for Member States, but they provide a voluntary regulatory framework for Member States and the parties concerned. Though without legal force, they do have a practical weight and could lead to a harmonised way of operating electronic invoicing throughout the European Union.

This recommendation will:

- Help to overcome the existing legal uncertainty as regards the new VAT directive and its expected lengthy transposition into national law.
- Facilitate the early implementation of the Code of Practice.
- Establish good practices addressed to all stakeholders across Member States.
- Safeguard investments in existing solutions.

### **4.4. *Other legal issues***

Although VAT is an important issue for businesses and tax administrations throughout Europe, electronic invoicing is embedded in numerous e-business processes within and between companies. The Expert Group has examined other legal and regulatory issues relating to e-Invoicing beyond VAT.

In terms of legal reality, the invoice – whether in paper form or in an electronic format – is an important document in a set of documents related to a transaction. It holds references relating to the customer, products and services delivered; it must be archived together with other supporting documentation (contracts, purchase order, shipping document etc.) and presented to auditors to support balance sheet entries and provides an internal record of transactions. The invoice is integrated in business operations and the underlying processes.

Taking this broader perspective of the legal relevance of the invoice, the Expert Group has considered in particular archiving, accounting, legal evidence of invoices and customs regulations in the European Union.

Examples of existing issues are:

- Different archiving rules based on local accounting, commercial and general tax laws (archiving methods and accessibility requirements, place of storage, time of storage), lead to additional complexity for cross-border business.
- Local accounting and commercial law lead to different requirements for invoice content in different Member States.
- Differing accounting requirements making it difficult to maintain the same accounting system for enterprises established in multiple Member States leading to unnecessary administrative burden.
- Different audit practices by tax administration across the EU lead to national adaptations of audit processes in enterprises established in different Member States.
- Customs regulation: imports of goods must be accompanied by paper invoices; therefore electronic invoices are not accepted.
- Legal evidence of invoices in court procedures may require paper invoices or in case of electronic invoices may require electronic signatures.
- The need for interoperability and harmonization of e-Signature practices across European Member States for those trading parties that voluntarily choose to use e-Signatures.

These examples clearly indicate that these issues are not specific to electronic invoicing as such but are imbedded in broader legal concepts in national jurisdictions. Many of the provisions covering these areas are not harmonised and most of the applicable legislation is based on national, regional or even local legal and regulatory practices. This potentially increases legal complexity and administrative burden for enterprises.

**The Expert Group strongly recommends:**

- That greater effort is required to integrate and simplify rules and new requirements for invoicing across the EU.
- That in the short term, until the amended VAT Directive is adopted, it would be helpful to improve the transparency of existing rules; this should be done in a structured way, e.g. by documenting the key information for electronic invoicing in the EU27 and keep it updated. This could build on already existing work e.g. the various studies which have been undertaken by the European Commission and by the CEN/ISSS Workshop on electronic invoicing.

#### **4.5. *Development of good practices***

The Expert Group recommends the development and use of tools for good practices. Such tools should be appropriate to the requirements of trading parties, their advisers and service providers. It is important that such tools do not impose new requirements on trading parties, who have choice and freedom over their use and that they are technology neutral and fully aligned with the core principles stated in the Code of Practice.

As an example and on a voluntary basis, tools such as the E-Invoicing Compliance Guidelines developed by the CEN/ISSS workshop on e-Invoicing<sup>9</sup>, could be used by businesses and service providers, as a self-assessment tool for auditing and compliance checking e-invoicing solutions and thereby provide certainty on the appropriateness of the solution.

Other good practice tools have been and will be further developed. When these are mature and supported by a wide cross-section of stakeholders, they will find adoption by market participants. During the discussions in the Expert Group several promising ideas for guidance on good practices were developed and will contribute to the next round of standardisation work and debate on good practice development.

#### **4.6. *Clarity and legal certainty***

Regardless of the way in which the legal framework evolves, all stakeholders have articulated the need for absolute clarity in the specification of legal requirements so as to give legal certainty to trading parties and all market participants. This clarity needs to cover the provisions of actual legislation, its interpretation, the practices of all tax authorities and the way legal requirements are communicated throughout the market.

The need for this clarity is at least as important as the challenging process of harmonisation itself. In particular, there should be no deterioration in the understanding of these legal requirements by all stakeholders, stemming from a further round of legislative change. Even when specific national requirements are well understood, there will remain significant challenges when conducting trade and invoicing between Member States. Clarity on this aspect is fundamental.

All Member States are encouraged to make available clear, transparent and unambiguous information on the legal and fiscal requirements for e-invoicing on a public website accessible to all. Such information should be consistently maintained as to accuracy and quality.

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<sup>9</sup> This Workshop is a recognized European standardization activity with the direct participation of more than 60 companies and 10 tax administrations and the support of many other organisations. The Guidelines have been referred for consultation to many stakeholders and after the review period have been published in September 2009 and will be maintained in an open dialogue. more information can be found on <http://www.e-invoice-gateway.net>.

## 5. Guidance Recommendations for Interoperability

### 5.1. Purpose

The following Guidance Recommendations for Interoperability (the Recommendations) are intended to guide stakeholders who make use of e-invoicing within the European Union. They are addressed to trading parties, service and software providers and the network solutions they use or support, in order to encourage the adoption and further development of good practices, recommendations and standards. This is intended to promote efficient, cost effective and widely available e-Invoicing practices and services.

It is recommended that the proposals set out herein are adopted by market participants, as they require, so that they may create an environment in which separate and competing approaches, solutions and networks find common ground, and on the basis of which trading parties are able to reach the maximum number of their counterparties in a convenient manner. Such an over-arching framework leaves as many aspects as possible in the competitive domain by only focusing on those features that are essential to establishing interoperability.

It is envisaged that a large number of network and network based solution instances will subscribe to and adopt the Recommendations. There is a clear separation between the Recommendations and the design and implementation of individual network solutions ranging from the Internet to managed services.

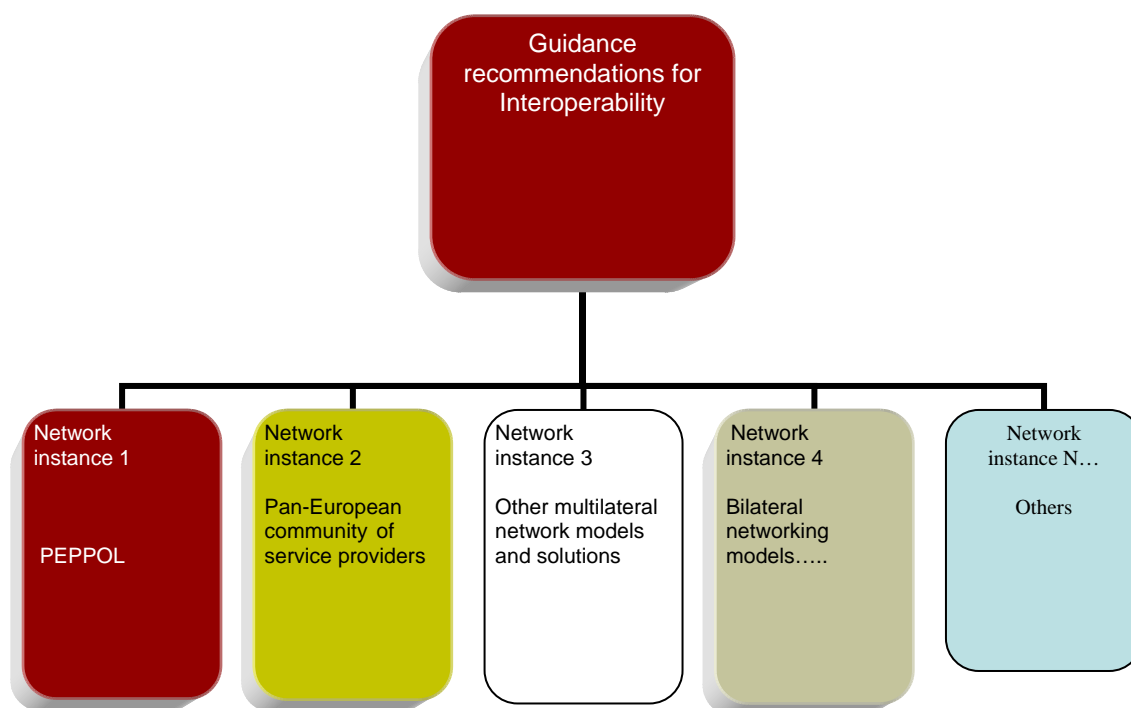


Figure 2: Conceptual Overview

The Recommendations are neutral as to the network models that the market develops and uses to accelerate the mass adoption of e-invoicing. Both the bilateral (including ERP to ERP) and four-corner models hold considerable promise. The three-corner model has its limitations since trading parties are connected to the same platform in each instance, which then becomes an 'island'. However there is clear evidence that most three-corner model based service providers are now making interoperability agreements with other service providers and delivering increasingly wide reach to their users. These models are illustrated in the figures in Paragraphs 5.5.8, 5.5.9 and 5.5.10 below.

The Recommendations are intended to make an immediate contribution to interoperability and are therefore compatible with the current legal environment and with the recent Commission proposals to create a complete 'Equality of Treatment' between paper and electronic invoices. The latter proposals for equal treatment will improve the climate for interoperability.

## **5.2. Current market reality**

Trade potentially involves all categories of trading party (e.g. businesses of all sizes, consumers and government agencies) trading with other categories of trading party. The present tendency towards separation and segmentation of the various operating models for the electronic exchange of trade information could, if not addressed:

- inhibit participation by important market segments especially small businesses;
- create barriers to reach, which is the ability of one entity to forward electronic business documents to another in a predictable manner.

By addressing cooperation to create interoperability, all trading parties (suppliers and buyers) and service providers should be better able to work with their counter-parties. The community would benefit in terms of cost effectiveness from the results of standardisation, while at the same time also benefiting from a vigorous competitive market for e-Invoicing solutions.

The following is the current market reality in the landscape for e- Invoicing services:

- The trend towards e-invoicing and the development of supporting services is young and all actors are in a build-up phase. The market for supporting services has developed to a certain extent to help trading parties overcome complexity and uncertainty in the legal environment.
- The trust equation for electronic business between users and between service providers and users is still emerging and business models are still developing.
- Many trading parties in 'supplier-centric' environments engage in bilateral connections using unstructured formats (PDFs). The usage of unstructured formats leads to suboptimal processes due to the resultant absence of end-to-end business process automation.
- Many trading parties in 'buyer-centric' environments engage in bilateral connections using sector specific or local structured formats as well as exchange mechanisms.
- The use of multiple standards for invoice content adds to complexity. Format conversion services provided by service providers mask the underlying problem and associated cost from the ultimate trading parties. As a counter-weight to this, many feel that the usage of widely implemented formats and exchange mechanisms would promote network effects and accelerate the adoption of e-invoicing.



- 'Three-Corner' models in which buyers and sellers participate in various communities by being connected to a number of separate platforms, are common in the automated supply chain segment in this early-phase stage of the industry.
- 'Four-Corner' network models (involving connections between service providers as well as banks acting as service providers) are being actively deployed or discussed.
- Many SMEs are often entering into bilateral arrangements with their counterparties and/or the latter's service providers with the consequence that the number of individual arrangements (e.g. bilateral, portals and service providers acting as consolidators) needed to reach all their counterparties, can rise to a level which is hard to manage. SMEs are also having to use translator tools to assist in operating with counterparties using different data formats.
- At present, service providers typically engage in bilateral interoperability agreements with their service provider counter-parts, which create cost and complexity. Some multilateral network activity is developing.

Based on these trends, a number of interoperability initiatives are currently observable in terms of the development of network models:

- The growth of interoperability agreements between service providers including collective agreements.
- Banks providing channels and linking to other service providers in a number of markets and potentially on a pan-European basis.
- Public initiatives such as PEPPOL and the Commission procurement programmes and initiatives among various Member States.
- The CEN Workshop Agreement on the interconnection of service providers being worked on in the CEN/ISSS-eInvoice/2 Workshop.
- The issue of addressing is also receiving increased attention, especially where messages need to be transferred between different networks.

### **5.3. Objectives and scope of the Recommendations**

The Recommendations have the objective of creating a universally accessible exchange or transport environment belonging in the collaborative domain and will:

- Enable electronic exchange of e-Invoices and related data between participants by providing a minimum basis for technical, semantic and business interoperability.
- Establish clear boundaries as to the collaborative and competitive domains.
- Be capable of supporting common business processes and modes of operation.
- Enable the electronic delivery of e-Invoices and related data to facilitate Straight Through Processing (STP) by the key actors in the supply chain (Buyers, Suppliers, Tax Authorities, Agents, Banks, Service Providers etc.).
- Be compatible with the legislative and regulatory requirements for the exchange of e-Invoices and related data.
- Be able to support the commonly accepted content standards and especially those recommended in the European e-Invoicing Framework (as covered in Chapter 6).
- Ensure that other document exchanges beyond e-Invoicing can be supported.
- Enable vigorous competition between business models, solutions and service providers and foster innovation.
- Provide scalable solutions that can expand as the market develops.
- Lay out a migration path for current and planned schemes and solutions, which are seeking guidance to improve interoperability.
- Enable European supply chains to remain an integrated and competitive part of the global economy and global value chains.

- Promote network effects leading to development of critical mass and e-invoicing becoming the dominant mode of invoicing. Network effects result in a service becoming more valuable as more people use it creating further momentum for adoption.

In establishing the scope of the Recommendations, the following considerations were addressed:

- The Recommendations could promote a completely standardised and homogeneous environment for the entire end-to-end exchange process, including direct user to user (bilateral), user to service provider (within both three- and four-corner models), service provider to service provider (as in the four-corner model) interaction. This would be an over-prescriptive option.
- The Recommendations could be focused exclusively on a so-called four-corner model and be confined to the creation of interoperability between service providers. In such a model the linkage between users and their service provider would be a matter for the service provider to define according to market demands. This would however be unduly limited to one network model.
- As a middle position, it was decided that the Recommendations should address all three scenarios: bilateral, three-corner and four-corner models covering both generally applicable recommendations and some recommendations specific to each of the main scenarios.
- Reference is made to three levels of interoperability: business, process and technical.
- The Recommendations take due note of and provide support for the current legal environment and the newly emerging proposals recommended by the European Commission and the Code of Practice developed by the Expert Group and to be delivered as part of the European e-Invoicing Framework.

The following items are considered to be in the competitive domain and therefore completely out of scope of the Recommendations:

- Private entity space: the private entity space meaning the internal processes, organisation and value creation of a particular sender and receiver of invoices.
- Schemes and collective solutions: As described above, the creation of guidance recommendations for interoperability at a European level is considered a collaborative activity and created as a priority with the support of a wide cross-section of private and public sector promoters. Schemes and collective solutions at a national, sector or community level are encouraged but considered as competitive. The Recommendations will be promoted to such schemes and solutions as 'best practice'.
- Choice of networks and technical solutions: The use of any particular network or technical solution is a private competitive matter as is the right of any community or bilateral pair of service providers to develop and deploy a particular network-based or other technical solution.
- Service offerings: The utilisation of the Recommendations as part of a commercial service offering is a commercial activity and therefore out of scope. It should however be noted that in fact service offerings may in themselves be collaborative activities for their users and the Network Model does not exclude this type of approach. Users have freedom of choice over which service they may wish to employ. Service offerings may include format conversion and mapping. These are in the competitive domain as are all value added applications and value propositions generally.
- Business integration: Integration of services with other process, systems or solutions is competitive.

- Storage and archiving: Storage and archiving of e-Invoices and associated data are in the competitive space and therefore out of scope of the Recommendations. It is considered that trading parties have the responsibility for complying with applicable legislative and regulatory requirements. Users may seek appropriate solutions and services to meet these needs.
- Service extensions: Service and solution providers may extend their technical and business functionality, including extensions to the standards and their usage but only by agreement by the parties concerned. This will include solutions and services involving the whole supply chain beyond the handling of e-Invoices. This is a competitive activity enabling the differentiation and customisation of solutions and services for e-Invoicing.
- Pricing: Pricing in any form is competitive and not in scope of the Recommendations.
- Contractual arrangements and trading agreements: contractual obligations between a participant and a service provider, or other business agreements between trading partners are competitive. This includes due diligence.
- Tax compliance: Steps taken to ensure compliance with tax requirements are private obligations of taxable persons.
- Legal environment: the interpretation and development of the legal and regulatory environment as established and progressively harmonised across Member States of the European Union is a matter for individual natural and legal persons.

## **5.4. Definition of Interoperability**

### **5.4.1. Introduction**

The goal of interoperability is to allow information to be presented in a consistent manner between business systems, regardless of technology, application or platform. It thus provides organisations with the ability to transfer and use information across multiple technologies and systems by creating commonality in the way that business systems share information and processes across organisational boundaries.

In current business scenarios, interoperability represents the most complete form of collaboration, enabling companies not only to interact with each other electronically but also to interact as if they were a single 'virtual organization'. To reach this goal, interoperability is not intended to be bounded at a technical level, but also at the business and process level, including for example processes related to the relationship between suppliers and customers and to cooperation with business partners, commercial counterparties and financial institutions.

In a heterogeneous business environment actors do not need to know in detail how another actor operates; however the existence of business agreements that set out a common collaborative way of working together is vital. Interoperability can be identified on three different levels:

1. Business and organisational interoperability
2. Process interoperability
3. Technical interoperability

### **5.4.2. Business and organizational interoperability**

The first (or top) layer is business and organisational interoperability. This can also be extended to include the legal and contractual environment.

This layer includes all the tools and instruments required to enable the business integration of actors and roles to facilitate information exchange. Business and organisational interoperability has the objective of making services available, easily identifiable, accessible and user-oriented between trading parties and within the business community generally.

To reach this goal, all parties must agree on reciprocal information needs and on shared contractual rules to ensure it occurs safely, with minimal overhead, on an ongoing basis, and on the basis of well constructed plans and their implementation.

Legal interoperability refers to ensuring alignment with legal requirements (e.g. data integrity and protection) both in domestic and in the cross-border context, ensuring fulfilment of European Union directives, national legislations, legal risks, etc.

### **5.4.3. Process interoperability**

The second layer consists of making it possible to automatically process information exchanged between all parties consistently and accurately, in order to produce useful results as defined by the end-users of both business processes.

Process interoperability includes discovery (acquiring relevant information) and collaboration aspects (how to work together), including workflow and decision-making transactions. This often requires alignment of business processes as well as operational synchronisation of collaboration data.

To achieve this level of interoperability, parties must agree on or have available to them a common information exchange reference model. The content of information exchanges must be unambiguously defined, to ensure that what is sent is correctly understood from the receiver.

### **5.4.4. Technical interoperability**

The third (and the lowest) layer is technical interoperability, which consists of the common methods and shared services for the communication, storage, processing and presentation of data.

Technical Interoperability is usually associated mainly with applications and/or hardware and network components, referring to systems and platforms that enable machine-to-machine or application-to-application communication to take place.

This aspect of technical interoperability – interoperability at the 'protocol layer' – is mainly focused on enabling electronic communication between remote devices.

However, to ensure full interoperability, an additional element to be considered is the 'Syntactical Interoperability', usually associated with defining shared data elements. In fact, to ensure full technical interoperability the messages transferred by communication protocols need to have a shared syntax and formats.

Combined together, these different topics include all the technical issues involved in linking computer systems, applications, and services such as technical foundations for a secure environment, compatible technical standards and a common framework (e.g. open interfaces, interconnection services, data integration, middleware, data presentation and exchange, accessibility and security services etc.).

