

European Union Multi-Stakeholder Forum on Electronic Invoicing

Draft position Paper on Electronic Invoicing in Public Procurement

Prepared by the Activity 2 sub-group

Contributions/Comments are welcome by 31/07/2013 to entr-e-invoicing@ec.europa.eu

1. Preamble

The replacement of information exchange based on paper documents in business processes ~~based on paper documents~~ with information exchange in electronic form is a ~~highly beneficial~~ global trend that can bring high benefits, and the competitiveness of European economic activity will benefit from this migration. Such electronic information exchange will play a prominent role in achieving the Single Digital Market, as set out in the Communication "A Digital Agenda for Europe", one of the flagship initiatives of the 'Europe 2020' strategy; the uptake of ~~electronic~~-invoicing using electronic means has for some time been an identified priority within the Digital Agenda.

Electronic invoicing has been achieving notable rates of adoption and is potentially capable of achieving critical mass in many industry sectors in the short to medium term. This is owing to adoption by the public sector in a number of Member States and generally to private sector adoption through supply chain automation¹. An active electronic invoicing service provider and solutions industry is supporting this growth. It is, however, recognized that further efforts are required in order for electronic invoicing to achieve its full potential.

The Commission established the European Commission Expert Group on electronic invoicing, which adopted its Final Report in November 2009 and the recommendations made by the Expert Group, were taken up by the Commission in its Communication entitled "Reaping the benefits of electronic invoicing for Europe". The latter Communication stated that the Commission would like to see electronic invoicing become the predominant method of invoicing in Europe by 2020. As announced in that Communication, the "European Multi-Stakeholder Forum on Electronic Invoicing (electronic invoicing)", hereinafter referred to as 'the Forum', was established in 2010 and one of its tasks is defined as:

'To bring about an exchange of experiences and good practices that facilitates the emergence of interoperable electronic invoicing solutions'.

The EU Forum should identify practices which have proven to favor the uptake of electronic invoicing at national level. This benchmarking exercise should also cover the conditions for successfully replicating the approach in other Member States, assuming the proper possibilities

¹ Special consideration needs to be given to e-Invoicing adoption by SMEs

[to interact with Member States' plans and strategies](#). A number of specific topics could be addressed in the benchmarking, such as:

- the role of service providers and banks to foster electronic invoicing adoption
- SME targeted initiatives
- Public sector measures (e.g. in electronic procurement) that can accelerate the uptake of electronic invoicing'

The Commission has established a strategy for e-procurement ~~and~~ which stated that "the ultimate goal is *"straight through e-procurement"* with all phases of the procedure from notification (e-notification) to payment (e-payment) being conducted electronically". This was further emphasized in the European Parliament Report A7-0083/2012 on "a competitive digital single market – e-Government as a spearhead" which calls for electronic invoicing to be made mandatory for all public procurement by 2016.

During discussions within the Activity 2 task group of the EU Forum on Experience and Good Practice, it was determined to focus the work on the adoption of electronic invoicing in public procurement on producing a position paper addressing three issues:

- 1/ the business case;
- 2/ potential infrastructural channels for electronic invoicing adoption in the public sector;
- 3/ ~~and~~ standards issues with specific reference to the public sector

For the latter work item the task group will be working closely with the standards stream of work being carried out in the EU Forum at the same time.

This ~~study~~ [position paper](#) includes reference to evidence gathered from country delegations within the Forum [and their](#) experience gained so far in electronic invoicing in the context of public procurement.

2. Background

Electronic invoicing is the [result of](#) complete removal of paper from the invoicing process. Many large corporate enterprises and many public administrations throughout the world are already realizing the major benefits of automating their business processes, of which electronic invoicing is a conspicuous and effective example.

Acceptance of e-Invoices by government will make the public sector much easier to do business with, and facilitate payments to suppliers including SMEs with potential cost savings and liquidity benefits.

