2014

E-Invoicing / E-Billing

Key stakeholders as game changers

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May 6, 2014

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Document No: Billentis060514

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Electronic and automated invoice processes can result in savings of 60-80% compared to traditional paper-based processing. Projects typically result in a payback period of 0.5-1.5 years. This report will give the reader useful information for achieving these results.

It has primarily been private sector businesses and numerous solution providers which have developed the market in recent years. They were partially supported by public sector initiatives in Latin America and in a handful of countries in Europe and Asia.

The growth rates for electronic exchange and archiving of bills/invoices are impressive, but the potential is still tremendous.

Recipient segment	Annual bill & invoice volume estimated to be at least		Estimated electronic proportion of total volume in 2014		Estimated annual volume increase in electronic bills/invoices	
	World	Europe	World	Europe	World	Europe
Consumer	330 billion	18 billion	exceeding 8%	14%	20%	15%
Business & Government	170 billion	17 billion		24%		22%

Of the 500 billion bills/invoices globally, 40 billion are estimated to be exchanged in 2014 paperless (14 billion consumer bills and 26 billion invoices in the business and government segment). Latin America contributes around 25 billion to this electronic volume, Northern America 7, and Europe 6 billion.

With at least 10% of the total market invoice volume (paper and electronic), the **public sector** belongs to the "top 3 industries". Measured by the number of trading parties, it is the clear leader: 45-65% of all companies in a country are suppliers to the public sector and send invoices to it. 100% of enterprises and households receive invoices/bills from the public sector. That is why E-Invoicing initiatives by the public sector are key for the development of the whole country. Unfortunately, this sector often belongs to the laggards, despite the huge saving potential. This is due to change completely in the coming years: The public sector in most European and some Asian countries is expected to become one of the key drivers for the E-Invoicing market. Not only will it become a key driver, but it is also expected to be **game changer number one**.

Mainly due to the projects of large customers and the public sector, millions of **SMEs** have to replace paper invoices with electronic ones. On one side, they have to follow the requirements of their customers, but, in addition, demand completely new and easy to use solutions. SMEs are demanding very smart solutions, but do not want to pay (much) for it. Due to the high number and the very specific requirements, they can be seen as **game changer number two**.

Solution providers were the market-makers for the last decade and many of them are expected to be **game changer number three** in the coming years. A huge innovative step regarding the enrolment process and added values is ahead of them.

1. Introduction

1.1 The purpose of the Report

E-Invoicing / E-Billing is a rapidly expanding technology. Whereas Latin American and many European countries are already considerably advanced in this field, a vast majority of organisations have not yet decided upon one system or service.

A high number of providers offer solutions and services for this matter. In this phase, it is important to have up-to-date information and guidance on selecting the right solution and provider.

An independent international E-Invoicing consultant and market analyst has written this report. Its purpose is to support invoice issuers and recipients wishing to replace expensive paper-based invoice management. It gives all the relevant information for succeeding with an E-Invoicing project. The report not only provides facts, but also qualitative views, evaluation and details about the products offered by many providers.

1.2 Methodology

The author has worked in the E-Invoicing business since 1997. During the first two years in Switzerland, he established one of the first E-Billing/E-Invoicing services in Europe. Since 1999, he has acted as an independent consultant and has made business plans, RFPs, system evaluations and many technical and marketing concepts for large invoice issuers and recipients, banks, integrators, solution and service providers. During this time, he has constantly collected important data about the relevant markets. The results are repeatedly published in newsletters and market reports.

The report is based on
- Publicly available information; the author gathered information from thousands of sources over the years and adjusted them
- Market research carried out by third parties (representing 15,000+ enterprises and 10,000+ consumers)
- Verification of important figures by customer/provider visits and/or calls
- Own in-depth experience from more than 160 customer consulting projects in 50+ countries
- Consolidation of the above information

1.3 Terms and definitions

The term "E-Invoicing" is used for the Business-to-Business (B2B) and Business-to-Government (B2G/G2B) segment. The EU legislation considers a relatively broad definition: The issuing and receipt of VAT compliant invoices in an electronic format. Most national legislation mandates users to archive the E-Invoices in its original (electronic) format, even if it were printed after receipt. This definition in Europe corresponds with the broad recognition by users and also includes image-based digital invoices (mainly PDFs).

Definitions in other regions of the world differ greatly. Although it is not valid in any case, it seems that E-Invoicing in the US means much more just "automated E-Invoicing". Other increasingly popular terms in this narrower sense are "Touchless E-Invoicing" or "Zero touch E-Invoicing".

In this report, "E-Billing" covers the electronic bills from Business-to-Consumers (B2C). Note: Some market participants use this term alternatively for the process on the issuer side in general, regardless of whether the customer is an enterprise or household.

All statistics and forecasts are based on a very strict definition of E-Invoicing: Transported and archived fully electronically from end to end and in a tax compliant manner. Not considered are invoices which are transferred electronically, but violate legislation for some reason and all "semi-electronic" invoices (printed E-Invoices, scanned paper invoices, etc.). Also not considered are the reporting and validation invoice data sent from businesses to the tax authorities (popular in Latin America, Asia and some European countries).

2. The market

2.1 Market volume

2.1.1 An estimate for the global volume

2.1.1.1 Bills/Invoices

Whereas the volume (paper + electronic) in Europe is relatively well known, figures for other continents may just be guessed. There are clear indications that the number of bills/invoices per entity (enterprise or household) in Asia and America (North and South) is higher than in Europe. This seems to be especially the case for recurring bills (telco, utility and other bills).

Figure 1: Guess for global bill/invoice volume

Segment	Estimated volume to be at least
B2C/G2C	330 billion
B2B/B2G/G2B	170 billion
Total	**500 billion**

Source: Billentis

In most industrialised countries, invoices/bills represent 16-30% of the total (addressed) letter volume and up to 50% in less industrialised countries. Local organisations in an increasing number of countries meanwhile have their own mechanisms to make qualified guesses about their invoice volume. Several service providers processing invoices (paper and electronic) confirmed to the author that economic cycles do not have a noticeable impact on the invoice volume.

There are several indications that the bill/invoice volume increases 2-3% every year. This is for several reasons:
- Increase of the population, the number of households and enterprises
- Suppliers improve their working capital and are no longer willing to give credit to their clients due to low billing/invoicing frequency; by sending bills/invoices every two months instead, they do it after each delivery
- Legal reasons; some countries (especially within the European Union) are mandating suppliers to send bills/invoices within 15-30 days of their performance or goods delivered
- Electronic invoices are cheaper and allow suppliers to send invoices more frequently

2.1.1.2 Invoice-like documents and messages

Additional volume of "invoice-like documents and messages" can also be tremendous (depending on country likely **5 to 15 times over the invoice volume**). Invoices are different from receipts (payslips). Both invoices and receipts are ways of tracking purchases of goods and services. In general, the content of the invoices can be similar to that of receipts including tracking the amount of the sale, calculating sales tax owed and calculating any discounts applied to the purchase. Invoices differ from receipts in that invoices serve to notify customers of payments owed, whereas receipts serve as proof of completed payment. The message content can be quite similar to bills/invoices and, for that reason, some press releases translated from any language to English also use the term "Bills/Invoices" for this kind of document/message. The author keeps that number outside of its statistics. Classical examples of these "invoice-like documents and messages" are
- Invoice data sent to the tax authorities just for validation or audit reasons

- Digital replacements of "fiscal printers producing payment receipts". Electronic (payment) receipts, generated by tills at the Points of Sale (shops, restaurants, ticket counters) and sent to the tax authorities just for validation or audit reasons (e.g. in Taiwan and some Latin American countries); more accurate translations to English use the terms "electronic tax receipts" or "uniform invoices" for these messages.

2.1.2 The European bill/invoice volume

Due to the annual increase, the European volume may have meanwhile passed the 34 billion and could increase to **35 billions in 2015**. Approximately half of the volume is send to consumers (B2C), the other half to enterprises and the public sector (B2B/B2G/G2B).

Figure 2: Invoice/Bill volume breakdown by industry (issuer view)
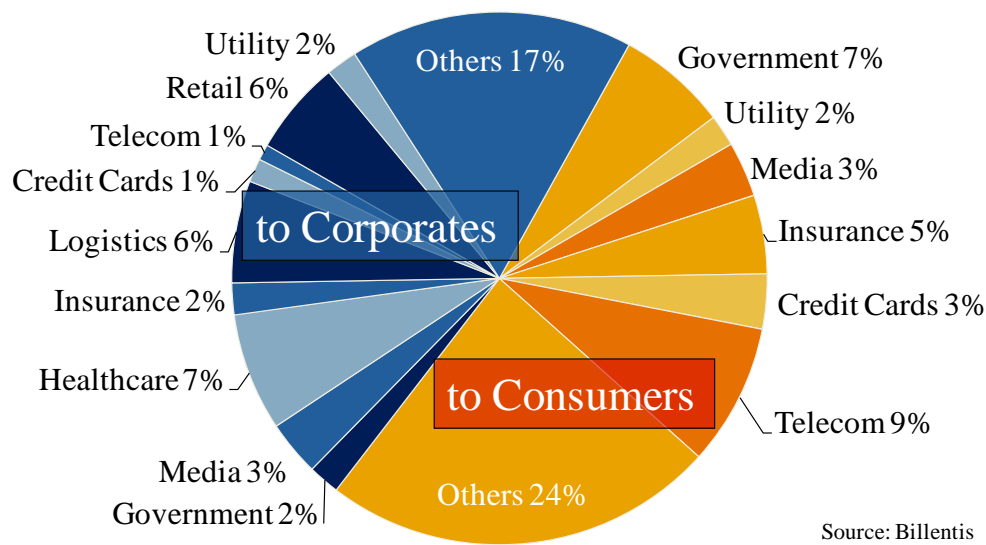
Source: Billentis

Legend: 1% of all invoices in a country are sent by Telecoms to corporations and 9% to consumers. Telecom invoices represent typically 10% of the total market volume.

There are just few segments receiving a very high invoice volume. The industries with the highest inbound volumes are:

Figure 3: Invoice volume breakdown by industry (recipient view)

Industries with high inbound volume	% of all B2B invoices, indication
Healthcare	5-13%, depending on the country
Retail	10%
Public sector: National Government, regions & municipalities	9-15%
Buyer Clubs, Trade	5%

Source: Billentis

All the industries above, except the public sector, were early adopters of EDIFACT or other electronic invoicing channels. The remaining volume of 60%+ is spread out across the other industries.

2.1.3 Relevance of cross-border traffic

Only a relatively small fraction (1-5%) of all invoices is sent and paid abroad. The larger countries in particular are much more focused on the domestic markets. In Germany, there are 7 billion domestic payment fund transfers compared with just 16 million cross-border transactions to EU countries (<0.3%). In small countries like Luxembourg, the share of cross-border invoices is above 30%.

From a statistical point of view, it appears that E-Invoicing projects could focus on the domestic traffic. In reality, this isolated focus can be a risk for the project, especially if the foreign trading partners are anticipating electronic invoices. Large organisations and even SMEs should consider their international situation from the beginning in order to avoid selecting the wrong solution provider.

Globalisation is in progress and sharply increases cross-border transactions. The author's experience in customer projects: E-Invoicing is typically an international project immediately after project start.

2.2 Motives for replacing paper bills/invoices

Organisations start projects for various reasons:
- External pressure (Suppliers, Customers)
- Internal cost pressure
- Process innovation and automation
- Quality improvement
- Public sector initiatives (with the aim to reduce fraud and increase tax income and to optimise their own invoice processes)

Promoters can be found in various divisions
- Management
- Financial Department
- IT
- Sales
- Procurement
- Workflow
- Archive

2.3 Evolving market models

2.3.1 Overview

Many large organisations intend to exchange electronic business messages directly with their counterparts. This is still a good approach in the case of stable partnerships with very large trading parties and if the legal requirements for these messages are not very high.

The invoice can be seen as the "queen of documents/messages". In most countries, it is THE document regarding VAT reclaim, for tax reasons and auditing. If paper based invoices are re-

placed by electronic invoices, it is essential to stay VAT compliant. Even if very large organisations prefer to exchange electronic invoices directly with their counterparts, the vast majority of companies are advised to use a professional third party service operated by professionals.

We distinguish between several E-Invoicing models:
- Supplier Direct Model (in-house)
- Buyer Direct Model (in-house)
- Outsourced Direct Model: Software as a Service (SaaS)
- Network Model, 3rd party operator Service
- Hybrid Model
- Total Invoice Management (in-house or outsourced)

Figure 4: Overview about main market models
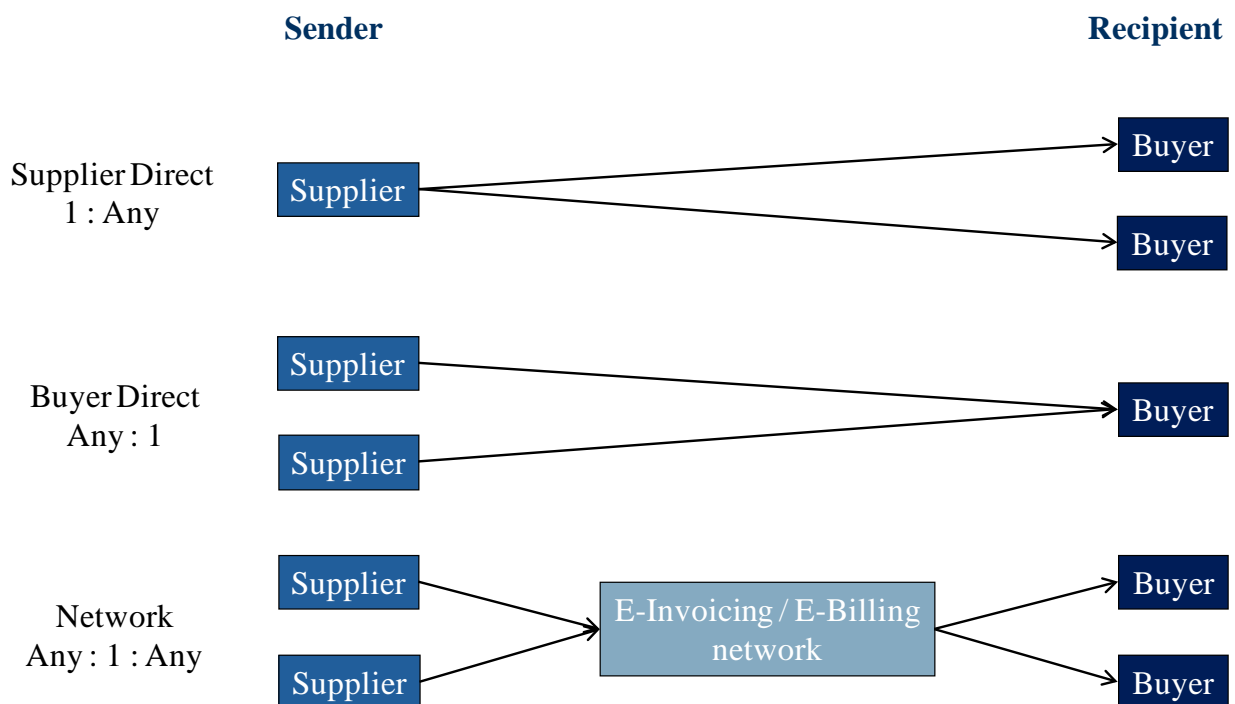
2.3.2 Supplier Direct Model

A supplier implements an E-Billing/E-Invoicing solution within his environment for distributing the electronic invoices via different channels:
- Sends them to the customers via email, SMS etc.
- Provides the E-Invoices on his customer portal; Customers can login, view and download them

The supplier direct model is quite popular in telecom, utility and card companies issuing a high volume of bills to consumers and businesses. Small businesses do not only accept PDF invoices attached to e-mails from larger issuers, but also increasingly exchange E-Invoices directly with their trading partners. Due to their size, they do not have the capability to provide E-Invoices on their own portals, but instead exchange them as PDF invoices attached to e-mails.

Figure 5: Supplier Direct Model
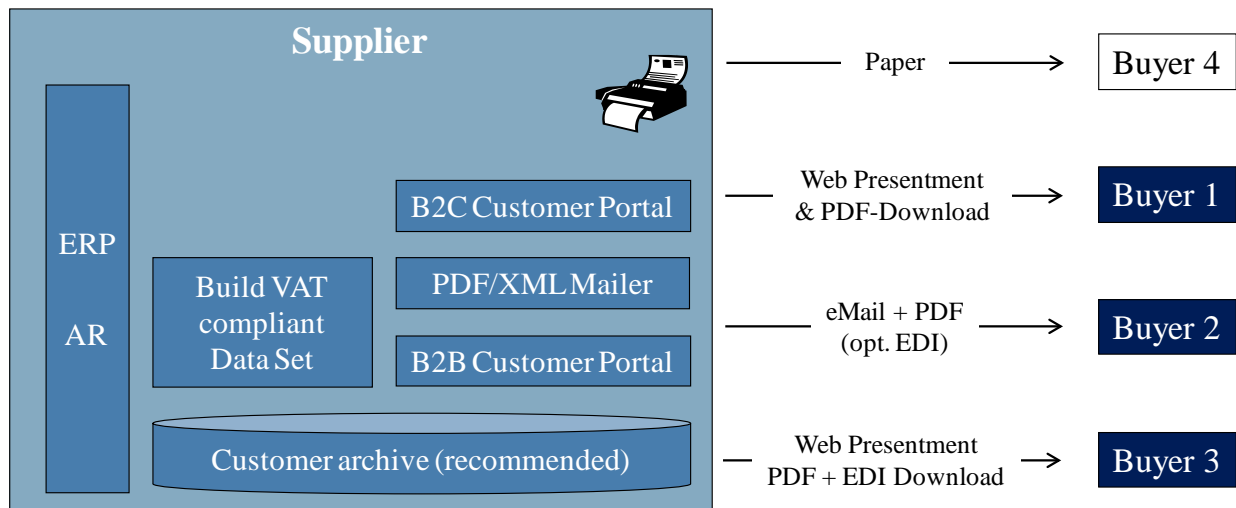
Source: Billentis

The classic market launch is done with a B2C Customer Portal. Customers can login, view, analyse and download the electronic invoices. Due to the login process on each suppliers' site, this route is not always popular. Therefore, customers should at least receive an email notification regarding a new invoice, including a hyperlink to the portal. Much more popular is to push the bills/invoices to the clients as email attachments.

To improve market acceptance, issuers to B2B customers should provide
- The most common structured invoice data for download (attachement or integrated to PDF invoice)
- Long-term and VAT compliant online archive for the customers' invoices (as smaller customers quite often do not have the required environment for doing this)
- In case of signatures: Verification tool for customers, reporting the result in a log file (must also be archived)

Figure 6: Advantages & disadvantages of Supplier Direct Model via customer portal

Advantages	Disadvantages
+ Direct contact with customers, chance for cross-selling and interaction + E-Invoicing functionality directly influenced by supplier; e.g. a telecoms operator offers analysis tools with CDRs (Call Detail Records) + Chance for very close integration with back office environment and automation of processes	− First part of solution development and maintenance seems not to be too expensive, but this changes dramatically over the years (upgrades; accumulation of maintenance costs) − Customers dislike logging on to various websites of different suppliers or making multiple integration projects − Customers only get a limited number of formats to download and have to convert them for import into their back office systems − SME customers don't get a centralised, efficient and VAT compliant E-Archive for E-Invoices of all their suppliers − Overall, customer acceptance will be limited

Many disadvantages can be reduced/eliminated if this model is operated by a third party (SaaS, Software as a Service) or if it is practised as a complement to a network model → see Hybrid Model.

In most market sectors, the customer adoption by using customer portals is lower than expected, except where the rollout strategy "Opt-Out" including the email channel can be practised. Explanation of the term "Opt-Out" see figure 49.

An alternative builds the push method based on intelligent PDF invoices including XML data.

Figure 7: Advantages & disadvantages of Supplier Direct Model via push method

Advantages	Disadvantages
+ Direct contact with customers, chance for cross-selling and interaction + Efficient solutions for senders and recipients available; low upfront investment + Chance for integration with back office environment and automation of processes on issuer and recipient side + Acceptance by customers of any size	− Customers only get a limited number of formats to download and have to convert them for import into their back office systems − SME customers do not get a centralised, efficient and VAT compliant E-Archive for E-Invoices of all their suppliers

2.3.3 Buyer Direct Model

A buyer implements an E-Invoicing and/or Invoice Management solution within his environment for receiving the electronic invoices via different channels:

- Gets invoices directly as a data stream for importing them into his AP solution (preferred mainly for invoices of large suppliers)
- Smaller suppliers key-in the invoice data in a web-template on the corporate invoice portal of the buyer (webEDI); data can be automatically processed and imported into the AP system

Figure 8: Buyer Direct Model
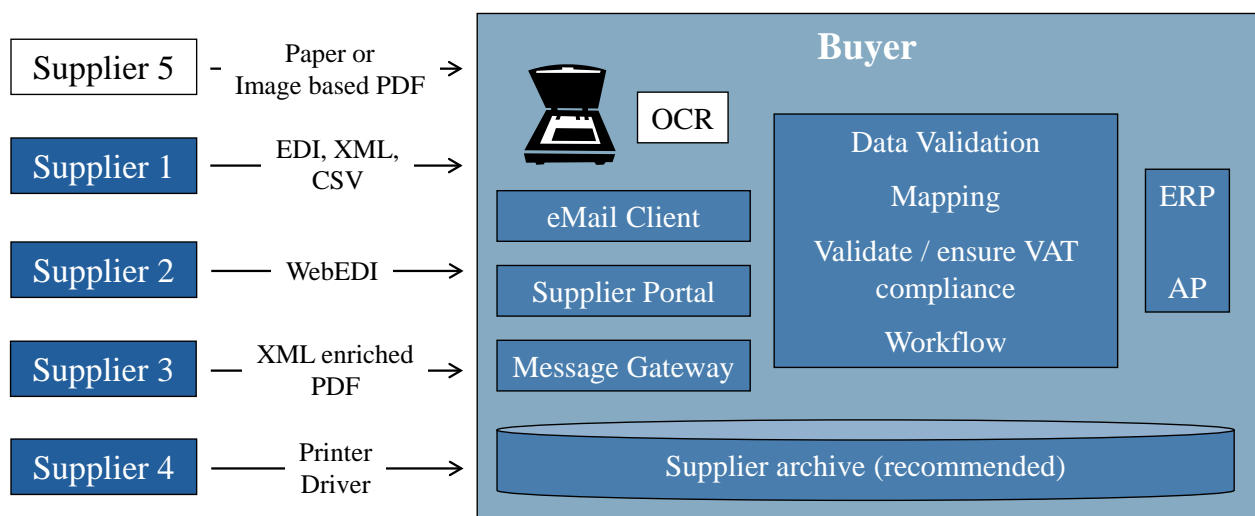
Source: Billentis

This model is preferred by larger organisations, especially if their suppliers are in strong competition with others (e.g. retail, automotive, trade).

Some providers offer E-Invoicing and Invoice Management solutions just for buyers, whereas others cover both sides: software for suppliers, already preparing and sending a compatible invoice format perfectly matching the requirements of buyers.

If suppliers are located in countries requiring digital signatures, they have to sign the E-Invoices in a VAT compliant manner. To succeed with smaller suppliers, it is of key importance to offer them good tools for this process and most probably a long-term supplier archive too.

The model can also be quite successful with smaller suppliers if orders are sent to them in electronic form alone (e.g. via Extranet Portal). Many solution providers offer a functionality to convert these purchase order data easily into an invoice for sending back to the buyer.

Figure 9: Advantages and disadvantages of Buyer Direct Model

Advantages	Disadvantages
+ Direct contact with suppliers, chance for interaction + E-Invoicing functionality directly influenced by recipient + Chance for a very close integration into back office environment and automation of processes	− First part of solution implementation and maintenance seems not to be too expensive, but this changes if mid-sized and smaller suppliers must also send electronic invoices; much legal clarification is necessary, especially in cases of cross-border exchange − Suppliers dislike converting their electronic invoices into the various formats requested by the buyers; they also dislike making multiple integration projects (with each buyer) − SME suppliers don't get a centralised, efficient and VAT compliant E-Archive for E-Invoices for all invoices sent to various customers − Overall, supplier acceptance will be limited but some pressure on suppliers is helping

2.3.4 Direct Model as a Service

Over the years, large organisations using biller or buyer direct models concluded that the marketing rollout is harder than expected and that the maintenance of their applications is ultimately too expensive. That is why some service providers in the UK, the Netherlands, Finland, France, Germany and other countries started to offer white-label services for them (SaaS, Software as a Service). They run a direct model on behalf of large issuers and recipients of invoices. The software is typically developed, maintained and operated by these providers. Customers pay just a fixed integration fee and a volume/time based fee.

Figure 10: Advantages and disadvantages of Direct Model as a Service

Advantages	Disadvantages
+ Direct contact with counterparts, chance for interaction	− Counterparts dislike logging on to various websites or making multiple integration projects

Advantages	Disadvantages
+ E-Invoicing functionality directly influenced + Chance for very close integration into back office environment and automation of processes + Lower costs, as application development and maintenance is shared with others + No negative surprise with the costs, as provider offers a fixed integration fee and a price per transaction or user + Complexity regarding VAT compliant processing (and optional archiving) can be outsourced	– Counterparties only send/receive a limited number of formats – Overall, acceptance by counterparts will be limited

2.3.5 Network Model

Issuer and recipient have just one interface to their service provider, the network operator[1]. This E-Invoicing network operator manages the VAT compliant invoice transfer to clients. Issuers can deliver invoice data (e.g. ERP output format like idocs, any XML data or a flat file) to the operator who translates it into the target format of the recipient. The operator guarantees the main legal requirements, authenticity and the end-to-end data integrity. An increasing number of operators offer additional services such as tax compliant long-term archiving.

Figure 11: Network Model
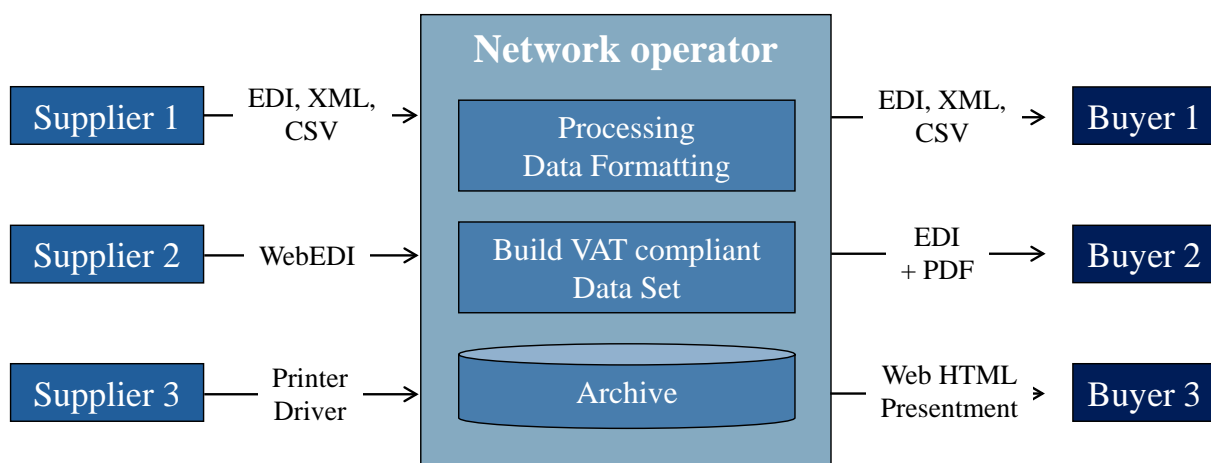
Source: Billentis

Large issuers and recipients intend to make a full integration into their AR and AP applications. SMEs often prefer easier and quicker solutions, either by using WebEDI or Printer Drivers. For both channels, suppliers' AR systems do not need any modification or upgrade. Use of E-Invoicing is possible for them within hours after making their decision.

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[1] In some countries, the terms "consolidator", "service provider" or "supplier network" are more common

Figure 12: Advantages and disadvantages of Network Model

Advantages	Disadvantages
+ Easy and efficient integration to a single point of contact + Lower costs as application development and maintenance is shared with thousands of other participants + No negative surprise with the costs, as provider offers a fixed integration fee and a price per transaction or per user + Complexity regarding VAT compliant processing (and optional archiving) can be outsourced + Easy to use: Technical and legal requirements can be outsourced to network operators + Counterparts like logging on to just one website, making one integration project with just one invoice format	− Indirect contact with counterparts, chance for interaction possible, but limited compared to direct or SaaS model − E-Invoicing functionality is fixed and can't be influenced

2.3.6 Hybrid Model

Message transfer with a few high-volume and strategic important counterparts is based on a direct model, whereas mid-sized and small counterparts are addressed via network operators.

Organisations using this model have combined the advantages and disadvantages of direct & network models.

Advantage: Good solution for all organisations already practising a direct model with chance for an efficient route to all smaller suppliers and customers.

2.3.7 Total Invoice Management

Even at best, there will always be a remaining percentage of paper invoices in tandem with the increasing electronic volume. At worst, this can result in two different workflow and archiving processes. This can be avoided in most cases with innovative solutions for supporting and handling various invoice formats, including paper. If practised as a direct model, such invoice management solutions can be purchased on the market and implemented into the company's own environment. Organisations not yet using scanning solutions quite often prefer using the complete service of a third party. Ultimately, this means that issuer and recipient can exchange invoices 100% electronically.