Interoperability is central to establishing growth in e-business and e-Invoicing. It provides users with the ability to transfer and use information across multiple technologies, systems and organisation boundaries. The establishment of interoperability will enable wider adoption of e-invoicing, while fostering improved competition, stimulating network effects.

## **5.5. Guidance Recommendations**

The following key provisions are recommended as minimum requirements for the development of a fully interoperable environment and should be observed by the actors concerned as appropriate to their circumstances:

### **5.5.1. Identification of actors and roles**

**The Guidance Recommendations call for the consistent use of a terminology to describe and clarify the roles and responsibilities of actors. It is therefore proposed that a set of commonly used definitions and explanations of roles and responsibilities is further developed and maintained by an appropriate body with a view to providing benefits to all market participants.**

The principal actors involved in any e-Invoicing process are:

- Supplier or Seller - supplies goods or services to a Buyer. If a transaction is governed and not exempted by VAT law, the supplier is ordinarily obligated to issue and archive an invoice. Invoicing is also governed and may be required under accounting law and regulations.
- Buyer or Customer – purchases goods or services from a Supplier. If a transaction is governed and not exempted by VAT law, the buyer is ordinarily obligated to receive process and archive an invoice, is subject to accounting rules and will establish the necessary means of payment to be used.
- Tax authority – the part of a Member State's administration that is responsible for enforcing tax law including the collection of taxes and auditing of taxable persons.

The following actors may also be involved (non-exhaustive list):

- Service provider: an entity that, on the basis of an agreement, performs certain e-invoicing processes (in the name and) on behalf of a Supplier and/or a Buyer and takes part in the delivery of the invoice and related documents and data.
- Solution provider: an entity that provides accounting services, Internet access, value-added network services, (ERP) systems, business process outsourcing, hosting, translation, rental and other technical or business services to one or more trading parties. Such solution providers are typically not part of the business intermediation process and this definition avoids confusion with a service provider that acts as a direct intermediary, and is 'content-aware' in the e-Invoicing process. Solution providers may support both bilateral and other service models.

- Scheme: a scheme (a term used commonly in the payments area but also in many other industries) is defined here as a collective solution or collaborative agreement in which service providers agree to a set of responsibilities and liabilities covered by a 'rulebook' and enter into a contractual arrangement with all other users of the scheme. Such an arrangement may be relatively 'heavy' or 'light' depending on business requirements. A scheme typically has a governance model (ruling body) and redress / dispute handling procedures.
- Scheme organizer: an entity in either the public or private sector, which organises a scheme and acts as the governance body.
- Network instance: The Recommendations recognise that there will be many networks or network based solutions supporting e-Invoicing and each is therefore a network instance. Each would be expected to observe the recommendations set out in the Recommendations.
- Provider of payment services: banks and in future payment institutions providing payment services may or may not be engaged in the provision of e-invoicing services. In any event payment services are separate services, albeit closely related to the invoicing process.

Actor and role definitions should be agreed and maintained by an appropriate body such as CEN and shared with all stakeholders. They should also be aligned with those already used in other standardization domains (e.g. UN/CEFACT and ISO20022 repository definitions).

The creation of clarity of roles and responsibilities will assist in delineating the boundary between cooperation and competition. The positioning of this boundary is critical. It must establish sufficient collaboration to drive a clear business rationale to support collaborative working and adoption, while not inhibiting competition and innovation in areas properly left to competition.

Collaborative activities are carried out by industry participants and stakeholders to create a platform of common practices, standards and procedures which facilitate the smooth operation of a competitive market. In a network industry they will create network externalities and promote positive network effects. Such activities are often devoted to the creation of 'open standards' in the broadest sense. Successful collaborative activities are usually confined to the minimum set of requirements to facilitate market efficiency, interoperability and required network effects.

Competitive activities constitute all elements outside the collaborative space and include activities such as, competing for clients, pricing, value propositions and the internal processes of specific entities.

### **5.5.2. Standards for invoice content**

**In the context of promoting interoperability, the Guidance Recommendations endorse the use of content standards that support the basic cross-industry e-Invoicing business requirements and allow trading parties to meet the goals of interoperability. These standards will not necessarily include comprehensively all business requirements specific to particular industry sectors, but will be expected to be applicable to a broad community of users and especially deliver support for a core set of requirements including integration with payments and common legal requirements established by applicable legislation.**

These recommendations are spelled out in Chapter 6 of this document.

### **5.5.3. Use of common technology standards**

**The Guidance Recommendations propose the appropriate use of common, non-proprietary European and international information technology standards for areas such as hardware, operating software, communication and security, whilst striving to be technology neutral.**

Such standards and technology should enable interoperability and foster competition. The number of strictly mandated technical requirements must be kept to a minimum as a matter of principle.

### **5.5.4. Connectivity and messaging**

**The Guidance Recommendations propose certain minimum business and technical requirements to ensure interoperable network services, whilst recognising that the provision of these services lies in the competitive domain.**

These are as follows:

- Network services should be covered by transparent and easy to understand agreements.
- Addressing and routing identifiers/topologies should be deployed in an easy to use fashion as covered below.
- For each network, message identifiers should be available so that individual messages are unambiguously identifiable.
- An identifier for each network instance should be made available in order to unambiguously identify each network and permit interoperability between each network.
- There should be support for multiple time-zones.
- There should be made available a comprehensive range of message types, including business messages and technical messages such as acknowledgements, queries and rejections.
- There should be a separation of the message envelope (header) from message content.
- Facilities should be provided to ensure the full integrity of all messages.
- Confidentiality of message content should always be protected.
- Networks should support reliability, availability and resilience as appropriate to the business circumstances.

### **5.5.5. Addressing and Routing**

**These Guidance Recommendations propose the principles to be applied to the progressive development of an interoperable addressing and routing process which is a key priority for interoperability.**

The main principles are proposed as follows:

- A distinction should be made between an identifier by which a person is generally recognised (e.g. name, company number, VAT number etc) and an address which is the location, at which a natural or legal person, a system or a device may be reached, recognising that any of these may require more than one address.

- All e-Invoicing solutions should provide or create the tools for the use of an unambiguous identifier for both the users themselves and where applicable for the service providers on a basis that is cost effective and easy to use including facilitating the transfer of business relationships.
- All solution and service providers should also obtain and widely distribute an address to enable others to route all relevant messages to them and their customers.
- Addresses and identifiers should be sufficient to support the processing of invoices and invoice related messages to senders and receivers.
- All networks and network based solutions should publicly make available their various addressing and routing structures and numbering conventions on a transparent basis.
- All networks and network based solutions may (but should not be compelled to) publish an easily accessible directory, in which are found the identifiers and addresses of end-users, who wish that such information be published in this way.
- No end-user should be compelled to agree to the publication of such information, for any reason such as confidentiality, or use of practices where it discovers the necessary details on a private bilateral basis.
- The identifiers should be capable of being re-used for other e-services.
- Existing identifiers and numbering conventions should be used where possible e.g. ISO/IEC 6523, IBANs, GS1 GLN, DU-N-S numbers, VAT numbers etc, although this may have drawbacks for those trading across multiple environments.

Industry participants are encouraged to cooperate in the development and adoption of more interoperable and easy to use addressing and routing procedures within a standards body such as CEN, taking due account of the relevant international standards.

While these are desirable goals, we must live with the fact that there is a large number of different entity identification systems for different purposes – for instance the draft CEN Workshop Agreement (CWA) on Cyber Identity (to be published end-2009 or early 2010) identifies 15 company identity ‘use cases’ all with their own characteristics. Setting out requirements and encouraging convergence – in the short or medium-term – represent the first steps towards interoperable solutions.

It is suggested that, building on the final Cyber Identity CWA, CEN convene a discussion to see what additional work might be carried out in the short-term, and if so where this might take place.

Members of the Expert Group have also drawn attention to STORK<sup>10</sup>, an EU initiative in the electronic identification (eID) field. It aims at implementing an EU wide interoperable system for recognition of eID and authentication that will enable businesses, citizens and government employees to use their national electronic identities in any Member State.

Some market participants support the development of an addressing system in which the e-invoicing address is created independently from service provider identification, thus facilitating flexible selection and switching of solution and service providers. Others recognizing the complexity of such a step would prefer to concentrate on practical improvements of the current addressing and routing environment.

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<sup>10</sup> For more information please see: [http://www.eid-stork.eu/index.php?option=com\\_content&task=view&id=37&Itemid=61](http://www.eid-stork.eu/index.php?option=com_content&task=view&id=37&Itemid=61).



### **5.5.6. Need to support the development a variety of business and implementation models**

**These Guidance Recommendations are intended to promote the development of and interoperability within and between multiple business and implementation models based on collaboration. These models need to include as yet unknown future developments in technology and business models. The co-existence of different models promotes choice and compatibility for end-users. The environment would benefit from the robust development of bilateral, three-corner models and one or more four-corner model solutions to support widespread interoperability.**

Considered at a macro level, trading always develops complex networks of economic relationships. The inherent limitations of paper-based invoicing have stopped invoicing processes from naturally developing network features beyond the global envelope-level routing that lies at the heart of the world's postal and courier systems. One of the attractions of electronic data exchange is that it allows many different process models to develop with interoperability on many more levels.

There are no inherent barriers preventing all these models to interact and gradually develop into a virtual any-to-any network with drastically reduced communication costs for end-users. The latter idea of a completely seamless and frictionless universal e-business ecosystem accessible to anyone with the required functionality and security would represent a desirable long term goal, although its realisation is challenging.

Even entities that have little to gain from network effects – for example because they have very few and very stable trading relationships – will generally benefit from adopting standards and good practices shared by a wider community.

At the current stage in the development of e-invoicing, the following are examples of business implementation models:

- Bilateral peer-to-peer, hub and spoke, and Electronic Data Interchange (EDI) models.
- Three-corner models whereby a single service provider acts on behalf of both the supplier and the buyer in the underlying sales transaction.
- Four-(or multi-)corner models whereby the supplier and buyer each have their own service provider(s), who in turn inter-operate with each other either on the basis of bilateral agreements or as part of a multilateral network.

The development of these models always needs to take into account public policy requirements and constraints. In particular, in e-invoicing, requirements that stem from VAT or other tax law must be complied with regardless of the deployment model chosen.

### 5.5.7. Use of Recommended Good Practice Guidelines

The Guidance Recommendations propose the use of well constructed good practice guidelines as a self assessment tool on a voluntary basis and draw attention to the CEN Compliance Guidelines as a recent good example that have defined a general e-invoicing process analysis model that can be applied to a wide universe of implementation scenarios. In addition to supporting legal compliance, these guidelines also assist with achieving business and organisational interoperability.

These guidelines are applicable in the current legal environment across Member States of the European Union and could also apply in the environment to be created by the recent European Commission proposals, if and when implemented. The use of some of these techniques may be currently mandatory where the Member States require their use in their implementation of the VAT Directive (2006/112/EC). Under recent proposals of the European Commission these techniques would become voluntary and the Expert Group supports this position. The use of these techniques on an agreed basis between trading parties presents challenges, but when correctly supported will enhance interoperability.

### 5.5.8. Specific additional recommendations regarding bilateral scenarios

In a bilateral scenario trading parties are responsible for agreeing at a commercial level the basis on which they will work together. Where possible, one or other of the trading parties may work to ensure the maximum degree of standardization in their dealings with as many parties as possible. Reference may be made to implementation models and resources placed in the public domain by supportive public and private sector organisations. Over time a standardised 'Any to Any' environment could develop.

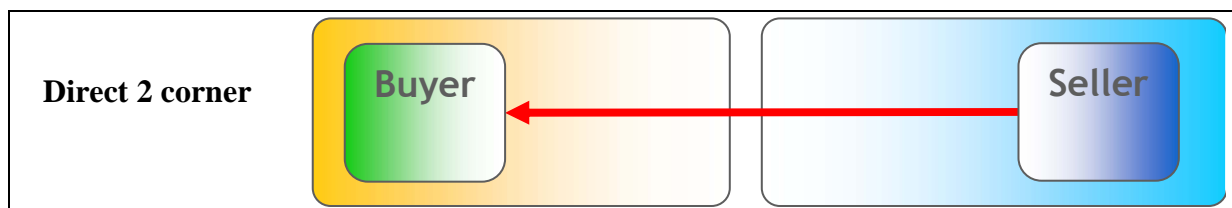


Figure: Bilateral e-invoicing model

In order to ensure legal compliance and audit ability over the life-cycle of an invoice, trading parties are responsible for implementing appropriate measures, which hopefully will be improved by evolving legislation designed to lift the burden on business. For semantic interoperability see recommendations set out above regarding use of content standards and the preference for the use of structured data formats for the realisation of the maximum interoperability benefits of e-Invoicing as opposed to the simple savings in transmission costs i.e. postage.

To support technical interoperability, trading parties should exchange their addressing details and inter-operate using commonly available tools and techniques in line with these recommendations.

Bilateral exchanges vary enormously in scale and scope from tightly integrated supply chains employing EDI, ERP to ERP direct connections, to email exchanges between SMEs and EBPP solutions involving consumers. Parties are required to agree on all levels of interoperability, business, semantic and technical on a basis that is proportionate to their business context.

Often one of the trading parties involved is in a position to encourage the adoption of standardized processes, and this may be assisted by the propagation of implementation models placed in the public domain by supportive public or private sector organisations.

Over time a standardised 'Any to Any' environment could develop, in which frictionless business and technical interoperability becomes a reality.

### 5.5.9. Specific additional recommendations regarding three-corner model scenarios

**In a three-corner model, the single service provider is responsible for all business and organisational, semantic and technical interoperability. The provisions of the Recommendations are recommended for adoption by them and special regard should be paid to the need to adopt standardized easy to use tools and techniques especially where SMEs are involved. The proliferation of stand-alone three-corner models could become a barrier to interoperability despite their undoubted role in building critical mass. However, the tendency of such e-Invoicing service providers to enter into interoperability agreements with each other is a clear sign of market maturation.**

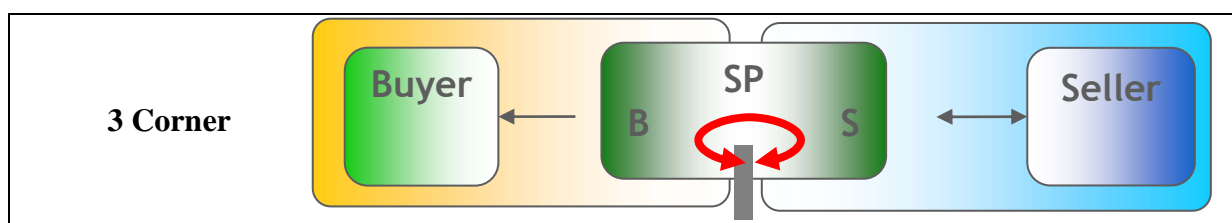


Figure: 3-corner model

Three-corner models have enabled trading parties to outsource large elements of business interoperability in relation to e-Invoicing and almost all aspects of semantic and technical interoperability. Experience shows, however, that one of the trading parties, usually the one deploying the service provider in the first place exercises a dominant role and may force the other trading party to use the same service provider for the delivery of invoices. There is a danger that three-corner models could prolong the fragmentation of solutions that acts as a barrier to interoperability.

Therefore, service providers should exercise sound customer care practices to ensure that the needs of smaller users in terms of ease of use are well catered for.

In practice, since few service providers are likely to exclusively offer three-corner interaction, service providers that are today predominantly in three-corner mode are also offering four-corner scenarios as covered in the section immediately below. This is to be encouraged and represents a maturation factor.

### 5.5.10. Specific additional recommendations regarding four-corner and multi-corner scenarios

The Guidance Recommendations call on service providers to inter-operate with a wide variety of other service providers as is required by their users. These connections can be achieved either through bilateral linkages between them or through the creation of multilateral network solutions.

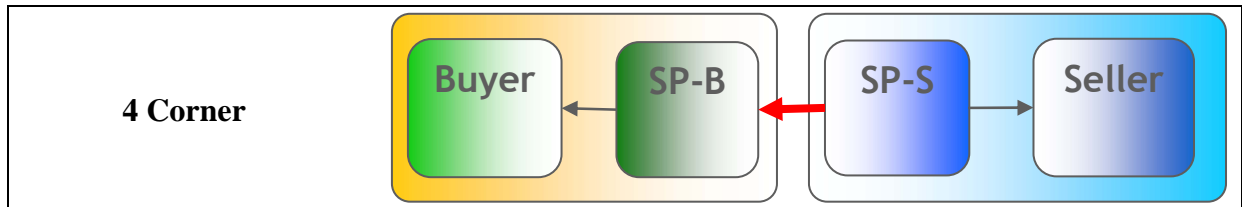


Figure: 4-corner model

Under a four-corner model trading parties are connected to their own service providers who in turn inter-operate with each other. Under such a scenario, trading parties avoid the need to create multiple and often differing connections with their own trading parties.

Such models contain many options for the carrying out of roles and responsibilities both in the user to service provider domain and between service providers. There is an important need for clarity and transparency.

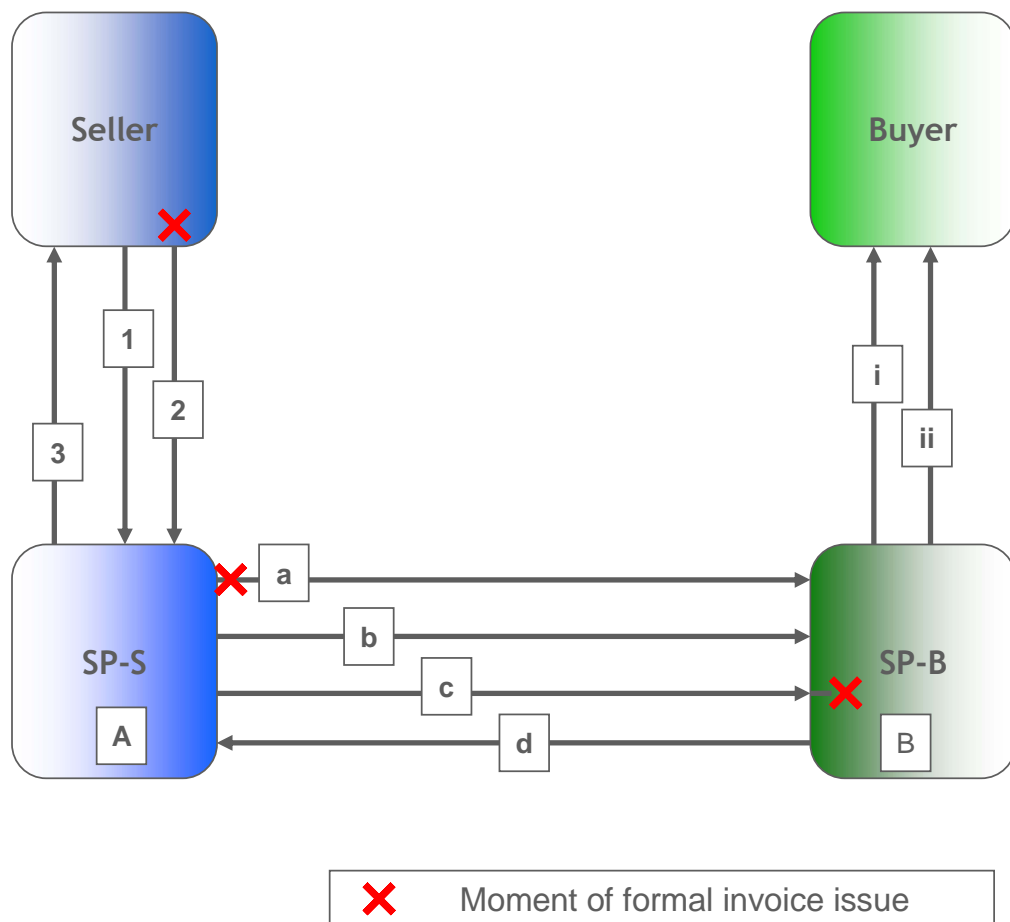


Figure: Overview of principal four-corner model process options

The flows depicted in the figure above cover most of the known process options for a simple 4-corner model and are explained below:

1. Invoice data is sent by the supplier to SP-S.

Next steps can be: a. SP-S issues the invoice in the name and on behalf the supplier and makes the invoice available to SP-B.