[Provided the proper implementation approach is followed, t](#)here are four good reasons for adopting electronic invoicing in the public sector:

1. Electronic invoicing will directly support public policy priorities for economic growth, deficit reduction and financial transparency.
2. It will make a material contribution to public sector cost reduction and efficiency.
3. It will provide major benefits to private sector suppliers and clear opportunities for the public sector to act as a catalyst for the wider adoption of digital processes with the resultant productivity gains throughout the economy.
4. Its ease of implementation can be demonstrated with reference to many private sector and national public sector experiences, and with reference to the extensive range of existing market solutions and shared service platforms: 'Big bang' IT projects are not required. Transition costs are modest.

3. The business case for public sector buyers

For both corporate and public sector trading parties, the manual processes involved in handling paper invoices are labour-intensive and lead to errors, delays and long payment cycles. Manual approval processes and limited process controls lead to uncorrected billing errors, potential fraud, and difficulties in achieving accurate audits for all parties.

By moving to a process that handles invoices electronically, buyers and suppliers achieve material cost and efficiency gains by removing delivery and print costs, by removing the need to archive paper, and to purchase envelopes, paper and stamps. Even more significant cost savings are obtained through work flow, improving process and administrative efficiencies at all levels. At a minimum, greater transparency is built into the whole procure-to-pay cycle.

For public sector buying organizations, the cost benefits take the form of direct cost reductions in back office processing and invoice reconciliation. The introduction of electronic invoicing creates the potential for releasing resources for engagement in more productive work whilst protecting front-line services. The buyer establishes a more stable and satisfied supply chain, and will see measurable error and fraud reductions. The environmental benefits of electronic invoicing are also significant. Electronic trading systems will allow access to transparency of spend, and simpler financial reporting right across government.

In addition, ~~once the pivotal e-Invoice~~ is an enabler to process is created, it is so much easier to implement, full end- to-end e-procurement (from e-catalogues to ordering and payment). It is important to make a distinction between the complex internal change management required to adopt full e-procurement with the comparatively straightforward step of adopting electronic invoicing. This modular step then creates the potential for the step by step adoption of e-procurement.

The adoption of electronic invoicing will create spill-over effects to economy as a whole as the public sector acts in a catalytic capacity and together with large enterprises act as electronic invoicing role models

There is a global dimension to electronic invoicing which is an integral component of new global trading practices in the networked economy and is an indispensable part of creating competitiveness. Consequently it is so much more than the modernization of a traditional business process. It takes place at the point of convergence between the physical and financial supply chain where the processes associated with orders, manufacture and delivery meet contractual arrangements, risk analysis, credit, financing and payments. It will almost always stimulate wide-ranging productivity enhancements right along these value-chains.

~~The A~~ business case² can be established with reference to the clear benefits arising from the benefits described above. This then needs to be complemented with material on the implementation aspects covered in a later section below. It is proposed that the business case can be built on the basis of a series of questions:

While it may be difficult to obtain aggregated facts and statistics for the entire public sector, it may be possible to obtain data from a sample drawn from central government ministries and departments, regional and municipal authorities and a variety of public agencies and arm's length bodies to answer these questions.

Question 1: How many paper invoices are processed in the public sector?

Rationale

This is the key measure; accounts payable management is essentially a transaction driven process requiring human resource, and the higher the volume of transactions, the greater the human resources involved. The volume of invoices also drives other costs and benefits; as well as invoice processing, invoices must be archived, retrieved and subsequently destroyed.

Comment

The number can also be used to derive other benefits, for example the carbon footprint – invoices are made of paper (usually two copies plus an envelope) and are delivered by mail; there are industry standard measures that can be employed to obtain headline statistics.

Question 2: How many people are employed within the accounts payables departments within the public sector?

Rationale

² [Assuming the use of ERP systems, i.e. no further manual intervention needed. Portal based use cases are different.](#)

Staff reduction / staff efficiency is one of the key benefits of electronic invoicing. Typically there is one member of staff employed to process 10,000 – 12 000 invoices per year, so an organization processing 100 000 invoices per year will employ 9 – 10 staff in Accounts Payables (in addition to post-room staff).

Comment

World class enterprises can process 125 000 invoices per person per year when electronic invoicing is deployed, particularly if deployed alongside a robust procurement system. Many organizations redeploy staff to more added value activities, rather than mundane transaction processing.