Figure 13: Total Invoice Management
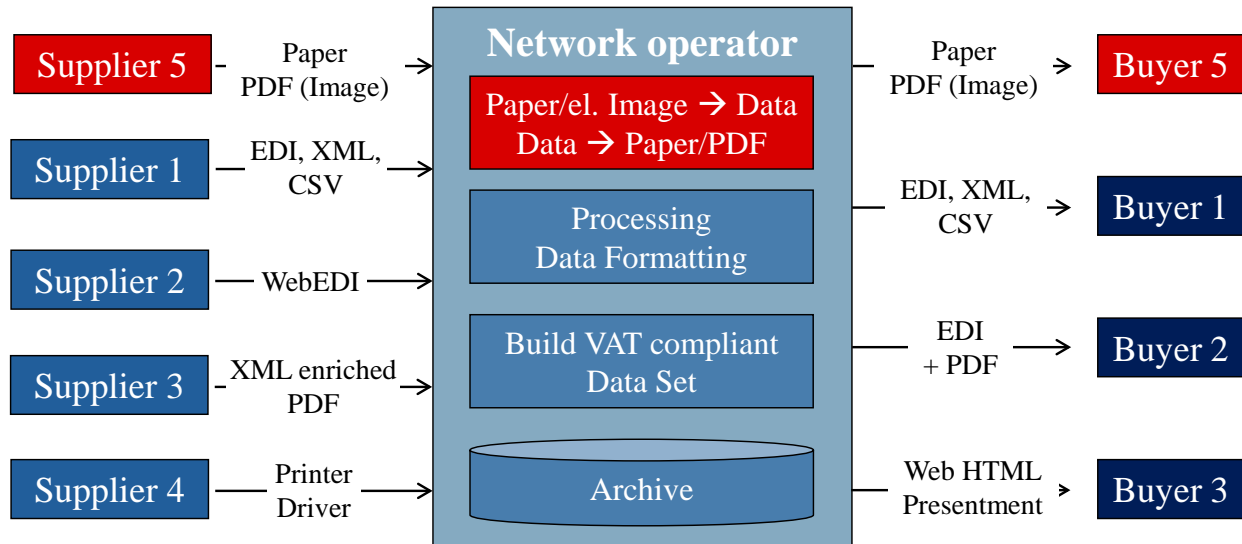
Figure 14: Advantages and disadvantages of Total Invoice Management

Advantages	Disadvantages
+ 100% solution + Harmonised processes, independent of invoice medium used	− Pressure to move very quickly from paper to electronic channel is limited; as a result, paper can survive longer than desired

2.4 The global landscape

2.4.1 Market evolution and maturity

Figure 15: Classical evolution pattern in most countries

Phase	Description
1	Large organisations (telcos, utility sector, card issuers, etc.) have tremendous expenditures for printing and mailing bills. Due to their competitive industry, they are pushed to reduce their costs significantly. They offer the bills electronically to their clients, often on their portals for download after log-in. The rate of acceptance by clients is limited, except if clients receive incentives for changing to E-Bills, if they are punished with penalties for paper bills or if they are pushed to accept the bills via email. This phase is the first experience with E-Billing for most countries.
2	Relatively soon, users of Supplier Direct services will recognise that their clients will not wish to log-in to each supplier's website. They prefer a single point of contact (aggregating website, online banking) for bills of all their suppliers. The acceptance of a B2C network service can be higher than with the Biller Direct model (Web-based) and the on-boarding costs per user are shared with other billers. Many billers recognize in this second phase that Bill Presentment on their own portal is not sufficient. They enhance their scope by using in addition a network service or switch to a push-model (send bills as PDF email attachments).
3	Enterprises can benefit most with electronic and automated processes in their role as issuer as well as recipient. As soon as legislation permits paperless invoicing (in most countries, except some in Africa and Asia), large organisations are typically the innovators for E-Invoicing. They push their large trading partners, followed by mid-

Phase	Description
	sized and small ones. Due to the high benefits for issuers **and** recipients, E-Invoicing in the B2B and B2G segment is typically more successful than in the B2C. However, it is still a challenge for large organisations to push a high number of mid-sized and small trading partners to exchange invoices electronically.
4	The public sector is in an excellent position to initiate the breakthrough in the mass market. In many countries, 45 to 65 percent of local enterprises are suppliers to the public sector. The government has the power to push these suppliers to send invoices electronically. They are also in the position to modify the legislation in a user-friendly way if necessary. Even in countries where the public sector is inactive regarding E-Invoicing, the market does move forward rapidly. An increasing number of providers meanwhile offer a broad range of solutions for all types of users and for fair conditions.

The maturity of the market varies between continents and the countries on each continent.

Figure 16: Market maturity for electronic invoices/bills
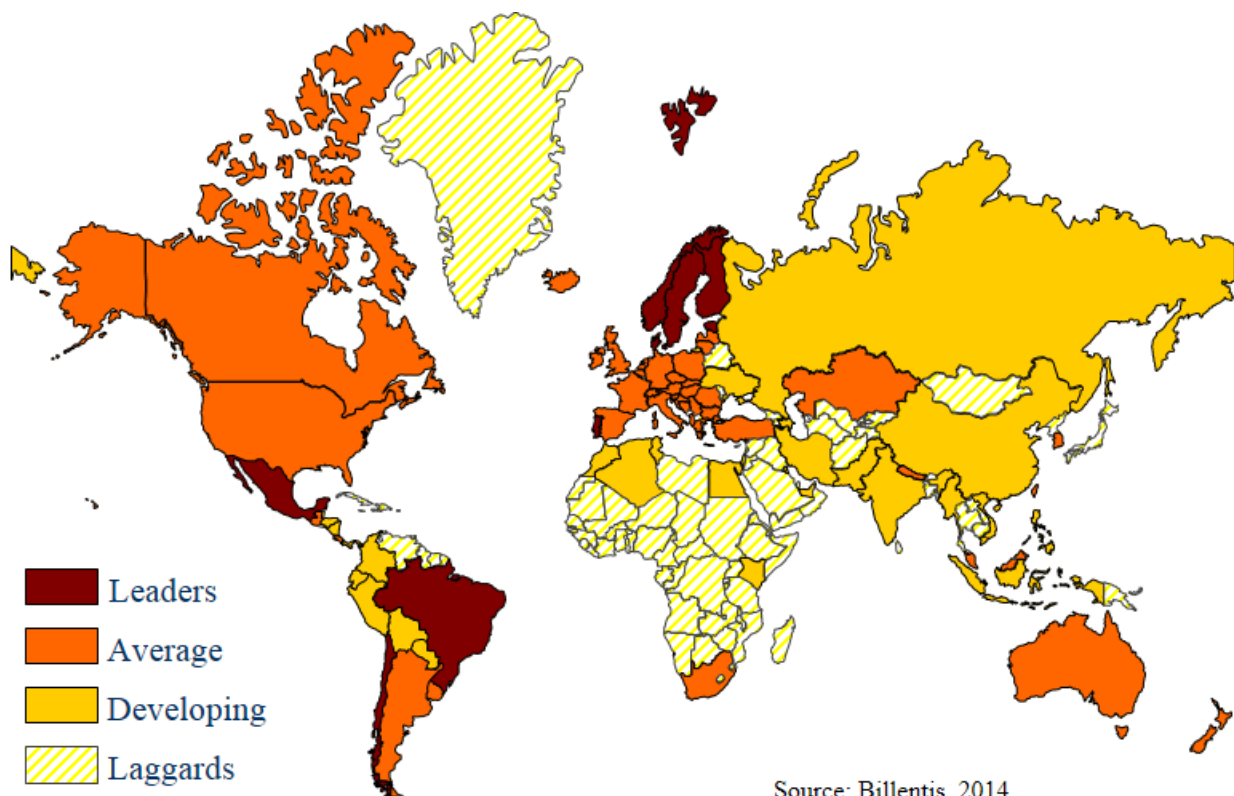
The term "Laggards" in the chart above does not mean that there was no E-Invoicing activity in these countries. It just expresses that they are typically in evolution step 1 or 2. "Developing" means that countries are typically in evolution phase 3. Either they are preparing their legislation for B2B E-Invoicing as well or, if already in place, the E-Invoicing volume is still very low.

It is expected that the 2014 volume for E-Bills/E-Invoices will achieve around 40 billion worldwide with annual growth rates of at least 20%.

Not considered above:
- Invoice data which are just copies in parallel to the paper-based original (e.g. EDI messages complemented with collective paper invoices or invoice data as result of paper scanning and OCR process)
- Invoice-like electronic messages as defined in chapter 2.1.1.2

2.4.2 Current optimisation focus of geographical regions

There are many similarities as to how invoices are used in our world. The challenge to implement E-Invoicing and to convince trading parties is also comparable. However, there are also major differences due to heterogeneous legislation, languages, cultures and the current optimisation focus. Although not applicable for all countries and organisations, the author concluded that the optimisation focus seems to be as follows:

Figure 17: Optimisation focus of geographical regions

Focus	Description
1	**Asia & Latin America** (and increasingly some Southern and Eastern European countries): Country-wide projects are launched by the tax authorities with the aim of reducing tax evasion. Suppliers and buyers have to send either invoice data or at least reports in electronic format to the tax authorities for real-time validation & auditing. The system for the trading parties is quite complex. As a benefit, suppliers and buyers have electronic invoices, but just because the government is demanding or mandating it. The company' internal process efficiency is not yet necessarily optimised.
2	**North America:** Larger and mid-sized companies optimise mainly their internal processes. AR and AP automation as well as Trade Finance and Working Capital Management are a focus.
3	**Major parts of Europe:** Suppliers and buyers can be located in various countries with different legislation. Much effort was done in EU member states to remove legal barriers. For Europeans, it is also important to build a framework, which is suitable

Focus	Description
	for millions of companies of any size and from different countries. Hundreds of E-Invoicing network operators offer their services, many of them interconnected with other providers. Suppliers and buyers may in most countries use E-Invoicing still on a voluntary base. Although the market is still quite fragmented, the approach in Europe can be described as relatively holistic with a strong intention to collaborate among all stakeholders.

In the long-run, all suppliers, buyers and the tax authorities want benefits with E-Invoicing. This increases the chance that each continent learns from each other and adopts best-of-breed components from others.

2.4.3 The Service Provider landscape

Organisations offering exchange & transaction services are founded either as start-ups or often originate as
- Print shops (invoice printing as third party service)
- AR and collection service
- Post
- EDI Clearing centres
- Archiving service
- Scanning service
- Electronic marketplace, procurement platform
- Banks or financial clearing services
- Payment service providers
- ERP integrators
- E-Business operators
- Software houses
- Consultants
- Digital signature service provider

Some very large operators have their roots and headquarters in Latin America (especially in Chile). The early market evolution, combined with the quite demanding legal requirements have obviously built an ideal environment to succeed with the service approach. Soon, the pioneers expanded into neighbouring countries. The language was the same and the practice model was quite similar, or at least inspired by the Chilean approach.

In North America, network operators have mainly been established in the B2C segment and often in form of payment networks with support for bill presentment. Compared to the size of the market, there are still few players covering the B2B segment. However, this is expected to significantly change during the coming years.

2.4.3.1 Service providers in Europe

In early 2014, about 600 network operators were active in the European market. No single player has reached a dominant position in the E-Billing/E-Invoicing market. Most of them have an extensive and balanced product range for issuers and recipients of any size. Others are more specialised for either issuers or recipients and for the B2B or B2C sectors. Around 80 of them have an international range (often supporting tax compliance in 40+ countries). An increasing number improve the international scope by linking partner platforms abroad and roaming E-Invoices. Still, many operators are well established as pure players (focussed on E-Invoicing), whereas a

majority has already enhanced the support for further messages and process automation along the supply chain.

2.4.3.2 Inter-operability among different E-Invoicing network operators

In the area of mobile phones, we have many operators in a domestic market, which are connected to each other in the local market and with most others abroad.

For electronic invoicing, we can see a similar market development, but slower, and with much higher heterogeneity regarding legal constraints, invoice contents etc. Although there is not yet a single standard for exchanging E-Invoices across the various networks, more and more operator platforms are linked together for building inter-operable networks with a broad range.

Interoperability among operators is also pushed by initiatives from the European Commission and some associations in the private industry. Some leading operators have already established numerous interconnections on a bilateral and proprietary basis. There are also operator associations with the aim of pushing the interoperability with a standardized approach, e.g. EESPA/European E-Invoicing Service Providers Association [1], German E-Invoicing Alliance [1], Open-PEPPOL [2], the SimplerInvoicing [1] initiative etc. The first two already have 50+ members and OpenPEPPOL 100.

2.4.4 Asia & Pacific region

Remark: The author allocates Belarus, Turkey, Russia and Ukraine to Asia and not Europe.

Most Asian countries are in evolution phases 1 and 2 (Figure 15): Large bill issuers start with "Bill Presentment" via their company portals or internet banking.

E-Invoicing in B2B is often not yet legally permitted, or only under strict legal conditions that sometimes include explicit approval from tax authorities. This does not rule out that some companies already exchange (in parallel to the tax relevant paper invoice) electronic invoice files ("commercial invoices") to improve process efficiency.

However, there are some countries in phase 3: The leaders are **Singapore, Hong Kong, Taiwan and South Korea**. Despite their major importance in the world economy, Japan and India are lagging in both legal framework and adoption. The government, shipping and retail industries play a key role in the B2B/B2G segment. Even though countries such as Singapore and Hong Kong have had rather lenient regulatory conditions for electronic invoicing and record keeping for many years now, adoption levels remain low to modest across most of Asia.

The government of **Kazakhstan** announced that the country would migrate on a stage-by-stage switch to E-Invoicing. The national companies had to start the process from July 1st 2012, while all others taxpayers had to support E-Invoicing from January 1st 2013.

Australia and NZ are at a similar stage to Asia. Today, we have seen phases 1 & 2 through direct and independent development by Australian companies. Australians are embracing the electronic commerce phenomenon and are becoming increasingly more confident in electronic B2B transactions. At this stage, the majority of invoicing is direct via email or presented online for the user to either download or print. Some providers are also convinced that E-Invoicing via digital mailboxes will play an important role in the near future. Australia's state government launched an E-Invoicing pilot in 2012. Many other administrations also started electronic procurement (and E-Invoicing) projects. As this is affecting many suppliers, the maturity of the market is increasing sharply.

The legislation is very moderate. Australian taxation law supports the issuing of electronic invoices and the requirements regarding storage timeframes for possible audits are much the same as paper. Australia places more responsibility on businesses themselves to confirm the identity and tax status of the entity using free government look-up services, such as the Australian Business Register [4]. Under Australian law, businesses are required to check this information before finalising the transaction and are required to withhold tax should the other entity not be suitably registered. Penalties can be applied to both parties should these laws be infringed.

Azerbaijan has in recent years worked to modernize its legislative and audit framework, and now also allows electronic invoicing.

Reducing tax evasion is also a serious challenge in Asia. **China** is no exception in that regard. To address this challenge, China launched a major fiscal reform project called the "Golden Tax Project" (GTP) which mandates the use of specific sophisticated information technologies to improve compliance with China's VAT laws. In 2013, China introduced further regulations for its online invoice management system in a bid to standardize the industry and curb tax evasion. For using the online electronic invoicing system, taxpayers register at the tax authorities and open an account. To issue an invoice, they fill out the required information and issue the electronic "fapiao" online. The issued fapiao is verified by matching the information against that in the online system. Compared to pure paper invoices, the taxpayer has the benefit that he has no longer to physically travel back and forth to the tax bureau to obtain and verify invoices. The author would still not describe the Chinese system as E-Invoicing in the sense as practised in Europe, the US or Latin America. Electronic bills to consumers seems to be a step closer to the methods of the western world: The **Hong Kong** Monetary Authority and banks launched an Electronic Bill Presentment & Payment system. 23 banks, which operate 99% of internet banking accounts, have agreed to take part in the new service, with 18 of them ready to start the service in December 2013. It permits citizens from Hong Kong to receive and pay bills electronically.

India has made announcements about allowing E-Invoicing more broadly; however, electronic invoicing remains rare because Central Sales Tax explicitly requires paper invoices, while only about half of the states allow E-Invoicing under their VAT law.

Indonesia is testing a first step towards Electronic Bill Presentment and Payment for tax payments [3].

The current stage of E-Invoicing in **Russia** may be described as dynamically developing, but still on a low level measured by E-Invoicing volume. The general interest is quite high, but there is a lack of practical knowledge and real positive cases to boost the shift from interest to real action. According to a Federal Tax Information official, by early October 2013, 250,000 Russian businesses expressed in a letter of intent their desire to exchange tax compliant electronic documents (compared to 105,000 in May of the same year).

The size of the **Turkish** market is 2 billion annual invoices/bills (source: Turkish Ministry of Finance). The country made a huge step forward in 2013. Third party service providers (certified and linked to the state-owned service provider) are meanwhile permitted to address the divergent market requirements. They leverage the market reach. In addition, the government declared E-Invoicing to be mandatory for certain industries and their trading parties if they generate a minimum turnover with them:
- Tobacco and Tobacco Products (Suppliers and Buyers)
- Petroleum Oils and Lubricants (Suppliers and Buyers)
- Alcoholic Beverages (Suppliers and Buyers)

Several tens of thousands of Turkish companies were affected by this obligation.

In coming years, **Vietnam** intends to establish a system with strong similarities to the Latin American model. This includes sending the electronic invoices to the tax authorities, where they are approved and get a barcode for delivery issues of the goods.

2.4.5   Africa

Most countries are in evolution phase 1: Large bill issuers start with "Bill Presentment" via their company portals. Electronic Bill Presentment and Payment is already up and running in Egypt and Tunisia.

South Africa is the only country with a robust, albeit still nascent, market for E-Invoicing on the African continent. A regulatory framework for E-Invoicing has existed for many years, and was modernized in 2012.

With that exeption, countries such as Morocco in the Maghreb region are slightly more advanced than the rest of Africa, however the mentality in both government and business appear to remain geared towards the use of paper in administrative processes. PDFs transmitted by email could lead the way for several years. Consumer bills are also highly accepted via mobile devices.

2.4.6   North America

In the B2B/B2G segment, the perceptions and objectives differ broadly from the European or Latin American approach. The optimisation of internal operations "order-to-cash, AR automation" and "purchase-to-pay, AP automation" is currently a main objective for US enterprises. Various surveys imply that the US is clearly past the early adoption phase of electronic invoicing and that the interest in this topic sharply rises.

PayStream Advisors, Inc. a research and consulting firm focused on back office financial applications: "The US AP Automation Market revenue is forecast to reach $1.7 billion in 2013, a 11.9 percent increase from 2012 revenue of $1.55 billion. AP Automation Market-based delivery will experience healthy growth through 2016, when worldwide revenue is projected to reach $2.4 billion. The market for E-Invoicing is opening up. Currently at **$280 million**, PayStream predicts demand is growing at a compound average **annual growth rate of 13 percent.** But if you look at where we are in the big picture, we are still in about the third inning."

Over 80 percent of companies surveyed either have adopted or are evaluating E-Invoicing technology.

Figure 18: Adoption of E-Invoicing Solutions in US companies [5]

Adoption of E-Invoicing Solutions in US companies
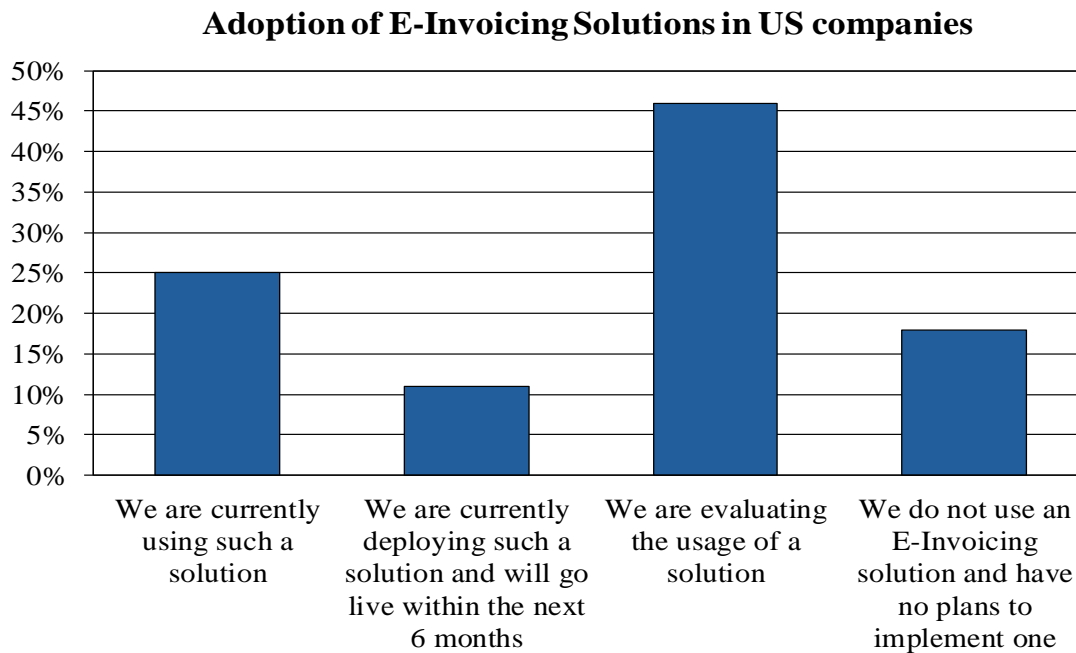
In small and medium-sized enterprises, 22% or respectively 43% of companies [5] are using an E-Invoicing solution.

In relation to the huge size of this market, it may come as a surprise that there are in early 2014 still just around 150 E-Invoicing network operators in place. Because the US does not have VAT, but a sales tax system, invoices are not considered any different from other business documents. It has therefore taken some time for the value of E-Invoicing network operators to become recognized on the US market, but now the number of such operators is expected to increase sharply in the coming years. Another fact might also prove to be an accelerator for third party service providers: A high number of enterprises are interested in E-Invoicing solutions, but are faced with a limited budget/funding. External services on demand instead of in-house solutions help to overcome this barrier as well.

2.4.7   Latin America

Chile may be identified as the root of the Latin American market model and its development. Other markets like Argentina, Brazil, Costa Rica, Guatemala and Mexico belong to the early adopters and some of them overtook Chile due to strict obligations for the usage of E-Invoicing in that country [6]. Chile meanwhile also plans to make E-Invoicing obligatory. Meanwhile, almost all other countries in Latin America are rapidly evolving.

In **Argentina,** almost 350,000 companies are affected in 2014 by an extension of an E-Invoicing obligation to new sectors [7].

Brazil achieved the highest market penetration (>90%) globally for electronic invoices in the B2B/B2G segment. Meanwhile, **almost 1 billion electronic invoices are exchanged every month** in the country [8]. This result was possible due to the strict implementation of its E-Invoicing obligation several years ago. It is a pleasure to now see Brazil as one of the innovators

for users in the retail segment. Recently the project "Nota Fiscal Eletrônica para Consumidor Final - NFC-e" was launched. The aim of the NFC-e Project is to be an alternative to current fiscal printers used in the retail segment by a fully electronic solution, based on an XML file, with a digital signature, that is authorized online before the sale. NFC-e follows the same technical and operational model of the NF-e (B2B/B2B) used for all industry and wholesale companies in Brazil. The expectation of the promoters is that the NFC-e will become widespread in many states of Brazil in the second half of 2014.

The **Chilean** tax authority announced an obligation for electronic invoicing. Large businesses have until October 2014 to switch. Small companies shall implement the obligation by the end of 2017. Meanwhile, more than 50% of Chilean invoices are exchanged electronically.

Colombia is also accelerating the E-Invoicing landscape. Constraints are much more flexible and market-focussed. The legislation permits "technology neutrality" and format flexibility (XML, PDF, TXT, etc.). In December 2013, CONPES [9] published a new concept with the aim to push the mass market in Colombia. A new resolution (planned to be published in the first trimester of 2014) shall include an E-Invoicing obligation, affecting 25,000 businesses.

Costa Rica has stipulated the use of electronic invoicing for certain market segments (100 to 150 thousand independent professionals like doctors, dentists, lawyers, etc.). The law for this step one obligation will probably pass during this year.

In 2012 the tax authority of **Ecuador** ran a pilot programme with 20 companies with the idea of eventually introducing mandatory issuance of electronic invoices. After successful completion of this programme the Resolution regulating the mandates was published on 17 May 2013. The Resolution establishes a schedule for the gradual introduction of mandatory electronic invoicing in Ecuador. The Resolution affects invoices, transport documentation, debit and credit notes. Taxpayers who are covered by the provisions of this law will be obliged to issue such documents electronically in the near future. A schedule with a step by step implementation plan for different market segments is published and will affect the first taxpayers from June 2014.

Guatemala also has an obligation in place to issue the invoices electronically. The enrolment process was following the invoice volume top down. Since March 2013, all business are affected by this obligation [10].

Measured by absolute and relative volume of electronic invoices, **Mexico** belongs to the Top2 countries worldwide (together with Brazil). The last market enrolment step for an obligation shall take place in early 2014, affecting an estimated 500,000 companies. As a result, probably more than 5 billion annual electronic invoices will be issued in Mexico in 2014 [21]. In the first quarter of 2014, 1.5 billion E-Invoices were exchanged in Mexico [22].

In January 2013, **Peru** started a pilot project with the aim of declaring E-Invoicing as mandatory for suppliers to the public administration. The approach in Peru considers international standards (UBL 2.0 as content standard). It shall permit an easier integration with trading partners in the European Union and the APEC (Asia-Pacific Economic Cooperation) countries. Peru is going to be one of the stars of 2014. In December 2013, a new mandatory regulation was issued for the 240 largest companies, expecting them to be in full production by October 2014. They shall issue the invoices just electronically, but also the "boletas" (electronic receipts). In addition, some market segments have to send the invoices to the federal administration just in electronic format.

The **Uruguayan** national tax department DGI launched a platform for electronic invoicing in 2011, with companies representing 8% of the country's total invoice volume forming part of a pilot project. From 2013 onwards, E-Invoicing is mandatory for larger enterprises. This plan also

leads to the first massive application of digital signatures in the country. The Uruguayan Dirección General Impositiva [23] expects that the estimated 24% E-Invoicing market penetration in 2014 will rise to 40% by 2015. This would catapult the country into the group of ten global leaders in E-Invoicing.

In contrast to the rest of the world, most Latin American countries do not focus too long on evolution phases 1 and 2. Instead, they go straight to phase 3 and phase 4 (e.g. Brazil and Mexico). The initiator for the market activities is in most cases the government. The driver for establishing country-wide E-Invoicing is often the reduction of tax evasion through real-time or near real-time invoice validation by tax authorities. This can be achieved by mandating an electronic invoice loop between supplier, the tax authorities and the supplier.

Although the legal requirements are among the strictest worldwide, some countries in Latin America have taken over the global leadership role. Not only do some of them already have good market penetration rates (Brazil with 90%), but their model is also inspiring larger countries in Asia and likely soon in Southern and Eastern Europe.

Typical characteristics of E-Invoicing in Latin American countries are
- Unique/sequential invoice numbers provided by the tax authorities
- Use of digital signatures based on suppliers' certificates, issued by approved or state-run Certification Authorities.
- Imposed XML standards for tax authority clearance
- Steady reporting to the tax authorities: either in real-time prior to issuance or at least monthly.
- Increasing integration with the physical supply chain e.g. simultaneous print-out of ancillary transport documents based on a pre-approved invoice
- After review/approval of suppliers' invoices, tax authorities put a visible "stamp" to the E-Invoices. It is either a country specific alphanumeric code (Mexico) or a barcode (following the standard CODE-128C in Brazil and PDF417 in Chile).
- Recipients often have to validate that the invoice was pre-approved by the tax administration
- Tax authorities validate either the invoice data real time or data-mine to check invoices later.
- General archiving period is 5 years.

Service providers play a key role. In some countries, service providers are accredited to perform clearance services on behalf of the tax administration; such service providers may also offer value-added services around these regulated functions. While many service providers are local, a good number of them are active in several Latin American countries and already process a very remarkable invoice volume. They belong to the largest operators worldwide and some of them are now entering into the American and European market.

Some low-hanging fruits have been picked and the government has achieved a significant reduction in tax evasion. Invoice issuers and recipients also have some benefits, as most invoices are no longer paper-based and operator fees generally remain affordable due to competition. However, they made this first step under a great deal of time pressure and many of them did not have the chance to first start a company internal process optimisation process. There is also still much to do to generate the maximum benefits for the enterprises and the economy. In many cases, it could also be advisable to look to Europe and the US to reduce the complexity of the model.

2.5   The European Market

2.5.1   The Business-to-Business & Business-to-Government market

2.5.1.1 Market penetration

VAT compliant B2B E-Invoicing has been legally permitted in Nordic countries since around the millennium and in Switzerland since 2001. EU member states have had to accept it since 2004. Potential EU users required some time to interpret the new laws. Mainly larger businesses started their projects fairly quickly.

Figure 19: European market penetration in the B2B/B2G/G2B segment

B2B/B2G/G2B	2009	2010	2011	2012	2013 (E)	2014 (E)
Electronic share	8%	10%	13%	15%	20%	24%

Status and market development differ from country to country.

Figure 20: B2B/B2G/G2B: Estimated market penetration 2014 per country

B2B/B2G/G2B

Expected market penetration in 2014

>40%

15-40%

<15%
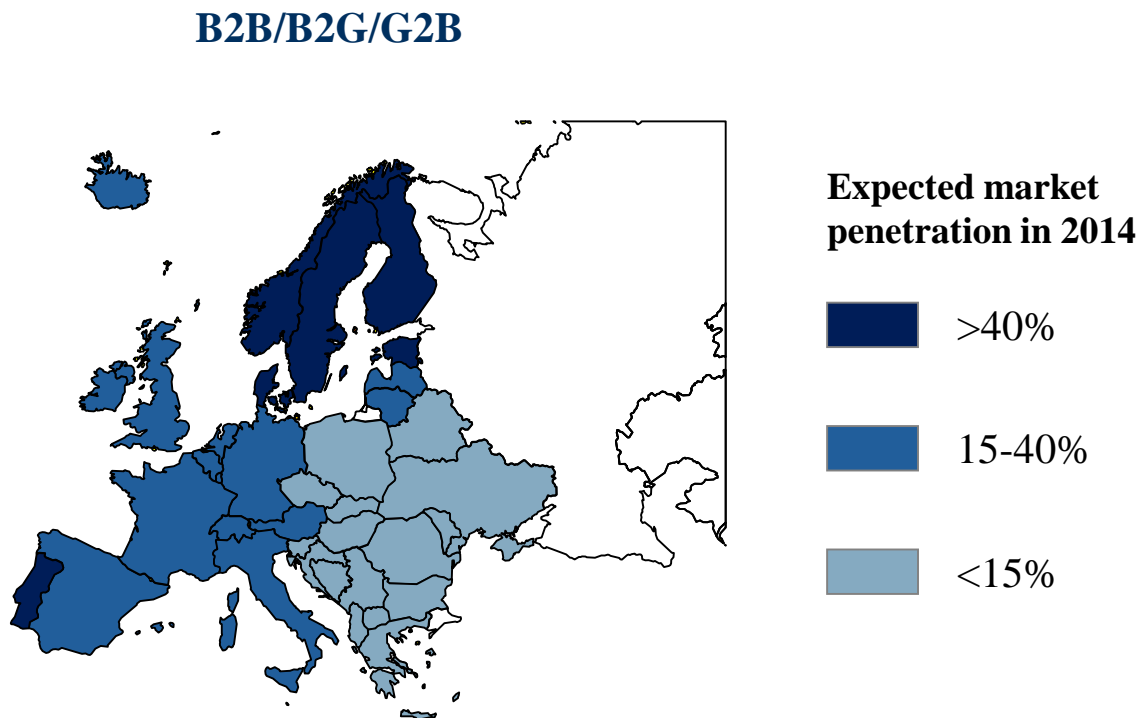
2.5.1.2 Transition from large innovators to mass market

For almost a decade, solution providers, large billers and invoice recipients have shaped the market. Meanwhile, the vast majority of larger companies practice E-Billing/E-Invoicing.
The market development follows the decreasing size of the invoice streams:
1. Due to high volume and low legal barriers in the B2C sector, organisations with high outbound volume were first, offering electronic bills to consumers via their customer portals. This development started in most European countries before the millennium. Around 2001, this "Electronic Bill Presentment" channel was enhanced with email delivery of PDFs, causing a huge jump in the number of users.