Further steps can be 3 SP-S routes the invoice back to the supplier for storage or A SP-S stores the invoice on behalf of the supplier.

OR c SP-S makes the invoice data available to SP-B for the latter to issue the invoice in the name and on behalf of the supplier.

Next steps can be d SP-B routes the invoice back to SP-S.

Further steps can be 3: SP-S routes the invoice back to the supplier for storage or A. SP-S stores the invoice on behalf of the supplier or B. SP-B stores the invoice on behalf of the supplier and its service provider.

2. The invoice is issued by the supplier and sent to SP-S.

Next steps can be b the invoice is made available to SP-B (always).

Further steps can be B SP-S stores the invoice on behalf of the supplier. (If the supplier chooses to store the invoice locally he will have done so prior to step (b)).

Once the invoice is in SP-B's environment, SP-B can perform various receipt functions for the buyer. From an overall flow perspective, SP-B can take the following steps: B: Store the invoice on behalf of the buyer and to make invoice data available for the buyer's downstream processing I and/or send the invoice to the buyer for local processing and storage ii.

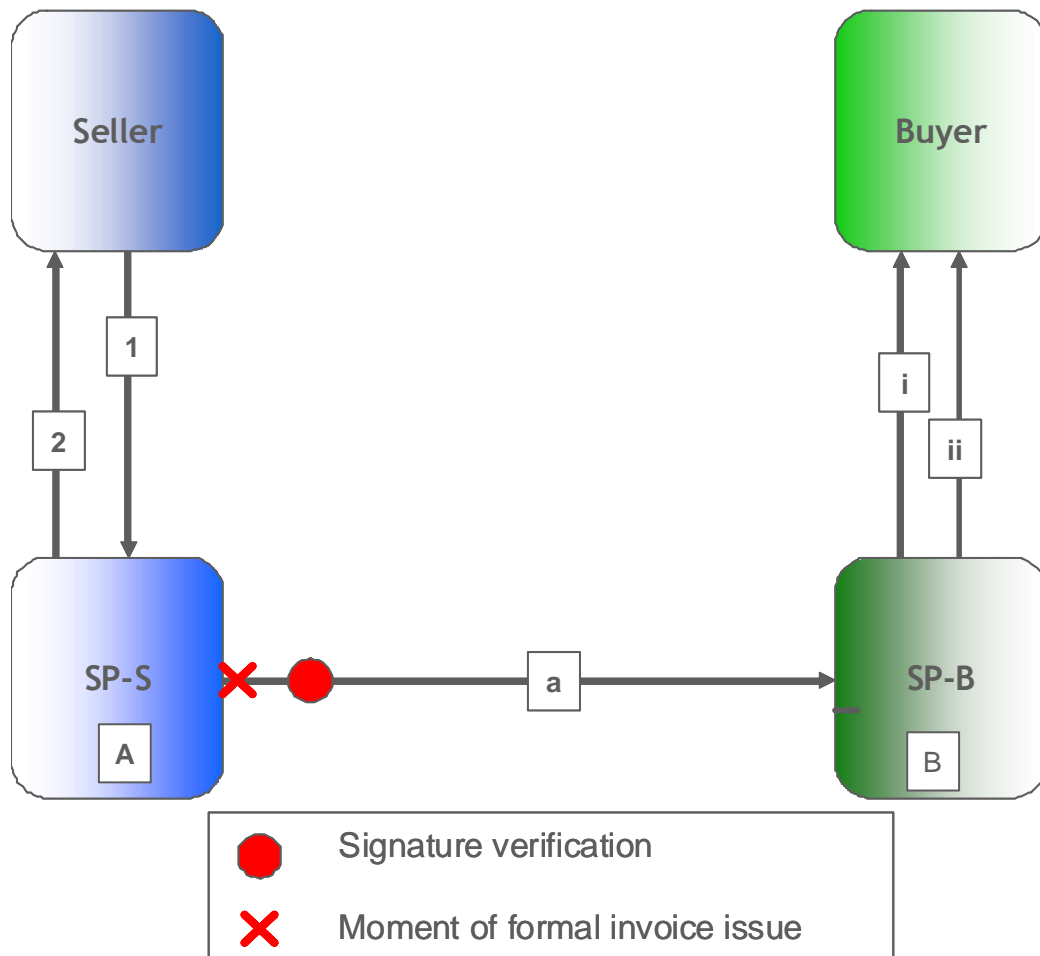
A particular issue arises with regard to interoperability where data level controls have been applied, typically in the form of electronic signatures.

In such a situation, the invoice is typically signed when it is issued, which means that any change (enrichment, conversion etc) will break the data-level seal. Therefore, it is customary and accepted practice for either SP-S or SP-B to issue the invoice in name and on behalf of the supplier. The recommendation is the former model, whereby SP-S also performs signature (including certificate) verification as part of its trusted relationship with SP-B. This creates a system of mutual recognition between service providers. The signed data can be in structured or unstructured format.

Invoice data is sent by the supplier to SP-S. SP-S then issues the invoice in the name and on behalf of the supplier by creating a signature, and then verifies the signature based on an agreement with SP-B; SP-S subsequently makes the signed and validated invoice available to SP-B. Next steps can be: 2: SP-S routes the invoice back to the supplier for local storage or A: SP-S stores the invoice on behalf of the supplier.

Once the invoice is in SP-B's environment, SP-B can perform various receipt functions for the buyer. From an overall flow perspective, SP-B can take the following steps: B: Store the invoice on behalf of the buyer. Next steps can be: Make invoice data available for the buyer's downstream processing ii. Send the invoice to the buyer for local processing and storage.

Using a *Signed PDF* has the benefit of transmitting a universally accepted format that allows easy readability for workflow applications and tax audits. It is accepted practice for unsigned structured data to be transmitted together with the signed invoice so that data conversions can easily be performed at every step where necessary.



**Figure:** Overview of recommended model using electronic signatures

In some cases, often where a buyer has exacting requirements for invoices, which are unlikely to be fully known or practical for all their suppliers, reliance may be placed on their own service provider, SP-B to create the invoice. In this case, invoice data is transmitted from supplier through SP-S to SP-B, who takes responsibility for signing the invoice and/or the invoice data for transmission or making available to the buyer.

It should be emphasised that these recommendations would not apply to situations where electronic signatures are not used, and where for example in some jurisdictions, the concept of the 'original invoice' is less relevant since the whole exchange takes place in the form of structured data elements.

### 5.5.11. The need for agreements

**The Guidance Recommendations recognise the importance of establishing sound and enforceable agreements between trading parties and between trading parties and service providers (as appropriate) and their users to promote trust, reach and interoperability.**

Examples of what needs to be agreed upon are:

- General obligations of the contracting parties
- Service availability
- Technical failure and recovery scenarios
- Handling of disputes
- Support (contact persons)
- Risk and liability apportionment relating to interoperability responsibilities
- Addressing and routing
- E-invoice content standards
- Communication/security requirements

Within the bilateral and three-corner models, all agreements are a matter for the parties concerned both as to form and content. They should be kept to a minimum and be easily understandable.

Within the four-corner model, service providers may formalise agreements between them in a bilateral SLA (Service Level Agreement).

They may also create multilateral networks supported by multilateral agreements, in which clusters of service providers enter into one agreement through which they become contractually bound to all other participating service providers. For both scenarios, Model Agreements should be developed and implemented, clearly establishing responsibilities and liabilities.

Even with Model Agreements in place there will often be a need for bilateral contracts to define business related issues such as invoice creation responsibilities (if considered relevant by the parties), converting/archiving responsibilities (if any), charges, compensation for damages and limits of commercial liability. This needs to be handled in the competitive space based on bilateral contracts. The Model Agreement could then be an integrated part of the contract or be set out in an annex.

The creation of schemes and multilateral interoperability agreements between clusters of service providers and/ or generally used agreements will be essential to ensure faster and more standardized interoperability. Schemes should place a minimum of constraints on service providers in order to leave as much as possible to competition and innovation. No party should undertake a role or function such as format conversion without being formally mandated to do so in agreement with the parties concerned.

### **5.5.12. Interoperability between networks**

**The Guidance Recommendations address the requirement that messages need to move from one network environment to another with the correct addressing/routing identifiers and at the same time observing the rules and operating procedures of the respective environments, including the rules of any scheme adopted within that network.**

Two approaches are recommended:

1. One or more members of one network become connected end-points in both networks (and sign up to the rules and procedures of each). They act as 'message brokers' from one to the other.
2. The common infrastructures of a network or network based solution (if applicable) make a connection with each other and exchange messages.

### **5.5.13. Implementation of the Recommendations within the European E-invoicing Framework**

To bring the Recommendations to life, active promotion and sponsorship will be required. It will be a critical success factor for the Expert Group and other supportive organisations to actively advocate the need for such an essential facility in the development of the e-economy as one key component of the road to mass-adoption.

The creation of a well functioning network domain provides reach and interoperability whilst preserving an open and pro-competitive environment for all market players. Such an environment could stimulate important network effects and support the further exchange of other trade information and related documents in the supply chain.

Given the temporary nature of the Expert Group, the final detail and maintenance of the Recommendations needs to be the ongoing responsibility of a new or existing permanent vehicle organisation in which industry participants and stakeholders would need to be represented. Such market participants need to include trading parties, service providers, ERP vendors, standards bodies, tax and regulatory authorities and relevant associations.

Implementation of these Recommendations will be a matter for the organisations and bodies proposed in Chapter 7 'Organizing for Implementation'.



## 6. Content Standards

### 6.1. *Introduction and definition of standards*

Content standards are defined by the Expert Group in the context of e-invoicing to mean 'the actual data-set that constitutes the e-Invoice message and business header'. The e-invoice message itself contains the actual business data required to be exchanged between the parties in the invoicing process. The function of the business header is to be a network independent solution that provides business applications with the necessary data to support high-level processing, such as the acceptance and routing of the e-invoice message.

The data structure of the content standard is described by a methodology and expressed in a semantic data model<sup>11</sup>. The methodology may also describe the wider workflow of messages and the way in which they enable business processes like the life-cycle of an e-Invoice. The semantic data model is represented in a syntax that presents the physical representation of the data model. These parts together are termed a standard format.<sup>12</sup>

### 6.2. *E-invoice content standards landscape today*

One of the key pillars of efficient electronic business is the use of standards. An invoice is one of the most widely communicated documents and one that is basic to almost all trading processes. It follows therefore that the electronic version of an invoice should be presented in a clear and acceptable format, based on open standards.

The diversity of each industry sector's data and usage requirements, and very different approaches to their implementation have led to a large and fragmented number of data models and syntax expressions. Some of these come from an international background, some are national. Their usage varies from bilateral company to company models, through to widespread multilateral usage in sectors, within various service models or internationally. There are some international standards, but the larger number of e-Invoice formats are proprietary. In some cases also national legislation and policies have played a role in their development.

None of the existing formats has so far reached a dominant status – indeed this is a reason why e-Invoicing as such has not yet penetrated across all industries or all sizes of enterprise. Today, enterprises, ERP-suppliers, banks, etc. need to support multiple formats, and huge mapping and conversion exercises take place to cope with different data expressed in different syntaxes in order to secure some form of efficient integration and interoperability.

Thus while traditional EDI (usually based on standards from UN/EDIFACT and (in the USA) the ANSI X.12 standard) is still used by many multinational corporates, it is often impractical for the SME mass market. Likewise many proprietary formats have only reached one multinational corporate and their suppliers. Where a SMEs penetration has been achieved this is typically on a national basis in a specific context, for instance governmental procurement.

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<sup>11</sup> Semantics – way of linking the entity (datum) and the information we have about the entity (data) to help us get a good understanding of the system at different levels of abstraction. Data Models are made up of structures used to create the model (building blocks), operators we can use on the structures and integrity rules, both explicit and implicit.

<sup>12</sup> Examples of methodology are UN/CEFACT Modelling Methodology (UMM) and an example of a semantic data model is ISO 20002 Customer Credit Transfer initiation. UN/CEFACT Naming and Design Rules and ISO 20022-4 XML design rules are examples of real life syntaxes.

### **6.3. E-invoice content standards challenge**

Given the current landscape, the legacy of existing formats and implementations will undoubtedly remain for years to come. The Expert Group has not seen its role as to develop an actual content standard. The key challenge is to facilitate content standards development that will aid the move towards an open and interoperable standards environment, but at the same time not prevent current e-Invoice implementations from continuing until such time that convergence on standards is commercially attractive.

Although a primary target of the Expert Group's work is the SME sector, the e-invoice content standard solution must also fulfil broader requirements.

The Expert Group has identified that the content standard solution needs to:

- fulfil sufficient cross-domain e-invoice data requirements to present the core functionality to all industry and sectors in their supply chain process;
- secure semantic interoperability<sup>13</sup>; across industries and sectors;
- create a bridge between the requirements of the private and public sector but also between SME and larger corporate usage requirements;
- incorporate the necessary legal and VAT requirements;
- integrate with the financial world enabling automatic initiation of payment services, invoice financing, end-to-end Straight Through Processing (STP) and reconciliation;
- integrate with the wider supply chain business process and provide the potential for extension to fulfil specific sector and usage requirements;
- be simple and adequate enough to secure easy integration by service providers and mass adoption by the users;
- support requirements of different models of data usage such as invoice presentment, and process integration;
- have a robust foundation and quality enabling global reach and easy future maintenance i.e. for the credibility needed in an international standard.

The Expert Group has confirmed these business requirements in relation to content standards. While some of the above requirements may be conflicting the challenge is to maintain a balance that best answers these requirements.

### **6.4. E-invoice Content Standards – proposition**

The Expert Group agrees that in order to meet this challenge, the long-term e-Invoice landscape needs to contain e-Invoice content standards, but in fewer formats and expressions than exist today as this is a barrier towards mass market adoption. However it seems infeasible that the current e-Invoice landscape will see a merger of the various syntaxes into one common e-invoice content standard in the short term.

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<sup>13</sup> Semantic Interoperability: Ensuring that the precise meaning of exchanged information (concept, organisation, services, etc) is preserved and well understood.

However defining a single and clear semantic data model for e-Invoice content standards is a critical step in order to be able to fulfil the higher level business requirements identified above. This data model is seen as a key enabler for business efficiency by acting as a basis to achieve interoperability with minimum cost and complexity. It is left to the market to utilise the data model and express it in different syntaxes as well as methodologies depending on specific business cases, but adhering to one data model will facilitate interoperability; meaning that data without supplement and transformation can travel between formats as the data model is technology-neutral.

This data model should be delivered by an openly accessible international standards organisation to ensure accessibility, stability in terms of maintenance and quality. It will also ensure that the reference e-invoice semantic data model is anchored in a global standard from an internationally recognised organisation.

Migration to a new single data model is anticipated to happen over a period of time recognising there are existing investments and a normal period of time before new common solutions can be adopted. Therefore the introduction of a single data model does not imply a single standard immediately but more precisely convergence to a single semantic reference data model to be used by existing e-invoice solutions as they progress through development lifecycles and undergo maintenance.

Further to fostering interoperability the Expert Group has worked upon the definition of a 'core e-invoice data set' (refer to Annex 7) within the single semantic data model. This is core set of data elements that constitutes the minimum legally required and commonly expected set of data - among other things containing the data specified in Articles 226 and 238 of Directive 2006/112/EC for an invoice no matter the size of enterprise of domain/sector it is used within.

The proposed mechanism is that any user of e-invoicing at a minimum will always support this core set in any implementation although in almost all cases more elements may need to be conveyed even by SME users. The validation though should preferably refer to the full semantic data model allowing easy implementation of more data elements. Hence it is also recommended that ERP and application service providers of e-invoice services implement the full capability of the recommended semantic data model.

The core data set and the single semantic data model support basic cross-industry e-Invoicing business requirements. They do not include all business requirements specific to any one particular industry sector, but will be applicable to a broad community of users and especially deliver support for a core set of requirements including integration to payments and any common legal requirements established by relevant legislation.

It is therefore foreseen that the single recommended semantic data model does not limit access by interested parties to the complete set of required invoice data in cases where the data model needs to be complemented by additional (extended) data due to specific national or sector requirements. This means that in cases when the invoice contains additional data (not specified in the core invoice or common data-set), the model should not limit access only to that data set. Invoices should be extensible such that parties can agree on industry specific invoice content extensions (including appendices and attachments) preferably in a standardised fashion.

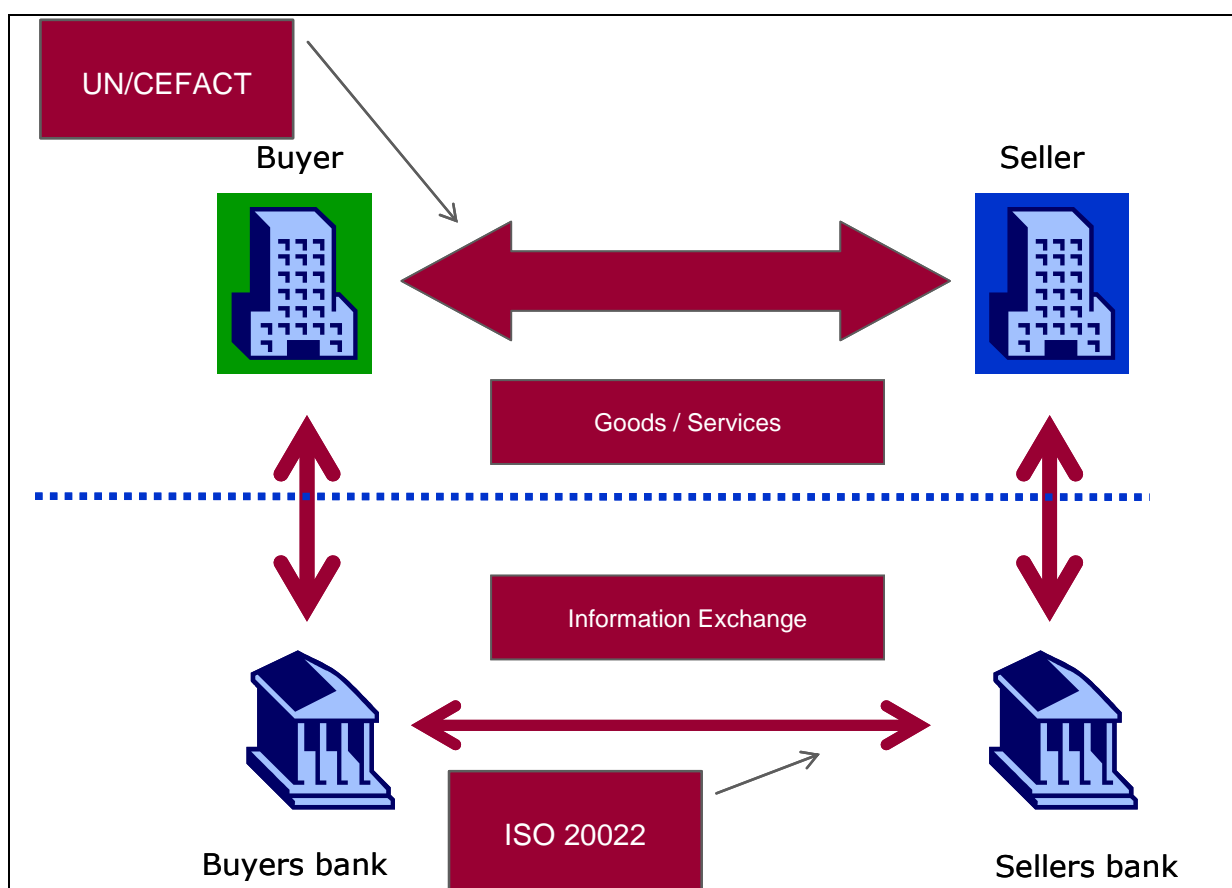
To make sure of this it is of course of outmost importance that users engage in the maintenance process of the single semantic data model to ensure this does not happen in a fragmented non-standardised fashion.