Combined with Q1, we can benchmark the efficiency of Accounts Payable management.

Question 3: What is the cost of processing a paper invoice in the public sector?

Rationale

A headline cost can be derived from the answers to Q1 and Q2. However the costs will vary dramatically from department to department, depending on the geographical location of processing, the volume of transactions, the technology deployed, and process efficiency. This needs to be studied in more detail.

Comment

Independent studies in industry suggest that the cost of processing a paper invoice (to the buyer) is around £15 per invoice. Deployment of electronic invoicing can reduce total processing costs by between 40% and 60%.

Question 4: What is the on-time payment performance of the public sector? How many (%) invoices are paid on time?

Rationale

Failure to pay on time causes undue stress on the supplier (particularly SME's), the buyer and the accounts payables department. It is also now relevant in the context of the EU "Late Payments Directive" (which has been transposed in National Laws on 16.03.13) which states that public authorities will have to pay for the goods and services that they procure within 30 days or, in very exceptional circumstances, within 60 days.

Comment

Many corporations are including on-time payment statistics as part of their Key Performance Indicators. There is a substantial improvement in KPI's when electronic invoicing is deployed as invoices are delivered and processed quickly, efficiently and directly in to the accounting system of the buyer. No invoices are lost. This measure is not about paying early – but paying on time – to the agreed terms.

Question 5: What are the requirements for archiving of invoices in the public sector?

Rationale

Regulations in Europe require that buyers retain invoices for 6-10 years.

Comment

Archiving is expensive, as documents must be stored in a dry environment, indexed and kept in an orderly fashion to allow quick retrieval. At the end of the retention period documents are [normally] securely destroyed.

Archiving is often outsourced. If a public sector organization processes (say) 50 million invoices per annum and they are archived for 6 years, there will be a minimum of 300 million documents in storage. Note// suppliers also have to archive the same document so the number doubles.

Electronic invoicing allows for the efficient archiving of electronic documents.

Question 6: What is the extent of outsourcing Accounts Payables processing in the public sector?

Rationale

Accounts Payables is a labour intensive environment. In the private sector, many corporations have outsourced this activity; the processing is often undertaken in lower cost regions in or close to the home country or to Eastern Europe or Asia taking advantage of lower labour costs.

Comment

Inefficient / human intensive processing is often reorganized into shared service centres and/or relocated to take advantage of lower labour costs. There is a growing trend in USA to reduce offshore processing and retain US jobs, but this requires greater efficiency; using technologies such as electronic invoicing.

Question 7: What is the supplier distribution to the public sector? How many are SME's?

Rationale

The efficiencies gained by electronic invoicing are of particular relevance to SME's [Remark: the interaction mechanism used should be taken into consideration here. There is a difference between portal based solutions , 'virtual printer drivers' and EDI.]– costs are reduced, invoices are delivered quickly (instantly) and payment cycles are improved.

Comment

Electronic invoicing also supports the deployment of supply chain finance services, in which payables, as represented by invoices, are used to form the basis of accelerating payments to suppliers by means of transactional finance facilities, which are then repaid from the proceeds of the invoice at the original due date.

4. Making electronic invoicing happen

Given that the invoice is produced in order to trigger a payment and is also of significant value as a fiscal document, it is important that e- invoicing is implemented in a safe and controlled manner.

Naturally the associated costs and challenges need careful management. But these challenges are manageable and containable through exercising disciplines such as: scope and scale management, the deployment of pilots, project phasing, the avoidance of over-ambitious centralized IT projects, and by progressively building confidence and competence. There will also be the need to provide a smooth integration between the inbound invoices and the buying organization's ERP (enterprise resource planning)/back office platforms. For this and to help overcome the negative consequences of multi-level and de-centralized operational responsibilities in the public sector, the deployment of shared service centres is a valuable approach. The private sector has already shown the way forward in the use of shared service centers and other aspects too such as the on-boarding of suppliers. Suppliers need to be provided with a manageable choice of easy-to-use access channels, and facilities for archiving and up to the minute monitoring, all aspects being supported by timely communication and training requirements.