    In the B2B market, the E-Invoicing market was initiated by large purchasing organisations,

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pushing their large suppliers to deliver electronic invoices.

2. Due to the fragmented invoice situation, even large organisations did not achieve satisfactory electronic volumes just with their large trading partners. That is why we are now in the middle of the next evolutionary step: Addressing the SMEs. However, there is a limited but sharply increasing number of SMEs issuing and receiving electronic invoices. In most cases, SME projects have been initiated by large trading partners having pushed them to do so.

3. The next evolutionary step will be E-Invoicing on the mass market. The various initiatives by the national public sectors and the European Commission could result in the break-through in this sector.

2.5.1.3 Adoption and differences in various market segments

Figure 21: Portion of European E-Invoicing users

E-Invoicing users (issue and/or receive)
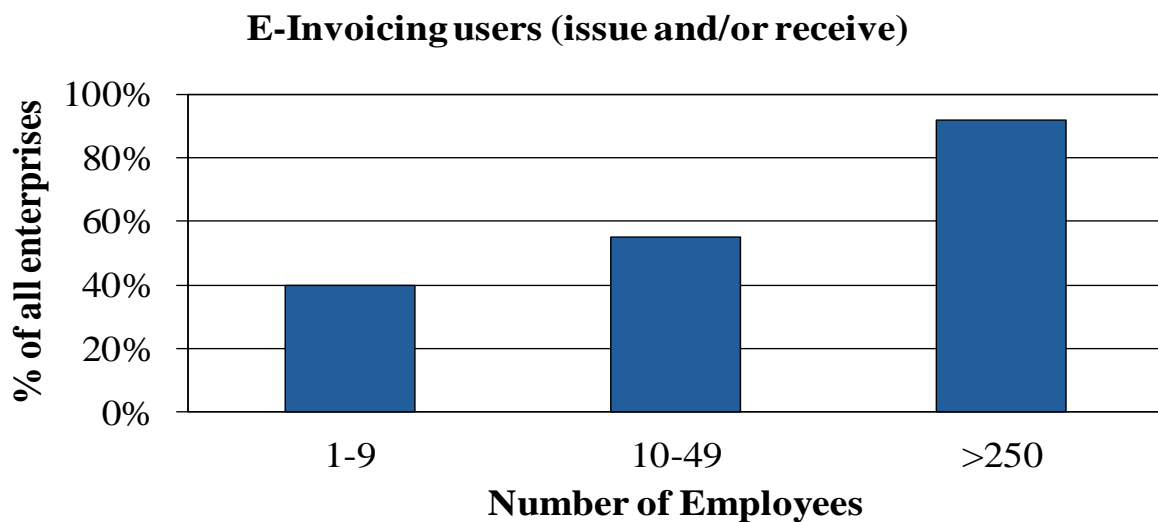
Source: Several country surveys & Billentis

Figure 22: Portion of E-Invoices received within European companies

Share of Invoices received electronically

2.5.1.4 Exchange formats

The usage of formats and channels differs a great deal depending on the country and the size of companies. It is extremely rare for companies to issue or receive invoices just in one electronic format.

Conclusions for the European market
- Multi-channel exchange strongly dominates the landscape
- There are already some suppliers offering invoices just in electronic format (e.g. online shops)
- Exchange via E-Mail is more popular than via EDI
- E-Mails are preferred by SMEs, but are also often accepted by larger companies

The long-term intention of most stakeholders is to exchange, process and archive most electronic invoices in a structured format. The high-volume industries (e.g. retail, automotive) were able to establish this in the first stage of market development. EDI, and in later years XML, dominated the E-Invoicing landscape. Trading parties were typically larger enterprises. The more the mid-sized and smaller companies entered into the E-Invoicing market, the more the PDF volume increased. The benefits of image-based PDFs are mainly limited to cheaper transport and archiving, but process automation does not really happen and cost savings stay limited.

In recent years, a combination of PDF+XML invoices gained ground. Either this happens with two separate files, or a XML data set is embedded in the PDF. This seems to be an appropriate way to fulfil the requirements of large, mid-sized and small enterprises. It could be a way to reduce the current dominance of just image-based PDFs.

Figure 23: Proportion of various invoice formats
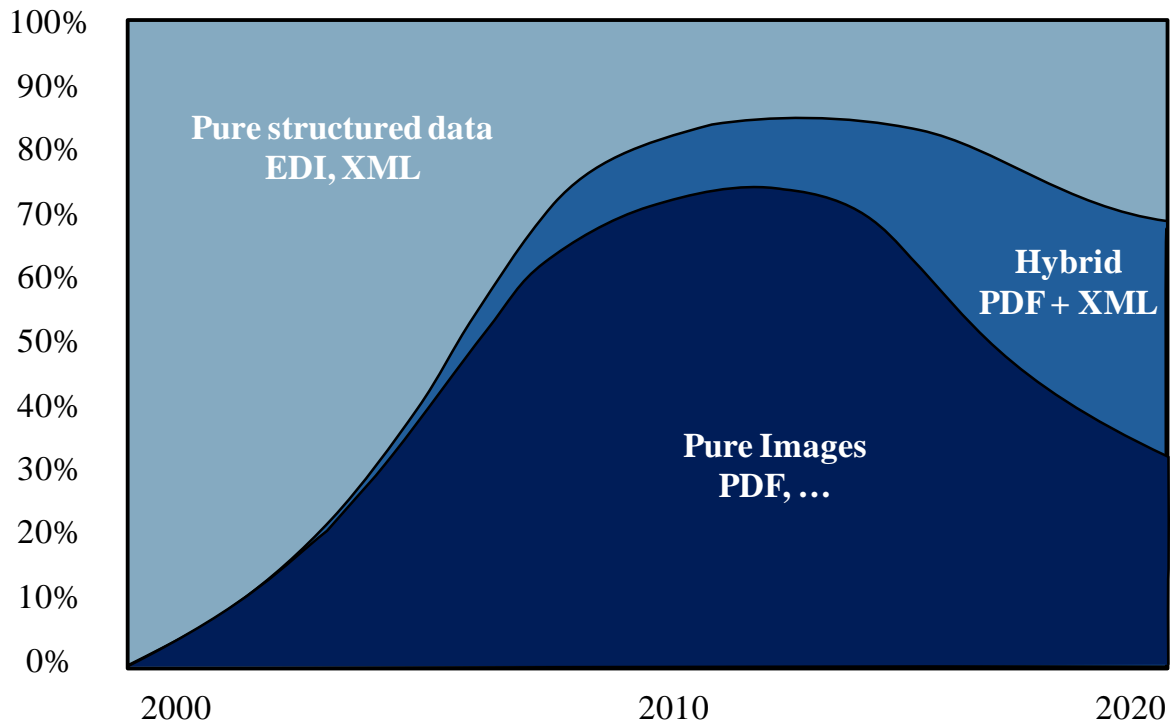
The public sector would definitely be in the position to change the picture completely for the benefit of structured E-Invoices. This is at least in progress in some countries. Governments mandating its suppliers to send invoices just in electronic format typically ask for XML and do not permit PDFs (e.g. Austria).

2.5.1.5 Distribution channels

The supplier direct model is currently dominating in many countries like Austria, Germany and the UK. Smaller pioneer countries intend to have a clear preference for E-Invoicing network operators: Belgium, the Nordic countries, Slovenia and Switzerland.

Figure 24: Invoices received by European enterprises according to delivery channels

B2B/B2G/G2B: E-Invoices transferred directly or via service providers

Y-axis: Million electronic invoices (0, 500, 1000, 1500, 2000, 2500)
X-axis: 2006 2007 2008 2009 2010 2011 2012 2013 (E) 2014 (E)

— B2B Supplier/Buyer Direct   — B2B via Service Provider
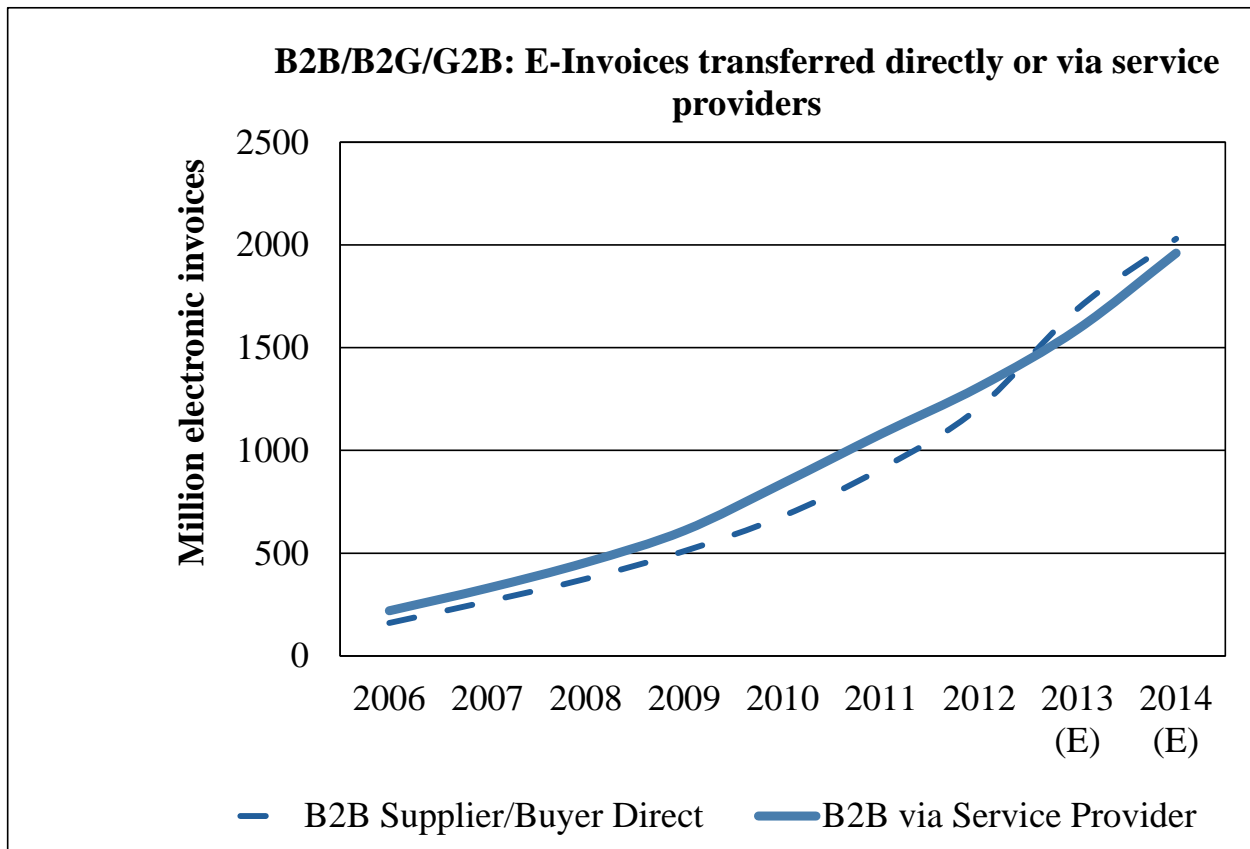
Source: Billentis

The jump in the number of directly exchanged electronic invoices is mainly a statistical effect. Due to the new legislation in EU countries, a portion of the unsigned PDF invoices now belongs to the "tax compliant" invoices and are therefore considered in these statistics (before they were not be considered as tax compliant E-Invoices).

The exponential growth rates for service providers seem to become temporarily more linear. Some larger network operators are focussed on slower growing industries (retail, healthcare). Another reason is that some Nordic countries are already very advanced with a relatively high market penetration. Due to this basis effect, exponential growth is a challenge. Nevertheless, exponential growth rates are not out of reach. This could happen as soon as mid-sized or larger countries would start government initiatives for pushing electronic invoicing and procurement (high probability between 2014-2018 due to EU digital agenda).

2.5.1.6 Market Maturity in the public sector

The saving potential in this sector is tremendous, and so is the positive economic impact. Nevertheless, the public sector in most European countries is still among the laggards. Almost a decade ago, the regulators made the first step and paved the way for E-invoicing (Level 1 in the following chart). The evolution up to level 6 (Automate the full Supply Chain including e-Procurement) seems to need some more years yet.

They are currently going through the evolution cycle up to full users of E-Invoicing, and in rare cases to a fully automated supply chain.

Figure 25: Government evolution from pure regulator up to an active user
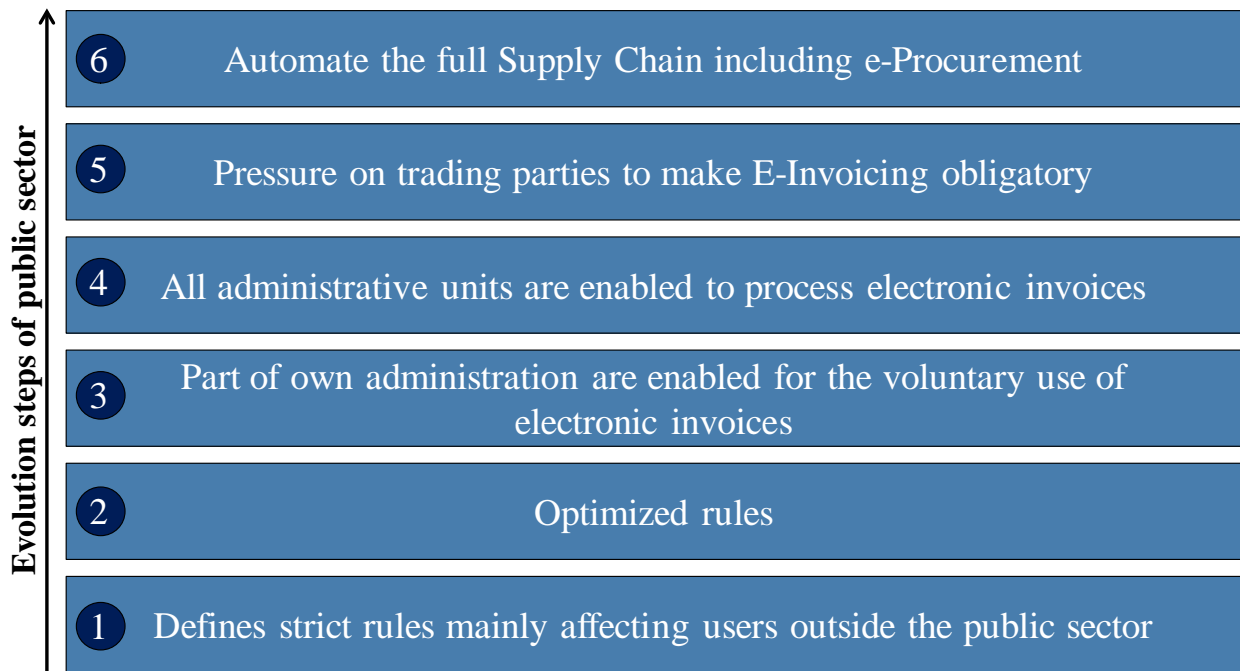
In Denmark, E-Invoicing has been mandatory since 2005 for the supplies to the public sector. Meanwhile, the country completed this process by enhancing the electronic process for procurement as well. The Danish government has already achieved the most advanced level 6.

Finland and Norway are other Nordic countries which are ahead, but have not yet achieved level 6.

Government activities on levels 5 and 6 have a significant impact on the development of the mass market, as 45 to 65 percent of all enterprises in a country are affected.

For the federal administration, Austria, Belgium, the European Commission, France, the Netherlands and Switzerland are already on level 4. Austria declared E-Invoicing to be mandatory from January 2014 to the federal administration. Portugal declared E-Invoicing as mandatory for all businesses from January 2014. Italy pushes its public administrations and suppliers to level 4 and 5 (step-by-step enrolment process starting from June 2014).

2.5.1.7 Market Maturity in the SME sector

According to Eurostat, 99.8% of European Businesses are SMEs. They represent 2/3 of all employees in the private sector. Although larger organisations are the primary promoters of E-Invoicing, SMEs play a key role as the trading partners of larger businesses.

Meanwhile, in the most advanced countries, the SME segment is also mature for E-Invoicing. Despite a high number of appropriate and efficient E-Invoicing solutions and services, there is still much work to be done to prepare the field in this segment.

2.5.2   The Business-to-Consumer market

2.5.2.1 Market penetration

In the intercontinental context, the European payment options are in most countries relatively convenient. Collective payments, Electronic Fund Transfers and Direct Debits are quite popular bill payment methods. Payment did not turn out to be a driver for E-Billing in Europe. There are also indications that European households receive (relatively) fewer bills than the consumers in most other continents do. Thus, E-Billing is not yet very advanced in most European countries and the market penetration lags behind the development in the B2B segment.

Figure 26: European market penetration in the B2C segment

B2C	2009	2010	2011	2012	2013 (E)	2014 (E)
Electronic share	5%	7%	9%	11%	13%	14%

Status and market development differ from country to country.

Figure 27: B2C: Estimated market penetration 2014 per country

B2C

Expected market penetration in 2014

>40%

15-40%

<15%
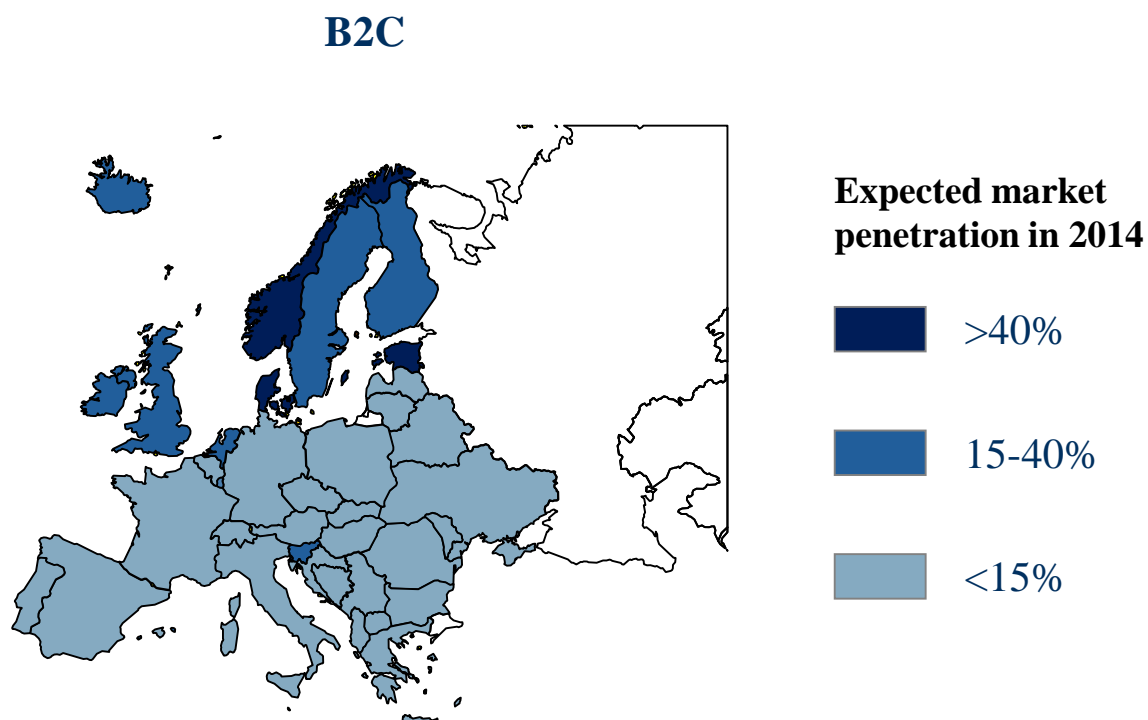
2.5.2.2 Transition from large innovators to mass market

Most large billers have meanwhile an acceptance of 25-90% for E-Bills with a majority of around 35-50% of their customer base. The few available surveys confirm that still mainly younger consumers use E-Billing. Obviously a paradigm shift, a new approach and some more years are needed to achieve the mass market.

2.5.2.3 Distribution channels

Most consumers prefer to receive electronic bills via email. Email is still gaining ground in many larger countries and could be the preferred delivery channel for 2/3 of European consumers in

the mid-term. Bill presentment on the supplier portals and via internet banking does not yet play a major role in most European countries. An exception build the Nordic countries, where the ex-changed e-bill volume via online banking portals is almost as high as the one distributed by other channels.

Figure 28: Electronic bill volume B2C, direct and via Service Provider
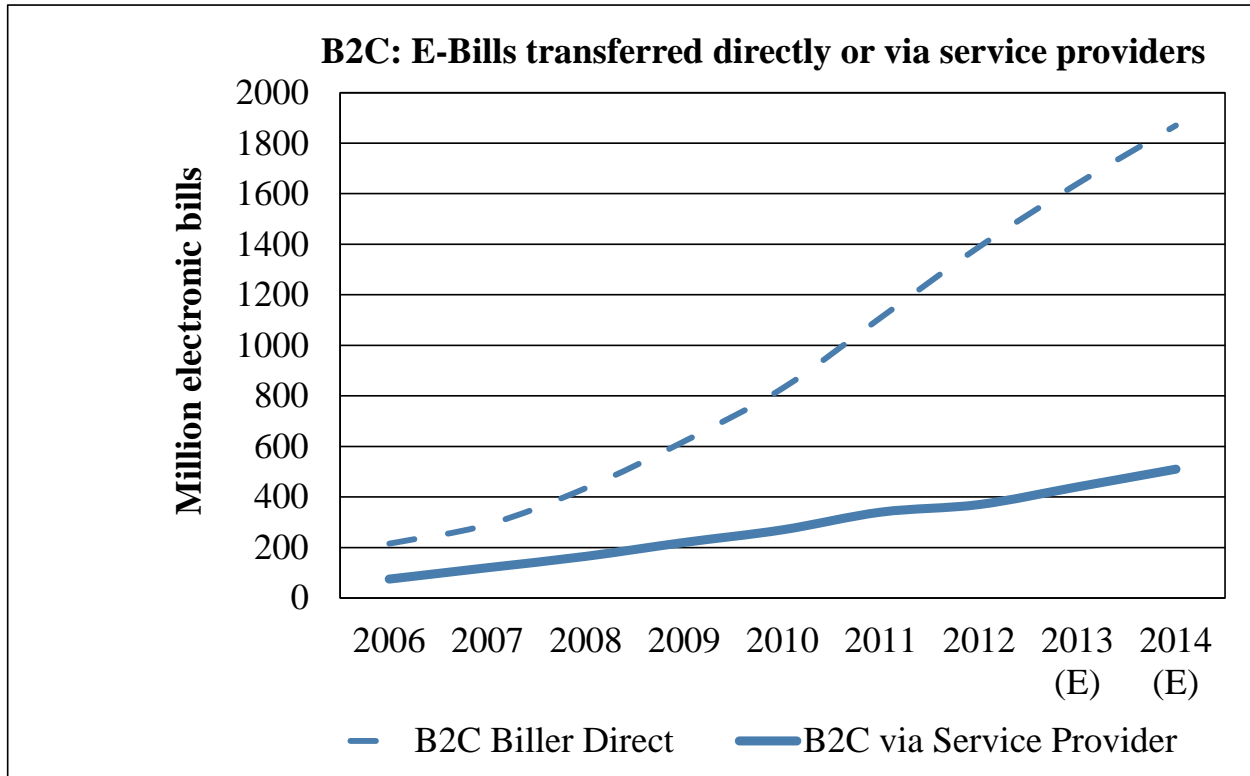
Source: Billentis

A Dutch and a very large German Telco operator lose steam and the proportion of its E-Billing users increases just modestly. Due to its size (15+ million e-bill subscribers), it has an impact on the European figures. In 2012, a very large biller changed from Service Provider to the Biller Di-rect model.

2.6   Market Trends

2.6.1   Increasing financial pressure as a main accelerator for E-Invoicing

Due to strong competition in most industries, cost pressure is increasing. Investments will be made in a very selective manner, following criteria such as
- Promising business case with good ROI
- Reduce fixed costs and replace them by variable (volume based) costs
- Increase transparency of invoices in company-internal workflow and reduce circulation time
- Increase customer retention
- Future technology
- Buy instead of Make; external solutions or services

These are the exact ingredients for E-Invoicing and automation of the supply chain.

For the private industry, in almost all market surveys cost reduction is the top criteria for pushing E-Invoicing. The public sector pushes it not mainly due to inefficiencies within their own organisation, but to increase the tax revenues.

2.6.2 Large organisations demanding value added services

In the past, large businesses pushed the E-Invoicing market. They are also the promoters for the next market developing phase and are quite demanding:

- A focus just on E-Invoicing is not sufficient for them. The leaders among them intend to address and optimise the whole Order-to-Cash and Purchase-to-Pay processes.
- Electronic and automated invoice processes increase visibility, which allows the cash flow and working capital management to improve. Data analytics and reporting features build an excellent basis for effective financial decisions and to maximize discount savings potential.
- Large organisations have the skills and resources to exchange electronic business documents directly with larger counterparts, but not necessarily with the high number of mid-sized and smaller trading partners. To address them, they can use electronic B2B networks. In the case of individual requirements, they are increasingly asking for SaaS platforms.

2.6.3 Public sector becomes E-Invoicing user

Almost every quarter, we read in the press that another country declares E-Invoicing as compulsory. Often, these press releases are translated from the national language to English, and they do not always mean the same thing. This has to do with different usage of the terms "E-Invoicing" and "obligation", and a big discrepancy between intentions and reality. Such projects in a public sector environment are quite complex. Objectives within a state's administration may already vary broadly. In addition, we have many federal states with great autonomy of local authorities.

The common denominator is usually that an announcement making E-Invoicing obligatory includes preparing all departments of a central state's government to upgrade their systems and processes with the aim of receiving and/or issuing E-Invoices. Municipalities are typically in an observer role and do not necessarily act, but they are encouraged to do so. The suppliers are still free to exchange invoices with the public sector in paper or electronic form. Examples in this category are France and Switzerland.

In a second step, suppliers (or at least larger ones) are mandated to send the invoices electronically. Denmark is a pioneer in this segment (obligation since 2005). Austria, Finland, Norway and Spain belong to the early adopters, as do the USA and Kazakhstan. In Italy, about 11,000 Public Administrations and 2 to 2.5 million companies will be affected by the B2G E-Invoicing obligation, coming in place step by step from June 2014 (Source: Politechnico di Milano).

Some countries in Latin America, Asia and Europe mandate businesses to send electronic invoice data to the tax authorities mainly for reasons of validation.

All EU countries soon have to pave the way for receiving E-Invoices for their public sector organisations. The European Parliament backed the Commission proposal to eliminate barriers to cross-border public procurement [11]. In practice, the Directive calls for the development of a new European standard for electronic invoicing. Provided that the E-Invoices sent by a company are compliant with the forthcoming European standard on E-Invoicing in public procurement, they will ultimately be accepted by all public authorities throughout Europe. Following the Parliament's vote, the Directive will be formally adopted by the Council before publication in the Official Journal of the EU, entry into force and transposition by the Member States into national law. _Author's remark:_ This step probably happened already if this report is issued.

2.6.4   Mass market users demanding new features and models

In many countries we have reached the mass market. Appropriate solutions for SMEs are becoming increasingly important. The change to the new customer segment also has a major impact on the provider landscape and their solutions.

Key success factors for addressing small users with low invoice volumes are:
- No fee or discount prices up to a certain electronic invoice volume
- Provide an invoicing portal at least as an entry point before full integration into accounting software
- Due to limited IT expertise, SMEs demand very easy-to-use-solutions including self-care functionality. SMEs in particular do not want to change their processes and the way of doing business. It should be ensured that the solution/service can be used within minutes. Instruction video clips are a useful guide for new subscribers for the setup up to the point where the first electronic invoice is successfully exchanged.
- Intelligent PDF invoices respectively PDF/A-3 invoices (images plus embedded XML data) are often more suitable for SMEs than just pure XML data; appropriate solutions are able to generate such invoice formats on the invoice issuer side respectively to extract/import data on the invoice recipient side.
- SMEs might also demand at least a limited workflow functionality as part of an E-Invoicing service.
- Total invoice management, including hybrid (paper & electronic) and multi-format services.
- Trade finance products in combination with E-Invoicing help to increase the acceptance of E-Invoicing in this market segment.

Often hundreds of thousands of SMEs are already participating in some way in a related electronic business network. This can be an electronic payment network or one of their accounting software. If these services are connected to an E-Invoicing network, all of its users can become E-Invoicing enabled quickly and easily. By taking this route, several millions of enterprises were enabled for E-invoicing during the past two years.

2.6.5   More innovative rollout models

Traditionally, counterparts are invited and persuaded to send or receive electronic invoices instead of paper. This friendly (Opt-In) approach was common for a decade and is in line with the culture of most countries. The results are quite often below expectations.