## 6.5. E-invoice Content Standards – Link to supply chain and payments

The e-invoice message and semantic data model can naturally not be portrayed in isolation and needs an integrated linkage to the broader procurement/supply chain processes and payments. This has been ensured by the development of the recommended semantic data model.

A simple example will be that any representation of the single semantic data model is integrated with the wider set of procurement messages, for CII certainly that is the case compared to the other UN/CEFACT messages.

By having invoice data integrated within the payments messages means that these can facilitate payments or direct debits as part of the full end-to-end STP for the enterprises. Furthermore by rendering the same semantic data model in multiple methodologies these solutions can map and still travel without restrictions between the financial environment and in support of various e-invoice related services offered to the market.



In essence there will be full support by the financial services for the trade processes of the enterprises.

## 6.6. *E-invoice Content Standards – Recommendations*

After careful evaluation the Expert Group recommends:

- The UN/CEFACT<sup>14</sup> Cross-Industry Invoice (CII) v.2 is adopted by all actors within both the private and public sector, as the common reference semantic data model upon which future e-invoice content standard solutions are based. CII is currently the only international data model that covers the requirements of different industries and sectors. It provides the required connection between the various supply chain messages and is integrated with financial services requirements. UN/CEFACT products and standards are recognised and accepted globally.
- Structured invoices should comply with this data model provided that the data elements required by the user are present in CII v.2.
- Trading parties, service and solution providers and especially ERP & application providers should begin migration using the CII v.2 data model either within existing solutions or by converging on new ones.
- Convergence in the area of syntax and methodology expression is recommended. This convergence will avoid standards fragmentation and unnecessary cost burdens. Whilst the ultimate goal should be the single syntactical format, it is clearly recognised that in the interim 2 or 3 mutually interoperable syntactical formats would foster mass adoption and provide support for the reference semantic data model.
- UN/CEFACT and ISO, as global standards organisations should continue to collaborate on the development and maintenance of the CII and implement the model in their own interoperable methodologies and data dictionaries to enable maximum integration of the procurement, invoicing, payment and reconciliation processes. This will continue to foster end-to-end STP and will support migration to SEPA. It will simplify message conversion, integration and communication. It will also help to minimise implementation costs for SMEs.
- Inclusion in any e-invoicing solution, of the proposed core invoice data-set as a minimum, based on the CII v.2 and described in Annex 7.
- Users of e-invoice services should complement the recommended single semantic data model with standardised extensions in cases where this is needed by national regulations/requirements or due to industry specific requirements.
- UN/CEFACT as the supplier of CII delivers the mechanism to cater for such standardised extensions and recording of subsequent variant usage of the CII and to provide more detailed user guidance on the CII v.2.
- The European user community should develop clear profiles and implementation guidelines based on common recommendations facilitated through CEN to support the use of e-invoicing and facilitate interoperability. These implementation guidelines should be made freely available and stored publicly. Until full standards convergence based on these implementation guidelines occurs, the use of choreography specifications and format conversion tools will continue to facilitate mapping between standards.
- Users of the referenced semantic data model to engage actively in the maintenance and further development of CII.
- The UN/CEFACT to complete the necessary components to support implementation of the CII standard as soon as possible so that the whole package can be launched by the end of 2010.

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<sup>14</sup> More information about UN/CEFACT at [www.unece.org/cefact/about.htm](http://www.unece.org/cefact/about.htm).

## 7. Organizing for implementation

The establishment of the Expert Group on e-Invoicing by the Commission has successfully stimulated market interest. It has focused attention on regulatory obstacles and best practices. The recommendations of the final report are based on extensive work and derive value from the strong consensus in the Expert Group and the wide support of stakeholder groups with which the Expert Group has been in contact.

The next phase will be the implementation of the recommendations as contained in this EEIF and the general promotion of e-invoicing, which will require determined efforts in the coming years.

The Expert Group envisages two clusters of activities that need to be led and managed.

### 7.1. *Advocacy and development*

A second cluster of required activities involves the continued advocacy and development of e-Invoicing among all interested parties and stakeholder groups. The strong leadership of the European Commission and certain Member States now needs to be complemented by activity at the level of all Member States. Two levels of activity are recommended:

National e-Invoicing bodies: Each Member State should create or mobilize a new or an existing body to act as the champion and advocate for e-invoicing in their environment. Such bodies could be created or mobilised as appropriate by government, the private sector or a mixture of the two. The composition of such bodies should be balanced and represent a cross-section of interested stakeholders. It is now essential that advocacy and development activities are now centred in the Member States to ensure proper engagement and integration into the commercial, taxation and procurement practices of each country environment. These bodies could be mobilised immediately.

Pan-European e-Invoicing Forum: At European level the Expert Group recommends there should be a multi-stakeholder e-Invoicing Forum made up of 1 or 2 representatives of the Member State bodies meeting quarterly (or as required more frequently). It is proposed that the larger Member States send two representatives each.

Ten further seats should be added for experts, constituencies missing from the national selection processes, pan-European associations, and the Commission etc. The European Commission should ensure a balanced composition of interested stakeholders.

The body should elect a Chair and a Steering Committee and be supported by a Secretariat provided by the European Commission, who should take a pro-active role. It should have the necessary resources to undertake wide communication and maintain an active website.

No market driven body able to take on this task has been identified and the proposal is that the Commission continues to drive the development by establishing the Forum for at least an initial two year period.

The body should have the following concrete tasks in full liaison with the national e-Invoicing bodies:

- Support and monitor adoption of the Invoicing Directive and other regulatory simplification and harmonization recommendations;
- To maintain and further develop the Code of Practice;
- Support and monitor adoption of the CII and give continuing guidance to relevant standardization bodies for further development of standards;
- Support and monitor roll-out and observance of the Guidance Recommendations for Interoperability;
- Monitor adoption rates of e-invoicing and identify and share best practices;
- Identify and promote EU-wide action harmonization programs – such as automation of procurement, accounting and financing enhancements etc – building on the e-invoicing platform;
- Undertake communication and promotion, regulatory relations, and stakeholder consultation;
- To provide an environment for the progressive maintenance and further development of the European e-Invoicing Framework, as required.

Out of scope for the Forum would be national activities, detailed standardization work and commercial value propositions.

The body should not be a regulatory or statutory body.

The formation of any trade associations to represent the interests of market participants is a separate matter.

In comparison with other environments such as payments, the e-Invoicing value chain and the interplay between the co-operative and competitive space are far more complex. Furthermore the e-invoicing initiative recognized at an early stage that there could be many e-invoicing models, solutions and schemes competing for market acceptance. As a consequence, it would be inappropriate, for example, that the relatively straightforward governance model of SEPA is applied to the e-invoicing initiative.

Suggestions have been made that e-Invoicing is but one component of the supply chain and therefore the focus of any further initiative should be on this more holistic agenda. Having considered this, the Expert Group is of the opinion that e-Invoicing can play a catalytic role for these wider changes and deserves a concrete and dedicated focus at least until e-Invoicing adoption has achieved higher levels than at present. During a subsequent phase it would be quite feasible to enlarge the agenda to include all forms of business process and supply chain automation.

## **7.2. Standardization**

The requirements are to:

- To take forward the CII v.2 content standard: including the preparation of a set of European implementation guidelines to be completed as soon as possible and no later than September 2010;
- To further develop the Guidance recommendations for interoperability including questions relating to addressing and identifiers;
- To develop reference implementation models and best practices for standards implementation.
- To formulate and channel specific requirements for the further development of the UN/CEFACT CII v.2 data model.

The Expert Group recommendation is to continue the current CEN Workshop and enhance its activities to take account of the Expert Group recommendations. The previous CEN/ISSS Workshops have worked well and could easily be evolved into a long term activity. This activity should be open to all interested parties, with transparent governance and balanced representation, a well accepted consultation and decision making process, the continued expectation that participants will provide the necessary resources in terms of effort, and the assurance that resulting standards will be made available free of charge. The Workshop should operate on a rolling basis with a work programme agreed at least annually based on clear and measurable objectives, business plans, the deployment of a qualified project manager and draft consensus documents to be submitted to public consultation. These activities need to be fully aligned with the work of the Pan-European e-Invoicing Forum described in the paragraph above.

In the area of e-invoicing, CEN should provide the necessary consensus-based platform and tools to help the implementation of relevant standards in Europe, and to ensure international standards bodies meet European requirements. CEN will continue to be the European gateway into UN/CEFACT.

## **7.3. Communication**

The processes above should be supported by a soundly constructed and well-executed communications plan. A proposal is set out as Annex 5.

The key objectives of the communication plan should be:

- To ensure that e-invoicing moves towards the top of the agenda, in view of its huge potential benefits to the economy and society.
- Promote the EEIF and support its adoption by all stakeholders as appropriate to their situation.
- To create consensus, drive convergence, and reduce duplication
- Ensure market adoption of e-invoicing by SMEs as well as large corporates and public administrations.
- To receive feedback in order to continuously improve the e-invoicing environment



In support of these objectives, the following activities and approaches are recommended:

- Wide dissemination of the EEIF, commencing with its publication and followed up by an open conference to take place during the first half of 2010 as part of a consultation process.
- Communication should be tailored towards 'multipliers and enablers' such as EU Member States, service providers and other influencers as well as towards end-users;
- Focused on communicating elements which directly drive and accelerate take-up of compliant electronic invoicing, avoiding legal (mis)interpretation
- All communication efforts should be consistent and sustained over time and actively crafted for the various target audiences.

On the basis of these organisational proposals and the active participation of all stakeholders, the adoption of e-invoicing, within the EU will be materially encouraged. However, e-invoicing is ultimately a commercial practice and requires the recognition by trading parties that it carries clear and present benefits and a strong business case to support its introduction.

## Annex 1

### List of members and observers

|  |                       |
|--|-----------------------|
| <b>Chairman:</b>   |                       |
| HARALD Bo  |                       |
| <b>Members:</b>  |                       |
| BIELEFELD Norbert  | KARLSSON Leif         |
| BRYANT Charles   | KETCHELL John         |
| BUSCHMAN Tom   | KOCH Bruno            |
| CICIRIELLO Carmen  | KORSGAARD Stig        |
| CORLUY Nicolas   | KUIPERS Joost         |
| ENGEL-FLECHSIG Stefan  | LAGA Gerhard          |
| FÖRDERER Klaus   | LAUBE Marcus          |
| FRATINI PASSI Liliana  | PETMEZAS Thanassis    |
| GARCIA-MARTIN Maria-Jesus                                    | POTGIESER Peter       |
| GROTKOVSKY Marian  | POUTIAINEN Erkki      |
| GROUSSET Anne  | SALMONY Michael       |
| HARTSINK Gerard  | SCHADE-SØRENSEN Helle |
| HAUTALA Markus   | SUOMINEN Risto        |
| HAYDL Karl-Heinz   | TABASSO Gianfranco    |
| HEMMERLING Marc  | TRAVESSET Jorge Luis  |
| <b>Members who have resigned during the two-year period:</b> |                       |
| CHAMBERS David   |                       |
| SCHÖNFELD Bettina  |                       |
| JAUNDALDERS Aigars   |                       |
| <b>List of external experts:</b>                             |                       |
| BLOTTKO Bianca   | SCHÄFER Christian     |
| VAN DER VALK Christiaan                                      | GARNIER Jean-Yves     |
| THORNTON Kevin   | SALO Jari             |
| WHITTLE James  | JANSSEN Coen          |
| KÖRNER Jan   | LENNARTSSON Sören     |
| FORYSZEWSKI Stefan   | BERNIER Gwenaëlle     |
| NÄÄTSAARI Raimo  | NISBETT Tony          |

| <b>List of observers:</b>                                 |                                |
|---|--------------------------------|
| <b>European Central Bank (ECB)</b>                        | <b>AMUNDSEN Elin</b>           |
|   | <b>LAMMER Thomas</b>           |
| <b>PEPPOL</b>   | <b>VILSTRUP PEDERSEN Klaus</b> |
|   | <b>HIPPE BRUN Mikkel</b>       |
|   | <b>SKULASON Bergthor</b>       |
| <b>European Commission lead services and Secretariat:</b> |                                |
| <b>DG Internal Market and Services</b>                    | <b>MUYLLE Jean-Yves</b>        |
|   | <b>CALUWAERTS Philippe</b>     |
|   | <b>HEINEN Gerd</b>             |
| <b>DG Enterprise and Industry</b>                         | <b>ANDROPOULOS Costas</b>      |
|   | <b>CONTE Antonio</b>           |
|   | <b>ELLARD David</b>            |
|   | <b>GERHARDS Eva</b>            |
| <b>European Commission other services:</b>                |                                |
| <b>DG Taxation and Customs Union</b>                      | <b>WILKINSON Gary</b>          |
| <b>DG Information Society and Media</b>                   | <b>TROYE Anne</b>              |
|   | <b>GERONYMAKI Maria</b>        |
| <b>DG Competition</b>                                     | <b>FOREST Dominique</b>        |
| <b>DG Informatics</b>                                     | <b>CASTRILLEJO Emilio</b>      |
|   | <b>BREYNE Pieter</b>           |

## Annex 2

### Dissenting minority opinion

A member of the Expert Group, **Gianfranco Tabasso**, did not vote in favor of the final report. Hereunder, he argues the reasons of his dissent.

I am in disagreement with the report of the Expert Group, in particular with the recommendations of chapter 4, for the following reasons:

1. In my opinion, the move from a rule-based to a principle-based VAT Directive and the elimination of Article 233 go in the opposite direction of what is needed to create legal certainty, clear rules and compliance with standards. In a technical domain like e-invoicing, the latter are requirements for “more” interoperability among e-invoicing providers and end-users.

In my view, in their deliberations, the EG based itself on the false premise, that electronic signatures are the major obstacle to a wider use of e-invoicing. E-signature is depicted as a complex, costly technical device that scares away SMEs and is “unnecessary” to provide Authenticity and Integrity of electronic invoices. I maintain that “complexity” is not created by the e-signature – a simple, low cost, indispensable instrument for protecting e-documents end-to-end on open networks – but by European VAT Legislation, whose voids (e.g. legal archiving), ambiguities and options left to MS led to significant differences in local legislation and practices and to a lack of cross-border interoperability. Eliminating Article 233, a norm upon which, in the last 8 years, the majority of member states have built detailed national e-invoicing legislations, undermines the certainty of the law and the uniformity of use which those legislations have painfully achieved. Making e-signature an “optional”, replacing the norm with “freedom of choice” and voluntary compliance with a set of “high principles” and a “generic” Code of Conduct introduces a great deal of uncertainty in the market, arbitrariness on the part of Tax Authorities and diversity of solutions which, in turn, make interoperability more difficult. In my view, the discussion about these principles was inadequate and, as a result, the EG has failed to give an original interpretation which is both convincing and useful in the real world.

2. I consider the idea that companies’ “internal controls” are enough to guarantee Tax Authorities the Authenticity & Integrity of fiscal documents as “naïve”. It may be true that a trusting liberal approach works well in small homogeneous member states but cultural differences and the ever-increasing rate of fraud and error in electronic exchanges should advise anyone to increase, not lower, the level of security in data exchange, especially when documents have an accounting and fiscal value and must comply with specific norms (tracking, tracing, auditability).

3. Finally, in the section on e-invoice standards, no mention is made of UBL 2.0, the most well known Supply Chain standard for open networks, used by many corporates, business communities, public administrations and the Commission itself in the PEPPOL project (public e-procurement). Projects such as CAST, conducted in 2007-2008 by the EACT, gave clear recommendations on standards, interoperability of e-invoicing and e-signature, and service provider alliances. I believe an alternative course of action is possible at present to reform Directive 2006/112/EC and to bring about more uniformity and interoperability in national legislations.

# Annex 3

## Code of Practice for Electronic Invoicing in Europe

12 November 2009

Version 1.1

Approved by Expert Group Plenary on 12 November 2009

- 1 Objectives
- 2 Core Principles
- 3 Core Principles – Implementation and Benefits
- 4 Implementation of the Code of Practice by Businesses
- 5 References

Annex to the Code of Practice – Typical Invoice Lifecycle

### **1. Objectives**

Trading parties, solution providers and tax authorities need legal certainty, a key element for a proper functioning of the Internal Market and for realizing the huge process, labour and cost-efficiency benefits, which electronic invoicing processes could provide.

Legal certainty requires clear, easy to apply and EU wide harmonised regulations which are uniformly implemented by Member States across the EU and uniformly applied by the relevant tax administrations in the Member States.

The objective of this Code of Practice is therefore:

- to provide legal certainty for business in Europe in processing invoices by electronic means, and
- to foster an e-invoicing friendly environment in Europe by increasing mutual trust between all involved parties in the processes applied.

This will assist business and authorities to meet present and future regulatory requirements for electronic invoicing and to assure them on the best practice applied consistently across Europe.

The practices are equally applicable to transactions taking place within and between Member States of the European Union and could also be used to drive a common approach in countries outside the EU.

Full harmonization of provisions governing electronic invoicing within the EU27 should be a key objective in the interests of the Single Market and ease of use for trading parties across Europe to create a level playing field and legal certainty. There should be no distinction between invoicing carried out on a domestic basis or between Member States.

The same harmonized provisions should apply for both e-invoices related to domestic transactions and for those related to intra-community transactions.

Many of these principles are already practiced in the EU27, and in some member countries these principles are explicitly stated in National Guidance Documents.

## **2. Core Principles**

Each implementation of electronic invoicing in Europe should be based on the following core principles:

- a. Equality of treatment: It should be as easy to issue and receive electronic invoices as it is with paper invoices. No legislative or other requirements should be imposed on electronic invoices above those that exist for paper invoices today.
- b. Technology neutrality: Technological neutrality should be maintained in order to provide trading parties with choice over current and future solutions and to ensure the integrity of their processes.
- c. Business controls: The prime means of providing legal certainty in the e-invoicing process should be the administrative, risk management and business control framework of the trading parties. These may include the matching of relevant documents and data throughout the ordering and invoicing process, accounting and archiving procedures, and auditability by internal and external auditors, or any other means or processes implemented by trading parties that provide the equivalent level of assurance.
- d. Mutual Recognition: To ensure a proper functioning of the Internal Market Member States should mutually accept the business control framework and other recognised implementation methods of trading parties involved in EU cross-border transactions (e.g. a German supplier's business control framework / recognised implementation methods should be accepted by its UK customer's tax authority).
- e. Auditability: Businesses must be able to demonstrate and explain their administrative and control capability. Businesses must maintain an audit trail, including the underlying transaction data and any relevant supporting documentation and data, which must be accessible towards external auditors, both statutory and tax. Accessibility must be ensured for at least six years.
- f. Readability: Businesses must ensure that the competent tax authority and all other relevant parties can humanly read, readily interpret and audit the underlying transaction data and any relevant supporting documentation and data.
- g. Maximum choice: In order to ensure that technologies and business processes can freely evolve, and to allow enterprises to optimize these business processes and administration in a manner that best suits their unique business environments, Member States should allow enterprises to freely choose how they structure and operate the relevant business processes within the framework set out in this Code of Practice.