For public sector buyers subject to the Single Market Act and seeking to support pan-European public procurement there are requirements to provide channels for Europe-wide suppliers supporting ease of use and integration on a Europe-wide basis

It is important to recognize that many forms of electronic invoicing is-are comparatively easy to implement and will deliver benefits immediately. As advantage is taken of the opportunity for further automation and integration progressively higher financial benefits can be obtained. The adoption of electronic invoicing processes for business-to-government transactions can be achieved with comparatively little up-front investment as there are many proven solutions including those offered by well-established service providers that issue, receive and process electronic invoices. Indeed, the solutions and services industry is already well seeded with many world class providers operating in a competitive landscape. For electronic privacy and non-repudiation, there are a number of established trust infrastructures that can also be re-used by the public sector.

There needs to be a sound business case for suppliers, which will revolve around no or limited IT investment essential, the potential for receiving faster payments and the re-use of solutions for B2B on top of B2G. [\[Remark: this sentence needs clarification\]](#)

Likewise service providers who are likely to be crucial in supporting implementation and ongoing operations will be looking for limited silo effects and limited additional IT investment essential, an attractive business model for commensurate effort/investment, opportunities to optimize their pre-existing installed supplier base and the opportunity to maintain forward momentum for electronic invoicing adoption in the market as a whole.

An important aspect of implementing electronic invoicing in the public sector is the question of mandatory or voluntary adoption. [\[Remark: Reference should be made to the implications: if e.g. the public sector is mandated to implement, then this may imply the obligation for the private sector to amend business processes if no precautions are taken, considerably decreasing the benefits of electronic invoicing as such.\]](#)

By this is meant the policy instruments to be deployed, such as:

1. a compulsory mandate for the entire public sector;
2. a provision that all public sector buying organizations must at least provide the option of electronic invoicing,
3. a recommendation in favour of electronic invoicing but leaving implementation as a matter of local autonomy,
4. or a mixture of all these.

The approach to implementation is clearly a policy or even a political decision [that needs to be developed in collaboration with the private sector](#). The diversity of the public sector is not likely to favour a 'one size fits all' approach. Nevertheless the existence of a strong policy direction, a suitable support infrastructure and a number of representative pilots on a meaningful scale is likely to create momentum. As the benefits are proved the pressure towards compulsory adoption can be applied. [\[Remark: depends on the infrastructure used.\]](#)

Given large variances in the size, procurement profile and management readiness among public sector organisations, it is not possible to identify a single model for the identification of transition costs. An impact assessment is required for a range of representative buying organisations. The costs and challenges to be managed have been spelt out above. It is the contention of this paper that private sector experience has demonstrated that the creation of major IT projects is not required and that electronic invoicing can be straightforwardly implemented and then built upon to obtain progressively more valuable benefits. There are already a number of case studies that can be accessed, including those where shared service centers have been deployed. It is understood that the government is considering a wider roll-

out of such capabilities and it would be very valuable to consider the case for electronic invoicing and the wider roll-out of e-procurement as an integral part of the business case for the shared service center concept. This is often done in the private sector.

5. The European and global picture

An annual report (2012 edition) by the Swiss consulting firm Billentis points to the cost of processing individual invoices of EUR 30-50 in paper form reducing to EUR 10 and as little as EUR 1 for electronic invoicing in semi-or fully automated form (Finland) and similar proportions from a study in Italy. In analysing a typical medium sized company, Billentis identified savings in the core processing areas alone (invoice reception, coding, validation and matching, dispute management, payments and archiving) amounting to 62% of the cost per invoice reducing from EUR 17.60 to EUR 6.7 (i.e. approximately £10 per invoice). The same study provides estimates for the UK public sector of potential annual savings in the region of £4bn being about 1.8% of total procurement and is referenced in a summary article by Ricoh on the [estimated potential savings](#) available annually across the EU.