Innovative (and more aggressive) issuers and service providers have changed their strategy in cases where they know the electronic addresses of their clients:
- In stable business networks where clients already use electronic channels, either by email or Extranet (online shops, ASP portals, payment networks, networks using electronic orders/order confirmations/payment advice etc.); the "Opt-Out" rollout is applied: Trading parties have to send/receive E-Invoices by default; only a few can resist and Opt-Out; Explanation of the term "Opt-Out" see figure 49.
- Online Banking and Payment Service Providers; if customers type in payment data, they receive a pop-up message inviting them to receive the invoices electronically (customers can activate this enhanced service with a simple mouse-click)

Innovative solution providers developed very advanced strategies, models, tools and services for recruiting and engaging a very high number of trading partners.

2.6.6 Service provider offerings and shift of focus

Large buying organisations (and to some extent also large billers) influenced the requirements for service providers for about a decade. The services were appropriate for the first million larger E-Invoicing users. Increasingly, mid-sized and smaller enterprises are affected by the E-Invoicing projects of their trading parties.

Flexible and open solution architecture

Several working groups specified international appropriate standards regarding invoice content. They also defined frameworks for the collaboration among the trading parties and for the E-Invoicing network operators. Interoperability is seen by most stakeholders as a keystone to address the mass market.

The first generation E-Invoicing service platforms were developed almost two decades ago. Often they are inflexible and proprietary, making interconnections with other network operators difficult and expensive. An increasing number is currently in the re-design/re-build phase. The others risk reaching the end of the life-cycle.

The youngest generation of platforms is developed with a green field approach. Its architecture supports international standards and provides open interfaces to plug in third party products and Apps. Cloud support is key, as is support for mobile devices.

Differentiation and enlargement of the solution portfolio

Until now, it was often sufficient to have a powerful sales force and to be one of the first providers contacting potential customers. Meanwhile, the number of competitors is high and the market is also more transparent. An interested organization will easily find 10 or more appropriate solution providers they can contact with their Request for Proposal. It therefore becomes key to differentiate at first glance one's own portfolio from those of competitors. An increasing number of solution providers differentiate themselves by offering added values (e.g. trade finance options), by vertical enhancements along the electronic Financial Supply Chain or by becoming the best for a certain customer segment (industry, size of user company).

2.7 Supporting initiatives

2.7.1 Standards

In many cases, standardisation initiatives have failed to convince stakeholders to use them. A lack of information about existing standards combined with the pride of some introverted organisations has resulted in the re-invention of dozens of niche standards (domestic or industry focus) even during the last years. They can probably only survive if they build a subset of one of the most popular global standards (Oasis UBL, UN/CEFACT) or if they are based at least on the same standard model.

An estimated 10,000 ERP and accounting solutions are used in Europe. Integrating various E-Invoicing standards is outside the scope of the ERP providers. That is why many E-Invoicing network operators offer any-to-any-data-formatting services. Besides legal challenges and the networking idea, these formatting services are another main reasons that third party providers play a major role in E-Invoicing in most countries. As a result, issuers and recipients of invoices using such services are independent of any standards and they have no longer to wait for a market dominant standard.

Some global and industry independent standards for invoices and directly related pre- and post-processes are:

Figure 29: Global and industry independent standards for invoices

Standard	Description
ebXML	ebXML (Electronic Business using eXtensible Mark-up Language), is a modular suite of specifications that enables businesses of any size and in any geographical location to conduct business over the Internet. Using ebXML, companies have a standard method for exchanging business messages, conduct trading relationships, communicate data in common terms, define, and register business processes.
OASIS UBL 2.x	UBL, the Universal Business Language, is the product of an international effort to define a royalty-free library of standard electronic XML business documents such as purchase orders and invoices. Besides ebXML, this standard is the most important one for E-Invoicing in Europe. It is the base of several country specific standards and it is the intention to merge it into UN/CEFACT. UBL is the first standard implementation of the ebXML (see above) Core Components Technical Specification.
UBL Northern European Subset (NES)	The Northern European Subset (NES) defines the specific use of UBL electronic procurement documents domestically and between the member countries: Denmark, Sweden, Norway, Finland, Iceland, and the UK. NES documentation includes profiles describing business processes and scenarios, profiled UBL documents, and guidelines on the specific usage of UBL entities, as well as schema and schematron validation tools.
UN/CEFACT	UN/CEFACT, a United Nations body, has a global remit. It encourages close collaboration between governments and private business to secure inter-operability for the exchange of information between the public and private sector. It has developed: • The UN Layout Key for Trade Documents, which is the foundation for the EU's Single Administrative Document (SAD) • UN/EDIFACT, the international standard for electronic data interchange • numerous trade facilitation recommendations • The UN/CEFACT CII (Cross Industry Invoice) provides not only standard XML schemas, but also globally consistent invoicing processes and data that are common across a wide range of industries.
PDF/A-3 ISO 19005-3	PDF/A is an ISO-standardized version of the Portable Document Format (PDF) specialized for the digital preservation of electronic documents. PDF/A differs from PDF by omitting features ill-suited to long-term archiving. This is a key requirement for business documents which have legally be archived in long-term. PDF/A-3 adds a single and highly significant feature to its predecessor PDF/A-2 (ISO 19005-2) specification, to permit the embedding within a PDF/A file a file, or files, in any other format and of any type, e.g. XML files. As of November 2012, PDF/A-3 is a brand

	new standard. It is too early to assess adoption of PDF/A-3 per se, although several vendors of tools supporting creation of or conversion to PDF/A have announced that they already offer support for embedded files.
	The intensive collaboration between the Forum for Electronic Invoicing in Germany (Forum elektronische Rechnung Deutschland or FeRD) and the PDF Association has begun to bear fruit. Based on PDF/A-3 and designed to simplify E-Invoicing, the Central User Guidelines of the Forum for Electronic Billing in Germany (ZUGFeRD) – and the data format defined within them – was one of the highlights at the CEBIT fare 2013 and 2014. A number of providers presented prototypes of ZUGFeRD-compliant solutions. The Germans embed a subset of UN/CEFACT CII (Cross Industry Invoice) as XML into the PDF/A-3 files.

Industry specific standards are
- ETIS: Telecom invoices
- GS1: EANCOM standard mainly for Retail sector
- ISO 20022: Financial industry
- LITIG/LEDES: Law firms
- PIDX: Oil and Gas Industry
- Rosetta Net: vehicle manufacturers

Some country specific standards are
- Austria: ebInterface
- Belgium: BMF
- Czech Republic: ISDOC (based on UBL)
- Denmark: OIOXML (based on UBL)
- Finland: Finvoice
- Spain: facturae
- Sweden: Svefaktura, SFTI
- Switzerland: swissDIGIN
- Turkey: UBL-TR (based on UBL)

2.7.2   Electronic invoicing on the EU agenda

The Digital Agenda is Europe's strategy for a flourishing digital economy by 2020. It outlines policies and actions to maximise the benefit of the Digital Revolution for all [12].

The European Commission is focusing its efforts on removing barriers to the broad-scale adoption of electronic invoicing in Europe, and the four key priorities on this topic are:
- Ensuring a consistent legal environment for E-Invoicing
- Achieving mass market adoption by getting SMEs on board
- Stimulating an environment that creates maximum reach between trading partners exchanging invoices
- Promoting a common E-Invoicing standard

For each of these priorities, the Commission Communication sets out a number of specific actions, for example:

- The Commission proposed a revision of the E-Signature Directive to provide cross-border recognition of secure e-authentication systems.
- The European Committee for Standardization (CEN) [13], a major provider of European Standards and technical specifications, defined useful E-Invoicing Guidelines.
- In 2011, the Commission set up the "European Multi Stakeholder Forum on Electronic Invoicing" [12]. The aim was to bring together key actors from the private and public sector of all Member States. It provided a unique platform to exchange experiences and best practices that can pave the way to the broad-scale adoption of E-Invoicing at both national and EU level.

To facilitate the monitoring and implementation of these actions, the Commission pushed Member States to act as well. National Multistakeholder Fora have been formally set up in almost all European countries.

A major boost during coming years is expected due to the implementation of the new directive for E-Invoicing in public procurement. It will oblige the public administrations in the member states to support E-Invoicing in public procurement not later than 2018.

3.   Key stakeholders as game changers

3.1   Public Sector

With at least 10% of the total market invoice volume, the public sector belongs to the "Top 3 industries". Measured by the number of trading parties, it is the clear leader: 45-65% of all companies in a country are suppliers to the public sector and send invoices to it. 100% of enterprises and households receive invoices/bills from the public sector. That is why E-Invoicing initiatives by the public sector are key for the development of the whole country.

In parts of Latin America, Europe, Asia and even in the US, companies are mandated to issue invoices just in electronic format. Millions of suppliers are affected by these obligations. The obligation paves the way to address the mass market.

Often, public authorities do not only declare E-Invoicing as mandatory, but define in addition the rules as to how it has to happen. Most federal administrations accept E-Invoices just in structured format. This requirement builds a substantial component to increase the degree of automation for invoice processing in a country.

The EU not only pushes the usage of E-Invoicing with public authorities, but in addition requires that it is based on an international standard. Also, the cross-border interoperability between E-Invoicing network operators shall be improved.

As most businesses and all service providers in a country are affected by the regulations and projects of the public sector, it is the game changer number one.

3.2   SMEs

Millions of SMEs are pushed by their customers (especially from the public sector) to send invoices just in electronic format. They will use the solutions which are most appropriate for them, very easy-to-use and efficient. Most SMEs expect out-of-the-box solutions which can be implemented within minutes.

SMEs are demanding very smart solutions, but do not want to pay (much) for it. Due to the high number and the very specific requirements, they can be seen as game changer number two.

3.3   Solution providers

Solution and service providers are driven by the user requirements above. The chance to be very profitable with pure E-Invoicing services is quite limited. The importance of excellence in getting customers on board and value added services increases. The unique chance to address hundreds of thousands of SMEs during the coming years, but hard competition on the other hand, push the providers to a very innovative offering. The enhancement and improvement of the offering brings a major push into the market and makes E Invoicing and the value added services very attractive for users.

Solution providers were the market makers for the last decade and many of them are expected to be game changers in the coming years.

4. E-Invoicing / E-Billing as catalyst for AR/AP automation

4.1 Finance departments facing new challenges

The past few years have not been easy for enterprises and their finance departments. Erratic markets, the globalization of the trading network, new regulation and compliance issues, increasing complexity of business processes and the steady change/transformation have forced the function of finance to redefine its role in the organization.

Today's finance departments face a complex and challenging business environment that requires tremendous business savvy. In this environment, innovation is an essential driver of excellence, and the finance department is no exception. But what form does innovation take in the department of the CFO?

Figure 30: Challenges and possible actions to improve the AR & AP department

Joint AR/AP challenges	Description and possible actions to solve them
Regulation and compliance requirements	Access and generation or modification rights for master data are often not sufficiently arranged among the internal stakeholders. Increasingly, a unique identification of trading partners based on compliant master data is a legal requirement. A multi-channel and multi-format approach for invoice processing is more and more common, but can also result in redundancies of invoice data, and often originals and copies cannot be distinguished. Consequently, tax compliance is difficult to achieve despite the fact that it is of increasing importance. Eliminate the paper based process and substitute it with a very high portion of E-Invoices and, where necessary, imaging of the remaining paper based part.
Improve quality and up-to-dateness of master data from trading partners	Trading parties are often registered redundantly in the master database, only distinguished by a minor difference in the writing of a few letters. Paper invoices & scanning/OCR increase the redundancies of master data and the situation does not improve. The objective requirement, and often a compliance requirement, is to register each trading partner uniquely in the database. Increasing the pure electronic collaboration with trading partners builds a cornerstone to achieving it. Pushing an electronic loop for orders and invoices paves the way for Customer Self-Care processes; they may update their own master data electronically. Suppliers can be enabled with a combination of an alerting and self-service capability to update information as required or when a particular incident or set of workflows triggers a new request for information or additional validation.
Improve operational efficiencies and corporate finance	See suggestions in chapter 7
Environmental improvement	Eliminate the paper processes by migrating to a fully electronic supply chain.

Joint AR/AP challenges	Description and possible actions to solve them
Invoice data validation	Accounts Payable: The later in the process that invoice data are validated, the more the costs increase for handling exceptions. Accounts Receivable: Late payments by the customers are often caused by detecting errors too late in the case of incorrect invoices. The sooner the invoice data are validated, the earlier corrective invoices can be sent. E-Invoicing paves the way for real-time or near real-time data validation.
Increase the portion of purchase order based invoices; exploit the full potential	Practice the Opt-Out model (as defined in figure 49) for purchase orders and invoices: Pos can be provided just in electronic format, either via portal or as structured data file. The supplier shall be supported on the platform to flip the PO data into an invoice. The electronic loop for orders and invoices can be closed, resulting in benefits for supplier and buyer.
Reduce trading partner administration costs; increase electronic interaction	Trading partners are often faced by late payments and working capital issues. Especially if the trading partners are smaller companies, it may be very challenging for them to get access to suitable Supply Chain Finance Features (Trade Finance, Dynamic Discounting, quick payments etc.). This may be one of the main reasons for a high churn rate of customers and steady changes of suppliers, increasing your costs as a result. E-Invoicing solutions build an excellent basis to embed SCF features and to reduce the churn rate of trading partners.

Figure 31: AR specific challenges and possible actions for improvement

AR specific challenges	Description and possible actions to solve them
Increase visibility; missing basis to exploit the full optimization potential	Many enterprises still process invoices in a decentralized way. A large proportion of it is paper based. The finance department often does not have an overview about all issued invoices and status information like "invoice accepted, dispute, paid, etc." Therefore it cannot exploit the optimisation potential. To increase transparency, the centralisation and automation of AR processes can significantly improve the chances of optimized cash management and forecasting. E-Invoicing solutions often support automated payment reconciliation, paving the way for a closed electronic loop between invoice and payment.
Reduce the high number of costly invoice queries	Large billers are often faced with this situation: 50% of the calls in the customer service centre are from customers asking for an invoice copy or more invoice details. Such reprint and information requests can be almost eliminated. Electronic bills/invoices provide the customers the suitable vehicle for customer self care. Days of Sales Outstanding can in most cases be shortened by some days in average.

AR specific challenges	Description and possible actions to solve them
Reduce the high number of discrepancies and exceptions	Typically, 20-30% of all invoices have to be treated somehow as exceptions, resulting in very high processing costs. The reasons are many-sided. Often, formal incorrectness like wrong addresses, missing information (reference, PO nb etc.) or tax relevant data are the cause for having to handle exceptions. If suppliers only exchange the invoices with their customers electronically, the invoice data are validated sooner by the customer. The earlier an incorrect invoice is rejected, the sooner a new one can be sent. E-Invoicing paves the way for real-time or near real-time data validation. However, E-Invoicing solutions cannot prevent disputes based on incorrect line items, amounts etc. but often provide features for quicker dispute resolutions. Structured or at least semi-structured dispute management/resolution can be a functionality within E-invoicing solutions. It typically supports a quick collaboration between the trading parties and often provides real-time updates and status information.

Figure 32: AP specific challenges and possible actions for improvement

AP specific challenges	Description and possible actions to solve them
Increase visibility; missing basis to exploit the full optimization potential	Many enterprises still receive and process invoices in a decentralized way. A large proportion of it is paper based. The finance department often does not have an overview about all invoices in circulation and therefore cannot exploit the optimisation potential. For gaining better transparency about invoices in the workflow, its approval and payment status, the centralisation and automation of AP processes can significantly improve transparency, cash management and forecasting. With E-Invoicing, the transparency of inbound invoices can happen in real-time. Cash management can be improved and paves the way to exploit the full optimisation potential for corporate finances.
High number of small suppliers sending a low number of invoices.	E-Invoicing offers efficient tools and features for small suppliers. These solutions also build a vehicle for a partial or full standardisation of invoice processing. Scanning/OCR does not generate this advantage.
Reduce the high number of discrepancies and exceptions	Handling exceptions forms a major cost block for invoice processing. With paper based processing, a significant portion of invoices have to be treated as exceptions, resulting in high costs. The percentage of exceptions cannot be reduced much with scanning, but substantially with E-Invoicing! Data validation and rejecting invoices at an earlier stage reduces the follow-up costs. Disputes are often caused by discrepancies between PO, deliverables and the invoice. A high portion of PO based invoices reduces the number of disputes.

AP specific challenges	Description and possible actions to solve them
Exploit the optimisation potential by capturing discounts	Typically, in a non-automated environment, it takes 23-27 days to approve an invoice for payment. Discounts cannot be captured. AP automation and E-invoicing significantly accelerate the processing time and often build the pre-requisites to exploit the potential with offered discounts.
Inefficient matching process	Automation of the PO match; AP automation as well as E-Invoicing paves the way to improve the matching.

4.2 Capability of AR/AP automation and E-Invoicing to exploit the full potential

Larger enterprises often intend to automate partially their paper based AR/AP processes with the aim to improve the internal operations. The electronic collaboration and E-Invoicing with trading partners is not sufficiently considered in the optimisation projects although they significantly support the automation of the AR/AP optimisation.

Figure 33: Capability to cope with joint AR/AP challenges

Joint AR/AP challenges	Capability to overcome the challenges with	
	paper based AR/AP automation	**E-Invoicing**
Regulation and compliance requirements	◔	◕
Improve quality and up-to-dateness of trading partners' master data	◷	●
Improve operational efficiencies and corporate finance	◐	●
Environmental improvement	◷	●
Invoice data validation	◕	●
Increase the portion of purchase order based invoices; exploit the full potential	◐	◔
Reduce trading partner administration costs Increase electronic interaction	◷	◔

Legend: High capability ● and low capability ◷ to overcome the challenges

Figure 34: Capability to cope with specific AR challenges

AR specific challenges	Capability to overcome the challenges with	
	paper based AR automation	**E-Invoicing**
Increase visibility; missing basis to exploit the full optimization potential	◐	●

AR specific challenges	Capability to overcome the challenges with	
	paper based AR automation	E-Invoicing
Reduce the high number of costly invoice queries	◕	●
Reduce the high number of discrepancies and exceptions	○	●

Figure 35: Capability to cope with specific AP challenges

AP specific challenges	Capability to overcome the challenges with	
	paper based AP automation	E-Invoicing
Increase visibility; missing basis to exploit the full optimization potential	◑	●
High number of small suppliers sending a low number of invoices.	○	●
Reduce the high number of discrepancies and exceptions	○	●
Exploit the optimisation potential by capturing discounts	◔	●
Inefficient matching process	◔	●

The focus of many US companies in phase 1 is AR & AP automation and organisational excellence. European and Latin American companies often enter into the automisation process with an E-Invoicing project with their primary focus on collaboration with trading partners. Very soon, E-Invoicing projects result in follow-up projects for AR & AP automation (including scanning/OCR).

As long as organisations internally process paper and electronic invoices in parallel, the full potential cannot be exploited. A single and unified internal process regardless of the original invoice format (paper or electronic) results in maximum benefits. The combination of AR/AP automation and E-Invoicing is the right answer for this.

In most parts of the world, E-Invoicing / E-Billing might become the catalyst for a full AR & AP automation!

5. Business Case for Issuer/Recipient

5.1 Saving potential

The Finnish State Treasury and some Finnish companies have estimated that an incoming paper invoice incurs costs amounting to 30-50 Euro for the receiving company. By moving to electronic invoicing these costs can be reduced to 10 Euro by semi-automating the invoice process and to one Euro by fully automating the process [14]. Regarding in-depth analysis of Politecnico di Milano, the net benefits are 4 – 12 Euro per invoice in case of VAT compliant E-Invoicing and up to 65 Euro per cycle in case of full integration of the trade process [15].

> Thanks to electronic and automated invoice processing, savings between 1 and 2% of turnover are realistic objectives.

As a consultant the author analysed the full costs based on traditional paper based processes and compared it with the new electronic automated solution. The example below reflects the situation in an industry company with 5,000 employees, based on calculated staff costs of 60€/hour (full costs including overhead, working place, etc.).

Figure 36: Saving potential for invoice/bill issuers (actual customer case)

	Print, Envelope Send	Payment Reminders	Remittance & Cash Management	Archiving	Full-Costs
Paper	3.90€	0.50€	4.50€	2.20€	11.10€
Electronic, automated	0	0.40€	3.00€	0.80€	4.50€*
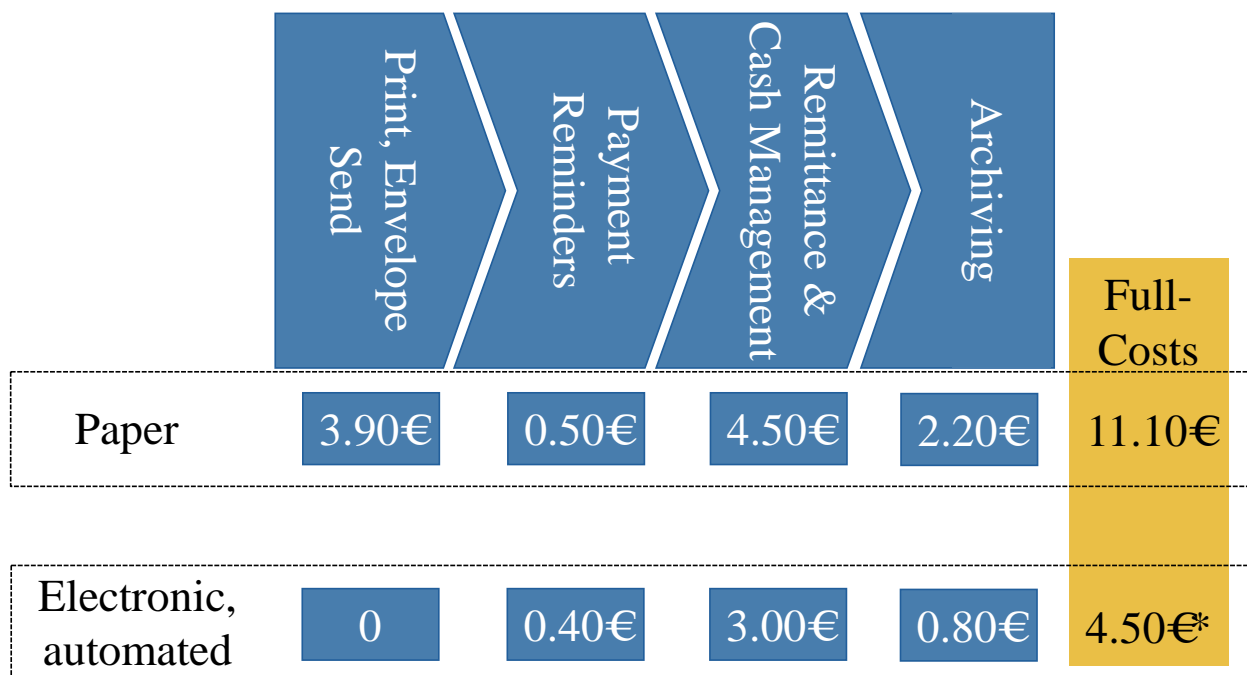
Saving per Invoice 6.60€ = 59%

*) considered is 0.30€ processing cost by third party service provider

Source: Billentis

The invoices/bills in this example were relatively simple and had an average size of 1.5 pages. In most organisations, the invoices are more complex and the savings are higher.

Not considered in this calculation are indirect savings. This can include, for example, online updating of master data directly by the customers.

Figure 37: Saving potential for invoice recipients (actual customer case)

	Receive	Entering Codification	Validation & Matching	Dispute Management	Payment & Cash Management	Archiving	Full-Costs
Paper	1.10€	3.00€	4.00€	2.50€	4.80€	2.20€	17.60€
Electronic, automated	0	0	1.20€	2.00€	2.00€	0.80€	6.40€*

Saving per Invoice 11.20€= 64%

*) considered is 0.40 € processing cost by third party service provider
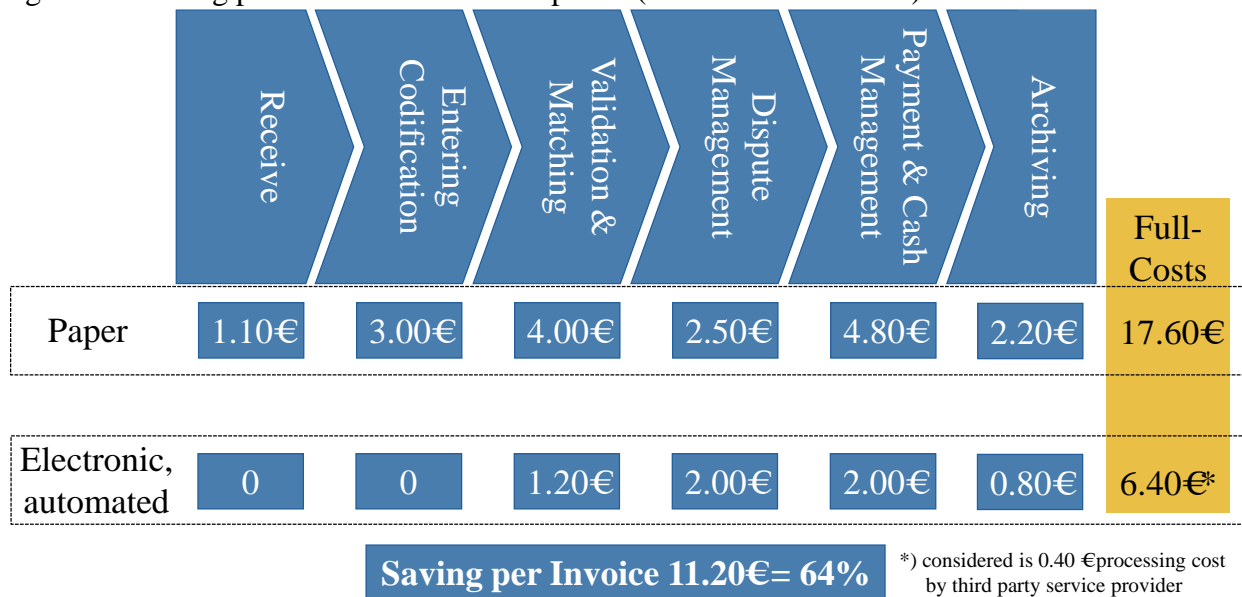
Source: Billentis

Not considered in this calculation are indirect savings. This can include, for example, the elimination of redundancies of the supplier master data and inconsistencies.

5.2 Know your volume

Sometimes, larger organisations do not know their precise invoice/bill volume. The reason for this is quite often the decentralised organisation or a heterogeneous layout of their AR and AP systems.

Over the last 16 years, the author has built key-metrics for being able to make a quick estimation of the invoice volume before the project start. Although not perfect in all cases, the key-metrics are based on the number of employees in an organisation and dependent on the industry.

Figure 38: Key-metrics for number of invoices

Indication for Number of invoices per employee in various Industries	Outbound invoices per employee and year	Inbound invoices per employee and year
Credit & Customer Cards	40,000	n/a
Mail order houses	8,000	n/a
Media	2,000	20
MRO Goods	1,400	450
Utility with direct distribution	1,200	20
Insurance	700	30
Electronic & IT	400	26
Chemicals & Pharmaceuticals	200	30
Industry independent average	200	80
Automotive Supplier	200	50
Food Supplier	200	20

Indication for Number of invoices per employee in various Industries	Outbound invoices per employee and year	Inbound invoices per employee and year
Logistics	100	77
Airlines	35	11
Services & Consulting	20	15
Banks	n/a	11
Telco	n/a	39
Industrial manufacturer	n/a	60
Catering	n/a	100
Retail	n/a	250
Buyer Clubs, Trade, Wholesalers	n/a	300
Health insurance	n/a	3,100[2]

In groups with service centres and/or subsidiaries, up to 10% can be added to the inbound volume for Intercompany Billing.

Calculation example: Utility Group with service centre structure and 5,000 employees

Outbound Volume	5,000 x 1,200	= 6,000,000
Inbound Volume	5,000 x 20	= 100,000
Intercompany Billing	10% of Inbound	= 10,000

5.3   Know your current and future costs

At first glance only direct costs appear in the organisation budget. However, this is just a fraction of all processing costs.

For a cost comparison, we have to consider
- Direct costs
- Indirect costs
- Hidden costs

5.3.1   Current costs for outbound invoices

On the outbound side, one part of the direct costs includes invoice printing and stamp costs. In a well-known telecom company, this represents just 9% of all directly related costs. Another major part is quite often well hidden and not recognised at first glance. Indirect and hidden cost items, which may be reduced by E-Invoicing are
- Sales Back office (Further inquiries in case of dispute)
- Accounting/Reconciliation manpower
- Debtor interest
- IT development and operation
- Payment fees (reduced or no fees in case of electronically and fully automated processes)
- Customer requests for copies of lost invoices
- Archiving

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[2] In countries with healthcare systems like The Netherlands, Switzerland etc.

- Query handling
- Settlement time and improved Cash Management
- Easier and faster audit

Typically, just 7,500 – 30,000 paper invoices can be processed per employee per year in the AR department. Therefore, the direct staff costs in the AR department already vary between EUR 2.50 – 10 per invoice.

5.3.2 Current cost for inbound invoices

Even worse is the cost recognition on the inbound side. Per employee in the AP department, typically just 5,000 – 15,000 paper invoices can be processed per year. Therefore, the direct staff costs in the AP department already vary between EUR 5 – 15 per invoice. Further costs are generated in the paper-based workflow and archiving. Analysis in some organisations showed, that on average 6 invoice copies are generated and archived decentralised in the files of secretaries and heads of departments.

5.3.3 Cost differences among continents and countries

The figures in the previous chapters are generally appropriate for Europe and probably for most parts of Latin America and Asia. Of course, we do have major differences in the labour costs, which are lower in Mediterranean countries than in the Nordic states. Nevertheless, exactly the countries with lower labour costs have in most cases the highest legal requirements for invoicing and are therefore not necessarily able to process the invoices for lower costs.

Surveys imply that invoice processing in the US could be around 25 percent less expensive [5] than in Europe. This is understandable for several reasons. The US does not apply the VAT system like many other countries. The invoice is just one of several business documents for the audit trail. The legal requirements are lower. The US is in addition more harmonized than the various legislations in Europe. Furthermore, US enterprises have in most cases to support just one or two languages for the invoice processing. In some but not all cases, economies of scale also help US titans to achieve lower invoice processing costs than the majority of comparatively small European companies.

This does not however reduce the relative saving potential compared to today's paper processing costs.

5.3.4 Future costs with automated processes

Small companies using E-Invoicing via website, have no implementation costs and very moderate or no running costs.

Besides the integration costs, large accounts have to consider the project costs.