- h. Proportionality: Businesses should not be required to implement control measures for auditability purposes that are disproportionate to their individual circumstances. Circumstances that must be taken into account include, but should not be limited to, the size of a company, the nature of its business, the value and frequency of its transactions, its number of trading partners and the stability of its trading partner network.
- i. Use of service and solution providers: Where required, trading parties are free to use service and solution providers. Where they have agreed to use one or more providers, they should explicitly authorise such provider(s) to perform the agreed outsourced processes, including tax relevant processes, on their behalf, whilst considering that each trading party is responsible in its role as a taxpayer for the validity of its returns and claims.
- j. Public and private sector: It is important that provisions regulating invoicing processes apply equally to trading involving both the private and public sectors and facilitate the whole procurement process and the data exchanged in the process.
- k. Legal harmonisation and simplification: Member States may not impose, both in VAT and in other areas of law, any obligations or formalities other than those laid out in the Commission's proposal in relation to the transmission and storage of invoices.

These core principles are essential to foster a prosperous future environment for e-invoicing across the European Union. They can only be successfully implemented into practice if standards, business requirements and legislation converge towards a common approach. Legislative changes are required to create legal certainty, mutual trust and therefore a level playing field across the EU, which the Commission wants to achieve with its recently published Invoicing Proposal.

### **3. Core Principles – Implementation and Benefits**

In order to provide assistance to businesses and tax authorities in adequately implementing the above defined Core Principles, it is fundamental to identify and clearly describe the implications of the Core Principles for the different market participants.

This section of the document will support the European e-Invoicing stakeholders in giving the complete picture and understanding of future legal market developments and expectations.

Two main actors have been identified:

- tax authorities, and
- businesses exchanging e-invoices.

In the following part of this section of the document key implications for these actors are described.

Solution providers have not been individually addressed in this document as they will be responsible for delivering solutions that fully meet business requirements, in accordance with the Core Principles.

### 3.1. Tax Authorities

Tax authorities have a particular interest in invoices as they are an important document from the VAT perspective. It is the document on which the VAT value of a supply is calculated and from which VAT declarations are derived. To demonstrate that VAT declarations are correct businesses will have implemented a commensurate administrative and control environment like or equivalent to that described below, and a system that provides auditability, including an appropriate audit trail. If a business has this environment in place, and they will because it is a precursor to a successful business operation, it is immaterial whether the invoice is paper or electronic, tax authorities will be able to verify business' VAT declarations.

Whether businesses use paper or electronic invoices a proper audit trail needs to be maintained and available both for internal and external auditors. Businesses need to comply with these aspects based on the regulations already in place across EU Member States. The invoice is only one important document in the value chain of transactions for the supply of goods and services and therefore only one important document in the audit trail. Other relevant documents include purchase orders, transport documents, delivery notifications and remittance advices. These documents need to be auditable and accessible and tax authorities can ask for them within their audit process. Additionally, tax authorities are entitled to ask for electronic access to the business' ERP systems, which allows them to carry out detailed checks and reconcile the systems entries with the underlying transaction documentation. Based on the regulations already in place across the EU, proper auditability of the business' transactions, processes, systems and underlying documentation is, therefore, also guaranteed in an e-invoicing environment.

Where invoices are in electronic form there can be a significant increase in audit efficiency of benefit to both tax authorities and businesses. As the data is readily available in electronic form, computer assisted audit techniques and statistical sampling can be used to validate the data. Also, electronic document archives enable quick access to information. Examination and cross-checking of information becomes dramatically faster.

Moreover, electronic invoicing allows businesses to use innovative business processes, which can incorporate high reliability control measures. This can reduce the risk of errors in VAT declarations and therefore provide certainty to businesses and tax authorities.

There remains a lack of standards in e-invoicing practice. Significant efforts are currently being invested in developing new e-invoicing technologies and market practices. Any regulatory intervention to narrow the scope of potential options is likely to harm innovation in this area. It is important that businesses in Europe can choose the e-invoicing technologies, business control framework and processes that best fit their unique circumstances. Businesses must be able to implement the e-invoicing processes they wish, without fear of being penalized merely because they have not used a pre-defined form or method. Imposing limited options for e-invoice implementation is not only counterproductive for businesses, but also the European economy.

Tax authorities should therefore implement the Core Principles, by, for example:

- developing, through Fiscalis, and implementing common, transparent audit guidelines;
- fostering mutual cooperation in auditing across Member States.



## 3.2. Businesses

It is important that all businesses participating in the e-invoicing market are provided with legal certainty through a user-friendly regulatory and legal framework. This is the key aspect for mutual trust and for a prospering e-invoicing future. At the same time, these businesses need to operate and demonstrate stable, reliable and auditable business processes to provide internal and external auditors with the assurance they require.

By applying the Core Principles of this Code of Practice, businesses will be able to provide the required reliability and certainty of their e-invoicing process through a satisfactory level of controls and procedures embedded in their operations. It is also recognised that businesses may want to supplement the controls embedded within their business processes by using existing and future technologies or services, in line with their business needs. Businesses must be allowed to implement such control measures that are proportionate to their individual circumstances. Controls can be set at any point within the business processes supporting the supply chain between trading parties, so as to maximise their effectiveness.

The invoice is an important document in the value chain of transactions for the supply of goods and services. Other relevant documents include purchase orders, transport documents, delivery notifications and remittance advices. Together such documents form a chain of inter-locking documentation providing a foundation for business control framework to provide evidence on a valid business transaction.

The business control framework may consist of an invoice exchange process whereby the buyer, upon receipt of the invoice, cross-checks/validates the invoice with other critical business data. The inclusion of purchase orders and contract performance (e.g. delivery) data, where available, in this reconciliation may further strengthen the buyer's evidence position. Most business controls validate the invoice to other parts of the cycle (purchase order, contract, receipt of goods, transport documents, etc.) and the master data for the supplier involved (static data such as VAT ID-No., bank accounts, etc.). The controls inherent in the invoice lifecycle, when fully implemented, provide a satisfactory business control framework. A risk-analysis based approach that demonstrates typical business risks and controls to mitigate those risks should also be included and be based on the business' individual circumstances, which include, for example, the size of a company, the nature of its business, the value and frequency of its transactions, its number of trading partners, etc.

To meet their individual business control framework circumstances businesses are free to implement supplementary controls. Examples of supplementary controls which can be utilized include, but are not limited to:

- Closed system controls: Control processes can be enhanced by businesses using value-added networks, other managed networks, bilateral EDI or comparable processes. Controlled exchange environment and automated message verification in the structured exchange makes controls easily reproducible.
- Data-level controls: Companies can place the emphasis of control on the data level by using techniques such as electronic signatures. A consistent application of data-level technologies throughout the process, including archiving, can enable parties to ensure enhanced protection at data-level.
- Sealed-off environment: In some environments enhanced reliability, certainty and auditability can arise as a result of the invoice being created, received and stored in a sealed-off hosted service environment.

The above mentioned examples can be managed in-house but could also be outsourced.

Businesses are free to use any technology tool to foster e-Invoicing adoption and innovation that meets the defined Core Principles as described in Section 2.

Audit trails must be maintained and be available, for both internal and external auditors, that make it possible to reproduce significant steps in the process (both system and documentation) to comply with regulations already in place across EU Member States. Third party audit reports may strengthen evidence of historical correctness of non-reproducible processes. Storage solutions used in this option must guarantee a proper audit trail of both systems' data and documentation, including invoices, as well as reasonable measures to avoid their loss.

An electronic invoicing system that is consistent with but not limited to any of the above mentioned supplementary controls should be automatically recognized by all Member States. Businesses are therefore entitled to assume that these recognised implementation methods will be accepted by other Member States when conducting electronic invoicing between different EU Member States.

The 'CEN Compliance Guidelines' for e-invoicing can be used by market participants on a voluntary basis, to support self-assessment of the robustness of their preferred e-invoicing solution.

#### **4. *Implementation of the Code of Practice by Businesses***

The Code of Practice is advisable for implementation by trading parties in a number of ways, as follows:

- Such provisions as are selected from the Code of Practice could be incorporated in a bilateral agreement entered into between trading parties on a voluntary basis.
- Such provisions as are selected from the Code of Practice could be incorporated in an organization's general terms and conditions and placed on record to its trading parties.
- Such provisions as are selected from the Code of Practice could be agreed by the trading parties in writing by way of a simple implementation memorandum and kept as proof towards external parties, which demonstrates the existence and common understanding of the process the trading parties put in place.
- Service Provider Agreements could contain a set of selected provisions which become binding for its users.
- Businesses should make reasonable efforts to support a range of recognized implementation methods as defined above and as expected by their trading parties
- In all cases, the trading parties are responsible for taking the necessary practical steps to give effect to the recommended practices, cooperating as required with their trading partners and solution providers as part of their normal commercial relations.

In the final analysis each trading party is responsible for the appropriateness of its own control environment and in its role as a taxpayer for the validity of its returns and claims.

## **5.     *References***

The above Code of Practice must be interpreted in the light of evolving technologies as well as business and audit processes and should create a freedom and environment for such technologies and processes to develop.

It might be of great importance and help to create a new representative body that represents all E-invoicing stakeholders and provides a forum to discuss, evaluate proposals, identify and promote best practices and monitor market developments.

## **Annex to Code of Practice – Typical Invoice Lifecycle**

The invoice is an important document in a set of documents in the value chain of transactions for the supply of goods and services. Other relevant documents include purchase orders, contracts, transport documents, delivery notifications and remittance advices.

All documents, i.e. invoices and supporting documents form a chain of interlocking documentation that covers all aspects of physical and actual fulfilment of an order or contract and the financial supply chain.

From these documents transactions are entered and processed in the business' accounting and/or other internal systems and the underlying documents are documented and/or stored by the business so that they are available when it comes to internal and external audits (both statutory and tax authorities). An invoice is not paid on a stand alone basis; an invoice is just one important document in the 'purchase to pay' cycle and in the audit trail of a transaction.

A typical invoicing process is as follows:

1. Before an invoice is issued the business partners will have normally agreed a contract, have placed a purchase order, have already delivered or are about to deliver the respective product or service, and have created a customer or supplier master data file in their respective accounting system.
2. The supplier issues an invoice to request the payment due on the agreed supply.
3. At the same time the invoice gets booked in the supplier's ERP system and the respective documents underlying the transaction, e.g. order and dispatch note, will be stored by the supplier, creating an audit trail for the transaction.
4. The customer receives the invoice.
5. The invoice details will be captured into the customer's ERP system.
6. Before the customer pays the invoice it will go through an authorisation process (part of the business control framework). This will include checks on the invoice content, and that the invoice matches the purchase order / contract, receiver documents (e.g. good receipt note, etc.) and supplier master data
7. If any of the matches do not succeed, payment is not made and a dispute case is created to resolve the case so that payment can be made.
8. The invoice and all the underlying documents to the transaction are stored by the customer and an audit trail of the transaction (both system and documents) is available for internal and external audit purposes.

The invoice lifecycle for paper and electronic invoices is comparable.

For small businesses the invoice lifecycle will follow the same principles and have the same objectives but may be simpler operationally. The controls in place will be commensurate with the volume of transactions and size of business.

## **Annex 4**

### **Guidelines for SMEs in adopting electronic invoicing**

#### **1. *Purpose and background***

These guidelines contain information and guidance directed at small and medium-sized enterprises (SMEs) and the organisations that support them. They are country and industry neutral. It is recommended that they are translated into local languages, adapted to country specific needs and, as appropriate, enriched with national content and flavour. Such guidelines can only give a brief overview of the topic and some useful tips & hints for the selection of appropriate models and solutions.

In reality, electronic invoicing is strongly growing. During 2008 more than 1 million European enterprises had already become adopters and this number is increasing dramatically. Users can benefit from substantial cost savings, automated processes and quality improvement. In addition, they can meet demands from their important trading partners for innovative and paperless channels.

#### **2. *Advantages of e-Invoicing for SMEs***

Large organisations with high invoice volume have recognized early on the advantages of e-Invoicing and often push their supply chain suppliers or customers into the adoption of e-invoicing themselves.

An increasing number of SMEs is becoming aware of the many benefits of e-Invoicing for them:

- Customer retention: fulfilling the expectations of trading parties
- Quality improvement: through direct communication and elimination of errors caused by manual handling
- Efficiency gains: through optimized and automated processes, better transparency of working capital movements and faster payment of invoices
- Cost reduction: based on a compelling business case

### 3. **Business Case for SMEs**

Various sources have published figures about the saving potential of e-Invoicing many of them however focusing on the benefits for larger enterprises. They may concentrate on the view of e-Invoicing as a pivotal process in its own right, whereas others consider the full supply chain and the complete range of documents.

On **outbound side**, one cost element involves invoice printing, the postage stamp, enveloping and mailing costs. This often represents just 10 % of the full costs.

Other cost elements are often not recognised at first glance. Further benefits can arise from:

- reduced sales and back office costs (e.g. less enquiries in the event of dispute)
- debtor interest cost reduction
- IT and operational efficiency
- reduction in payment fees
- fewer customer requests for copies of lost invoices
- reduced payment reminders (typically 10–15 % of invoice volume)
- real-time data validation on the customer side with immediate rejection of invalid invoices and the chance to resend a correct one very quickly
- automated payment remittance data
- archiving costs reduced

An employee in the accounts payable department can typically process 5 000–15 000 paper invoices per year. The adoption of e-invoicing could result in staff cost savings alone of EUR 5–15 per invoice.

Considering all the immediate cost/benefit components in replacing manual and paper based processes, the following order of magnitude of savings should be possible with electronic and automated invoice processing:

| No. of employees | Industry                | No. of annually issued invoices | Potential savings (EUR) |
|------------------|-------------------------|---------------------------------|-------------------------|
| 5                | Consulting              | 100                             | 1 500                   |
| 5                | Manufacturing           | 1 000                           | 8 000                   |
| 50               | Engineering             | 1 000                           | 8 000                   |
| 50               | Electronic              | 20 000                          | 180 000                 |
| 200              | Pharmaceuticals         | 40 000                          | 320 000                 |
| 200              | MRO Goods <sup>15</sup> | 280 000                         | 1 680 000               |

On **inbound side**, the saving potential per invoice is a generally a little higher than on the outbound side.

But that is not all. Further costs are generated in the paper-based workflow and archiving process such as manual entry and coding. The full costs for processing traditional paper based invoices are quite often as much as EUR 20 per invoice.

<sup>15</sup> Maintenance, Repair, and Operations.

With electronic channels, receipt of invoices can be fully automated. Manual entry and coding is no longer necessary. The invoice data can be imported automatically into the accounts payable system – real-time import is possible, independent of volume. 100 % of the imported data is correct. The validation of key data happens automatically after the electronic invoice is uploaded by the supplier. Some key data such as the total amount are automatically matched with the contracted amount and respectively with the order information.

Dispute Management is also capable of being substantially automated:

- the dispute resolution with the supplier is often done today by phone, unstructured email or fax
- with electronic systems, the dispute handling can be improved or avoided
- many solutions support automated, structured and real-time exchange of dispute information between buyers and suppliers

In addition, archiving costs can be substantially reduced.

Considering these full cost impacts, further savings of 50–80 % of the first round of savings should be possible in addition to those tabulated above.

| No. of employees | Industry        | No. of annually received invoices | Potential additional savings (EUR) |
|------------------|-----------------|-----------------------------------|------------------------------------|
| 5                | Consulting      | 100                               | 1 200                              |
| 5                | Manufacturing   | 500                               | 6 000                              |
| 50               | Engineering     | 1 000                             | 12 000                             |
| 50               | Electronic      | 1 500                             | 18 000                             |
| 200              | Pharmaceuticals | 6 000                             | 60 000                             |
| 200              | MRO Goods       | 90 000                            | 720 000                            |

#### 4. ***The steps towards electronic and fully automated e-Invoicing***

Many SMEs prepare invoices with office applications, print and the send them as paper documents. The information on this paper invoice is 'just text'. This does not change if a PDF is generated and sent.

Users of Accounts Receivable and Payable systems type or re-type invoice information into certain fields of the system templates. This information (e.g. company name and address of supplier & buyer, VAT number, amount) is than stored as structured data.

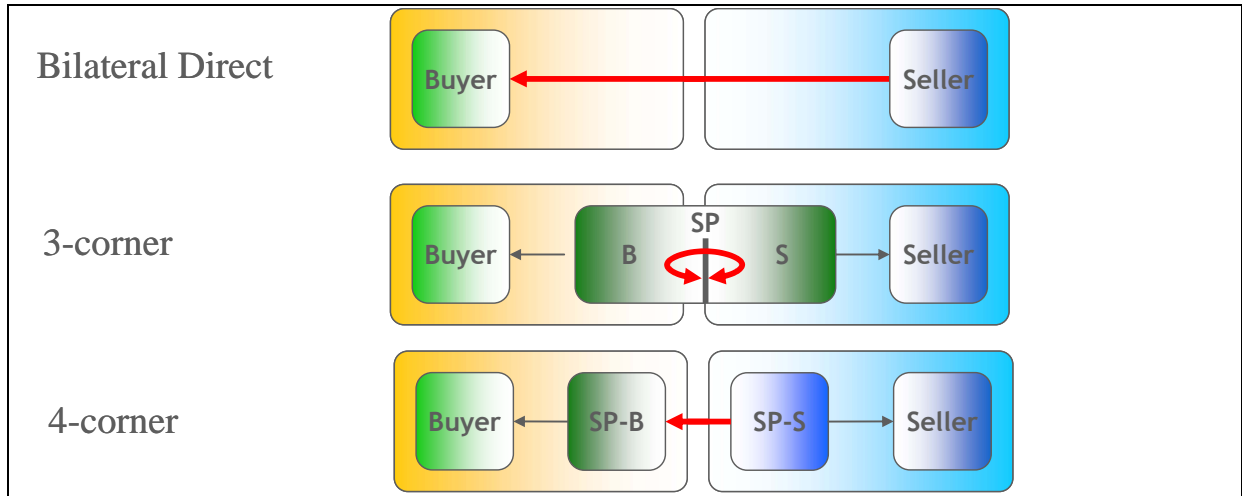
The more ambitious objective of e-Invoicing is to transfer structured data electronically through the end-to-end and process automatically in a tax-compliant manner. Ideally, it is fully integrated with all other electronic procurement and payment processes.