Another way to approach these savings is with reference to a number of reports containing estimates of the benefits of electronic invoicing for the economy as a whole. The European Association of Corporate Treasurers (EACT) stated that 'realising electronic invoicing could reduce annual [Remark: Was this figure not amended at a later date to a 6-year period?] supply chain costs by €243bn across Europe as well as help streamline government and help drive innovation'. Another estimate states that by moving all of Europe's annual 16bn paper business-to-business invoice transactions to electronic there are €100bn in savings possible. Government purchases in the European Union account for around 16 % of GDP (€1,500bn approx.)

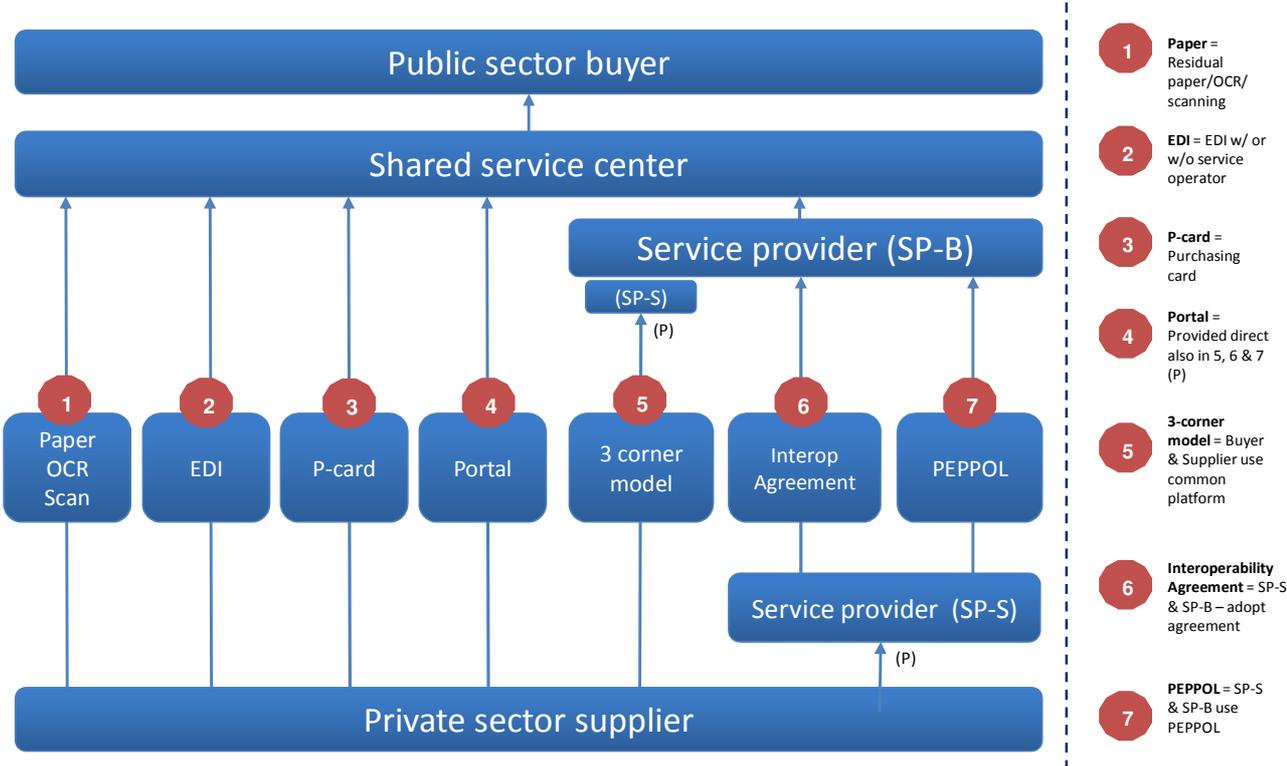
Within the European Union, a number of Member States are grasping the electronic invoicing opportunity. Electronic invoicing is already pervasive in the Nordic region, where Denmark for example has led the way in insisting that all transactions with the public sector are e-Invoiced. Other Member States such as Austria, Greece, Portugal and Spain see electronic invoicing as a natural development in times of austerity and belt-tightening in the public sector. Germany has recently announced a number of measures including a standards initiative to support electronic invoicing. Despite these efforts, there is evidence of a fragmented and incoherent environment, in terms of standards, channels, technology etc. and these aspects [may](#) requires attention from policy makers. The Commission is addressing the question of the use of electronic invoicing in public procurement and is likely to produce new proposals by mid-2013 to foster adoption and reduce fragmentation in the Single Market.