In addition, third party service providers often charge a time and volume based fee for issuers and/or recipients. The level of these costs varies considerably depending on customers' requirements. It is best to summarise customers' requirements in a document (Request for Proposal) and ask for binding proposals. As an indication, third party costs of EUR 0.30 – 0.90 per invoice should be entered into the business case.

Future internal costs will probably be 40-50% of past costs depending on the individual situation (see also example in chapter "5.1 Saving Potential").

World class enterprises are able to process 125,000+ electronic invoices per year and AP employee, roughly 10 times more than paper based invoices.

5.4 Business Case

5.4.1 Small businesses

Their large suppliers and clients quite often push them to accept respectively send electronic invoices "as part of the general contract terms or business rules". Therefore, it is not necessarily the business case pushing them forward for electronic invoicing but good business relationships with their trading partner.

However, in most cases they find an easy and efficient way to practise it. This can be the use of an invoicing portal, where invoices can be uploaded or downloaded and stored for several years in a VAT compliant manner. Either no implementation is necessary or the effort required is very moderate. Key-in invoices on the portals of each large customer is however unpopular among suppliers and many insist on paper as long as they can. It is slightly better if the suppliers can key-in the invoices on the web portals of independent service providers and address several customers via the same platform. The absolute favourite for small businesses is to push PDF invoices to their customers (if they accept PDFs). This method is supported by numerous tools, and is quick and inexpensive.

5.4.2 Mid-sized and large businesses

Many solution providers offer an online business case calculation tool. Tools and ROI calculaters are also offered by some universities and industry portals. Please find details for some sources in the appendix [16].

As many readers of this report perhaps cannot understand the language in some ROI calculators, here is a translation of the major points to be considered.

Figure 39: Items to be considered in a business case

Item to be considered in a business case	Issuer	Recipient
Quantities and basic data - Number of electronic counterparts - Electronic proportion of total invoice volume - Interest rate - Hourly rate of employees	x	x
Customer churn rate with and without E-Invoicing	x	
Costs and Savings in the AR & archiving department	x	
Costs and Savings in the AP & archiving department		x
Cash Management, payment due period, payment discount	x	x
Initial costs (Project, implementation, hardware, software)	x	x
Operation costs internal and third party	x	x

5.4.3   Financial benefits for the public sector

With at least 10% of the market invoice volume, the public sector belongs to the "Top 3 industries". Measured by the number of trading parties, it is the clear leader: 45-65% of all companies in a country are suppliers to the public sector and send invoices to it. 100% of enterprises and households receive invoices from the public sector. That is why E-Invoicing initiatives by the public sector are key for the development of the whole country. Unfortunately, this sector often belongs to the laggards, despite the huge saving potential.

> If a major proportion of paper invoices were replaced by electronic ones, the saving potential in Europe's public sector could be at least 40 billion Euro (for inbound and outbound invoices). Today, less than 10% of it is exploited.

This tremendous saving potential is recognized in many countries, but to exploit it within reasonable time is another story. The federal administration is privileged to go into a leading role and to facilitate a country-wide public sector project. As the public sector itself is very fragmented, many stakeholders have to be involved and convinced.

The breakdown of volume in the Danish and Swiss public sector is known. The mix of these two countries is shown in the next chart.

Figure 40: Breakdown of saving potential in the public sector
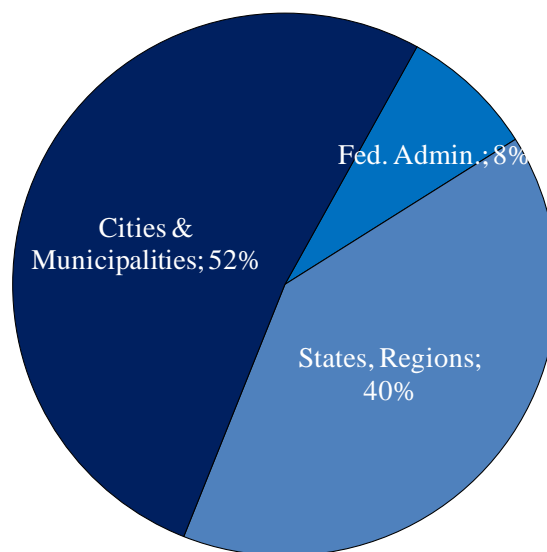
Sources: Federal
Administrations of Denmark & Switzerland

In the broadest sense, this breakdown might also be applicable for many other countries. Assuming so, the saving potential breakdown for various countries could look as shown in the following table.

Figure 41: Indication for the saving potential in the public sector of some European countries

Country	Minimum public sector saving potential (million Euro)	States, Regions	Cities & Municipalities
Austria	600 [17]	200	300
Belgium	900	400	470
France	4,200	1,700	2,200
Germany	6,500	2,600	3,400
Italy	3,000	1,200	1,600
Poland	1,700	700	900
Romania	1,400	600	700
Spain	1,800	700	900
Sweden	1,600	600	800
Switzerland	700	300	400
The Netherlands	1,200	500	600
United Kingdom	4,400	1,800	2,300

The difference to the total "public sector saving potential" above is the saving potential for the federal administration.

The above estimate is based on the assumption that 40% of the E-Invoices are exchanged in unstructured format (PDF) and 60% with structured XML invoices (fully automated processes). Many administrations insist on just structured invoice data. Their potential is higher than the figures above.

As attractive as E-Invoicing in the public sector appears, it is just as challenging to implement. The public sector is not one homogenuous segment. The state administration forms one part. In addition, we find regions, cities and municipalities. Many countries have a federalist structure with high autonomy for each entity. However, Brazil and Mexico have proved that it is possible to establish E-Invoicing country-wide, even with a federal structure.

The state government has the most power regarding legislation and is preferred to initiate and steer such projects. However, the saving potential in their segment is just a small proportion within the public sector.

Cities are in an excellent position to push E-Invoicing/E-Billing and to save much money. The author collected various data and built key-metrics over the year. Of course, the key-metrics can vary a great deal from country to country and city to city. On average, a city receives one invoice per year and inhabitant. Cities, including all its service units (taxes, energy distribution, garbage removal, communication, etc.), issue typically 2-6 bills/invoices per year and inhabitant.

The estimated saving potential for cities is based on the assumption that 40% of the E-Invoices are exchanged in unstructured format (PDF) and 60% with structured XML invoices (fully automated processes).

Figure 42: Saving potential for cities

Population (Millions)	Example of city (or metropolis) in this category Based on population as published in Wikipedia	Minimum annual saving potential (million Euro)
0.5	Atlanta, Bradford, Boston, Bratislava, Bremen, Copenhagen, Denver, Dortmund, Dublin, Duesseldorf, Duisburg, Edinburgh, Essen, Frankfurt, Genoa, Gothenburg, Hanover, Helsinki, Kaunas, Leeds, Leipzig, Lisbon, Liverpool, Málaga, Manchester, Miami, Palermo, Rotterdam, Seattle, Seville, Sheffield, Stuttgart, Tallinn, Thessaloniki, Toulouse, Vilnius, Washington, Zaragoza, Zurich	15
1	Adelaide, Amsterdam, Asturias, Athens, Auckland, Birmingham, Biscay, Brussels, Calgary, Cologne, Dallas, Edmonton, Jacksonville, Indianapolis, Kraków, Lyon, Lille, Marseille, Milan, Munich, Naples, Nice, Ottawa–Gatineau, Phoenix, Prague, San Antonio, San Diego, San Francisco, San Jose, Sofia, Stockholm, Turin, Valencia, Wellington	30
2	Barcelona, Brisbane, Bucharest, Budapest, Hamburg, Houston, Paris, Philadelphia, Vancouver, Vienna, Warsaw	55
3	Berlin, Chicago, Madrid, Rome	80
4	Los Angeles, Montreal	110
5	Sydney, Toronto	130
7	London, New York, Tokyo	200
10	Moscow	270

Cutting costs is one part of the business case. Increasing revenues is another.

6.   How to overcome barriers and to be successful with your project

6.1   Barriers and how to overcome them

The barriers differ greatly for enterprises in various countries and depending on the company size.

Figure 43: Main barriers in many European countries [17]

Barriers (European mass market)	Possible actions to overcome them
Legal requirements are unknown or confusing	The multi-stakeholder I and/or federal administrations are privileged to actively provide appropriate information to the mass market. Some of them organize information events & road-shows or engage evangelists. Many others (e.g. Austria, Belgium, Switzerland) operate an information portal with the most important information.
Missing market transparency about the solutions offered and the collaboration among various service providers	The multi-stakeholder I and/or federal administrations are privileged to actively provide appropriate information to the mass market. Some of them already provide a broad overview on information portals. The best-in-class offers segment specific information (small company selects "I am a small biller" or "I am a small invoice recipient" etc. and guide the visitor through an interactive dialogue to provide exactly the appropriate information (lean).
Change/adoption of internal organisation processes (40% of larger organisations)	It is human nature that old habits die hard. This is especially valid if very numerous departments are affected by a project and have to change. Management attention and decisions are required.
Divergent requirements of trading partners regarding formats, methods and processes	As this is especially painful in case of bi-lateral (direct) exchange of structured electronic invoices, using standards can help. E-Invoicing network operators are also capable of significantly reducing the complexity for end-users.
Not recognizing the business case	Further market communication is required, especially by showing very concretely the individual saving for a certain outbound or inbound invoicing volume. See also list of calculation tools [16]
Trading partner does not support the electronic invoice	Viewed statistically, there is a relatively high chance that your trading partner already supports E-Invoicing. It could more likely be a lack of information. Some federal administrations or multi-stakeholder I already maintain public user directories. By far the best running example is from Finland, http://www.tieke.fi Besides increasing transparency, often the trading partners just need inspiration to do it now and some guidance on how to do it.

Barriers (European mass market)	Possible actions to overcome them
Task sharing for accounting and invoice processing with external parties (trustee, tax consultant, commercial auditor, etc.); is in some countries practised by up to 50% of (smaller) enterprises.	3rd party service providers have fears of or limited interest in substituting labour-intensive (paper based) work with efficient, electronic and automated processes. It could be a major task for multi-stakeholder I to clarify and show the risk of resistance to the opportunities of new electronic methods.

Figure 44: Main barriers for mid-sized and larger US companies [5]

Barriers (mid-sized and larger US companies)	Possible actions overcome them
Lack of budget	In-house developments cause high initial and follow-up costs. Field-tested applications and services from third parties are typically significantly cheaper. If services on demand or SaaS are preferred, the initial investments are moderate.
Belief that there will not be an ROI	Publicly available calculation tools / ROI calculators will probably show the reader within 5 minutes that there definitely will be a good ROI. See list of some calculation tools [16]
Lack of understanding of current available solutions	Some market analysts make the market more transparent with their publications and events. Solution providers are encouraged to make great market communications.
Lack of resources to manage automation	Shift E-Invoicing to the enterprise's number 1 priority.
Supplier resistance	Do not attempt to press all suppliers into the same scheme and require just one certain data format following your business process. The capabilities and requirements of suppliers differ greatly. If invoice recipients (or the E-Invoicing network operators involved) support various invoice formats, any-to-any data formatting and benefits (e.g. trade finance, early payments), acceptance by suppliers can significantly increase.
Current processes work	Complacency is a risk. It is likely that competitors are already implementing E-Invoicing, reducing the invoice processing costs and achieving a competitive advantage.

6.2   Success factors

Although we have a high number of innovative people in our world, the majority of human beings change their behaviour only under slight pressure. That is why a simple invitation to your trading partners to support E-Invoicing may not automatically result in a quick success.

The weak economical situation results in high cost pressures and will probably become an accelerator for changes in the invoice processing. Readers are not recommended to wait for pressure from their customers or suppliers. Instead, it is wise to start an E-Invoicing project proactively.

Only then is it possible to clarify everything without too much time pressure and to move seamlessly from paper to electronic invoices.

Main reasons why E-Invoicing projects have not always succeeded immediately in the past are
- Underestimating the significance of the project for the many related processes and departments involved
- Poor project management
- Too technical focus (the more important challenges are the process automation and taking on board a high number of suppliers or customers within a short time)

Success factors in E-Invoicing projects
- Awareness by senior executives about the potential of E-invoicing in a broader sense (the value is much more than just eliminating printing and stamp costs or entering invoice data into the ERP system)
- Management Support, as many divisions within an organisation are involved
- One very active project owner
- Defining a three year objective/strategy, but implementing it step-by-step including a quick-win result for step 1 (best is just one invoice stream in one division of a big company)
- Internal and external communication to key persons affected
- Being a rollout champion with an excellent strategy for taking on board a high number of suppliers/customers (opt-out strategy if possible, combined with active marketing)
- Being realistic regarding mid- and long-term technical capabilities in your organisation including workflow and archiving → right decision for make/buy and direct or network model
- Don't re-invent and develop solutions which are already available for a fixed price and which have been well tested in other companies
- Being realistic regarding technical capability of your counterparts to send, receive and archive electronic invoices (this is quite often dramatically lower than you expect); simple and economical interfaces and possibly a third party archiving service are essential

The most promising models are described in chapter 2.3.

6.3   Define the best Scope for your organisation

Many organisations already exchange some electronic messages along the supply chain with their counterparts. For them, E-Invoicing is just an enhancement and a next step towards automating the whole supply chain.

For a vast majority, E-Invoicing is the first step towards the electronic supply chain. That is why many organisations start with the "queen of all messages". In most cases, it is a good approach starting with "just" the invoice message and aggressively increases the electronic share within your environment. E-Invoicing alone will already be an interesting business case! However, more future savings are possible with a fully automated supply chain.

In mid-term planning the next optimisation steps to take should be considered: Either in the pre- or post-processing of the electronic invoice.

Some invoice streams are more dominant and provide higher optimisation potential. The author believes that projects should follow that potential.

Figure 45: Priorities of invoice streams
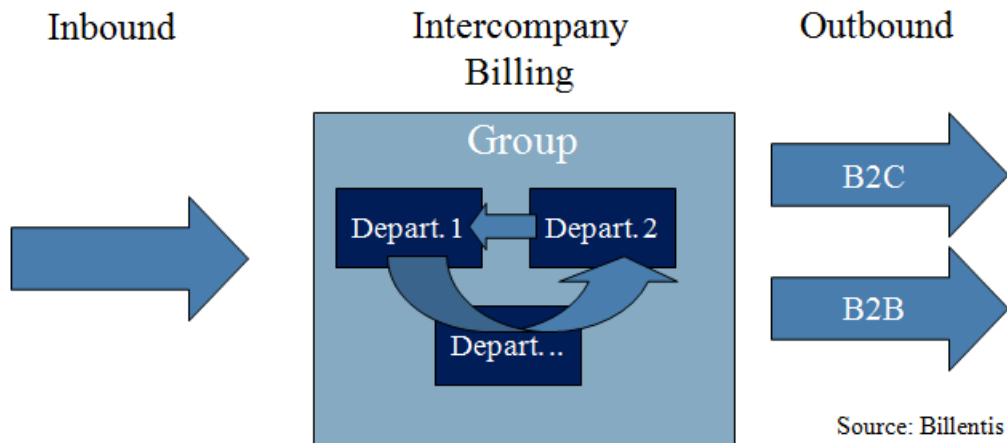
Inbound

Organisations in a strong buying position may decide to replace inbound invoices first, as they are in a strong position to push their suppliers to deliver invoices in electronic format.

Intercompany Billing

Volume and optimisation potential is quite often under-estimated. It is the only invoice stream fully under the control of each organisation. In one scenario, these invoices can quite easily be processed electronically or via account transfer. This is the case if all departments, branches or subsidiaries belong to the same tax entity in the same country. Wherever that is not the case, it can make sense to handle internal electronic invoices as for the external ones, with identical methods guaranteeing authenticity, integrity and legibility.

Outbound

High volume organisations in the B2C sector already provide electronic bills to consumers with direct models. However, the success is limited in most cases. If 40% of clients are using it, it is already a good value. Most send electronic bills just to 25% with best in class to 75-90%.

To increase the electronic share, an opt-out rollout model (as defined in figure 49) should be practised and/or networks should be distributed (e.g. online-banks or other favourite portals of consumers). Delivery of PDF invoices via email or portal has become very popular in many countries. However, many large billers made a more significant step forward by practising the push method rather than a portal based approach. The same is true for B2B invoices for small businesses. In this case, the PDF invoices are ideally much more than just a paper replica. Instead, the PDF files can include – alongside the invoice image – also a layer with structured (XML) data and the ability to include forms and components for dynamic interaction such as dispute, payment etc. E-Invoices are prepared in a VAT compliant manner by the issuer (digital signature for at least relevant parts of the PDF container, verification and sometimes with long-term online archiving).

6.4   Know your environment

In many projects in larger organisations, it was interesting for the author to see the heterogeneity of customer environments, e.g.:

- High number of different ERP systems
- Decentralised issuing and/or receiving of invoices

- No control and overview regarding paper invoices in the workflow
- No transparency concerning all the invoice streams, volume and the different ways in which they are processed
- Various decentralised long-term archives
- Unclear as to which document is the invoice original and which is a copy
- Parallel and isolated projects in different departments for scanning, workflow, archiving, digital signature solutions and E-Invoicing

If the reader is working in a large organisation, it is helpful to clarify the points above and summarise the current environment and the mid-term target environment.

6.5   Scenario for internal implementation

In a fragmented and large environment, the highest benefits can be achieved by following these steps.

Figure 46: Optimisation steps and benefits

Optimisation steps in large organisation
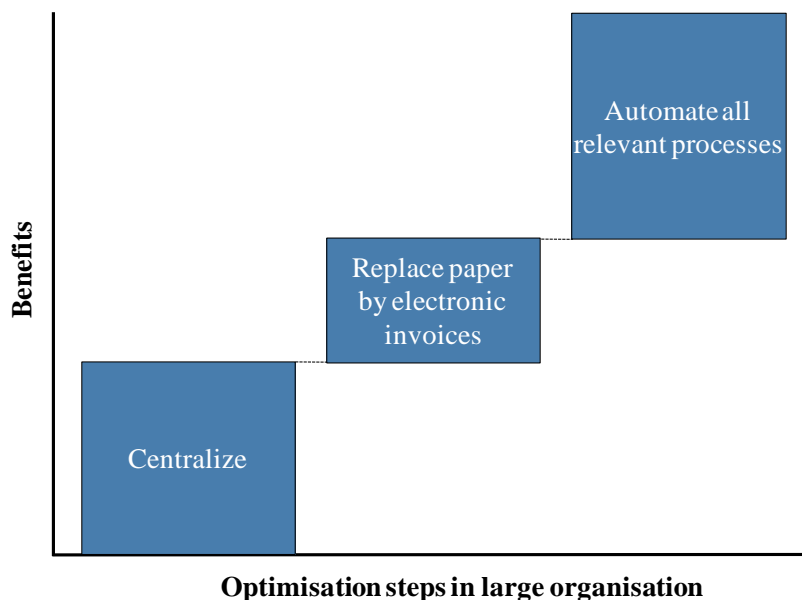
As this objective can be (too) time consuming (e.g. 2 years) a good alternative is migration within a decentralised environment. If the constraints of future centralisation are already known, they can be considered in the planning and implementation of systems and processes.

> Improve to electronic and automated processes is generally a good step. However, in most organisations, it may be adviseable to critically scrutinize and streamline first all the processes. Often, 50% of historic burdens can be removed without loosing anything.

6.6   Know the capabilities & constraints of your trading partner

Although valid in many sectors of our environment, the 80:20 rule is not applicable regarding invoice streams, except in very few industries. The pattern below for inbound invoices in a mid-sized or larger organization is much more likely.

Figure 47: Pattern for inbound invoices
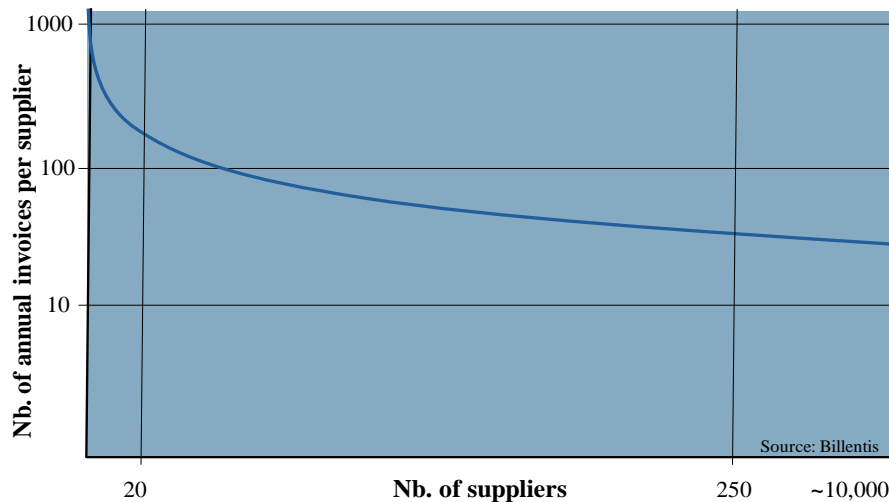
The number of suppliers sending more than 100 invoices per year is quite often just among 20-50. Perhaps another 1,000 send 10-100 annual invoices and the vast majority send less than 10 annual invoices. Large organizations have typically 10,000 suppliers and depending on the product n0,000 customers. The vast majority of suppliers and customers are SMEs with highly fragmented IT landscape and limited capability for import/export of structured invoice content and electronic archiving. In addition, these counterparties can be located in various countries with different legal constraints regarding tax compliant invoices, archiving, language and cultural behaviour.

E-Invoicing projects can just be successful, if the situation of trading partners is strongly considered in the project. This includes also thinking about what the incentives for them are and how they can easily be connected in a VAT compliant manner.

Whereas large issuers and recipients fully integrate electronic invoice processing into their environment, the requirements of mid-sized and small enterprises can be different.

Figure 48: Requirements of organisations

Size	Issuer requirements	Recipient requirements
Large	• Full ERP integration • Two-way communication • External archive (sometimes shifted to in-house in step 2)	• Full ERP integration • Two-way communication • External archive (sometimes shifted to in-house in step 2)
Medium	• Full ERP integration • Export Tools (CSV, ...) • External archive	• Full ERP integration • Import Tools (CSV, ...) • External archive
Small	• Printer Driver • WebEDI (type in invoice on a portal) • Electronic forms • PDF (including several layers with image, XML data and other features) • External or CD archive	• Browser presentation & download, e.g. via home banking • PDF (including several layers with image, XML data and other features) • External or CD archive

6.7 Compliant rollout model for your counterparts

Technique is just a small part of an E-Invoicing project. Much more important for the success and a high electronic share is the rollout strategy (on boarding of trading partner).

Figure 49: Different rollout models in use

Opt-In	A issuer or recipient upgrades his environment for electronic invoice processing. He informs his counterparts about this new opportunity and invites them to send and/or receive invoices electronically. Each participant has to be persuaded to change to electronic invoicing. This can be done with strong arguments, incentives and/or slight pressure. The traditional and friendly method of taking companies on board was used in the past, but is more often replaced by the Opt-Out model where possible.
Opt-Out	A issuer or recipient upgrades his environment for electronic invoice processing. He informs his counterparts about this new opportunity and explains that after a certain deadline, invoices will only be exchanged electronically. If anybody wants to "opt-out", they have to give notice. In many cases, it means also a (penalty) fee for keeping to paper based invoices. The Opt-Out model results in very quick results and a high electronic invoice volume. It can be practised by any larger organisation, but is mainly at the forefront for organisations in a steady interaction with a stable base of counterparts (e.g. Leasing companies, Transport & Logistics, Telecom, Utility, Credit & Customer Cards, Office Material, Suppliers of MRO articles and customer packaged goods, Online Services and any communities using Extranets or standard client software). Today's issuers who use this model quite often use signed PDF invoices with or without additional XML data. This guarantees immediate readability by the recipient, although the benefits for them can be quite limited in the case of PDFs.

Figure 50: Success rate for an organisation and the electronic proportion one year after launch

Model	Electronic proportion of all invoices	
Issuer driven "Opt-In"	1-5% 5-50%	with free market range within existing supplier-buyer networks
Issuer driven "Opt-Out"	85-90%	
Recipient driven "Opt-In"	1-5% 50-70%	for organisations without much purchasing power for organisations in strong purchasing position
Recipient driven "Opt-Out"	Up to 90% for organisations in strong purchasing position and providing electronic orders	

The majority of businesses in Europe do not have an ideal environment for using an Opt-Out approach. However, the model should be tailored to its practicability for each environment. Certainly, it will be practised eventually by some of your counterparts, with a direct impact on your situation.

6.8 Solution scenarios

Complete in-house developments are no longer a realistic option
- No chance for a good business case due to high project/development costs and very high follow-up costs

- Too time consuming
- No reason to re-invent solutions which are already offered by hundreds of solution providers and which are up-and-running already in other companies

Therefore, the real alternatives are purchasing third-party applications or using external services.

Figure 51: Third-party services and applications

Services	Applications/Solutions
- SaaS (Software as a Service) - E-Invoicing network service (single-point-of-contact; any-to-any-to-any connection) - Any-to-any data formatting - Rule based data validation - VAT tax compliance service - Invoice management service (including digitalisation and data capture of remaining paper invoices) - E-Procurement, E-Marketplace - Archiving Service - Other added values like supply chain finance, analytics and reporting etc.	- E-Billing/E-Invoicing applications for automated or semi-automated issuing and receiving electronic invoices, including handling of various output/input formats - Signature software or devices, Public Key Infrastructure (PKI); Signature verification tools and portals - Invoice cockpit (monitor all invoices circulating within an organisation) - Invoice management - Workflow - E-Procurement - Interface software - data conversion and mapping tools - printer driver with E-Invoicing, signature and transfer features - Archive

The scenario chosen from the above will depend on
- Make or Buy policy of each organisation
- Own IT and processing environment
- Invoice volume
- Business Case
- Internal requirements
- Requirements and capabilities of counterparts

Larger organisations quite often analyse 2-3 scenarios, compare them and decide on one of them. This step is then followed by a Request for Proposal (RFP), sent to 2-4 providers.

6.9 Roadmap

Small organizations can technically become up-and running within just a few days. More time consuming will be the onboarding of the counterparties.

In large organizations, the project and implementation time can strongly vary, depending on existing environment and degree of integration.

Figure 52: Indication for project and implementation time

Scenario	Centralised, homogeneous environment	Decentralised, heterogeneous environment
Key-in/upload invoices via 3rd party Web portal or printer driver Receive/download invoices via 3rd party Web portal Archive operated by 3rd party	0.1 – 1 days	1 month
Invoice export/import via AR/AP application Archive operated by 3rd party	0.5 – 2 weeks	3 months
Scenario above including analysis, re-design, workflow and archive implementation	6 months	1 – 1.5 years
Scenario above, including integration of invoices with related messages along the supply chain (order, delivery notes, payment, remittance etc.)	up to 1 year	up to 2 years

6.10   Project Checklist

Analysis
- Internal
  - Involved and related processes, systems and divisions/branches/subsidiaries
  - Invoice streams
  - Obstacles and how to solve them
  - Structure, capability and legal constraints (especially in multi-national companies)
- Of your counterparts
  - Volume
  - Technical capability
  - Willingness to adopt
  - Legal framework
- Strategic focus and priorities

Concept
- Solution scenarios
- Decision Make or Buy
- Step-by-Step approach (division by division) or "big-bang" (company-wide project)
- 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

During the whole project: Communicate at least twice as much as you believe is necessary – you can never over-communicate!

7. E-Invoicing opportunities in a challenging market environment

7.1 Overview

There are of course several reasons to start an E-Invoicing project, but one is the strongest driver: Even during a period of robust economic growth, organizations state that the major drivers for process automation were the improvement of financials. This is especially valid during today's challenging economy.

The author sees a set of parameters where E-Invoicing has a major impact on the optimization of corporate finance.

Figure 53: Optimise corporate finances with E-Invoicing
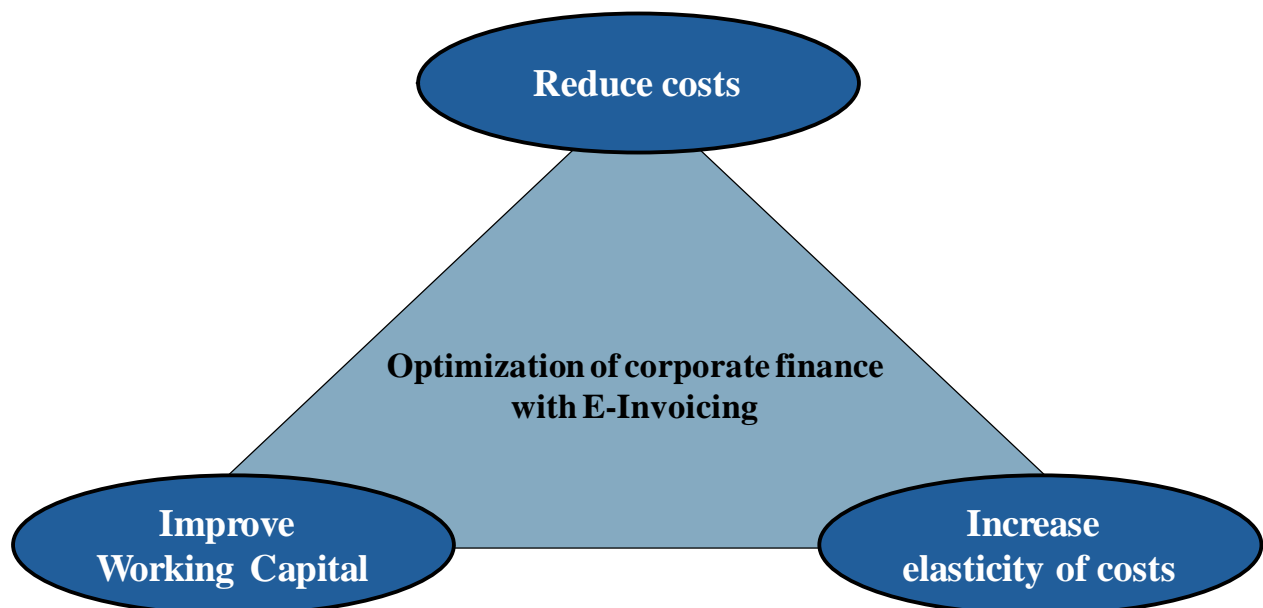
7.2 Reduce costs

Chapter 5 describes in detail how the Business Case might look like – and that is already very promising. The author intended to apply today's reality to those calculations: Organizations replace a portion of its paper invoices with electronic ones and only partially optimize their processes.