Between the traditional paper-based processing and this final aim, there may be one or more evolutionary steps, e.g.

| No. | e-Invoicing evolutionary step | Benefits                         | Description   |
|-----|-------------------------------|----------------------------------|---|
| 1   | Semi-electronic/paper         | Increasing with electronic share | Paper invoices and e-Invoices are issued and received in parallel. This is typical during the transition phase.   |
| 2   | Semi-automated electronic     | medium                           | Some electronic invoices are sent in unstructured form (e.g. PDF) and others are already in structured format (e.g. XML). Whereas PDFs still need some manual processing, the structured data allows automated processing in the accounting application. Suppliers may save some costs for printing and stamps. Buyers may have some benefits for archiving, but encoding has still to be done manually or via OCR recognition. |
| 3   | Fully automated               | high                             | All electronic invoices are provided and processed as structured data from end-to-end.  |



**5. Various channels are available for the presentation of electronic invoice**



|   |   |
|---|---|
| <p><b>Bilateral or direct Model</b></p> | <p>Within the bilateral model the supplier and the buyer organise and stipulate the exchange of invoices between themselves in a one-to-one relation and act as direct contracting parties.</p> <p>Suppliers provide their electronic invoices via:</p> <ul style="list-style-type: none"> <li>• Company portal; view and download after customer log-in (typically provided by large corporates with high volume)</li> <li>• Sending them to the customers as email attachments</li> </ul> <p>Buyers implement an e-Invoicing solution within their environment for receiving them via different channels and different formats:</p> <ul style="list-style-type: none"> <li>• They receive invoices directly as a data-stream ready for import into the accounts payable application</li> <li>• Some suppliers key-in the invoice data on a web-template in the corporate invoice portal (webEDI)</li> </ul> |
| <p><b>3-Corner Model</b></p>            | <p>The 3-Corner model describes the exchange between the supplier and the buyer utilising services of the same service provider, i.e. the trading partners have separate contractual relationships with the same service provider.</p> <p>Supplier and buyer have just one interface to their service provider, the consolidator. The service provider manages the data translation, the tax compliant invoice processing &amp; transfer and quite often the long-term archiving.</p>   |
| <p><b>4-Corner Model</b></p>            | <p>As in the 3-Corner model, each trading partner utilises the services of a contracted provider for the exchange of (invoice) messages. Within the 4-corner model the trading partners make use of the services of two different contracted providers; these service providers then need to organise the exchange of invoice messages between themselves. In certain cases the service providers do not have a direct agreement with each other and communicate with the help of one or more intermediaries. This is indicated by the term multi-corner model.</p>   |

## 6. Implementation options for invoice senders and receivers

Whereas the back office of some SMEs is organized and equipped in a way that is comparable to large companies, others have very limited IT capabilities. Perhaps, they prepare invoices only with an office tool, or their accounting solution does not support the desired export and import of electronic invoices. The final aim of e-Invoicing is to export the invoices directly from the accounts receivable system of the supplier, transfer them free of paper and import them into the accounts payable system of the buyer. If an SME is technically not able to fully support this automated end-to-end process, some steps between are already quite helpful for all trading parties. Depending on the individual situation, some of these options are simply described below:

| Sender environment   | E-Invoicing options   |
|--|---|
| Invoices generated with services on the web  | A large customer or service provider is offering a log-in and a template for keying-in the invoice data. They (should) ensure tax compliant processing and long-term archiving of the e-Invoice   |
| Invoices generated with Office tools (Word etc.)   | <p>1. Intelligent templates are perhaps offered by a customer, its service provider or as an open market offering. The SME can key-in its data directly. After pressing a button, the e-Invoice can be sent with both structured data &amp; a PDF in a tax compliant manner</p> <p>2. A Plug-In is offered, supporting e-Invoicing directly in Word. With this the sender may:</p> <ul style="list-style-type: none"> <li>• Generate/send PDF invoices (digitally signed in countries where required).</li> <li>• Install an off-the-shelf connection software, virtual printer driver etc. If a job is started, the e-Invoice is generated and can be sent to customers or service providers.</li> </ul> <p>For ensuring the authenticity and integrity, a signature solution is often required in many EU Member States. Ideally it is already integrated in the solutions described above.</p> |
| Sender is already issuing electronic invoice files (e.g. unsigned PDFs) today, but feels unsure if the method is tax compliant | It is strongly recommended to clarify legal compliance as soon as possible and to take steps to guarantee fully tax compliant e-Invoicing. For further details see the chapter below 'Where to get further information'. Perhaps, only a signature solution is necessary to convert the current scenario into a tax compliant solution.   |
| Accounts Receivable system without export capability   | <p>Ask a service provider, if exporting functionality will be offered or what alternative solutions (e.g. off-the-shelf connection software, virtual printer driver etc.) are recommended.</p> <p>A short term alternative is to generate/send PDF invoices (digitally signed in countries where required).</p>   |

|   |   |
|---|---|
| Accounts Receivable system with invoice export capability | <p>Check, if the output format already matches with the required target format of the customer or involved service provider.</p> <p>Map the invoice content with the data fields in a parameter table of the system if required (see corresponding user manual).</p> <p>For ensuring authenticity and integrity, a signature solution is required in most EU member states.</p> |
|---|---|

In all cases above, the legislation for e-Invoicing has to be considered, details see chapter 'Tax compliant e-Invoicing and archiving'.

| Receiver environment   | E-Invoicing Options  |
|--|--|
| Already receiving electronic invoice files (e.g. unsigned PDFs or XML) today, but unsure whether tax compliant | It is strongly recommended to clarify tax compliance as soon as possible in order to guarantee fully tax compliant e-invoicing. For possible information sources see the final section below. It is essential to encourage suppliers to only send tax compliant invoices and otherwise reject them   |
| Accounts Payable system without import capability  | <p>Ask a service or solution provider, if importing functionality is offered or what alternative solutions are recommended. If the received data is correctly transferred in tax compliant form, it must be archived as electronic invoice originals.</p> <p>Key-in the invoice data into the AP system manually, if no alternative is yet available and increase the pressure to your provider of the accounting application.</p> |
| Accounts Payable system with invoice import capability   | <p>Check, if the import format already matches with the provided format of the supplier or involved service provider.</p> <p>Map the invoice content with the data fields in a parameter table of the system if required (see corresponding user manual).</p>  |

To ensure the authenticity and integrity, a verification of the used signature is required in any EU Member States. Tools are available from signature providers or may be provided by a service provider (consolidator).

## **7. How to decide for the right method and identify the best solution provider**

With an early and pro-active approach, it is possible to carefully check requirements and compare them with the various solutions on the market for the direct as well as the consolidator model.

A short checklist will help during this process (small and micro- companies may ignore some of these points and decide for a more pragmatic approach):

## Analysis

- Internal
  - Involved and related processes, systems and divisions/branches/subsidiaries
  - Invoice streams
  - Obstacles and how to solve them
- Regarding trading parties
  - Volume
  - Technical capability
  - Willingness to adopt

## Concept

- Solution scenarios
- Decision Make or Buy
- Step-by-Step approach or 'big-bang'
- Implementation scenario
- Required investments and operation costs
- Rollout strategy

## Request for proposal (RFP)

- Top 20 requirements
- Other 'nice to have' requirements

## If solution or service is to be purchased

- Provider evaluation
- Benchmark
- Contract
- Test

## Implementation

- Internal adoption
- Test
- External adoption with suppliers and customers
- In countries where legally required (Germany, Switzerland...): document everything in a 'procedure documentation'

## Rollout

- Concept with scenarios for each sector of counterparts
- Dialogue with key suppliers and customers
- Mass-rollout

## **8. How to react, if trading counterparties are pushing you towards e-Invoicing**

An increasing number of SMEs are invited by trading partners to support e-Invoicing. In the final analysis it is beneficial follow technological progress and to fulfil the demand by larger trading parties provided the right degree of support is offered. Don't sacrifice the underlying business relationship.

Although there may be a number of challenges in quickly responding to requests to send invoices electronically, many aspects can be positively influenced even under time pressure.

| <b>Your current situation</b>                         | <b>Possible options, reactions &amp; questions</b>  |
|---|---|
| E-Invoicing is new for the enterprise                 | Review the options proposed by the trading party and/or its service provider. Decide on options as described in the sections above. Consider mainly solutions which are used by the most important trading partners.<br>If the trading party is pushing a particular solution or service, ensure that it is tax compliant and that the long-term archiving is also guaranteed (either in the environment or by third party service provider). |
| The enterprise is already using a 'direct' solution   | If possible treat it as an enhancement for an additional counterparty.  |
| The enterprise is already connected to a consolidator | If the trading partner is on the same platform an invoice exchange is immediately possible.<br>If the counterparties are using different consolidators ask the enterprise's consolidator for an interconnection between the two consolidator platforms.   |

## **9. Tax compliant e-Invoicing and archiving**

Correctly treated/processed/archived, e-Invoices can be fully tax compliant – no paper is necessary at all! Most solutions offered on the market will claim to guarantee tax compliance but such purchased solutions or outsourced services address only one part of the picture. Ultimately, trading parties are liable for tax compliant processing and archiving as it is already the case with paper based solutions. Especially in the case of cross-border invoicing, differing legal requirements pose significant challenges.

The legislation of most countries includes following mandatory rules:

- Authenticity of origin
- Integrity of the content of an invoice
- Long-term archiving and readability

For detailed guidance in terms of national legislation, see [http://ec.europa.eu/taxation\\_customs/taxation/vat/traders/invoicing\\_rules/index\\_en.htm](http://ec.europa.eu/taxation_customs/taxation/vat/traders/invoicing_rules/index_en.htm) or other sources as mentioned in the next chapter.

## 10. Where to get further information

| Topic  | Sources  |
|--|--|
| e-Invoicing initiatives of the European Commission: <ul style="list-style-type: none"> <li>• Enterprise and Industry</li> <li>• Internal Market and Services</li> </ul>                  | <a href="http://ec.europa.eu/enterprise/ict/policy/einvoicing/einvoicing_en.htm">http://ec.europa.eu/enterprise/ict/policy/einvoicing/einvoicing_en.htm</a><br><a href="http://ec.europa.eu/internal_market/payments/einvoicing/index_en.htm">http://ec.europa.eu/internal_market/payments/einvoicing/index_en.htm</a> |
| General information: <ul style="list-style-type: none"> <li>• EU and cross-border aspects</li> <li>• Country portals &amp; contacts</li> <li>• Providers</li> <li>• Standards</li> </ul> | <a href="http://www.e-invoice-gateway.net">http://www.e-invoice-gateway.net</a>  |
| Legislation (national)   | For SMEs, it's advised to ask questions to your accountant, tax advisor, national VAT Hotline or solution provider.  |
| ROI Calculators  | On numerous websites of providers  |
| eBusiness solutions Guide for SMEs   | <a href="http://ec.europa.eu/enterprise/e-bsn/ebusiness-solutions-guide/welcome.do">http://ec.europa.eu/enterprise/e-bsn/ebusiness-solutions-guide/welcome.do</a>  |

## Annex 5

### Communication Plan

#### 1. *Today's confusing market communication*

It is fair to say that communication about e-invoicing could be improved and typically problems are as follows:

- Hundreds of providers with various products and service models send very different market messages with the result that potential customers are often confused
- Too much (legal) disclaimer information is often directly attached to electronic invoices and related documentation resulting in negative reactions by potential users
- Some consultants, legal and tax advisers, and solution providers may intentionally or unintentionally create a fear factor especially regarding tax compliance when selling their services
- Interested persons/organisations often part of 'the closed circle of specialists' communicate a bewildering range of technical information (relating to standards, security, technology, legal aspects etc.) rather than delivering end-user friendly messages.
- Messages are often not tailored to the immediate target audience using appropriate language.

#### 2. *Communication: the EEI framework*

A communications plan is required to disseminate the main features and suggestions of the EEIF. The immediate focus should be on the EEIF and its directly related components, not other initiatives. The key principles for this should be as follows:

- There should be a focus on communication content, which directly helps to accelerate take-up of compliant electronic invoicing.
- Only material which has been already been ratified and is accepted current practice or will definitely become valid within 1 year should be communicated (i.e. incomplete, or vague proposals for long term implementation should be excluded)
- The language and messages should be adjusted for different audiences by communicating at a suitable level (for example the Code of Practice is a perfect instrument for discussion with service and solution providers, associations and large companies, but not directly for millions of SMEs).
- There must be no room for legal interpretation and misinterpretation.
- Sustain the communication effort over time (i.e. more than one shot / press release). Passive information offerings such as Web portals whilst important are not sufficient. The material must be actively 'pushed' to the target audience.

### **3. Main content to be communicated**

#### Category 1 (for communication to all)

- General information
  - Overview of e-Invoicing
  - Benefits in using e-Invoicing
  - Why do it now?
  - Market information
  - Glossary and terminology
- EEIF
  - Definition & Scope of EEI Framework
  - Conceptual structure
  - Legal developments
  - Standards and interoperability recommendations
  - Benefits
- Legal compliance
  - Legally valid options in all countries (including common denominators) for the period 2009-2012; i.e. what one should know regarding countries of operation and in the event of cross-border exchange with trading parties in countries using different legislative requirements.

#### Category 2 (to be communicated only in countries where 'Equal Treatment' already legally valid)

- Points from Category 1
- EEIF components based on legislative proposals for 'Equal Treatment' yet to be generally valid or valid only in certain countries. (Equal Treatment)

### **4. Possible general and e-invoicing overview information**

#### General messages, valid for all segments

- The drivers as set out in the EEIF
- The vision and target picture set out in the EEIF
- The market for e-Invoicing is maturing and a growing number of users are fully engaged.
- Electronic invoicing generates cost savings for all sizes of organisations
- Correctly handled, e-Invoicing is fully tax compliant
- For issuers and recipients, a high number of 'out-of-the-box' solutions and services are available with rapid implementation possible at reasonable cost.
- On behalf of the EC, an Expert Group has defined an EEI framework



### To EU27 Governments

- Electronic invoicing is actively pushed by many EU Member States
- Do it and promote it now, there is no reason to wait
- Best practice cases: it works and if not rolled out in one particular MS, other Member States are very happy using it
- It is a huge help for e-Government
- Governments can reduce costs; there is quick return
- Higher security & transparency; less manipulation/fraud, higher VAT and tax yields

### To Application and Service Providers

- Market demand for solutions and interoperability is high and growing
- EEIF will enable interoperability among service providers and reduce future costs
- Application and service providers should migrate to this EEI framework in order to increase the number of customers and the processed volume
- EEIF will strengthen the business case.

## **5. Target audiences and methods**

The following constituencies need to be targeted at European and national level and a specific segment communication plan developed:

- European Commission and Institutions
- National Governments
- National e-invoicing promotion bodies
- Regional Governments
- Standardisation bodies and collaborative initiatives
- Trade Associations
- Banks
- Large corporate enterprises
- SMEs
- Service and solution providers
- Consultants and Advisers
- Trade press and web portals
- Conference organisers

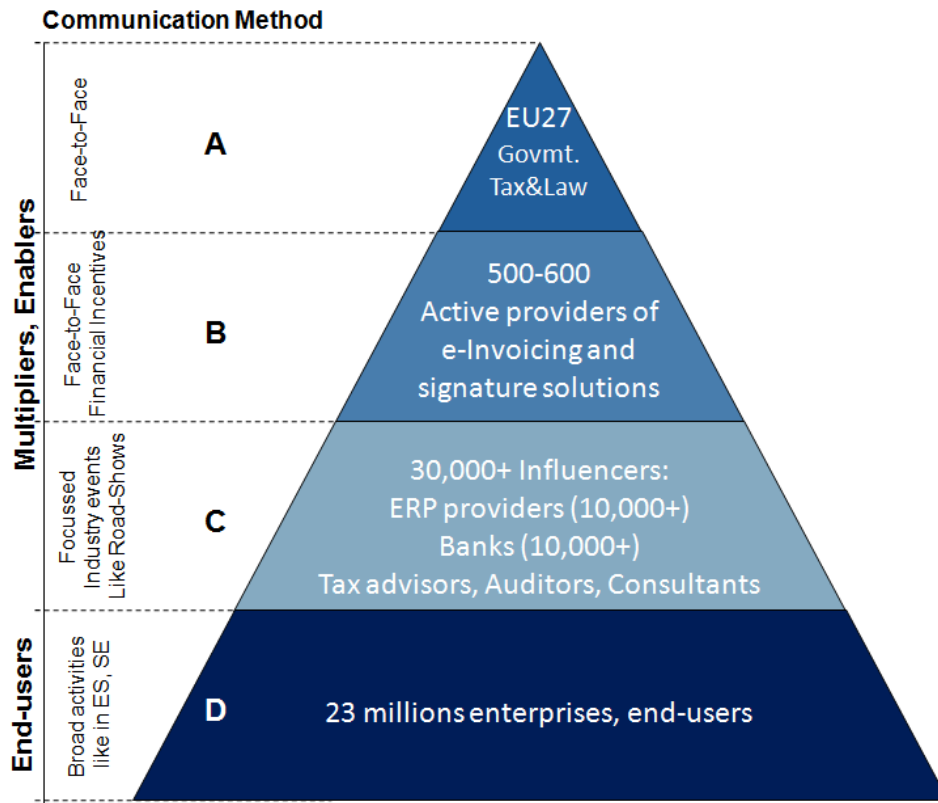
Communication is best achieved through a multiplication factor. Although individual SMEs and enterprises are the eventual target audience, working through large corporate enterprises, service providers, trade associations and government bodies will have the largest acceleration/multiplier impacts. Other actors can provide useful supportive roles.

For each segment, a concrete plan regarding key messages, materials, events, channels and timescales needs to be developed. The strategy should be more or less active and passive depending on the segment.

It is recommended that in national markets a network of advocates is created to undertake systematic communication programs targeting the high priority segments and using a range of selected fit for purpose channels.

Budgets need to be established and funded through the recommended national e-invoicing bodies.

Communication should be practised in a harmonised continuous and tailored fashion.



**Figure:** Summary structure of target audience and communication method

## **Annex 6**

### **SEPA and e-Invoicing**

#### **1. Introduction**

This Annex describes the objectives of the SEPA program and its deliverables so far. It then describes the expected benefits of the e-invoicing initiative and attempts to highlight the parallels and differences to the SEPA Schemes. It finally discusses the respective critical success factors, considers a possible link between SEPA migration and invoice dematerialization, before looking at dimensions and options for future governance.

#### **2. Objectives underpinning the SEPA project**

A common view was expressed for the first time by the EC and the ECB in their 4 May 2006 Joint Statement: "The Commission and the ECB see SEPA as an integrated market for payment services which is subject to effective competition and where there is no distinction between cross-border and national payments within the Euro area. This calls for the removal of all technical, legal and commercial barriers between the current national payment markets."

As to the banking industry the view expressed in the December 2004 EPC Roadmap still stands: "SEPA will be the area where citizens, companies and other economic actors will be able to make and receive payments in euro, within Europe\*, whether between or within national boundaries under the same basic conditions, rights and obligations, regardless of their location."

#### **3. The SEPA project deliverables so far**

The SEPA Credit Transfer Scheme has been launched in January 2008. 4 448 banks have adhered to the Rulebook and are thus capable – also with the support of a number of Clearing and Settlement Mechanisms, of executing SEPA-wide credit transfers according to a single set of rules.

The Core and Business-to-Business SEPA Direct Debit Schemes have gone live on 2 November 2009. The adherence process for banks (and later payment institutions) was opened on 1 May 2009. As of November 2009, 2 600 banks have adhered to the SDD schemes, of which 2 333 have adhered to both schemes (core and B2B). The same Clearing and Settlement Mechanisms can be used for SDD as are used for SCT.

Finally, the SEPA Cards Framework (SCF) has been approved in March 2006 and is under implementation since January 2008. It defines the criteria for SCF compliance for banks and card schemes. Further work is underway to deepen standardization and interoperability of the card value chain. Substantial progress has been made in the roll-out of the EMV standards for cards, Point of Sale Terminals and ATMs.