Further afield, Brazil and Mexico have implemented mandatory electronic invoicing programs for all business-to-business and government transactions and significantly, President Obama's government has announced that "the US Department of the Treasury plans to deliver a quarter of planned \$2.1bn federal government efficiency savings, by mandating that all Treasury bureaus implement electronic invoice processing by the end of fiscal year 2012 and that all vendors submit invoices electronically by the end of 2013". Other US public agencies such as the Federal Reserve and the Department of Veterans Affairs are also implementing electronic invoicing. Other initiatives in India, Russia and Korea are noteworthy.

6. Infrastructural channels for electronic invoicing

Multiple channels are available to support the flow of procurement ~~of procurement~~ and electronic invoicing transactions into a public sector buyer organization. The channels illustrated below represent an array of the principal electronic invoicing modalities supported by the market. Remark: Surely the 'all via shared service center' is not the common market approach. Clearly an evaluation of the right mix or portfolio of solutions is required to optimize the environment for buyers and suppliers alike. This diagram emphasizes the 'post-contract award' stages as channels for pre-award communication are likely to be even more heterogeneous, ranging from 'unstructured' Internet communication to a prescribed procurement platform or channel.

Infrastructural Solutions for e-Invoicing (B2G)



The diagram above illustrates the existence of a shared service platform acting on behalf of a range of public sector buying organizations. This center and the attached electronic invoicing service provider platform [\[Remark: This is one specific form out of many alternatives.\]](#) will be either contracted from the private sector, or be a public sector organization. Where a single public agency has sufficient scale or otherwise justifies the investment, it may deploy its own dedicated platform rather than use a shared service center

The range of channels illustrated [\[Remark: may contradict preceding rationales on e.g. business cases and supplier communities.\]](#) provide a range of alternative ways of providing e-invoices to the buyer, ranging from scanning/OCR, EDI, Purchasing Card, and service provider platforms. For lower volume suppliers various options for portals are provided, whereas for higher volume suppliers integrated file transfer is provided. Interoperability is present in various ways.

A Purchasing Card is a form of charge card, which allows goods and services to be procured without using a traditional purchasing process and which provides the necessary documentation to the trading parties. It is generally used for low-value purchases although not exclusively.

The way in which these channels may be offered is further reflected in the guiding principles set out below.

7. Recommended Guiding Principles for an implementation architecture for electronic invoicing channels

A number of recommended principles are listed below as the basis for implementation architecture for the channels described above:

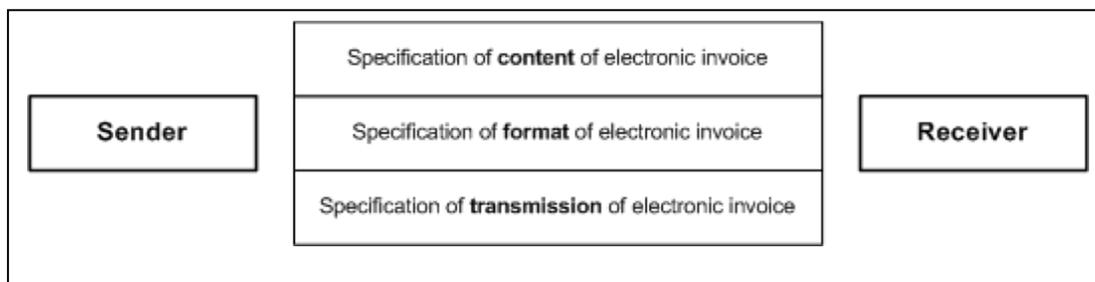
1. Think in terms of an open architectural framework to allow support for a range of features and functionality. Incorporate modularity to allow progressive development.
2. Capitalize on learning from the private sector and other (country) public sector experience on a systematic basis
3. Take steps to minimize project and financial risk and install relevant checks, balances and oversight and observing the usual good practices for open tendering and benchmarking.
4. ~~Always Undertake~~ Undertake a full appraisal of the value and benefits of the use of Shared Service Centers, which could be aligned with specific public sector activities and functional clusters.
5. Provide a reasonable [Remark: in terms of justifying business interests !] choice of solutions for suppliers and take care regarding the privileging of particular solutions through a neutrality of approach and where possible maximizing the re-use of existing capabilities and tools.
6. Support ease of integration and on-boarding for all players especially for SMEs and micro-enterprises.
7. Ensure support for interoperability on a pan-European and global basis.
8. Supply solution and service providers with guidelines, tools and open source software to ease roll-out.