The next chart describes the classical evolution in most organizations. Today, just low hanging fruits are picked. Very few enterprises also challenge their processes in general and streamline, re-design and optimize them. It is likely that it will take some more years until the market is mature for this next step. Thus, this chapter focuses on the migration path options.

Figure 54: Migration path to exploit the full optimization potential
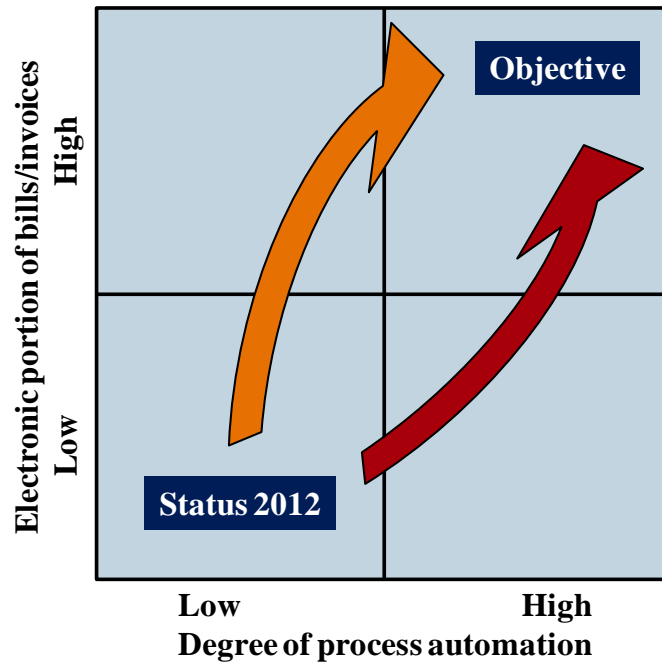
7.2.1 Increase electronic proportion

By monitoring the international markets for 16 years, the author analysed the differing developments in organizations. The success rates and electronic proportions differ greatly.

Figure 55: Success rate dependant on practiced on-boarding methods

Phase	Description
Classic approach	Mainly large companies are innovators for E-Invoicing. They push their larger trading partners to send and receive the invoices electronically. The Opt-In on-boarding method is practiced (convince one by one to enter into the electronic community). For the vast majority of organisations, the achievable share of E-Invoices with large trading partners is just 25-30% after several years.

Phase	Description
	In a next step, the large innovators also try to push their mid-sized and small trading partners to support electronic invoices. Even by increasing the marketing activities, a large organization does not have the power to make the market alone. They are dependent on the maturity of the mass market. The annual growth rates are limited. This market evolution was common in the past and is still in progress today in most countries. It did not cause a broad break-through in the markets up to to-day.
Pressing	For most large companies, it is possible to achieve an electronic invoice share of at least 60% after 3 years. This will not happen automatically with a smart and friendly approach towards trading partners. Instead, powerplay and marketing is necessary for increasing the share of E-Invoices. In addition, the general contract terms should be enhanced to provide the contractual instrument to force trading partners towards E-Invoicing. Although the rollout is strongly based on powerplay, this is still a fair method if the promoter or its service provider offers appropriate solutions for any kind and size of trading partner and for fair conditions. Registration and usage barriers shall be as low as possible. This can happen, for example, by taking the first step using only the internet. An account shall be pre-defined for each trading party and can be activated with just a click of the mouse, followed by completing the user's master data. An increasing number of large companies are practicing this method.
Powerplay	For most large companies, it is also possible to achieve an electronic invoice share of at least 80% after 3 years. The "Pressing" method is enriched with penalties for counterparts which insist on paper invoices. Electronic invoice exchange is declared as the default channel, but penalties are applied for paper invoices: • Suppliers charge typically EUR 1 – 3.50 to consumers and EUR 5 – 25 to companies per paper invoice • Buyers reduce the paid invoice amount typically by EUR 15 – 25 per paper invoice if the suppliers are not willing or not able to send the invoices electronically
Closed electronic loop for orders and invoices	In many large companies, at least 40% of the invoices are based on Purchase Orders (15% in the US, Paystream Advisors [18]). This rate is steadily increasing. Enterprises have the chance to receive all PO-based invoices electronically within just a few months. Suppliers are keen to get purchase orders. If they only get the chance to receive them electronically in the future, they will accept the new channel rapidly. In addition, they also have the chance to return invoices electronically. This model results in a quick win-win situation for suppliers and buyers.

Considering these known facts, it is surprising that more organizations do not switch to more promising on-boarding methods.

7.2.2 Enhance the degree of process optimization

Today a major bulk of electronic invoices is just digital images of paper. This is not really a surprise, as people are familiar with PDFs and the barriers to start with are quite low. However, the benefits are mainly on the supplier side and buyers are keen to move towards the next steps.

Improvements, which can be noticed on the market
- PDF Images → Intelligent PDFs including images + structured invoice data (+ interactive components, digital signatures, logfiles, workflow functionality); PDF invoice becomes interpretable by both humans and computer systems
- PDF Images → structured XML invoices
- Scanning of images only → Scanning + OCR + Workflow

Any development as mentioned above helps to increase the degree of automation on the recipient's side as well. The weak economy might accelerate the next evolutionary step towards fully automated processes and to tap the full potential in the mid-term.

More advanced organizations might have a broader objective than just to optimize the invoice processes. This is indeed worthwhile: The automation and optimization of the invoice process is typically only 1/3 of the total potential. Considering this, the full purchase-to-pay and order-to-cash process might be pushed to the foreground during the coming years.

Figure 56: Exploit the full optimization potential
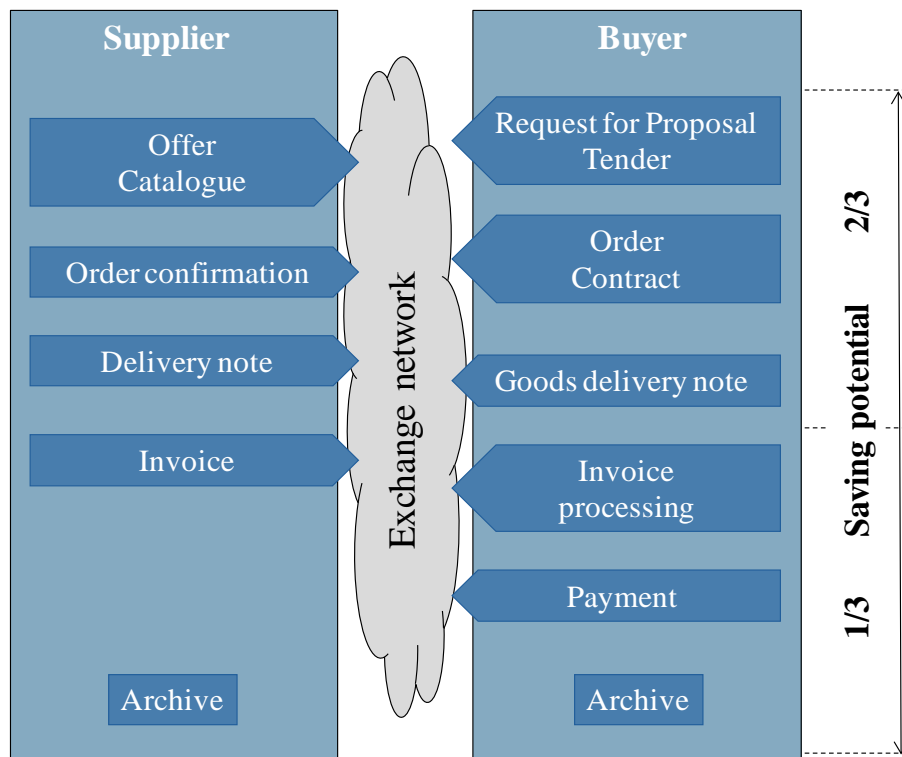
7.3 Increase elasticity of costs

7.3.1 Inhouse developments vs. 3rd party solutions

Businesses in smaller countries intend to use solutions proven on the market. Such solutions are indeed available in high numbers (hundreds) and of good quality. From this perspective, it is sur-

prising that mainly businesses in larger countries still intend to re-invent things and develop in-house solutions. This is not only the case with large organizations, but even in companies with less than 20,000 employees. In such scenarios, it is the IT staff who often drive projects. Clarifying legal requirements for all trading parties (located in dozens of countries) is extremely challenging or almost unsolvable for them. Such projects typically never succeed. Companies eventually switch to state-of-the-art third party solutions.

7.3.2 Shift fixed costs towards variable costs

Customer demand today is becoming more and more erratic and the turnover is subject to considerable variations.

Thus, most companies try to reduce fixed costs and to shift them towards variable costs. Providers of E-Billing/E-Invoicing solutions reacted at a very early stage and offer suitable products for any kind of demand.

Due to investment freezes in many companies and attractive on-demand pricing, numerous businesses are expected to change from inhouse operated solutions to SaaS (Software as a Service), white label or network services offered by third parties.

It is therefore scalable regardless of organization size and, most importantly, businesses only pay for the services they use.

7.4 Improve Working Capital

7.4.1 Challenges and today's options for organizations

The crisis in the global financial markets, a corporate credit squeeze, combined with weak economic growth, all change financial managers' minds on working capital optimisation. Invoice automation is a key component to achieve this objective!

There is a growing demand for financially efficient supply chains, with customers and their suppliers under conflicting pressures to improve payment terms, reduce prices and improve cash flow efficiencies.

A number of related buzzwords currently dominate the mass media
- Optimize cash flow and working capital
- Decrease DSO
- Accelerate processing and workflow cycle to benefit (dynamic) discounts
- Payment guarantees; Reduced risks
- Trade Finance; Supply Chain Finance
- Access to liquidity; Reduce capital outlay
- On-demand SCF (not full turnover, just some invoices)
- Enable suppliers to keep pace with buyers' growth.

These topics reflect the market demand, but also what providers of such finance tools and instruments increasingly offer.

The major challenge for solution providers is to offer a balanced product portfolio appropriate for suppliers and buyers, regardless of company size and the location of the trading party.

There is also a major part, which is directly under the control of suppliers and buyers and their internal processes and whose improvement may not be outsourced.

7.4.2 Improving company internal processes

7.4.2.1 Increase transparency for inbound invoices

Typically, 30-35% of larger companies still manage the invoices decentralised. Almost all of them use several ERP and accounting systems. This environment does not allow the financial manager the required transparency about the number, the total amount and the status of invoices.

E-Invoicing often results in a central outbound and inbound gateway, aggregating all invoices. This significantly increases transparency for finance managers and is a pre-requisite to optimise the working capital.

7.4.2.2 Accelerate internal invoicing cycles for inbound invoices

Suppliers of goods and services suffer from the credit crunch. This is especially valid for SMEs. For that reason, they increasingly offer discounts to their clients. Despite these discounts, the effect is very limited and the payment period (e.g. 15 days to benefit from discounts) cannot be improved significantly.

The reason is primarily that many larger invoice recipients are just unable to process paper invoices faster than within 23-25 days.

A recent consulting customer of the author confirmed to have missed discounts with a value of EUR 1.50 per paper invoice. The discount benefits alone more than compensate the project costs and investments for the E-Invoicing in this project!

An efficient workflow and archive solution is in most cases another result of an E-Invoice project. This enables real-time monitoring of the invoice processing and permits an optimisation of the working capital.

7.4.3 Trade Finance / Supply Chain Finance (SCF)

Supply Chain Finance refers to the set of solutions available for financing specific goods and/or products as they move from origin to destination along the supply chain. It shall improve the Working Capital for suppliers and buyers. This is of special relevance during the challenging economy and the fact that an increasing number of trading parties is located abroad.

The market opportunity for a SCF solution is significant. The total worldwide market for receivables management is US$1.3 trillion. Payables discounting and asset-based lending add an additional US$100 billion and $340 billion, respectively. Only a small percentage of companies are currently using SCF techniques, but more than half have plans or are investigating options to improve SCF techniques [Wikipedia]. Some 43% of German companies and 61% of British enterprises are planning to monetise their receivables & payables to provide liquidity within their supply chain [19].

Some of the solutions that could be sold under the banner of SCF with relevance to E-Invoicing include, but are not limited to:
- Asset-based lending, e.g. mortgage, factoring and reverse-factoring
- Receivables management services – Provides third-party outsourcing of receivables management and collections process. It also provides financing of those receivables and guarantees on the payment of those receivables.
- Dynamic payables discounting –Provides third-party outsourcing of the payables process and leverages a buyer's credit quality to obtain favourable financing rates for suppliers.

Suppliers are mainly interested in financing, guaranteed and early payments, whereas the focus on the buyer side is more on working capital / benefit of discounts etc. Providers should address both sides with suitable solutions and they should be appropriate for small businesses. It should also be possible to use it selectively on a case-by-case basis.

One component of SCF is currently gaining much traction and forms an ideal combination with E-Invoicing. It is therefore described in the following chapter.

7.4.4   Dynamic discounting

Dynamic discounting is a process which allows buyers and sellers of commercial goods and services to dynamically change the payment terms – such as net 30 – to accelerated payment based on a sliding discount scale. Dynamic payables discounting is "dynamic" in one or more ways. Dynamic discounting is also known as dynamic discount management, early payment discounting, or payables discounting.

It encourages suppliers to opt in for early payments. Dynamic discounting allows buyers and sellers to dynamically change the payment terms to accelerated payment based on a sliding discount scale. The buyer allocates a "pool" of liquidity, determines liquidity limits, and establishes the interest rate for early payments. Once invoices are approved, the suppliers are automatically informed about new early-payment options. Through the portal, suppliers are able to view their approved invoices and trigger payments prior to the nominal due date, accepting the corresponding discounts.

The dynamic discounting functionality may be directly implemented as a Plug-In in the ERP or accounting application of suppliers and buyers. Another smart way is a "Pay me early button" on the buyer's E-Invoice portal (in case of direct exchange) or on the portal of the E-Invoicing network operator.

7.5   Collaboration model for Trade Finance Services and E-Invoicing operators

There is no doubt that Trade Finance / SCF will become increasingly important during economically challenging times. Considering a survey by Demica [19], top banks expect annual SCF growth rates of between 20% and 30% in 2015. This could slow down towards the end of the decade but is still estimated to be more than 10% by 2020.

E-Invoicing has the potential to become a catalyst for a strong growth of SCF. The author expects that the way to enrol successful and scalable SCF solutions is to fully embed it into a single E-Invoicing platform that can then handle all information exchanged between companies and financial institutions electronically. Payment Service Providers (banks or non-banks) could collaborate in a complementary manner with technology companies operating E-Invoicing network platforms.

Figure 57: Complementary collaboration model

Role	Description & comments
Funder	Funders might be financial institutions, investment funds, private equity companies or the buyer himself. A funder establishes the rating criteria against which it elects to provide its funding capital. Funders commit to the pool and can participate in more than one pool, based on their current risk appetite. Flexible and auction-like models with coverage for international trading partners are in demand.
Open SCF Network	This might not yet exist today. Banks often operate their proprietary platforms. Customers dislike to be "captured" within a proprietary solution without a guarantee of competitive prices. Some non-bank provider platforms are slightly more open. The suggestion is a provider-neutral and open platform with price competition and multiple funders.
Payment Service Provider	May be a bank or not. He pools the various funder products and ensures communication between the SCF network and one or several E-Invoicing network operators.
E-Invoicing network operator	Millions of organisations are already using E-Invoicing operator networks. They are familiar with a variety of technology and process requirements of their customers of any size located in any country. As long it is not a commodity business, this is a key success factor of technology companies as service provider. Banks may also be the E-Invoicing network operator, but are most successful if a country has the maturity to be served with standardised commodity business products. What the Financial Service provider community definitely has as an advantage is the capability to offer SCF, and this is in increased demand on the market. As long as a bank is itself an E-Invoicing operator, it might have the potential to address up to 35% of their own user community only. If it shifts the focus and is instead a provider for SCF, it might address almost all E-Invoice users via partners, which act as resellers for them.

Role	Description & comments
Open E-Invoice exchange network	An increasing number of operators connect each other's platforms to exchange electronic invoices and other related messages cross-platform.

7.6 The E-Invoicing Opportunity

E-Invoicing and process automation might be THE answer for today's challenges in the market. It is the enabler to significantly cut costs, to improve working capital and to increase the elasticity of costs.

The time is right for taking the next step now!

8. Featured Sponsors

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Tungsten built on the OB10 network

Remarks regarding next chapters

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8.1   Anachron

Headquarters:

Anachron
Joop Geesinkweg 310
1141AB Amsterdam
Netherlands

Countries with highest E-Invoicing revenues	EU & US
VAT compliant E-Invoice processing guaranteed for	Worldwide coverage and experience, including: EU, US, Canada, Australia
Number of employees dedicated to E-Invoicing and directly related offering	45+
Active users on E-Invoicing platform	Suppliers: 500+ Buyers: 10 million+ Consumers: 12,5 million+
Core offering	Order-to-Cash SaaS (Software as a Service) solutions: - Corporate branded and customizable web portals for secure online document presentment and online payments - InvoicePortal: Generic web portal for SME+ with credit management add-on - Online Payments, Print & Mail, Online Archiving, VAT Signatures, Credit Management
Covered processes/messages along the supply chain	Anachron facilitates in optimizing and digitalising the complete order-to-cash processes, including document presentment, delivery, online payments and credit management.
Value-added services	Hybrid Print & Mail, B2B Networks, Online payments, VAT Compliancy
Main target market segments	- International large and SME companies - Experience in all industries B2B and B2C
Supported languages (with application/service and the online-help/customer support)	English, French, German, Dutch, Italian, Spanish, Lithuanian and other languages can be made available
Competitive differentiator	Highly experienced in delivering financial IT solutions for SME, large and Fortune500 companies

ANACHRON: *Leading provider of e-Invoicing and Order-to-Cash solutions*

Anachron

Anachron is a leading provider of financial IT solutions, with more than 14 years of experience. We deliver services to companies to optimize the Order-to-Cash process with
Software-as-a-Service solutions for:
- o   Electronic Document Presentment (e.g. orders, contracts)
- o   Electronic Invoicing (Account Receivables)
- o   Online Payments
- o   Online Archiving
- o   Online Credit Management

Working in over 100 countries for SME's, large- and Fortune500 companies, our platform handles multiple languages, currencies, data formats and delivery channels while meeting complex legislation and fiscal requirements.

All solutions include state-of-the-art functionalities that digitalize and optimize business processes, reduce costs, enhance customer service and result in faster customer payments.

Anachron is known for its user-friendly, state of-the-art portal development and attracts the top clients in key markets that have strong brands and a focus on maintaining a fully integrated corporate identity. Therefore the web portals developed by Anachron integrate seamlessly with the existing web portals of our clients. Within the web portal the client of our customer can easily view, download, dispute and pay invoices online. Customers like Tommy Hilfiger, Hertz, GE and PPG have fully outsourced the online document presentment by using the Anachron solutions.

Order-to-Cash

Our key business is a scalable, web-based platform, which handles and processes millions of invoices and administrative documents (such as orders, confirmations, contracts, invoices, insurance policies, pay slips, delivery notes, etc.).

Invoices can be paid online with more than 200 payment methods, and unpaid invoices get the attention they require with the credit management add-on.

Multiple delivery channels

With Anachron's solutions, customers can decide how the want to receive the documents:
- o   Notification e-mail (with paylink)
- o   Web portal (customized or generic)
- o   Buyer-centric networks (e.g. OB10, Basware, B2G)
- o   Buyer's ERP
- o   Print & Mail

Interoperability

Anachron is an active member of the EESPA and supports roaming with e-Invoicing networks such as OB10 and Basware, and governmental platforms for e-Invoicing (Digipoort, PEPPOL).

InvoicePortal

Next to the branded Corporate Solution, Anachron has developed InvoicePortal for SME's. Over a decade of experience is embedded in the platform, resulting in unmatched quality and reliability.

InvoicePortal allows companies to exchange documents via standardized adaptors with ERP systems for sending and receiving documents. Leading ERP systems have developed standard connections for both sending & receiving invoice data via InvoicePortal. Among over 20 others, Oracle, SAP, Exact and MS Dynamics are connected to our platform.

Visit us at www.anachron.com for more information or contact:
Linda van Kampen, International Sales Manager +31 20 531 39 00

8.2   Basware

Headquarters:

Basware Corporation
P.O. Box 97
FI-02601 Espoo
Finland

Countries with highest E-Invoicing revenues	Europe
VAT compliant E-Invoice processing guaranteed for	Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, Colombia, Costa Rica, Cyprus, Czech Republic, Denmark, Ecuador, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, Ireland, Isle of Man, Israel, Italy, Latvia, Liechtenstein Lithuania, Luxemburg, Malta, Mexico, Monaco, Morocco, Netherlands, New Zealand, Norway, Peru, Poland, Portugal, Romania, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, United Kingdom, United States of America, Uruguay
Number of employees dedicated to E-Invoicing and directly related offering	1500 +
Active users on E-Invoicing platform	1 000 000 organizations in Basware Commerce Network with 80 000 active buyers.
Core offering	Services for sending and receiving e-invoices, purchase messages and catalogue exchange. Solutions for invoice automation and procurement.
Covered processes/messages along the supply chain	Purchase-to-Pay and Order-to-Cash, hybrid transaction offering
Value-added services	Supply chain financing, dynamic discounting, archiving, analytics.
Main target market segments	Balanced offering for suppliers and buyers of all sizes
Supported languages (with application/service and the online-help/customer support)	Basware Transactions Service supports all languages. Customer service is available in English, Finnish, Swedish, Norwegian, Danish, Dutch, German and French.
Competitive differentiator	Largest open business commerce network in the world connecting 1 000 000 organizations and over 170 e-invoicing service providers.

Making electronic invoicing easier for all companies

Basware makes your entire invoicing process electronic, from day one. No matter how many invoices you send and receive or what systems and processes your customers and suppliers use – we have a solution for you.

In particular, our service packages for sending and receiving e-invoices are designed to meet even complex business needs. Connecting to our service is easy and usage even easier – you do not have to make any changes to your systems or processes to get started. Basware takes care of invoice validation, format conversions, compliance, monitoring and e-invoice routing.

When it comes to sending e-invoices, there are multiple ways to connect to our service. You can simply print invoices virtually to our service. Alternatively, we can import invoice data direct from your invoicing system or ERP and convert all these invoices into e-invoices and deliver them to your customers.

For those that are unable to receive e-invoices directly to their invoice processing system, we can use e-mail to send a notification that e-invoices can be retrieved from our online portal. Alternatively we can print the invoices if a paper copy is the only way.

This range of options ensures our customers can be completely electronic from day one, even if your customers aren't.

Of course invoices and payments are a two-way street, so for receiving e-invoices Basware offers invoice processing solution packages regardless of company size or invoice volumes. Basware offers a range of services that ensure our customers are 100 per cent electronic from day one.

E-invoices can be received through direct integration with your invoice processing system. Invoices arriving as email attachments can also be converted to e-invoices and received directly into the system. Similarly,

Basware's Scan and Capture service converts all incoming paper invoices into electronic form. This service can be complemented with CloudScan, a downloadable application allowing Basware users to locally scan occasional paper invoices themselves.

For low invoice volume suppliers, Basware offers a variety of solutions to get all suppliers on-board, like Basware Portal or the possibility to send PDF invoices via email – both free for suppliers naturally. Basware's dedicated Activation Service teams allows all such suppliers to be targeted as part of a Supplier Activation program, designed to rapidly on-board suppliers into adopting true e-invoicing practices.

E-invoicing is only one category of business document exchanged within Purchase-to-Pay and Order-to-Cash processes. Purchase messages (like orders) can also benefit from being automated. In addition, the collaborative creation, management and publication of procurement catalogues forms another point of interaction between trading partners that can be facilitated through Basware's service. Basware also offers advanced solutions for e-payments.

Put simply, e-invoicing makes your life easier. It takes you from complex paper-based processes to simple, transparent, low-cost transactions. You can create, send, receive and manage invoices with a fraction of the time and cost of traditional paper-based methods – all with minimal changes to your current processes.

Simply choose the e-invoicing solution that best suits your organisation's size and needs. With Basware's easy-to-use, cost-effective tools combined with the power Basware Commerce Network you'll be able to share e-invoices and other business documents instantly, easily and cost-effectively with over 1,000,000 organizations globally.

8.3   Bottomline Technologies (Bottomline)

EMEA Headquarters:

Bottomline Technologies
115 Chatham Street
Reading
United Kingdom

Countries with highest E-Invoicing revenues	EMEA, US, Australia
VAT compliant E-Invoice processing guaranteed for	Global Coverage including EMEA, US, Canada, Australia, New Zealand and Asia
Number of employees dedicated to E-Invoicing and related offering	20+
Active users on E-Invoicing platform	Suppliers: 10000+ Buyers: 30+
Core offering	E-Invoicing & Payment Hub Supplier and Buyer Portals SaaS (Software as a Service), Hosted or on premise solutions e-Invoicing enabling software for Buyers or Suppliers Financial Messaging and Supply Chain Financing platforms for Banks
Covered processes/messages along the supply chain	Order to Invoice to Payment for Buyers Quote to Order to Cash Collection for Suppliers Bank Payment Obligation solution for Open Account processes linking to the Financial Supply Chain
Value-added services	Paper outsourced processing for Buyer and Suppliers Payment & Direct Debit Solution linked to invoicing
Main target market segments	Public Sector and Local Government Enterprise and mid-sized companies across all verticals, specifically Manufacturing, Retail, Logistics, Services, Distribution
Supported languages (with application/service and the online-help/customer support)	English, French, Dutch, German etc
Competitive differentiator	Bottomline uniquely cover the whole financial supply chain including open account documents, workflows, payments, collections and financial messaging.

Bottomline Technologies

Bottomline Technologies help organisations to modernise their AP and AR systems with a single solution tightly integrated you're ERP. Our solutions are the result of more than 20 years in partnership with leading ERP vendors including Oracle, SAP and Microsoft, offering you a vastly more efficient and transparent AP and AR process that marries the benefits of digital invoice processing and online storage with the power of your ERP.

Break the traditional and costly model of paper-based invoice processing while allowing your Organisation to protect and preserve existing ERP investments. Seamless integration merges the accounts payable process within your ERP system with web-based user interaction and document storage. The result is an unparalleled AP and AR user experience, and a highly agile business process designed to meet an organisation's needs

Information Management Solutions

Bottomline Information Management solutions enable the finance department to efficiently capture, share and communicate information seamlessly across the business.

Capture

Collect incoming information and data and prepare it for integration into your systems and processes. We have experience in helping businesses manage repetitive, document-centric procedures – ranging from scanning invoices for automatic routing, coding and approval to extracting information from emailed surveys, timesheets and expenses.

Share

Link systems processes and people so that the right user accesses the right information at the right time. We help customers simplify and streamline the management and output of information, creating a powerful impact on operational and financial performance for a more agile, successful business.

Communicate

Gain complete control of the data, presentation and delivery method of the communications (invoices, remittance advices, statements, sales orders) you produce, enabling you to design and produce content-rich, dynamic documents that promote and maintain your brand. Customers can then maintain a consistent, responsive presence across a multitude of communication channels. This increases the speed of response and allows tracking of sent communications.

Website: www.bottomline.co.uk
Contact: +44 (0) 870 081 8250 or email: emea-info@bottomline.com

8.4   crossinx

Headquarters:

crossinx GmbH
Hanauer Landstrasse 291a
60314 Frankfurt
Germany

Countries with highest E-Invoicing revenues	Germany, Switzerland, Austria
VAT compliant E-Invoice processing guaranteed for	More than 50 countries worldwide, including all European countries, Turkey and Latin America.
Number of employees dedicated to E-Invoicing and directly related offering	40
Active users on E-Invoicing platform	Suppliers: 4000 Buyers: 4500 Consumers: 0
Core offering	Cloud-based services for the Financial Supply Chain.
Covered processes/messages along the supply chain	Invoices, orders, order response, dispatch advices…
Value-added services	Workflow, EDI, Scanning/OCR, Printing, Mobile Payment, Online Factoring.
Main target market segments	Large suppliers and buyers in any industry Specific offering for mid-sized organizations
Supported languages (with application/service and the online-help/customer support)	German, English, Spanish, French, Russian, Romanian, Persian, Pashtun
Competitive differentiator	The proximity to its customers and the combination of latest technology, a team with impressive e-invoicing experience and a clear vision for comprehensive document management make crossinx to be the partner of choice for the sustainable optimization of the financial supply chain.

Cloud-based services for electronic invoices and document-based business processes

company profile

crossinx is a leading provider of cloud-based services for the financial supply chain.

Flexible and scalable solutions for e-invoicing, Workflow, EDI, scanning/OCR, printing and online factoring frame a comprehensive portfolio of services for the worldwide electronic exchange of invoices, orders and shipping documents. Crossinx entirely manages all document-based financial business processes between companies, their customers and suppliers.

Financial Supply Chain Services

x.invoicing   x.pdf collector   x.edi   x.workflow

x.scanning   x.printing   x.factoring   x.payment

turnkey solutions for the cloud-based financial supply chain

Built on the latest technology crossinx' services and solutions meet the needs of multi-national major corporations as well as of small and mid-sized companies.

This platform fits smoothly into an existing IT-infrastructure and can be adapted very easily in order to meet specific requirements of the respective companies and business partners.

Based on a complete and comprehensive services portfolio, crossinx covers all aspects for a successful short-term entry into the cloud-based document exchange.

Focused on the e-invoicing-market and committed to work with associations in Germany and Europe

crossinx was founded by Marcus Laube, today's Managing Director, as a service provider company for e-invoicing solutions –

actually one of the pioneers in the market for cloud-based financial supply chain management in Germany and Europe. He's a founding member of "FeRD" (Forum elektronische Rechnungen Deutschland) as well as a founding member and deputy of the Board of Directors of "VeR" (association of electronic invoicing in Germany). As a member of the e-invoicing expert group of the European Commission and Director of the European Association "EESPA" Marcus Laube is focused on the market development beyond the borders of Germany.

Private cloud in the heart of Rhein-Main-area

Headquartered in Frankfurt/Main, crossinx has further locations in Spain, Switzerland and Moldova. The two datacenters are located in the heart of the Rhein-Main-area: this is not only a geographical advantage for many customers, the two mirrored datacenters also guarantee a highest degree of system reliability and data security due to a consistent and permanent back-up of the data.