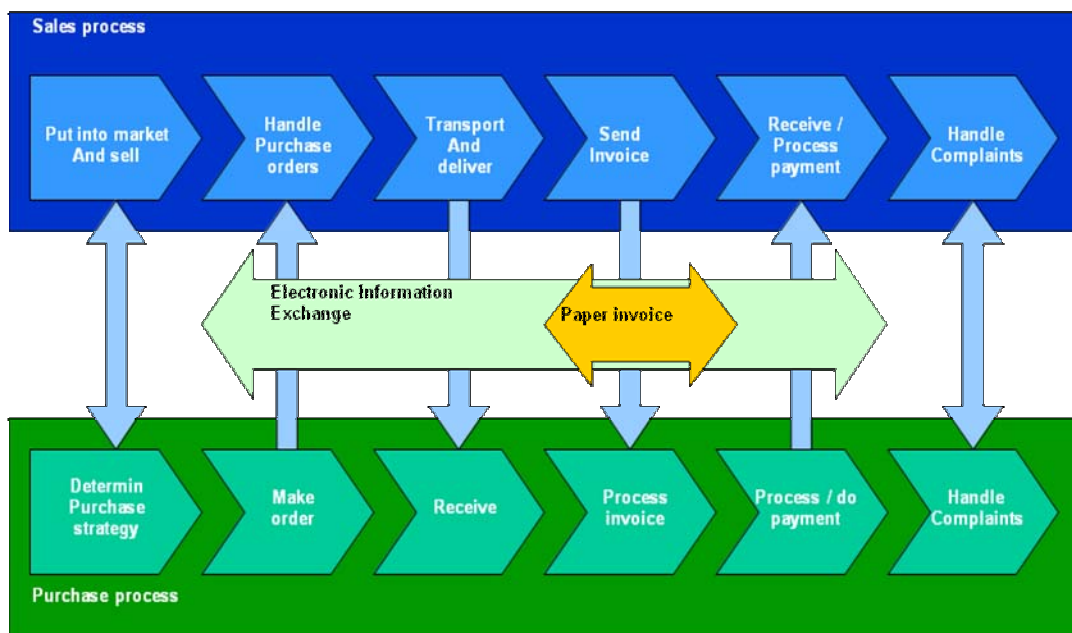
Thus a standard, SEPA-wide infrastructure for payment via credit transfer, direct debit, and payment with card (the core payment services referred to in the EPC Charter and SEPA Roadmap) has been developed. In addition work on e-payments (using existing e-banking tools to authorize SEPA Direct Debit mandates and internet payments on-line by initiating a SEPA Credit Transfer) and m-payments (with an initial focus on proximity mobile contactless payments) is underway that will capitalize on the existing Schemes.

Public administrations in most of the 16 euro countries have started preparations for SEPA adoption. Within national SEPA committees progress is being made by the corporates, SMEs and public administrations on the migration of national euro-payment instruments into SEPA instruments.

The banks of the euro countries acknowledge that they cannot set on end-date themselves for this migration. On 12 March 2009 the European Parliament adopted a resolution that the Commission should set a clear, appropriate and binding end-date, which should be no later than 31 December 2012 for migration to the SEPA instrument and when all payments in euro must be made using the SEPA standards. The banks of the 16 euro area countries agreed with the principle that such an end-date should be set by a regulation subject to a consultation by the commission of all affected parties. The European Commission has reviewed feedback from 140 respondents to a public consultation on the question of end-dates.

#### 4. *The e-invoicing initiative and the SEPA Schemes and Framework*

E-invoicing and payments (including specifically payments in euro within the SEPA) are both linked together in the financial supply chain, although they form distinct processes and involve separate roles. This statement is not only true for B2B or B2G but also for B2C transactions. This is illustrated in the following typical figure:



The e-invoicing initiative primarily aims at greatly accelerating the dematerialization of invoices. It should however also be instrumental in enabling principally governments and businesses to reap ancillary benefits to dematerialization, such as the avoidance of manual entry and intervention, capturing and maintaining accurate information in ERP systems, fast ledger reconciliation, on-time customer payments, greater levels of security, and finally a better customer service and perception.

It is generally expected by contributors to the initiative that this objective be achieved, and the benefits reaped, regardless of the location of the trading parties. In other words, it is assumed that invoice dematerialization can be equally possible both for a national transaction, and a cross-border transaction within the EU (and the remaining EEA countries).

The Straight Through Processing environment for payments that the SEPA Schemes and Frameworks facilitate will enable participants in the e-invoice value chain SEPA-wide to more rapidly reap the ancillary benefits to dematerialization, in particular with respect to payment and reconciliation processes. As such the SEPA Schemes and Frameworks are not a pre-condition for European e-invoicing, but they should be viewed as a 'value accelerator'.

It should be a working assumption that – as for a paper invoice – any product basing on a SEPA Scheme or Frameworks can be used to settle a dematerialized invoice. In other words, it will not be the objective of the e-invoicing initiative to promote any given payment instrument. It is however recommended that solely the use of SEPA compliant payment instruments be promoted.

Many banks have acknowledged that it creates value for their customers to deliver e-invoicing services to their customers as an extension of their payment and financing services and are taking active steps to deliver such services. This is already a reality for B2C e-invoicing where banks in several Member States deliver both services to their corporates (utilities) and consumers. A pan-European B2B (B2G) value proposition for banks is under development by the Euro Banking Association. Its objective is to make it possible to deliver an e-invoicing value proposition through banks with a focus on SMEs. The value proposition is being developed with major service providers specialising in e-invoicing and supply chain services. Banks are able to add their own feature such as integrated payment services and supply chain financing to such an e-invoicing value proposition.

## **5. Critical success factors**

As far as the SEPA project is concerned, it has been recognized at a very early stage that action by large, early adopters, such as public administrations and related entities, would be instrumental in triggering wider usage of products based on the SEPA Schemes. Up to now, in spite of repeated calls notably by the ECOFIN Council, the ECB and the European Commission, public administrations have not yet migrated.

In addition, due to the delayed transposition of the Payment Services Directive, now due to be transposed into the law of the 27 Member States by November 2009, the launch of the Credit and Direct Debit Schemes has been decoupled, which probably accounts for currently low adoption by businesses.

By contrast, on one side, the e-invoicing value chain both involves more parties than the SEPA Schemes value chain, and banks play less prominent role in it at least currently. On the other side, as for the SEPA Schemes, it is generally acknowledged that early and active commitment from large invoice issuers such as public administrations and suppliers of utility services is essential for e-invoicing to become a success. As with the internal market for payments, however, professional users of e-invoicing services will set as pre-condition the capability to rely on a stable, well understood and widely published legal framework (which in this instance would cover taxation aspects as well).

This would suggest at a minimum that positive signals and commitments are received from public administrations and suppliers of utility services (at least in large countries) prior to any expectation being created at the level of policy makers, or any Roadmap being published.

## **6. *Could the migration to SEPA accelerate invoice dematerialization***

In particular with the launch of the SEPA Direct Debit Schemes on 2 November 2009, payment service and other providers will have a renewed opportunity to engage again with large invoice issuers such as public administrations and businesses, and promote their SEPA payment products and related solutions. In this context public administrations and businesses will be invited to rethink and review applications and processes that often have been in place for many years.

Given the situation described in the previous section, the opportunity certainly exists to combine the promotion of SEPA payment products and related solutions with the promotion of e-invoicing services – again within the constraints highlighted in the previous section.

Considering the many challenges faced by public administrations and businesses it is too early – and it will probably always remain unrealistic – to aim for a 'big bang', i.e. a migration to SEPA payment products combined with invoice dematerialization. However the opportunity to initiate a review process and maybe establish consolidated project plans should not be missed.

## Annex 7

### The Minimum 'Core Invoice' Data-set

The core data set and the single semantic data model support basic cross-industry e-Invoicing business requirements. They do not include all business requirements specific to any one particular industry sector, but will be applicable to a broad community of users and especially deliver support for a core set of requirements including integration to payments and any common legal requirements established by relevant legislation.

The minimum core data set proposed in this chapter has been verified against requirements from many operational businesses, as well as against the UN/CEFACT CII v.2 developments to check for coherence with the full data set standard.

The proposed mechanism is that any user of e-invoicing at a minimum will always support this core set in any implementation (although in many cases additional elements may need to be conveyed, even by SME users).

Validation should preferably refer to the full semantic data model, allowing easy implementation of more data elements. Hence it is also recommended that ERP and application service providers of e-invoice services implement the full capability of the recommended semantic data model.

This 'minimum core data set' is provided as an input to CEN as part of the standardisation work described elsewhere in this report. The Expert Group is aware that the CEN/ISS Workshop BII has already developed a harmonised 'core invoice'. These activities should be further aligned.

In the data set below, the following explanation applies:

- 0..1** means the use of this item is optional but there can only be one occurrence
- 0..unbounded** means the use of this item is optional and there can be one or more occurrences
- 1..1** means the use of this item is mandatory and there can only be one occurrence
- 1..unbounded** means that the use of this item is mandatory and there can be one or more occurrences

## Minimum Core Invoice data set/elements

| Occurrence          | Components                |
|---------------------|---------------------------|
| <b>Core Invoice</b> |                           |
| 1 .. 1              | <b>Context</b>            |
| 0 .. 1              | <b>Business Process</b>   |
| 0 .. 1              | ID                        |
| 0 .. 1              | <b>Master</b>             |
| 0 .. 1              | ID                        |
| 0 .. 1              | <b>Subset</b>             |
| 0 .. 1              | ID                        |
| 1 .. 1              | <b>Document</b>           |
| 1 .. 1              | ID                        |
| 0 .. 1              | Type Code                 |
| 1 .. 1              | Issue Date                |
| 0 .. 1              | Copy Indicator            |
| 0 .. 1              | Language ID               |
| 1 .. 1              | <b>Header</b>             |
| 1 .. 1              | <b>Agreement</b>          |
| 0 .. 1              | <b>Seller</b>             |
| 0 .. 1              | ID                        |
| 0 .. 1              | Global ID                 |
| 0 .. 1              | Name                      |
| 0 .. unbounded      | <b>Contact</b>            |
| 0 .. 1              | Name                      |
| 0 .. unbounded      | <b>Telephone</b>          |
| 0 .. 1              | Number                    |
| 0 .. unbounded      | <b>Fax</b>                |
| 0 .. 1              | Number                    |
| 0 .. 1              | <b>Email</b>              |
| 0 .. 1              | Address                   |
| 0 .. 1              | <b>Address</b>            |
| 0 .. unbounded      | Postcode                  |
| 0 .. unbounded      | Street                    |
| 0 .. 1              | City                      |
| 0 .. 1              | Country ID                |
| 0 .. 1              | Country Name              |
| 0 .. unbounded      | Country Sub-Division Name |
| 0 .. unbounded      | <b>VAT Registration</b>   |
| 0 .. 1              | ID                        |
| 0 .. 1              | <b>Buyer</b>              |
| 0 .. 1              | ID                        |
| 0 .. 1              | Global ID                 |
| 0 .. 1              | Name                      |
| 0 .. unbounded      | <b>Contact</b>            |
| 0 .. 1              | Name                      |
| 0 .. unbounded      | <b>Telephone</b>          |
| 0 .. 1              | Number                    |
| 0 .. unbounded      | <b>Fax</b>                |
| 0 .. 1              | Number                    |
| 0 .. 1              | <b>Email</b>              |
| 0 .. 1              | Address                   |
| 0 .. 1              | <b>Address</b>            |
| 0 .. unbounded      | Postcode                  |
| 0 .. unbounded      | Street                    |
| 0 .. 1              | City                      |
| 0 .. 1              | Country ID                |



| Occurrence            | Components                         |
|-----------------------|------------------------------------|
| 0 .. 1                | Country Name                       |
| 0 .. unbounded        | Country Sub-Division Name          |
| <b>0 .. 1</b>         | <b>Delivery Terms</b>              |
| 0 .. 1                | Incoterm                           |
| <b>0 .. 1</b>         | <b>Location</b>                    |
| 0 .. 1                | ID                                 |
| 0 .. 1                | Name                               |
| <b>0 .. unbounded</b> | <b>Buyer's Order Reference</b>     |
| 0 .. 1                | Issuer Assigned ID                 |
| 0 .. 1                | Issue Date                         |
| <b>0 .. 1</b>         | <b>Quotation Reference</b>         |
| 0 .. 1                | Issuer Assigned ID                 |
| 0 .. 1                | Issue Date                         |
| <b>1 .. 1</b>         | <b>Delivery</b>                    |
| <b>0 .. unbounded</b> | <b>Related Consignment</b>         |
| <b>0 .. 1</b>         | <b>Consignor</b>                   |
| 0 .. 1                | Name                               |
| <b>0 .. 1</b>         | <b>Consignee</b>                   |
| 0 .. 1                | Name                               |
| <b>0 .. unbounded</b> | <b>Transport Movement</b>          |
| <b>0 .. unbounded</b> | <b>Used Transport Means</b>        |
| 0 .. 1                | Type Code                          |
| 0 .. 1                | ID                                 |
| 0 .. 1                | Name                               |
| <b>0 .. 1</b>         | <b>Ship To</b>                     |
| 0 .. unbounded        | ID                                 |
| 0 .. 1                | Name                               |
| <b>0 .. 1</b>         | <b>Ultimate Ship To</b>            |
| 0 .. unbounded        | ID                                 |
| 0 .. 1                | Name                               |
| <b>0 .. 1</b>         | <b>Ship From</b>                   |
| 0 .. unbounded        | ID                                 |
| 0 .. 1                | Name                               |
| <b>0 .. 1</b>         | <b>Despatch</b>                    |
| 0 .. unbounded        | Date/Time                          |
| <b>0 .. 1</b>         | <b>Delivery Note</b>               |
| 0 .. 1                | Issuer Assigned ID                 |
| 0 .. 1                | Issue Date                         |
| <b>1 .. 1</b>         | <b>Settlement</b>                  |
| 1 .. unbounded        | Due Payable Amount                 |
| 0 .. 1                | Invoice Currency Code              |
| <b>0 .. unbounded</b> | <b>Payment Means</b>               |
| 1 .. 1                | Channel Code                       |
| 1 .. 1                | Type Code                          |
| 1 .. 1                | Payment Method Code                |
| <b>0 .. 1</b>         | <b>Payer Financial Account</b>     |
| 0 .. 1                | IBAN ID                            |
| 0 .. 1                | Name                               |
| <b>0 .. 1</b>         | <b>Payee Financial Account</b>     |
| 0 .. 1                | IBAN ID                            |
| 0 .. 1                | Name                               |
| <b>0 .. 1</b>         | <b>Payer Financial Institution</b> |
| 0 .. 1                | BIC ID                             |
| 0 .. 1                | Name                               |
| <b>0 .. 1</b>         | <b>Branch</b>                      |

| Occurrence     | Components                           |
|----------------|--------------------------------------|
| 0 .. 1         | —ID                                  |
| 0 .. 1         | — <b>Payee Financial Institution</b> |
| 0 .. 1         | —BIC ID                              |
| 0 .. 1         | —Name                                |
| 0 .. 1         | — <b>Branch</b>                      |
| 0 .. 1         | —ID                                  |
| 0 .. unbounded | — <b>Applicable Tax</b>              |
| 0 .. unbounded | —Calculated Amount                   |
| 0 .. 1         | —Type Code                           |
| 0 .. unbounded | —Basis Amount                        |
| 0 .. 1         | —Tax Point Date                      |
| 0 .. unbounded | — <b>Logistics Service Charge</b>    |
| 0 .. 1         | —ID                                  |
| 0 .. 1         | —Payment Arrangement Code            |
| 0 .. unbounded | —Applied Amount                      |
| 0 .. unbounded | — <b>Payment Terms</b>               |
| 0 .. 1         | —Settlement Period Measure           |
| 0 .. 1         | —Due Date                            |
| 0 .. 1         | — <b>Monetary Summations</b>         |
| 0 .. unbounded | —Charge Total                        |
| 0 .. unbounded | —Allowance Total                     |
| 0 .. unbounded | —Tax Basis Total                     |
| 0 .. unbounded | —Tax Total                           |
| 0 .. unbounded | —Grand Total                         |
| 0 .. unbounded | —Total Discount                      |
| 0 .. 1         | — <b>Pro-Forma Invoice Reference</b> |
| 0 .. 1         | —Issuer Assigned ID                  |
| 0 .. 1         | —Issue Date                          |
| 0 .. 1         | — <b>Letter Of Credit Reference</b>  |
| 0 .. 1         | —Issuer Assigned ID                  |
| 0 .. 1         | —Issue Date                          |
| 0 .. unbounded | — <b>Line Item</b>                   |
| 1 .. 1         | — <b>Line Information</b>            |
| 1 .. 1         | —ID                                  |
| 0 .. 1         | — <b>Agreement</b>                   |
| 0 .. unbounded | — <b>Gross Price</b>                 |
| 1 .. unbounded | —Amount                              |
| 0 .. 1         | —Basis Quantity                      |
| 0 .. unbounded | — <b>Net Price</b>                   |
| 1 .. unbounded | —Amount                              |
| 0 .. 1         | —Basis Quantity                      |
| 0 .. 1         | — <b>Delivery</b>                    |
| 1 .. 1         | —Billed Quantity                     |
| 0 .. 1         | —Charge Free Quantity                |
| 0 .. 1         | —Package Quantity                    |
| 0 .. 1         | —Net Weight                          |
| 0 .. 1         | —Gross Weight                        |
| 0 .. unbounded | — <b>Included Packaging</b>          |
| 0 .. 1         | —Type Code                           |
| 0 .. 1         | —Type                                |
| 0 .. 1         | — <b>Ship To</b>                     |
| 0 .. unbounded | —ID                                  |
| 0 .. 1         | —Name                                |
| 1 .. 1         | — <b>Settlement</b>                  |
| 0 .. unbounded | — <b>Applicable Tax</b>              |

| Occurrence            | Components                 |
|-----------------------|----------------------------|
| 1 .. 1                | Type Code                  |
| 1 .. 1                | Rate                       |
| 0 .. 1                | Category Code              |
| 0 .. 1                | Tax Point Date             |
| 1 .. unbounded        | Category Name              |
| <b>0 .. 1</b>         | <b>Monetary Summations</b> |
| 0 .. unbounded        | Line Total                 |
| 0 .. unbounded        | Charge Total               |
| 0 .. unbounded        | Allowance Total            |
| 0 .. unbounded        | Tax Basis Total            |
| 0 .. unbounded        | Tax Total                  |
| <b>0 .. 1</b>         | <b>Product Details</b>     |
| 0 .. unbounded        | ID                         |
| 1 .. 1                | Name                       |
| 0 .. unbounded        | Description                |
| <b>0 .. unbounded</b> | <b>Country Of Origin</b>   |
| 0 .. unbounded        | ID                         |
| 0 .. unbounded        | Name                       |

## Annex 8

### Terms of reference

**Commission Decision** of 31 October 2007  
 setting up an Expert Group on electronic invoicing (e-Invoicing) (2007/717/EC)

**THE COMMISSION OF THE EUROPEAN COMMUNITIES,**  
 Having regard to the Treaty establishing the European Community,

Whereas:

(1) Article 3 of the Treaty assigned the Community the task of ensuring the creation of an internal market characterised by the abolition, between Member States, of obstacles to the free movement of goods, persons, services and capital.

(2) Article 232 of Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax<sup>[1]</sup> allows the issue of electronic invoices instead of paper invoices.

(3) The revised Lisbon Strategy for Growth and Jobs<sup>[2]</sup> provides an all encompassing economic reform agenda. Its micro economic pillar focuses on creating a business-friendly environment. Within this target, the development of interoperable electronic invoicing (e-Invoicing) solutions is a vital component.

(4) In its communication to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions *i2010 — A European Information Society for growth and employment*<sup>[3]</sup> of 1 June 2005, the Commission launched the i2010 initiative as a framework for addressing the main challenges and developments in the information society and media sector up to 2010. It promotes an open and competitive digital economy and emphasises information and communication technologies (ICT as a driver of inclusion and quality of life).

(5) The European Payments Council (EPC), the decision making and coordination body of the European banking industry in relation to payments, has committed itself to establishing by 2010 a Single Euro Payments Area (SEPA) with integrated payment infrastructures and payment products.

(6) e-Invoicing links the internal processes of enterprises to the payment systems. Therefore, SEPA and a successful European e-Invoicing initiative would complement each other. These two initiatives together are expected to deliver huge benefits to enterprises and financial service providers through improved efficiency and automation of supply chains.

(7) In order to enhance the use of the digital environment and to reap the full benefits of e-Invoicing in the Community, the current practices should be simplified and the transition to new business models facilitated by a more integrated and uniform framework. This would specially serve the interests of European small and medium-sized enterprises (SMEs).