8. Standards

This section raises the importance of standards and discusses the relevance of the issue for policy-makers considering the adoption of electronic invoicing in the context of public procurement.

It is first important to define what is meant by 'standards'. 'Standards' can refer to business practices such as rules for the conduct of business ~~and~~ but also to technical standards for use in the automated environment. For electronic invoicing and indeed for most e-business transactions these standards are helpfully divided into layers: the semantic, the format or syntax, and standards for transmission. All three layers require standards.

In the exchange of an (e-) invoice between a sender and a receiver, termed the trading parties, they (or their service providers) need to be able to agree on a number of key aspects, the most important being:



At the first level, the data structure of the '**content**' is described by a methodology company or industry practice and is often expressed in a so-called 'Semantic Data Model', which can be defined here as a structured and logically interrelated set of terms and meanings for use in a commercial context.

At the second level, the physical representation of this content in a structured electronic message is termed the '**format**'. A format is representation of the data in a machine-readable form, which is structured and where the data elements are logically related to each other and potentially to other data elements outside the invoice; it will usually be expressed in a syntax. Syntax is the machine readable 'language' or 'dialect' used to represent the data elements. Correct deployment of the 'format' allows for automated processing of the 'content'.

At the third level, **transmission** refers to the aspects of delivery or making available the e-invoice from sender to receiver and includes the network modality, the transport protocol, addressing and routing.

It is generally accepted that the (where necessary: community-wise) adoption of standards in these areas will assist adoption. It should also be recognized that the absence of such standards has not impeded market growth so far given the availability of tools and capabilities to agree on and process transactions at the business level and—to map, convert and translate data held in different formats and a variety of techniques used in the transmission area. Nevertheless in a domain as big and ambitious as the automation of public procurement there is an expectation that greater use and specification of standards will be very useful. Standards are particularly relevant to the promotion of interoperability. Interoperability as a general concept relates to

the pervasive ability of all users to reach and communicate with all other users relevant to their business. It also relates to the more practical aspects of ‘network interoperability’, where important networks of intermediaries and their customers are able to interoperate on the basis of agreed standards, protocols and practices.

The initiative of the EU Multi-Stakeholder Forum on electronic invoicing in supporting the development of a Semantic Data Model [as an enabler for interoperability](#) is a sensible step, which will assist with the standardization of the semantic layer referred to above. It will be helpful to agree on this single semantic data model, and then recognize that various syntactical expressions will co-exist based in time on the same semantic model.

In the second layer covering data formats there are a number of public standards as well as a range of proprietary standards for electronic invoicing data formats in use and the prospect of agreement on a single format is unlikely given the diversity of industries, geographies and business requirements involved. However if the various standards-setting organizations for the data formats were to use the Semantic Data Model, interoperability will be enhanced.

A further course of action could be to promote further convergence among a number of promising XML based data formats, such as the UBL 2.0/2.1 format (and various variants in common use) and the UN/CEFACT Cross Industry Invoice. Germany has recently developed the FeRD standard which will support the already mentioned XML standards but also provides convenient container for the carriage of a human readable version (PDF) of the e-invoice. Given the unique position of the public sector, it may be possible to force convergence, provided that the power is used collaboratively and respectful of the various interests involved in the ecosystem. [\[Remark: May need to be reconsidered. Seems to contradict the previous paragraph regarding ‘unlikely move’.\]](#)

A single ‘default’ standard is often deployed within interoperable networks, and this often extends to standards in the third layer covering transmission. Such interoperable networks should be encouraged as supportive of overall electronic invoicing adoption.