- it's **easy**
  - with just one link to the crossinx network you are able to exchange documents with all your business partners.
  - you don't need to change your current IT infrastructure
  - only pay for services you're really using
- it's **borderless**
  - tailored around your specific needs: just use one of our solutions or use the entire range of services
  - we process all business documents
  - we offer solutions for all company sizes
- it's **safe**
  - mirrored datacenters guarantee a high degree of system reliability and data security
  - tax compliance in nearly 50 countries all over the world
  - future-proof by independence of ERP- and ECM-systems

Website: www.crossinx.com
Contact: Wolfgang Stier, phone: +49 69 4800651-0, email: wolfgang.stier@crossinx.com

8.5   Datamolino

Headquarters:

Datamolino s.r.o.
Zochova 6-8
Bratislava
Slovak Republic

Stage of company development	Start-up accelerated by Wayra (Telefonica Group acceleration program); raised EUR 500,000 in a seed round in February 2014.
Countries of operation	As of May 2014: Czech Republic, Slovakia. By end of 2014: USA, UK, Germany, Poland, Austria.
Number of employees	25
Stage of product development	Private beta testing of product with selected customers until May 2014. Commercial operation to commence in May 2014.
Core offering	SaaS (Software as a Service) that turns invoices and receipts into structured electronic files and a searchable online archive.
Covered processes/messages along the supply chain	Customers may receive and process invoices and cash receipts without manual data entry. A cloud-based archive allows sharing and managing accounting documents within an organization.
Value-added services	Data extraction and data structuring, ability to connect to existing accounting systems.
Main target market segments	Web application available primarily for the SME segment. Enterprise solution available for integration into any accounting or ERP solution via API.
Supported languages (with application/service and the online-help/customer support)	English, German, Czech, Slovak, and other languages available upon request.
Competitive differentiator	Electronic data extraction and receipt processing with no setup costs.

Datamolino – Electronic invoice data extraction for SMEs

Datamolino is a SaaS platform capable of electronic data extraction from invoices and receipts, which eliminates the need for manual data entry by SMEs and their accountants.

Easy e-invoicing
SMEs can activate their Datamolino account online at www.datamolino.com. Users, and their suppliers simply send invoices via email, PDF or scanned attachment, directly to your Datamolino inbox. The data is extracted, then easily utilised and managed in digital format by accounting professionals and ERP software systems.

Receipt Processing
Datamolino is designed to also process receipts from suppliers. The solution is able to electronically manage the complete life cycle of all SME transactions.

Data extraction
Data is extracted using our OCR (Optical Character Recognition) technology and stored in your Datamolino cloud based archive. We also offer a human verification service for an added layer of accuracy, to ensure your data is as close to 100% as possible.

Integration
Invoice data is easily imported from Datamolino into your ERP or accounting software. We support common XML and CSV formats used by standard ERP and accounting systems. Datamolino is being integrated with popular cloud accounting solutions like QuickBooks, Sage One, Freshbooks, Xero, and Freeagent. Datamolino can also be easily integrated with ERP systems such as MS Dynamics or SAP.

Secure cloud based archive
Each document sent to Datamolino becomes part of your electronic archive, and is guarded by 128-bit SSL security. Datamolino serves as an online storage, and document management system for all your invoices and receipts.

Share
Invoices can be easily shared internally to optimize the invoice approval process. User permissions can be set to ensure confidentiality, and to manage collaboration on individual files. Files are easily shared with your accountant to manage business transactions and manage auditing processes.

Savings
With Datamolino, there are no hidden fees or costs, just a simple pay as you go service. Users only pay for services that they actually use. The solution doesn't require any investment in expensive IT professionals, hardware or software.

Designed for SMEs
Datamolino is enterprise quality software especially tailored to SMEs, and geared for a seamless entry into existing workflow systems. Datamolino provides for electronic data extraction, invoice and receipt processing, with dedicated cloud based archiving and document management.

Website: www.datamolino.com
Contact: Mr Jan Korecky, Director, Product Management
Phone : +421 917 490 871
e-mail : jan@datamolino.com

8.6   eFinans

Headquarters:

eFinans Elektronik Ticaret ve
Bilisim Hizmetleri A.Ş.
Mecidiyekoy Mah. Büyükdere Cad. 85 Stad-
han Kat:1 Şisli, Istanbul Turkey

Countries with highest E-Invoicing revenues	Turkey. eFinans has started relations with service providers of other countries to offer services in cross-border trade invoices
VAT compliant E-Invoice processing guaranteed for	Turkey
Number of employees dedicated to E-Invoicing and directly related offering	25 sales and operations, 100 programmers 1500+ representative agents employed by main shareholders at 675 contact points
Active users on E-Invoicing platform	2014 targets %35 market share
Core offering	E-Invoicing; Network Service, SaaS, Licensed Software, consolidator service to banks
Covered processes/messages along the supply chain	Full Supply Chain Order-Invoice-Payment and Electronic reporting to authorities (customs, tax administration etc.)
Value-added services	Local Trade Finance, Cross border awaiting legislation; Hybrid Services (electronic and paper processing); E-invoicing (Network Service); E-ledger (Network Service + SaaS + Software); E-archive (Network Service + SaaS)
Main target market segments	Mandatory and voluntary Turkish e-invoice users, Large suppliers or buyers in all industries, Balanced offering for suppliers and buyers in mid-sized organizations
Supported languages (with application/service and the online-help/customer support)	Turkish (call center, e-mail, teleconference, other) ; English IT support (e-mail, teleconference
Competitive differentiator	The only financing facility for Turkish e-invoices, full account integration to platform member banks, single sign-in and single data upload solution for e-invoice and invoice based banking products

eFinans

eFinans entered into service on the date of 10/09/2013 with license permit of the Presidency of Revenue Administration. The main shareholders of the company are; Finansbank AS that owns 51% and Sibertek Danismanlik Egitim ve Yatırım AS (Cybersoft) that owns 49% of the shares. Finansbank needs no further introduction to international finance markets as a bank with global trade ties. Cybersoft is the leading technology and software company providing for high and turn key projects for the public and private sector. One of the biggest project is the VEDOP. VEDOP, whose foundation was laid in 1995 with the name of Tax Offices Automation Project, has become a vast informatics system in which all financial information of our country is managed as consolidated by means of superior information technologies as a result of 3 main phases completed. eFinans has been set up solely for services to be provided in junction with the new e-government projects and to amalgamate these projects into banking.

The company has been set up for the sole purpose of serving taxpayers in PRA's e-government applications while building value-added services and facilitating full integration into banking tools. eFinans provides online solutions to its customers for banking services at e-Trade portal and e-Invoice integration, e-Invoice private service provision, e-Invoice archiving, e-Ledger application, e-Archive. It plans to add e-Dispatch Note and similar services to its portfolio within the scope of new applications to be brought by the Turkish PRA. eFinans clients can process all their e-invoice transactions via the company's secure and fast portal. With e-Finans's and the PRA's sound infrastructure e-invoices in Turkey are delivered and receipt tracers are received in under a minute. System also includes approval and rejections thus translating into legal proofs on e-invoices.

Opportunity: Financing

In a competitive environment of non-bank and bank-internal e-invoice providers in Turkey, eFinans enjoys a prestigious place as the first and the only service provider with the ability to offer e-invoice financing. eFinans currently offers e-invoice discounting and collateralization of e-invoice for various loan types. eFinans clients can integrate their e-invoice flow into banking via eFinans portal itself, eFinans mobile applications and its sister system Finans Yıldızı (Finance Star) that integrates directly Finansbank's banking system.

eFinans system has been set-up to cater scalable and fast solutions that can be quickly integrated with any core banking software. The system is open to development to cater financial institutions' needs. Several other Turkish financial institutions are also preparing their own interfaces to integrate their products with eFinans.

eFinans thus offers its clients single trade hub that can automate end-to-end trade flow. Full integration into 31 current ERPs and several more in the making assist clients in fully automating collections, payments, cash flow and financing.

E-Archive – A must for high volumes and retail sector

E-Archive is the general name for applications constituted by PRA in order to provide archive for all invoicing whether it be electronic or paper-based. According to the current regulation, e-commerce companies must use this system as of 01/01/2015. Voluntary use of system for other companies not mandated for use, requires use of e-invoice system. It is expected that the regulation will be a great incentive for companies operating in retail and hence extend e-invoice usage to higher percentages in 2015.

Website: www.efinans.com.tr
Contact: Okan Murat Donmez, +90(212)3724200, info@efinans.com.tr

8.7   Esker

Headquarters :

Esker
10 rue des Emeraudes
69006 Lyon
France

Countries with highest e-invoicing revenues	France, Spain, USA
VAT compliant e-invoice processing guaranteed for	More than 43 countries in Europe, America, Africa and Asia Pacific
Number of employees dedicated to e-invoicing and directly related offering	300
Active users on e-invoicing platform	Suppliers: 550 Buyers: 40,000 Consumers: 27,000
Core offering	Document process automation SaaS (software as a service)
Covered processes/messages along the supply chain	Accounts Receivable automation (paper and e-invoices) Accounts Payable automation Purchasing automation Order Processing automation
Value-added services	Sending and archiving of both paper and e-invoices; hybrid mail services; online tracking of customer invoices in real time
Main target market segments	Large and SMBs in any industry
Supported languages (with application/ service and online-help/customer support)	English, French, German, Italian, Spanish
Competitive differentiator	One on-demand platform to automate e-invoices, as well as the entire order-to-cash and procure-to-pay cycles.

Esker's Accounts Receivable automation solution — the first SaaS solution to offer 100% automation of customer invoice delivery.

Esker is a global leader in document process automation solutions, helping organisations Quit Paper™ and improve how business information is processed and exchanged via one unified and integrated automation platform.

Esker's single platform can automate and capture any inbound document (sales orders, confirmations, vendor invoices), deliver any outbound document (customer invoices, purchase orders, receipt acknowledgements), and integrate with any ERP application. A pioneer in cloud computing, Esker is one of the first software vendors capable of offering a 100% on-demand automation solution to its customers, based on patented Esker on Demand technology.

Esker completely automates the sending and archiving of invoices according to customer preferences and regardless of media type — postal mail, fax, email, EDI and/or publication on a web portal. Companies of any size can immediately implement e-invoicing while allowing customers to adapt at their own pace.

E-invoicing

E-invoices are processed in compliance with all international regulations (e.g., e-signatures, EDI, sales order matching, tracking and reporting capabilities for business controls audit trails, e-archiving, etc.). In partnership with TrustWeaver, Esker applies appropriate e-signatures, time stamps and verifications to ensure regulatory compliance in over 40 countries. The integrity and authenticity of each invoice is ensured during transmission and archiving.

Paper invoice delivery

With Esker Mail Services, part of Esker's Accounts Receivable solution, paper invoices are electronically and securely submitted directly from any application to one of Esker's seven worldwide mail production facilities where they are printed, folded, stuffed into envelopes and handed-off to the local postal services within 24 hours of creation. Customers benefit from least-cost routing via the facility nearest to the recipient and a significant reduction in mail delivery time.

E-invoicing customer success story

After implementing Esker's Accounts Receivable solution to automate e-invoice delivery, Arkadin reduced invoice processing time by one-third (from six to two days), and significantly improved productivity and DSO. Additional benefits included: improved invoice tracking and sending guarantees, as well as regulatory tax compliance for e-invoicing in over 40 countries. Today, 27 Arkadin subsidiaries (in Europe, North America, Asia Pacific and Africa) use Esker to send more than 23,000 monthly invoices — amounting to over 113,000 pages.

E-invoicing and accounts payable automation

The Esker portfolio also includes accounts payable automation, delivering end-to-end invoice automation. Incoming paper or electronic vendor invoices are entered into an automated workflow for approval upon receipt. Once approved, the invoice is integrated with any ERP application, archived electronically on a web portal, indexed and available 24/7 from anywhere, for as long as necessary.

Optimised order-to-cash cycle

Together, Esker's Accounts Receivable and Esker's Order Processing solutions deliver the perfect order-to-cash automation solution for businesses. From the reception of customer orders to the sending of customer invoices and their archiving, Esker automates the full order-to-cash cycle, helping companies increase productivity throughout the cycle.

For more information, visit www.esker.com/einvoicing

8.8   Fundtech

Headquarters

Fundtech Corporation
30 Montgomery Street,
Suite 501, Jersey City,
NJ 07302, USA

Countries with highest E-Invoicing revenues	UK & Ireland, Italy, Germany, Belgium, Netherlands, Spain, France and Demark.
VAT compliant E-Invoice processing guaranteed for	Global capacity, experience and coverage including; Australia, Baltics, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, UK, Canada, South Africa, Australia, New Zealand and APAC.
Number of employees dedicated to E-Invoicing and directly related offering	95
Active users on e-invoicing platform	Connected live corporate: Around 800,000
Core offering	Consolidator Service and SAAS (Software as a service), Signature Service
Covered processes/messages along the supply chain	Full Supply Chain Order-Invoice-Payment and Electronic reporting to authorities (customs, tax administration etc.)
Value-added services	Trade Finance, Hybrid Services (electronic and paper processing), Payment capabilities, Integration with third party systems for Enrichment, Approval Workflow.
Main target market segments	Large suppliers and buyers in any industry and the public sector. Balanced offering for suppliers and buyers in mid-sized organizations and SMEs.
Supported languages (with application/service and the online-help/customer support)	Czech, Danish, Dutch, English, Finnish, French, French/Swiss, German/ Austrian, German/Swiss, Greek, Hungarian, Icelandic, Italian, Italian/Swiss, Latvian, Lithuanian, Norwegian, Polish, Portuguese, Romanian, Russian, Slovakian, Slovenian, Spanish and Swedish.
Competitive differentiator	Multiple connection methods for the submission of data, zero cost for counterparties.

FUNDTECH

Fundtech's solutions enable global corporations to manage and process payments, transfer funds, connect to clearing systems, and manage liquidity and risk in an automated, cost-effective way without compromises to security or reliability.

For small- and medium-sized enterprises, Fundtech's integrated and automated solutions provide SME owners with a 'one-stopshop' for payments activities, including e-invoicing, payables and receivables automation, integrated payments, mobile payments, remote deposit, and more.

Fundtech solutions support online, mobile and integrated channels as well as all types of payments – faster payments, direct credit, direct debit, ACH and Bacs. Our solutions help firms simplify and automate systems, increase straight-through processing, improve security, reduce risk and ultimately improve customer service. Fundtech, solutions to support the entire financial supply chain.

Visit fundtech.com to learn more.

About Fundtech

Fundtech offers a comprehensive line of transaction banking solutions to banks and corporations of all sizes around the world. As a strategic supplier, Fundtech's customers benefit from lower operating costs and an enhanced end-user experience through integrated and feature-rich solutions. The firm's major product lines include: global and regional payments, corporate cash and liquidity management, financial messaging, electronic invoice presentment, supply chain financing, remote deposit capture, merchant services, credit card gateway and mobile banking products. Fundtech offers its software through a traditional software license and a Software-as-a-Service (SaaS) contract.

Thousands of financial institutions and companies worldwide rely on Fundtech's innovation to improve operational efficiency, increase revenues, and provide greater competitiveness through business-to-business services. Founded in 1993, Fundtech was acquired in 2011 by GTCR,.a Chicago-based private equity firm. For more information please visit fundtech.com
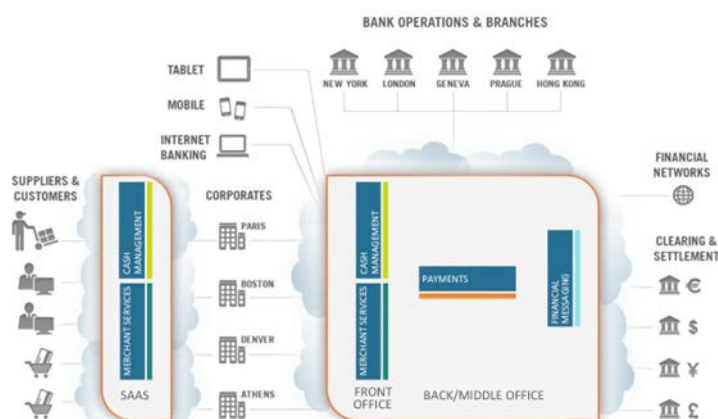
Website: www.fundtech.com

8.9   InExchange

Headquarters:

InExchange
Box 133, SE-541 23
Skövde
Sweden

Countries with highest E-Invoicing revenues	Sweden, Denmark, Norway, Finland, Germany, Netherlands, Belgium, France, Iceland, Lithuania, Latvia, Estonia, Spain, Portugal
Number of employees dedicated to E-Invoicing and directly related offering	60
Active users on E-Invoicing platform	100 000+ Mainly B2B
Core offering	SaaS, B2B
Covered processes/messages along the supply chain	Complete range of services – Order to Cash
Value-added services	Dynamic Discounting, Reminder and Debt Collection, BI & Analysis, Printing.
Main target market segments	All market segments, from the smallest company to the largest organization
Supported languages (with application/service and the online-help/customer support)	English, Swedish, Danish, Finnish, Norwegian, Icelandic
Competitive differentiator	Connect once – Reach all.

InExchange

Doing business in the Nordics?
By connecting to InExchange, you get access to the largest network of companies in the Nordics. 100 000 organizations ranging from the smallest to the largest. Private enterprise, as well as municipalities and the public sector are connected. But don't take our word for it.
Provide us with your supplier/customer list and we will give you an exact match. Cost?
It´s on the house.

Connect once reach all
Interoperability is a crucial part of InExchange Network. Our goal has always been to make it possible for any business, regardless of size or technical know-how, to be able to handle, send and receive e-invoices. We make sure that everyone can reach all of their customers – regardless of what network they are connected to.

Supply Chain management
We don't stop at e-invoices.
We give our users full control over the procurement process, while, at the same time, strengthening buyer supplier relationships.

- Supplier activation
- Customer activation
- Reminder and debt collection services
- Dynamic Discounting

Real time Business intelligence
InExchange Network is not just about sending information – it's about being able to use it in order to improve performance. Since all the information is in the same form and place, we can provide real-time key metrics for instant decision making, whether it's spending analysis or cash flow optimization.
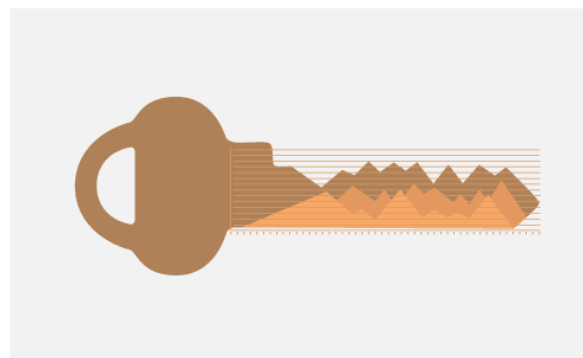
Website: www.inexchange.com
Contact: Thordur Erlingsson, thordur@inexchange.se

8.10   Lindorff Group

Headquarters:

Lindorff Group
PO Box 283 Skøyen
N – 0213 Oslo
Norway

LINDORFF

Countries of operation	Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Netherlands, Norway, Russia, Spain and Sweden
Revenue	500 Meur (2012)
Number of employees	2.750
Number of customers	15.000
Offering	Lindorff offers a comprehensive line of accounts receivables management services for a demanding clientele.
Covered processes	Our string of services covers full receivables management process starting from information services, invoicing, debt collection to the purchase of written off debt.
Main target market segments	Finance, telecommunications, utilities, retail, public sector etc. Servicing all larger creditors with high invoicing volumes
Supported languages	Danish, Estonian, Finnish, German, Latvian, Lithuanian, Dutch, Norwegian, Russian, Spanish, Swedish and English
Competitive differentiator	Complete value chain covered!

Lindorff Group

With roots back to 1898, **Lindorff** is today a full-service European credit management service provider. We offer credit evaluation, invoicing, reminders, debt collection, portfolio management and customer services. Today Lindorff is particularly strong in the financial industry, where we hold the leading position in Europe. Lindorff has approximately 2750 employees in 11 countries. Net revenue in 2012 was €500 million. Lindorff is owned 50% by Altor (Altor Fund 2003 and Altor fund II) and 50% by Investor AB. The headquarters are in Oslo, Norway**.**

Benefits from outsourced invoicing
For most companies, invoicing and sales ledger are business-critical but nevertheless non-core processes. They are processes that usually go unnoticed until something goes wrong or the business environment requires changes. An administrative function very often containing extensive untapped improvement potential that could add value to the top line as well as to the profit margins.

Lindorff offers a flexible, scalable and modern invoicing service that supports growth. We provide a seamless end-to-end solution spanning across the whole receivables management value chain. In addition to the pure receivables management processing, Lindorff offers a range of complementary analytical and financing services to support your marketing and customer service.

With Lindorff Invoice You can:
- Ensure a professional and standardized invoice administration
- Convert fixed cost to variable cost
- Keep your processes up-to-date without additional project and ICT costs

- Enable significant cost savings, increase transparency and predictability in invoicing
- Provide you with an extensive selection of customizable reports
- Have a positive effect on cash flow through enabling a seamless invoicing and receivables process.
- Free up management resources to core processes.
- Help unifying credit and sales ledger management policies across the enterprise.

COST ITEM EXAMPLE, 120,000 invoices	PRICE
Mailing Postage, envelopes, printing, enveloping, paper, submission to delivery	72 000 €
Sales ledger Salary and other expenses of the person managing the ledger	45 000 €
Customer service Telephone calls, e-mails	20 000 €
Archiving in compliance with the Accounting Act System licenses, updates, hardware, other software	3 000 €
Use and maintenance of the system Hardware, software, updates, licenses, services	18 000 €
System updates e-invoicing (own work, IT supplier, licenses)	13 200 €
Administrative costs Supervisory work, holidays, recruitment, partnership management	5 800 €
Monthly charges related to partnership services e-Invoicing 12 months x 250 €	3 000 €
TOTAL	180 000 €

The example above describes typical administrative costs.

Do you know how much does your total invoicing process cost?

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Commercial Director, Global Group Products
Tel: +358 400 219 940
Email: johanna.rantala@lindorff.com   www.lindorff.com

8.11   OpenText | GXS

Headquarters:

OPENTEXT | GXS

OpenText | GXS
9711 Washingtonian Blvd
Gaithersburg, MD 20878
United States of America

Countries with highest E-Invoicing revenues	France, Germany, UK, United States
VAT compliant E-Invoice processing guaranteed for	Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, Ire-land, Israel, Italy, Latvia, Liechtenstein, Lithuania, Luxemburg, Mexico, Morocco, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, South Africa, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States
Number of employees dedicated to E-Invoicing and directly related offering	650
Active users on E-Invoicing platform	Suppliers: 600,000 Buyers: 40,000
Core offering	SaaS e-Invoicing Consolidator Service for Corporates, SMEs and Banks. SaaS Order-to-Pay SWIFT Service Bureau, and Supply Chain Finance.
Covered processes/messages along the supply chain	Full physical/financial supply chain order, invoice through to payment including: forecasting, point-of-sale, customs, logistics, purchase orders, change orders, advance shipping notices, invoices, payments and reconciliation.
Value-added services	Hybrid, B2B networks, VAT compliancy, migrations, delivered globally.
Main target market segments	**Large Enterprises** – simple to complex e-Invoicing scenarios: e.g. Direct Store Delivery, Pay on Scan, Consolidated Invoicing. **Banks**–partner for financial institutions offering e-Invoicing, trade and Supply Chain Finance solutions. **SMEs** – cost-effective solutions for SME's to integrate with trading partners.
Supported languages (with application/service and the online-help/customer support)	Czech, English, French, German, Italian, Spanish, Japanese, Korean, Portuguese, Chinese.
Competitive differentiator	Truly global, with a long established network and range of einvoicing solutions available to suit the smallest to the largest of companies.

OpenText | GXS

GXS (an indirect, wholly owned subsidiary of Open Text Corporation) has provided electronic invoicing solutions globally for 30+ years, originally as an Electronic Data Interchange (EDI) based service, with non-repudiation guaranteed through the Trading Grid® network.

With the growth of Software-as-a-Service (SaaS) solutions, GXS also offers electronic invoicing in the cloud, supporting both direct as well as indirect materials processes.

Our e-Invoicing solutions are tax compliant globally, meeting legislation within the EU, North America, Latin America and Asia Pacific. The e-Invoicing solutions are inclusive of EDI, digital signature and government mandated processes. Today, we provide e-Invoicing services for hundreds of thousands of corporate, SME and banking customers with SaaS and outsourced options to suit each customer's specific e-Invoicing requirements.

GXS offers a 'Managed Service' for Finance, combining SaaS Order-to-Pay, Active Applications with Expert On-Boarding and integration services in the cloud, combining to provide a comprehensive e-Invoicing solution for global companies.

1. **E-Invoicing for Large Enterprises –** We enable companies to exchange electronic invoices via EDI and other preferred methods. Supplier companies create electronic invoices directly from Oracle, SAP or other G/L accounting applications and we extract information from these enterprise systems, converting data into the buyer's preferred electronic invoicing format for straight-through processing to their ERP system. Self billing: you can self-generate invoices based on goods/services received if you prefer.

   Many countries, particularly in Europe, enacted tax legislation to regulate electronic invoicing. We offer digital signature and EDI solutions that shield customers from compliance complexity by providing:

- **Content Validation**
- **Authenticity and Integrity**
- **Electronic Archive**
- **Invoice Image Creation**

2. **E-Invoicing for Banks –** We partner with financial institutions to offer e-Invoicing and Supply Chain Finance solutions, inclusive of the services listed for Large Enterprises. Financial institutions either white-label our SaaS solutions or use us as a 'data aggregator' to provide trade, supply chain finance and e-Invoicing offerings.

3. **Order-to-Pay for Corporates –** Our products and services combine to automate customers' physical and financial information processes, including complex supply chain scenarios.

4. **E-Invoicing for SMEs** – We provide a range of cost-effective connectivity solutions for SMEs to integrate with their trading partners.
   - **Web Connectivity & Web-Based Portals**
   - **Excel-Based Connectivity**
   - **Fax to EDI**
   - **Software and Service Solutions**
   - **A Range of Payment Models**

Visit us at www.gxs.eu, www.gxs.com and www.opentext.com for more information. Also visit www.einvoicingbasics.co.uk for helpful advice on eInvoicing adoption and implementation.

8.12   Pagero

Headquarters:

Pagero AB (publ.)
Box 11006
SE-404 21 Gothenburg
Sweden

Countries with highest E-Invoicing revenues	Sweden, Norway, Finland, Denmark, Germany, UK
VAT compliant E-Invoice processing guaranteed for	Australia, Austria, Belgium, Bulgaria, Canada, Chile, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Morocco, Netherlands, New Zeeland, Norway, Poland, Romania, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, United Kingdom, USA
Number of employees dedicated to E-Invoicing and directly related offering	104
Active users on E-Invoicing platform	Suppliers: 10,000 Buyers: 15,000 Consumers: N/A
Core offering	E-invoice and e-order network service, SaaS (Software as a Service)
Covered processes/messages along the supply chain	Purchase-to-Pay and Order-to-Cash/e-invoice, e-order
Value-added services	Content validation, Content enrichment, E-netting, Multi company support, Digital signature, E-reminders, E-print, PDF invoice via e-mail, E-archive, Extended reports, E-factoring
Main target market segments	Large, medium and small companies and organizations (tier 1, 2 and 3)
Supported languages (with application/service and the online-help/customer support)	English, Swedish, Norwegian, Finnish and Danish
Competitive differentiator	Multi tenant platform with a many-to-many architecture, extensive format library, vast amount of value added services

PAGERO – YOUR FINANCIAL SUPPLY CHAIN NETWORK

Pagero Online

Pagero offers cloud based e-invoice and e-order services. We bring companies together digitally regardless of size, volume, location and ERP/financial/workflow/requisitioning/order system. All services are performed on our platform Pagero Online – a global business network.

Pagero's solutions do not alter the existing business processes. However, they significantly improve them, thanks to reducing unnecessary manual work, leading to greater efficiency and control, improved security, shorter credit periods and reduced environmental impact.

Pagero Online cloud services support the complete P2P (buyer side) and O2C (supplier side) process. All our services are based on our concept **Touchless processes™**, where we analyze data and/or combinations of data to achieve our customers' goal of a process with minimum human involvement.

Reach

Pagero has signed roaming agreements with a large amount of other networks. This allows our customers to communicate with companies using other service providers.

Self Service

It is important that our customers, easily and by themselves, can add new business partners to their network. Pagero Self Service allows users to add new suppliers and buyers without any intervention from Pagero.

Multi Format

Pagero Online is ERP independent. The supplier only sends one format – Pagero Online automatically interprets and converts it to the correct buyer formats. The buyer only receives one format – Pagero Online automatically interprets and converts supplier formats to the correct buyer format.

All data/information that is sent through Pagero Online is interpreted and stored in an internal data format. This method allows a swift and cost efficient way to support a multitude of format conversions. Currently, Pagero Online has a library of close to 100 different formats (XML/EDIFACT). All users in Pagero Online can benefit from this extensive library.

Security and Integrity

All handling of data traffic is based on high security and data integrity levels to avoid unauthorized disclosure of sensitive information.

Pagero is built to provide the same security level as bank systems and all data is encrypted. Access to Pagero Online requires authentication for all users. The authentication mechanism used is username and password. Passwords are subject to complexity and aging rules. For customers with stronger authentication needs, Pagero offers authentication using soft digital certificates.

Website: www.pagero.com
Contact: Jonas Edlund, Vice President Marketing & Alliances, jonas.edlund@pagero.com

8.13 PostFinance Ltd.

Headquarters:

PostFinance Ltd.
Mingerstrasse 20
CH-3030 Bern
Switzerland

Countries with highest E-Invoicing revenues	Switzerland
VAT compliant E-Invoice processing guaranteed for	Switzerland
Number of employees dedicated to E-Invoicing and directly related offering	21
Active users on E-Invoicing platform	Suppliers: Information not published Buyers: Information not published Consumers: More than 1.1 million consumers (incl. consumers on partner platform)
Core offering	Consolidated network and signature service
Covered processes/messages along the supply chain	Ordering, billing/crediting, payment, archiving
Main target market segments	Suppliers/recipients of all industries, independently of size
Supported languages (with application/service and the online-help/customer support)	English, German, French, Italian
Competitive differentiator	E-Bill and E-Banking solution

POSTFINANCE – THE RIGHT E-BILLING PROVIDER

PostFinance is the right E-billing provider for SMB as well as for large companies. Electronic exchange of bills reduces the administrative expenses, lowers costs and offers billers and payers only benefits.