(8) In December 2006, a group of stakeholders formed an industry Task Force on e-Invoicing, which was chaired by the services of the Commission, and included enterprises, representatives of banks and other service providers, as well as standardisation organisations. The aim of the Task Force was to pave the way for future work on a European e-Invoicing Framework. The Task Force formulated proposals for a potential governance structure and designed a roadmap for an e-Invoicing programme. The Task Force delivered its final report in June 2007.

(9) Given the positive experience with the Task Force, and in order to address longer-term issues, an Expert Group on e-Invoicing should be established.

(10) Its tasks should be to identify business requirements<sup>[4]</sup> and responsibilities for the execution of specific work, as well as to steer the creation — by the end of 2009 — of a European e-Invoicing Framework to establish a common conceptual structure to support the provision of e-Invoicing services in an open and interoperable manner across Europe.

(11) The Expert Group should be composed of persons having direct and relevant expertise in respect of activities relating to e-Invoicing, including key stakeholders from the public sector, big and small enterprises as well as services providers, standardisation organisations and consumers representatives. In addition, provision should be made for the participation of observers. Any report or outcome of the Expert Group should be the work of the Group's members and should not be understood as reflecting the views of the Commission.

(12) Rules on disclosure of information by members of the Expert Group should be provided for, without prejudice to the rules on security annexed to the Commission's rules of procedure by Decision 2001/844/EC, ECSC, Euratom<sup>[5]</sup>.

(13) Personal data relating to members of the Expert Group should be processed in accordance with Regulation (EC) No 45/2001 of the European Parliament and the Council of 18 December 2000 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies on the free movement of such data<sup>[6]</sup>.

(14) It is appropriate to fix a period for the application of this Decision. The Commission will in due time consider the advisability of an extension,

## **HAS DECIDED AS FOLLOWS:**

### *Article 1*

#### *The Expert Group on e-Invoicing*

The Expert Group on e-Invoicing, hereinafter 'the Group', is set up. This Decision shall take effect on the date of its adoption.

### *Article 2*

#### *Tasks*

1. The Group shall generally assist the Commission in the development and monitoring of progress towards an agreed strategy for the creation of a European e-Invoicing Framework.
2. The Group's tasks shall be completed by 31 December 2009.
3. The Group shall fulfil the following particular tasks:
  - (a) identifying shortcomings in the regulatory framework for e-Invoicing at Community and Member State level, which prevent the Community economy exploiting its full potential;
  - (b) identifying e-Invoicing business requirements for an European e-Invoicing Framework and ensure their validation by key stakeholders [7];
  - (c) identifying relevant e-Invoicing data elements, especially for the linkage between the invoice and, at least, the procurement and the payments process, issues related to value added tax, authentication and integrity, archiving and storage demands, as well as the need to ensure the validation of those elements by key stakeholders;
  - (d) proposing responsibilities to be assigned to standardisation bodies and a time schedule for the development of common standard(s) based on the business and data requirements of stakeholders to support a European e-Invoicing Framework;
  - (e) proposing the European e-Invoicing Framework. The European e-Invoicing Framework is to establish a common conceptual structure, including business requirements and standard(s), and propose solutions supporting the provision of e-Invoicing services in an open and interoperable manner across Europe.
4. In carrying out its task, the Group shall take account of already existing work and solutions, in particular concerning business requirements and technical standards, in the domain of e-Invoicing in the public and private sector.
5. Where appropriate and necessary, the Group can identify responsibilities for the execution of specific work to subgroups or external bodies and organisations competent in the domain of e-Invoicing.
6. The Group shall establish and communicate to the Commission a mid-term report summarising progress on the tasks and any recommendations as an input to reflection and discussion between the Commission and Member States and stakeholders, in particular industry associations. This report shall be made available to the public.
7. The Group shall establish and communicate to the Commission a final report describing the European e-Invoicing Framework. This report shall be made available to the public.

*Article 3  
Consultation*

1. The Commission may consult the Group on any matter relating to e-Invoicing.
2. The Chairperson of the Group may advise the Commission that it is desirable to consult the Group on a specific question.

*Article 4  
Membership — Appointment*

1. The Group shall be composed of up to 30 members.
2. The members shall be appointed by the Commission from specialists with competence in the area of e-Invoicing on the basis of applications from industry associations, public sector bodies and individuals representing the interests of all or part of public sector, enterprises and ICT, consumers, financial service providers and standardisation organisations in the field of e-Invoicing.

Applicants deemed suitable for membership but not appointed may be placed on a reserve list, which the Commission may use for the appointment of replacements.

3. The members shall be appointed as representatives of public authority and civil society.
4. The Commission shall assess applications against the following criteria:
  - (a) members must represent the key stakeholders (e.g. service providers, solution providers, public sector, enterprises, including small and medium-sized enterprises (SMEs), as well as consumers), and standardisation organisations;

(b) members must have recent practical or operational expertise or experience with legal, administrative, tax-related, standardisation, commercial and/or technical challenges of e-Invoicing on a cross-border basis. In particular, members shall have relevant direct experience in business projects or matters which equip them with commercial or technical insights needed to develop solutions to the issues as set out in this Decision;

(c) members must be in a position to contribute to defining or shaping the views of their administration, parent organisation, industry association or industry, or other stakeholder group in respect of the matters covered by the mandate;

(d) members must be proficient in English at a level which allows them to contribute to discussions and preparation of reports.

Applications received from interested parties should be accompanied by material demonstrating that the proposed member meets the above conditions.

5. When appointing the members, the Commission shall take into account the following criteria:

(a) the required legal, commercial and technical expertise in respect of the matters covered by the mandate for the Group;

(b) the expertise covering all relevant functions within the supply and demand side of e-Invoicing.

In addition, the Commission shall aim at ensuring a broad geographical representation and a balanced gender composition on the basis of applications received.

6. The members shall inform the Commission in good time of any conflict of interests which might undermine their objectivity.

7. The names of members appointed individually are published on the Internet site of the DG or in the Official Journal of the European Union, Series C, or both. The names of members are collected, processed and published in accordance with the provisions of Regulation (EC) No 45/2001.

8. Members shall be appointed for a twelve-month renewable term and shall remain in office until such time as they are replaced or their term of office ends.

9. Members may be replaced for the remainder of their term of office in any of the following cases:

(a) where the member resigns;

(b) where the member is no longer capable of contributing effectively to the Group's deliberations;

(c) where the member does not comply with Article 287 of the Treaty;

(d) where, contrary to paragraph 6, the member has failed to inform the Commission in good time of a conflict of interests.

#### *Article 5*

##### *Chairperson — Appointment*

1. The Commission shall appoint the Chairperson of the Expert Group, taking into account the extent to which the selected person represents the key stakeholders' interests, contributes to shaping the views of industry in respect of the matters covered by the mandate and possesses the required legal, commercial and technical expertise.

2. The Commission shall appoint the Chairperson for a renewable term of twelve months.

#### *Article 6*

##### *Operation*

1. The Commission shall organise the meetings of the Group, which will be chaired by the Chairperson.

2. In agreement with the Commission, subgroups may be set up to examine specific questions under terms of reference established by the Group; such subgroups shall be dissolved as soon as their tasks have been fulfilled.

3. The Commission's representative may invite experts or observers with specific competence on a subject on the agenda to participate in the deliberations of the Group or its subgroups.

4. Information obtained by participating in the deliberations or work of the Group, or of a subgroup, may not be divulged if, in the opinion of the Commission, that information relates to confidential matters.

5. The Group and its subgroups shall normally meet on Commission premises in accordance with the procedures and schedule established by it. The Commission shall provide secretarial services.

Commission officials with an interest in the proceedings may attend the meetings of the Group or the subgroups.

6. The Group shall adopt its rules of procedure on the basis of the standard rules of procedure adopted by the Commission.

7. The Commission may publish, or place on the Internet, in the original language of the document concerned, any summary, conclusion or working document of the Group.

*Article 7*

*Reimbursement of expenses*

1. The Commission shall reimburse travel expenses and, where appropriate, subsistence expenses for the Chairperson, members, experts and observers in connection with the Group's activities in accordance with the Commission's rules on the compensation of external experts.
2. The Chairperson, members, experts and observers shall not be remunerated for the services they render.
3. Meeting expenses shall be reimbursed within the limits of the annual budget allocated to the Group by the competent Commission department.

*Article 8*

*Expiry*

This Decision shall expire on 31 December 2009.

Done at Brussels, 31 October 2007.

For the Commission  
Günter Verheugen  
Vice-President

[1] OJ L 347, 11.12.2006, p. 1. Directive as amended by Directive 2006/138/EC (OJ L 384, 29.12.2006, p. 92).

[2] COM(2005) 24.

[3] COM(2005) 229 final.

[4] e-Invoicing business requirements represent the characteristics that e-Invoice services should match in order to satisfy the stakeholders' business needs and goals, enabling the processes of the entire financial and supply chains. They are expressed in terms of high level process flows, e-invoice information and standard message structure.

[5] OJ L 317, 3.12.2001, p. 1. Decision as amended by Decision 2006/548/EC, Euratom (OJ L 215, 5.8.2006, p. 38).

[6] OJ L 8, 12.1.2001, p. 1.

[7] Notably public sector, enterprises and ICT and financial service providers.



## Glossary

### Authenticity of origin

The quality attaching to a document or dataset denoting that is the true original as created by its originator.

### BII

Business Interoperability Interfaces on public procurement in Europe (BII) is CEN Workshop providing a basic framework for technical interoperability in pan-European electronic transactions, expressed as a set of technical specifications that in particular are compatible with UN/CEFACT.

### CEN

The European Committee for Standardization (ISO's counterpart and the European entry point to UN/CEFACT). CEN Workshops are open consensus building platforms for contributing to standards, especially in the ICT area, and their product is a CEN Workshop Agreement.

### CEN Compliance Guidelines

These Compliance Guidelines provide an instrument to guide businesses – in the first place for self assessment – to ensure their e-invoicing solutions, in-house and at contracted third party service providers, can be audited and is under control. In 2009 these guidelines will be published as a CEN Workshop Agreement.

### CEN/eInvoicing

A CEN Workshop providing an open platform for stakeholder consensus on the implementation of eInvoices in Europe.

### Certification Authority (CA)

A CA is an entity which issues digital certificates for use by other parties. CAs is characteristic of many public key infrastructure (PKI) schemes.

### Code of Practice

A set of [guidelines](#) and [regulations](#) to be followed by members of some [profession](#), [trade](#), [occupation](#), [organization](#) etc.; does not normally have the [force](#) or [law](#).

### Connectivity

The unbiased transport of packets between two end points. This is also the essential definition of IP (Internet Protocol).

### Cross-Industry Invoice (CII)

The CII is the term for the UN/CEFACT standardised invoice, which is the standardised format proposed by the Expert Group for automated invoice exchange.

### Digital certificate

A small set of structured data that has been electronically signed by a 'certification authority' to 'bind' the identity of a legal or natural person to a 'public key' that can be used e.g. to verify electronic signatures created by that person.

### Digital signature

Data appended to, or a cryptographic transformation of, a data unit that allows a recipient of the data unit to prove the source of the data unit and protect against forgery, e.g. by the recipient.

### Directive

A Directive is a legislative act of the European Union which requires Member States to achieve a particular result without dictating the means of achieving that result. Although obligatory to implement, Directives normally leave Member States with a certain amount of leeway as to the exact rules to be adopted.

### EBPP

Electronic Bill Presentment and Payment (EBPP) is the electronic presentation of statements, bills, invoices, and related information sent by a company to its customers, and corresponding payment for goods or services.

### EDI

Electronic Data Interchange (EDI) refers to the structured transmission of data between organizations by electronic means. It is used to transfer electronic documents from one computer system to another (i.e.) from one trading partner to another trading partner.

### e-invoicing Workshop

The CEN/ISSS Workshop providing consensus-based guidance for business on electronic invoicing. Two phases were completed by the end of 2009, and a third phase will follow in 2010.

### Electronic invoice/e-Invoice

A generic term for a dematerialised invoice. See under Invoice.

### Electronic Signature

Electronic signature means data in electronic form which is attached to or logically associated with other electronic data and which serves as a method of authentication.

Advanced electronic signature (AES) means an electronic signature which meets the following requirements:

- it is uniquely linked to the signatory
- It is capable of identifying the signatory
- It is created using means that the signatory can maintain under its sole control
- it is linked to the data to which it relates in such a manner that any subsequent change of the data is detectable.

A Qualified Electronic Signature is an Advanced electronic signature which uses in addition a Qualified Certificate issued by a Certification-Service-Provider (CSP).

#### European Commission Recommendation

A Recommendation is passed from the European Commission to the Member States and is a non-binding act, however coming with a 'good backing' since it will have been discussed with the Member States first.

#### Enterprise Resource Planning (ERP) systems

ERP Systems are automated 'back office' systems used by enterprises that contain many of the tools and software to create, account for and manage invoices as well as many other transactions and corporate processes.

#### European Electronic Invoicing

The European Electronic Invoicing concept is being drawn up by the European Commission Expert Group.

#### European Electronic Invoicing Framework

The Framework is the detailed set of arrangements that describes the EEI and enables the seamless processing of electronic invoices in Europe.

#### Expert Group

The Group created under A Commission Decision of 31 October 2007 to make recommendations on e-invoicing, jointly sponsored by DG Enterprise & Industry and DG Internal Market & Services.

#### Four-Corner Model

An exchange model where senders and receivers of invoice messages are supported by their own consolidator service provider (for the sender) and aggregator service provider (for the receiver). It is sometimes termed a four-party model.

An invoicing process set-up whereby each Trading Partner has contracted with one or several separate Service Providers, whereby the Service Providers ensure the correct interchange of invoices between the Trading Partners. The concept of the 4-Corner model originated in the banking sector.

#### IDABC

**I**nteroperable **D**elivery of European eGovernment Services to public **A**ministrations, **B**usinesses and **C**itizens. A Commission programme developing recommendations and solutions and providing services helping European public services to communicate electronically.

#### Integrity of content

The quality attaching to a document or dataset denoting that it is complete and unchanged since its creation.

## Interoperability

A property referring to the ability of diverse systems and organizations to work together (inter-operate). The term is often used in a technical systems engineering sense, or alternatively in a broad sense, taking into account social, political, and organizational factors that impact system to system performance.

## Invoice

The invoice is a document or a data set marked with the word 'invoice' formally specifying details of a (or part of a) trade and all settlement related information for the (or part of the) trade, explicitly and separately stating the applicable tax.

### Invoice data

Data relating to an invoice, provided prior to the creation of original tax invoice or provided after its creation for other purposes.

## Invoicing Directive

The current EU legislation that requests Member States admit the use of electronic invoicing for VAT purposes in the EU. See VAT.

## IP Network

Internet Protocol is a series of standards from the Internet Engineering Task Force for exchanging data over the internet, a network of inter-communicating parties may agree to use it. Such networks may be publicly accessible or private.

## ISO

The International Organization for Standards (ISO).

ISO develops International Standards and other types of normative documents. ISO's work programme ranges from standards for traditional activities, such as a Recommendations culture and construction, through mechanical engineering, manufacturing and distribution, to transport, medical devices, information and communication technologies, and to standards for good management practice and for services.

ISO Technical Committee 68 'Financial Services' is responsible for the ISO22022 standard.

## ISO 20022

ISO 20022 is an International Standard from ISO. It constitutes the financial industries common platform for the development of messages in a standardised XML syntax, using a modelling methodology (based on UML) to capture in a syntax-independent way financial business areas, business transactions and associated message flows.

## Network Model

A database model conceived as a flexible way of representing objects and their relationships. Its distinguishing feature is that the schema, viewed as a graph in which object types are nodes and relationship types are arcs, is not restricted to being a hierarchy or lattice.

### Northern European Subset (NES)

NES was formed in January 2006 with the objective to facilitate the establishment of a common platform for e-commerce in national and cross-border trade. Currently, the initiative comprises government representation from six countries: Norway, Sweden, Finland, Great Britain, Iceland and Denmark. The technical development of NES is now carried out in the CEN/ISSS Workshop BII.

### OASIS

See UBL.

### PDF

The Portable Document Format (PDF) is the file format created by Adobe Systems in 1993 for document exchange. PDF is used for representing two-dimensional documents in a device-independent and display resolution-independent fixed-layout document format. PDF is an open standard, and recently took a major step towards becoming ISO 32000. Check for updates.

### PEPPOL

Pan-European Public Procurement On-Line (PEPPOL) is a consortium project, with the objective to pilot solutions to make it easier for European economic operators, in particular SMEs, from one country to respond electronically and in an interoperable way to public procurement opportunities and carry out the subsequent business transactions, including invoicing.

### Roaming

Service providers describe the process of connecting to other service providers for the exchange of messages as 'Roaming'. Technical connectivity is usually provided bilaterally and there are requirements for the management of routing and addressing also agreed between the service providers.

### Routing

Routing (or Routeing) is the process of selecting paths in a network along which to send network traffic. Routing is performed for many kinds of networks, including the telephone network, electronic data networks (such as the Internet), and transportation networks. This article is concerned primarily with routing in electronic data networks using packet switching technology.

### SEPA

The Single Euro Payments Area or SEPA will be the area where citizens, companies and other economic actors will be able to make and receive payments in euro, within Europe, whether between or within national boundaries under the same basic conditions, rights and obligations, regardless of their location. It consists of the European Union Member States plus Iceland, Norway, Liechtenstein and Switzerland.

### Service Level Agreement

A service-level agreement (SLA) is a negotiated agreement between two parties where one is the customer and the other is the service provider. This can be a legally binding formal or informal 'contract'.

### Service Provider

Entities that provide services to end-users offer wide variety of business services and models ranging from supply chain and procurement services, software and integration services, invoice and related document transmission and networks and integration with financial services.

### SME(s)

Small and Medium-sized Enterprise(s).

### Standard

A document established by consensus, and approved by a recognized body, that provides, for common and repeated use, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context (ISO formal definition).

### Straight-Through Processing

Straight Through Processing (STP) enables the entire trade process for capital markets and payment transactions to be conducted electronically without the need for re-keying or manual intervention, subject to legal and regulatory restrictions. The concept has also been transferred into other asset classes including energy (oil, gas) trading and banking.

### Three-Corner Model

An exchange model where senders and receivers of invoices are connected to a single hub for the dispatch and receipt of messages (sometimes called a Three-Party Model).

### Universal Business Language (UBL)

UBL is a library of standard electronic XML business documents such as purchase orders and invoices. UBL was developed by a Technical Committee in OASIS (an industry standards consortium) with participation from a variety of industry data standards organisations. UBL is designed to plug directly into existing business, legal, auditing, and records management practices. It is designed to eliminate the re-keying of data in existing fax- and paper-based business correspondence and provide an entry point into e-commerce for small and medium-sized businesses. Under an agreement between UN/CEFACT and OASIS, UBL requirements will be taken up in modifications to the relevant UN/CEFACT standards documents, including the CII.

### UN/CEFACT

The United Nations' Centre for Trade Facilitation and Electronic Business has a global remit to secure the interoperability for the exchange of information between private and public sector entities. It has developed the UN Layout Key for trade documents and developed UN/EDIFACT, the international standard for electronic data interchange together with supporting components and methodologies.

## UN/EDIFACT

The United Nations / Electronic Data Interchange for Administration, Commerce and Transport.

## Value Added Tax (VAT)

VAT is imposed by the national taxation authorities with every transaction in the B2B and B2C markets in the European Union. Registration and administration of this tax is subject to overall European legislation and then local Regulations. The legislation constitutes a Common System of Value Added Tax under Directive 2006/112/EC.