These brief remarks on standards are intended to complement the specialist standards work stream being conducted by the Forum.

9. Country experiences

Denmark, which has arguably the greatest experience (over 8 years) in the implementation of electronic invoicing in the context of public procurement, has identified the following good practices through its National Forum:

- Clear rules on what is required of the suppliers, including a mandatory invoice standard and a scheme for unique identification of public institutions/receivers
- A reasonable migration plan with sufficient time to implement solutions in the market
- Tools, open source components and guidelines that are freely available for IT-vendors. This makes it cheap and easy for them to incorporate in their solutions. Make sure they can also be used business to business
- Guidance to suppliers on what to do and what benefits they can gain

On the negative side, Denmark commented on practices that appear to inhibit the development of electronic invoicing in public procurement

- Scanned invoices
- Suppliers not being made aware of the benefits of electronic invoicing
- Unrealistic requirements from public buyers and unclear and confusing instructions and guidelines

Below are listed a number of other country experiences and practices that appear to be working and which could be transferred [\[Remark: depends on governance settings and cultural differences.\]](#) in an appropriate way from one Member State to another. The section does not attempt to conduct a country by country review but focuses on the practices with examples. From responses to questionnaires released by the EU Forum it is clear that at this time the general adoption of electronic invoicing for public procurement is in its early stages across Europe and there is a high degree of fragmentation, many announced but unsatisfied intentions, and inconsistency between Member States. The Single Market is far from a reality in this area.

The key practices worthy of comment are as follows:

- Mandatory adoption: In a number of countries electronic invoicing towards the public sector is mandatory, e.g. in Denmark, Sweden and Finland. Others are well on the way in this direction (such as Austria and Belgium). Some have taken a layered approach applying it first to central government. Others have started by making it mandatory for the public sector to be able to receive e-invoices, whilst leaving senders to adopt it as they see fit. The UK has recently indicated that it will be

- implementing electronic invoicing for central government procurement. More progress appears to be correlated with higher levels of compulsion.
- Standards: Countries that have seen adoption have fostered standardization of data format, e.g. Sweden and Denmark. Spain Belgium and Austria have also promoted a single standard. [Remark: needs to be elaborated in the context of the figure on p. 13.] Some countries will allow the scanning/OCR of paper invoices as a step on the way.
 - Choice of channels and support for suppliers, including the PEPPOL infrastructure: Austria will provide 4 options and others have fostered a choice of tools, methods and channels e.g. in the Nordic countries. The Netherlands is working on a country interoperability scheme called Simpler Invoicing. The creation of an active solution and service provider industry appears important and with it the benefits of solution neutrality.
 - Central Infrastructure: there are a number of specific public sector-created technical platforms or gateways. It is not easy to evaluate their performance or critical role. The fragmentation that they bring in terms of role, architecture, features and functionality bears further analysis from a Single Market point of view and perhaps they should be more transparent to end-users. The UK is developing large -scale Shared Service Centers and others have shared services in all but name.
 - Legal certainty: this is important for all jurisdictions, and is a necessary, if not sufficient condition to foster electronic invoicing adoption. The transposition of the VAT Directive (45/2010/EU) is important and nearing completion although there are exceptions to be addressed and a number of country-level legal requirements, which could be reviewed in the interests of harmonization. A number of areas such as archiving rules and the specific requirements relating to electronic invoicing towards the public sector are also important. In addition to countries mentioned already, France and Italy have taken steps to clarify the rules for electronic invoicing in relation to the public sector.

Country experience is likely to evolve rapidly in the months ahead, in particular in the light of the intention of the European Commission to propose a Directive on electronic invoicing in public procurement. It is recommended that the EU Forum continues to monitor and make recommendations in this important area and remain in close touch with the National Forums.