At 2.69 million customers, PostFinance is now the fourth-largest financial institution in Switzerland. A pioneer in the E-billing area, PostFinance is able to look back onto ten years of experience and offers its business customers a number of solutions for debtor/creditor management.

PostFinance is the exclusive E-Government E-billing provider of the Swiss Confederation. Large companies like SBB or Post, as well as small operations may use the numerous benefits of E-billing due to the intense cooperation of PostFinance with software providers and other solutions

The first EBPP product in 2001

The original B2C solution was introduced after a pilot test at the end of 2001. In 2005, Post-Finance expanded the service to ensure VAT-compatibility. The path for B2B processes was prepared.

Solutions can be combined

The E-billing solution by PostFinance is an industry-independent comprehensive platform that can be used no matter the size of a company. Private persons or small companies may use the system as part of their online banking for making payments. For larger companies, we offer fully integrated solutions.

Core services of E-invoicing by PostFinance:

- Conversion of data into the format desired by the recipient
- Data processing in compliance with the law
- Generation, auditing and logging of the digital signature
- Data transfer

Price information, customer lists and technical interface documentation are available at www.postfinance.ch/e-bill only.

Benefits of E-billing for B2B	
For billers	**For payers**
Reduced payment periods and faster payment receipt	No manual recording of invoice contents
High data quality (no ESR-research)	All bills are available at all times
Increasing customer demands are met and customer loyalty is increased	Automation of bill processing
Reduction of paper archives	Payments through established processes
Simple traceability of actions	Simple traceability of actions
Reduction of print, postage and process costs	Cost savings of up to 12 Euro per bill

Website: www.postfinance.ch
Contact us: Phone +41 848 848 848 or Email e-rechnung@postfinance.ch

8.14 ReadSoft

Headquarters:

READSOFT®

ReadSoft AB
Södra Kyrkogatan 4
SE-252 23 Helsingborg
Sweden

Countries with operations	Australia, Benelux, Brazil, Chile, Denmark, France, Finland, Germany, Malaysia, Norway, Poland, Spain, South Africa, Sweden, Switzerland, United Kingdom, United States (with 350+ partners in 70 countries)
Number of employees dedicated to E-Invoicing and directly related offering	600+
Number of customers	12,000
Core offering	Accounts payable automation, E-invoicing (onboarding tool included), Invoice capture, Workflow automation, ERP matching.
Covered processes/messages along the supply chain	Financial (AP and AR), Procurement, Electronic business.
Value-added services	Hybrid services (cloud and/or on-premise), mobile-enabled, onboarding, self-service supplier portal, analytics, exception management, dynamic discounting, web-based EDI for supplier, article/catalogue exchange.
Main target market segments	B2B
Supported languages (with application/service and the online-help/customer support)	English, German, French, Spanish, Swedish, Danish, Norwegian, Finnish.
Competitive differentiator	Out-of-the-box offering (with an agile and responsive team you'd love to work with!)

ReadSoft

Send and receive invoices the way you prefer
With ReadSoft, you give freedom to your suppliers to send e-invoices the way they prefer. Your suppliers can send the invoice in one format, but you as a recipient will always receive it in the format you require. ReadSoft converts your invoices to the right format and applies your business rules. This secures that you always receive the correct invoice content. In fact, the invoice will be automatically rejected back to the supplier if anything is incorrect. Your invoice is also archived where the original invoice is stored.

Sending e-invoices (options for suppliers)
- *Standard integration and formats:* This is recommended to suppliers with an ERP or billing system that can produce a standard e-invoicing or EDI format. This is the most automated way to send e-invoices from a supplier perspective, and it is also easy to set up.
- *Virtual printer:* This is recommended to suppliers with a billing system that cannot produce a standard e-invoicing or EDI format. It is Microsoft Windows-based and easy to install, just like an ordinary print driver.
- *Send from the web interface:* This option allows the supplier to log onto ReadSoft and key in the invoice data manually.

Constantly expanding interoperability
ReadSoft is constantly working on expanding our interoperability network. We are active in both local and international initiatives and associations such as EESPA (European E-invoicing Service Providers Association), EMSF (European Multi Stakeholder Forum), and PEPPOL (Pan-European Public Procurement Online).

Intuitive out-of-the-box onboarding tool
Only ReadSoft's user-friendly supplier onboarding tool allows you to onboard suppliers in a few easy steps that you can do on your own. The intuitive tool empowers you to monitor and maximize your ROI by effectively getting all of your suppliers, large and small, to start sending you electronic invoices. This tool is included in our e-invoicing solution.

With ReadSoft's onboarding tool, you can:
- Perform your own onboarding activities (or let ReadSoft help you)
- Stay up-to-date with your onboarding activities
- Send invites and reminders to your suppliers using ready-to-use email templates
- Monitor potential savings and ROI in real time.

Onboarding programs aligned to your e-invoicing goals
While some of our customers prefer to use the tool to perform onboarding on their own, ReadSoft also offers a range of supplier onboarding programs to complement or support those without internal onboarding resource. Our programs are geared to increase e-invoicing at the level you desire, meeting your specific onboarding goals efficiently and effectively.

In the words of our customers - Axfood
 "We chose a solution that works the best, regardless if the supplier sends one or a thousand invoices per year to us," says Ingmar Jeppsson of Axfood, one of the largest food retailers in Scandinavia listed on the stock market.

Website: www.readsoft.com Email: info@readsoft.com Twitter: @readsoft
Talk e-invoicing with Patrik Fältman, Patrik.Faltman@readsoft.com, +46 70 837 66 34

8.15   Ricoh

European Headquarters:

Ricoh Europe PLC
20 Triton Street
London
NW1 3BF
United Kingdom

Countries with highest E-Invoicing revenues	UK, Netherlands, France, Spain, Germany. Ricoh has operations in 200 countries world-wide and can reach 95% of the Fortune Global 500 companies' employees.
VAT compliant E-Invoice processing guaranteed for	AUS, AUT, BEL, BRA, BGR, CAN, HRV, CYP, CZE, DNK, EST, FIN, FRA, DEU, GRC, HKG, HUN, ISL, IRL, ISR, ITA, JPN, LVA, LIE, LTU, LUX, MLT, MEX, MCO, MAR, NLD, NZL, NOR, POL, PRT, QAT, ROM, SAU, SGP, SVK, SVN, ZAF, ESP, SWE, CHE, UAE, UK, USA.
Number of employees dedicated to E-Invoicing and related offering	270
Active users on E-Invoicing platform	Suppliers: 85000 Buyers: 1000 Consumers: 10 million
Core offering	Ricoh Invoicing Services (formally i-Invoicing) is a fully managed service, allowing organisations to out-source the processing of all paper and electronic AR and AP services to Ricoh whilst enjoying all the benefits of invoicing electronically. Ricoh also offers a self-service electronic invoicing solution designed specifically for small and medium-sized businesses.
Covered processes/messages along the supply chain	End to End Accounts Payables and Accounts Receivables
Value-added services	Hybrid services, Migration process, Other document types
Main target market segments	Large, medium and small companies and the public sector
Supported languages	All local languages
Competitive differentiator	Ricoh Invoicing Services enables companies to gradually migrate both their customers and suppliers from paper to electronic invoicing, in a secure and efficient manner, at a speed that suits their business needs.

Ricoh Invoicing Services– electronic invoicing that suits everybody

Ricoh Invoicing services enables you to reap all the benefits of invoicing electronically whilst your customers/buyers and suppliers can continue to invoice in whichever format best suits them. As a $20 Billion company with worldwide presence, and the only specialist with ISO27001 globally, you can be confident in a robust partnership ready to support your transformation and help you reap the benefits of e-invoicing immediately.

Electronic invoicing at your own pace

Electronic invoicing offers significant cost savings and benefits, but not everybody is ready to send and receive invoices in digital format. Ricoh Invoicing Services offers the ideal solution. We take care of all formats of invoices (EDI, email attachemnts, PDFs faxes, paper etc.), we complete the digital capture and processing, enabling you to receive and send inbound and outbound invoices electronically. So, you can receive all the benefits of invoicing electronically today, and your customers/ buyers and suppliers can continue to invoice in whichever format suits them. We will work with you to migrate your customers/buyers and suppliers to electronic invoicing at their own pace, which works for everybody.

Accounts Payables

As shown above, invoices come in from your suppliers via EDI, email, PDF, fax and on paper. Ricoh will receive these invoices and undertake the extraction of the key data, no matter where on the invoice they appear. We validate the data and then convert it into whatever format your ERP will accept. So regardless of whatever format the invoice is received in, you will receive it electronically straight into your ERP.

Accounts Receivables (AR)

For AR, we operate the reverse process. We take a data feed directly from your ERP system, and depending on your customer/ buyer's preference, we can then either put their invoice into a portal and send them an email link so they can download their invoice (and print it themselves if they require), send the invoice data via EDI, in an email or as a PDF attachment to an email or indeed we can print it and send it in the traditional mail. Ricoh's global network of print centres enables you to have paper invoices printed and mailed in the country where your customer is located, ensuring faster and cheaper delivery. Electronic invoices can also be despatched with e-signatures to ensure they meet all regulatory requirements.

Information security – ISO27001

Ricoh holds a single, global certificate for ISO27001 in all spheres of operations. All invoices are stored in our digital archive, which meets the toughest information security standards as well as the needs of local legislation with regards storage. We also have in-built disaster recovery as standard enabling Ricoh to offer robust data protection as part of our i-Invoicing solution.

Electronic Invoicing for SME's

Ricoh also offers an electronic invoicing solution designed specifically for small and medium-sized businesses. The self-service system enables organisations to meet an increasing shift in customer demand for electronic invoices whilst being completely customisable, allowing organisations to retain their current branding and apply templates in a dynamic, flexible electronic format.

For more information and to get in touch, visit us at www.ricoh-europe.com/i-invoicing

8.16　Signature South Consulting

Headquarters:

Signature Corp S.A.
Av. Vitacura 2808, piso 4.
Santiago
Chile

Countries with highest E-Invoicing revenues	Latin America
VAT compliant E-Invoice processing guaranteed for	Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, México, Peru, Uruguay
Number of employees dedicated to E-Invoicing and directly related offering	100+
Active users on E-Invoicing platform	Companies:　3,000+ E-Invoices:　1,500,000+ per day
Core offering	E-Invoicing solution Full web e-invoicing software SaaS (Software as a Service)
Covered processes/messages along the supply chain	Full Supply Chain Order-Invoice-Payment and Electronic reporting to authorities.
Value-added services	Gosocket, a b2B2b free electronic invoicing network that connect small suppliers/buyers with their buyers/suppliers.
Main target market segments	Large, medium and small suppliers in any industry around Latin America.
Supported languages (with application/service and the online-help/customer support)	English, Spanish, Portuguese.
Competitive differentiator	The only company with local expertise that provide electronic invoicing solutions around Latin America since the beginning of the electronic invoicing regulation in this region in 2003.

SIGNATURE SOUTH CONSULTING

When you think in electronic invoicing for Latin America, the region with the most complex electronic invoicing models of the planet, there is only one company with the experience, knowledge, and the local expertise.

Founded in 2001 and headquartered in Chile, Signature South Consulting is the leader in the Electronic Invoicing industry in Latin America.

After establishing the Signature brand, the company quickly became the most well-respected solution provider, by focusing on creating a well-designed, friendly user and highly reliable e-invoicing solution, Signature South Consulting has maintained an unparalleled reputation for quality since its inception, with a sustained growth of over 120% per year, and more than 3.000 customers are already using it´s solution over the region. Also more than 1,500,000 documents issued and received daily with our electronic invoicing solutions.

Signature South Consulting operates a regional network of subsidiaries in Chile, México, Brazil, Argentina, Costa Rica, Colombia, Peru, Ecuador, Uruguay and seeks to expand its network to include other Latin-American countries, and reach the market through a vast, wide and selective regional distribution network (multiple countries) that adds value for each project at the implementation level making our model very attractive to corporate accounts and multinational companies.

Gosocket – The next step..

Based in all that experience, Signature main executives discover that there were other needs in the electronic invoicing market. And that is why two years ago, they developed Gosocket (www.gosocket.net),

a B2b networking platform that allows companies of all sizes and types to exchange electronic invoices at no cost, improving their business relationships. Also, Gosocket is integrated with banks and financial companies to make possible electronic financial services like payments and factoring, improving companies collection process and their cash flow management.
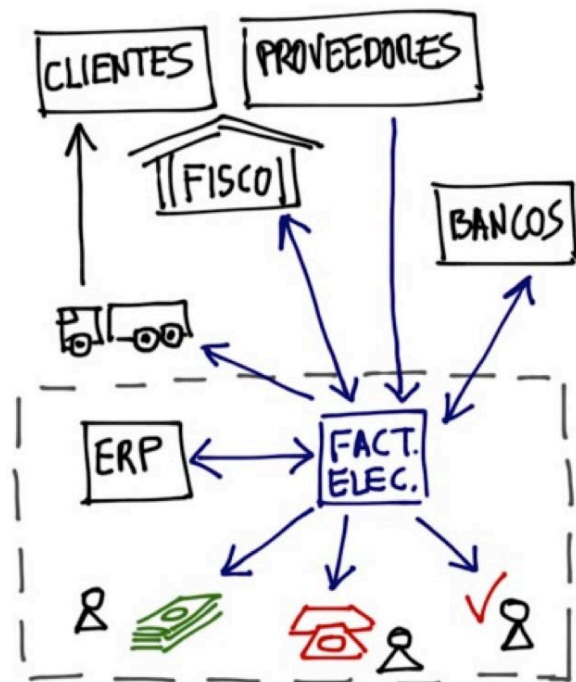
Gosocket also provides an application programming interface (API) so enterprise users and third-party vendors can offer additional solutions and capabilities to augment the platform, such as accounting, inventory, and collaborative solutions. B2b electronic invoicing.

Here is an example of the value of Gosocket to the Latin American market:
https://www.youtube.com/watch?v=dsW7l0uQgNs

Website: www.southconsulting.com
Contact: Sergio Chaverri. (506) 2288-1122.   sergio.chaverri@southconsulting.com

8.17 SIX Payment Services

Headquarters:

SIX Payment Services
Hardturmstrasse 201
8005 Zurich
Switzerland

Countries with highest E-Invoicing revenues	Switzerland
VAT compliant E-Invoice processing guaranteed for	Australia, Austria, Belgium, Bulgaria, Canada, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, Ireland, Isle of Man, Israel, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Morocco, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, United Kingdom, United States of America
Number of employees dedicated to E-Invoicing and directly related offering	30
Active users on E-Invoicing platform	Suppliers: Information is not published. Buyers: Information is not published. Consumers: More than 1.1 million consumers (incl. consumers on partner platform)
Core offering	E-Invoicing network and consolidator services in B2B and B2C (signature, verification, archiving, interconnect etc.)
Covered processes/messages along the supply chain	Full Supply Chain Order-Invoice-Payment
Main target market segments	Balanced offering for senders and recipients in all industries in large, mid-sized and small organizations
Supported languages (with application/service and the online-help/customer support)	German, French, Italian and English
Competitive differentiator	More than four million e-banking customers, private individuals as well as companies, can be reached by e-invoicing via the Paynet network that is operated by SIX.

SIX Payment Services – Your e-invoicing partner for Switzerland

With its Paynet network, SIX Payment Services operates the largest Swiss network for the transmission of VAT-compliant, signed, electronic bills in both the Business to Business and Business to Consumer areas. Among the Swiss pioneers, SIX Payment Services has taken the lead in developing e-invoicing in Switzerland. SIX Payment Services offers e-billing solutions to banks as customer service providers as well as to billers and customers directly.

E-bills in e-banking
More than 90 Swiss banks are connected to the Paynet network and enable their e-banking customers to receive, check and pay e-bills directly via e-banking. At least 98% of all e-banking customers in Switzerland have access to this bill presentment and payment method. More than 800,000 e-banking customers were signed up for e-bill with SIX Payment Services at the end of March 2014. Most large companies and increasing numbers of smaller companies in all industries offer e-bill to their customers. More than 100 new billers were connected to the Paynet network in 2013. With its "E-bill Business Package", SIX Payment Services offers companies that pay their bills via e-banking an all-in-one solution for VAT-compliant electronic bill receipt via e-banking, including electronic archiving.

E-bills in accounting systems / ERP systems
In the Business to Business area, SIX Payment Services has developed a large network with participants from all major industries. Billers send invoices electronically to the Paynet network, where the data is verified, electronically signed and sent to the recipient. Though SIX Payment Services offer is industry neutral, it also has thorough know-how in specific industries including commerce, healthcare and utilities.

The service range also includes cross-border e-bill processing and interconnect services to partner networks.

Large partner network
SIX Payment Services works closely with numerous software partners offering standardized interfaces to the Paynet network, as well as with well-known network partners offering service that are downstream or upstream from the billing processes.

About SIX
SIX Payment Services is a subsidiary of SIX. SIX offers first-rate services on a global scale in the areas of securities trading, clearing and settlement, as well as financial market information and payment transactions. SIX is owned by around 140 national and international financial institutions, who are also the main users of the services provided by SIX.

Contact
Phone : +41 58 399 9511
E-mail: paynet-info@six-group.com
www.six-payment-services.com/paynet

8.18   Striata Limited

Headquarters:

88 Kingsway
London
United Kingdom

Secure Electronic Customer Communication Management specialists focusing on B2C and B2SME	UK, Europe, US, Canada, South America, Africa, Asia, Australia.
Number of employees dedicated to directly related offering	100+
Number of customers	250+
Service delivery offering	SaaS (Software as a Service) Deployed Solution
Specialised Offering	Multi-layered, interactive, secure PDF document delivery for end customers that include consumers, SME and non-integrated businesses. Integration with major e-Invoicing networks for data and document interchange.
Value-added services	Email collection & paperless adoption strategies, data hygiene, email best practice consultation, multi-platform delivery, Web-services, FTP and EDI support.
Main target market segments	B2B – eInvoicing for SME & non-integrated businesses Banks – eStatements and eDocuments Insurance – ePolicies & eDocuments Telcos – eBill delivery Utilities – eBill delivery Retailers – Loyalty Statements
Supported data formats	Multi-channel delivery of data in various formats including Multi-layered interactive PDF documents, XML, CSV and custom structured data formats
Competitive differentiator	Striata offers a registration-free, multi-platform approach that includes industry eInvoicing networks via email attached secure PDF to cover **100%** of your client base.

20% of your clients automate. How will you reach the other 80%? Email delivers the last mile in going paperless for 100% of your client base.

The move toward eInvoicing is gaining momentum fast, with big business investing in end-to-end automation. And if all your clients fall into the 'big business' category, you're likely to be fully automated in the near future. But what happens if 80% of your base are not 'big' – and nowhere near entering the eInvoicing network?

Striata's EIPP solution provides a flexible output format that meets the requirements of various eInvoicing portals.

Striata's EIPP connectors deliver your eInvoices to the major eInvoicing hubs around the world, whilst delivering a secure eBill to the rest of your customers. Striata's flexible output formats are able to provide each portal's required format (EDI, XML, SOAP) without having to "belong" to or install portal software.

Email goes the 'last mile' in enabling fully paperless invoicing for 100% of your base:
- **Flexible output formats** means invoice data capture is eliminated at the eInvoicing hub.
- eInvoices delivered in multi-layered PDF for **both machine and human readable** format.
- **No enrolment required** by the client to receive the invoices (watch your paperless adoption rates soar).
- **Fully interactive and detailed** 'invoice presentment and payment' delivered direct to the inbox – everything can be done from the secure attachment.
- **Disputed line items** are easily, instantly and **electronically managed**. Re-invoicing is instant and automatic.
- **Multiple file types** can be securely personalised, packaged, encrypted and compressed into a single email.
- **Incentive trade discounts**, through early settlements are easily **automated**.
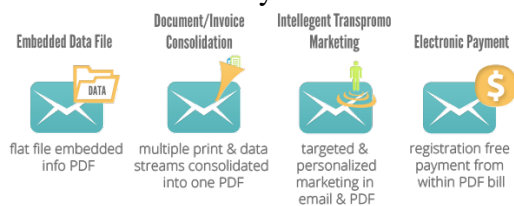
Benefits of using PDF format:

1. Accepted standard for the exchange of documents between different parties
PDF is the perfect format for documents that can be dematerialised and delivered over email. It provides the option of password security and can also include electronic consent, making the move to paperless easy and seamless.

2. Multi-layered for presentation & data
PDFs can include a data layer or an embedded data file with relative ease. The recipient can extract the data into their accounting system or open it in their chosen tool for editing and manipulation.

3. Forms within the PDF facilitate payment & feedback
PDF technology also allows the embedded data to be combined with user input and then reposted back to a server for processing. This is the same process that facilitates Striata's 'One-Click' bill payment directly from within the email or mobile bill, which speeds up payments and reduces debtors days.

4. Delivering PDF documents by email drives paperless adoption
Delivering a PDF document by email allows it to be forwarded immediately; electronically saved; backed up and printed if required. This makes the transition to a paperless environment less daunting to new users and drives acceptance of the new process.

5. Secure PDF facilitates self-service
A secure PDF process facilitates website and portal registration through trusted links that complement online portals. A single sign on to the portal enables access to self-service and account history, which maximizes customer convenience.

Embedded Data File — flat file embedded info PDF

Document/Invoice Consolidation — multiple print & data streams consolidated into one PDF

Intellegent Transpromo Marketing — targeted & personalized marketing in email & PDF

Electronic Payment — registration free payment from within PDF bill

Website : www.striata.com
Contact : Paul Robinson, +442072683941, info@eu.striata.com

8.19 Swiss Post Solutions (SPS)

Headquarters:

Swiss Post Solutions AG
Pfingstweidstrasse 60B
Westpark
8080 Zurich
Switzerland

Countries with highest E-Invoicing revenues	United Kingdom, Switzerland, Germany
VAT compliant E-Invoice processing guaranteed for	globally
Number of employees dedicated to E-Invoicing and directly related offering	75+
Active users on E-Invoicing platform	Suppliers: 70 Buyers: 189,000 Consumers: 31,000
Core offering	Multi-channel billing services, supporting clients to move from physical to electronic distribution of bills and documents
Covered processes/messages along the supply chain	Order-to-Cash process management for transactional (E-/M-Commerce) and contractual (Subscriptions) billing
Value-added services	Customer self-service enablement, online document management, greater quality of contact between clients and their customers as well as enabling payments by any channel.
Main target market segments	Mid to large scale bill issuers in any industry but particularly Utilities, Telecommunications, Transportation and similar – both, in B2B and B2C operations
Supported languages (with application/service and the online-help/customer support)	English, German, French, Spanish, Portuguese, Italian, Dutch, Flemish, Norwegian, Danish, Swedish, Finnish, Czech, Polish
Competitive differentiator	Simultaneously supporting all invoice delivery channels to your customers through a single service provider

Swiss Post Solutions' E-Billing Service offers enhanced multi-channel bill data presentment and payment capabilities; reducing costs and environmental impact
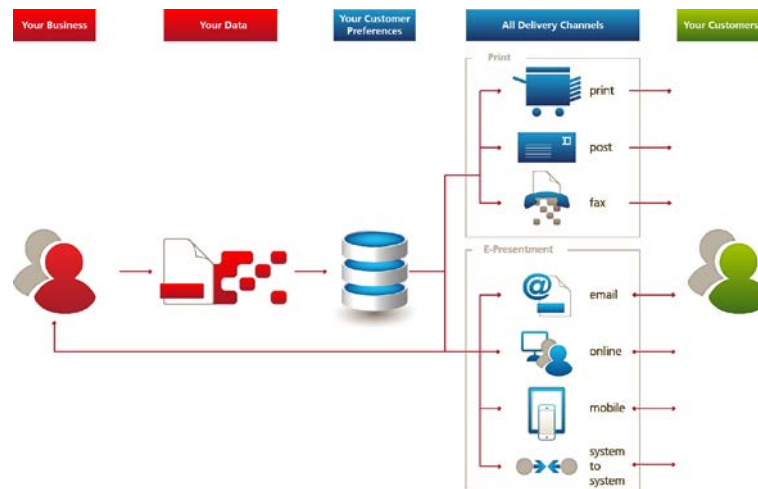
Swiss Post Solutions (SPS) offers a secure, **hosted, multi-channel service for Bill Presentment and Payment;** helping organisations to optimise and enhance the way they interact with their customers, partners and suppliers in B2B or B2C environments.

Designed to support the adoption of **electronic delivery channels in parallel with traditional printing and posting**, the service can be applied to invoices, statements, copy invoices, chase letters and supporting documents such as proof of delivery notices, and much more.

The electronic delivery service is provided in tiered modules to accommodate varying levels of complexity in client requirements:

- **E-Bill** – Bills are delivered through a standard, SPS-branded, multi-tenant portal with notifications emailed to recipients
- **E-Bill Plus** – A customisable portal capable of adopting client specified branding and layout options and introducing advanced functionality such as payment handling, self-service functions and support for system-to-system file exchange.
- **E-Bill Pro** – Adds further features to specifically structure and analyse bill data, thus giving the recipients insight and control over how billing and consumption data are delivered. Cost centre management, usage analysis and data manipulation can all be

driven by the user to satisfy their unique reporting requirements.

With SPS' E-Billing service, billers are able to deliver invoices securely online, validate customer data, control the payment of invoices and ultimately reduce production and delivery costs and improve cash flow.

The solution supports multiple currencies, languages and bill formats, including PDF attachments and CSV and XML downloads, as well as digital signatures, automated invoice queries, customer self-service and usage analytics, to name only a few.

To support clients in the transition from physical to electronic billing, SPS offers a managed migration service; running promotional campaigns on behalf of the client to promote the merits of switching to E-Billing.

Our clients achieve direct cost savings of 80% on production and delivery costs, while the potential indirect costs savings are estimated to be another 1-2 % of revenue. Additionally the environmental benefit of electronic delivery reduces the carbon footprint of the service by over 90%. This means a better overall experience for our client's customers, stronger relationships and improved loyalty.

Contact: Peter Bauknecht, phone +49 173 5258079, email peter.bauknecht@swisspost.com

8.20   Tieto

Headquarters:

Tieto Corporation
Aku Korhosen tie 2-6
Helsinki
Finland

Countries with highest E-Invoicing revenues	Finland, Sweden, Czech Republic
VAT compliant E-Invoice processing guaranteed for	Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, Ireland, Isle of Man, Israel, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Mexico, Monaco, Morocco, Netherlands, New Zealand, Norway, Poland, Portugal, Qatar, Romania, Russia, Saudi Arabia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, United Arab Emirates, United Kingdom, United States of America
Number of employees dedicated to E-Invoicing and directly related offering	175
Active users on E-Invoicing platform	Suppliers: 3590 Buyers: 2820 Consumers: 235000
Core offering	Sales and purchase invoice services
Covered processes/messages along the supply chain	Full Supply Chain Order-Invoice-Payment and Electronic reporting to authorities
Value-added services	Archiving, web applications, presentment & visualization, printing, scanning and digitizing, tax & legal compliance, trading partner activation, white-label services
Main target market segments	Large and mid-size buyers and suppliers in all industries
Supported languages (with application/service and the online-help/customer support)	English, Finnish, Swedish, Czech
Competitive differentiator	Wide business partner reach and Full Suite of integration services

TIETO – LEADING WITH EXPERTISE

Tieto is the largest Nordic IT services company providing full life-cycle services for both the private and public sectors and product development services in the field of communications and embedded technologies. The company has global presence through its product development business and global delivery centres. Tieto is committed to developing enterprises and society through IT by realizing new opportunities in customers' business transformation.

Founded 1968, headquartered in Helsinki, Finland and with approximately 15 000 experts, the company operates in over 20 countries with net sales of approximately EUR 1.7 billion.

We are a leading business integration service provider in Europe with about 200 integration experts in the Czech Republic, Finland, and Sweden plus development expertise in India. We exchange over 1 million business-to-business transactions daily and over 2 million consumers use our services.

E-invoicing and the financial value chain

E-invoicing is part of our business information exchange offering, which includes also e-trade and financial messaging and SWIFT Service Bureau for payments covering 9000 financial institutions in more than 200 countries.

E-invoicing services include file/message exchange, web applications, international invoicing in 50 countries, archiving and presentment, attachments and community management services that enable customers to reach their trading partners.

E-invoicing is included in Gartner's Magic Quadrant for Integration Brokerage, where Tieto is rated into the Challengers' Segment.

Tieto representatives are members of executive committee in European e-invoicing service provider association (EESPA), convenor in ISO20022 Trade Services and active participants in CEN.
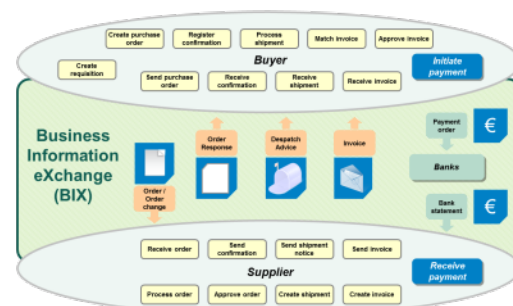
We offer our customers:
- Full purchase-to-pay and order-to-cash process coverage
- Cost savings through automation, process streamlining, faster process execution and improved information quality
- International functionality and large-scale service provision experience
- Customer centric solutions.

Visit us at www.tieto.com/bix for more information or contact:

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Other	Joakim Berg	+46 705 228 504	joakim.berg@tieto.com

8.21   TrustWeaver AB

Headquarters:

TrustWeaver AB
Mäster Samuelsgatan 42
111 57 Stockholm
Sweden

Countries with highest compliant processing revenues	Evenly spread across supported countries.
VAT compliant E-Invoice processing guaranteed for	TrustWeaver ensures compliance with e-invoicing integrity, authenticity, State clearance and archiving requirements in more than 50 countries.
Number of employees dedicated to E-Invoicing and directly related offering	+25
Active users on E-Invoicing platform	No. of TrustWeaver-enabled partners: +50 Number of end-user companies: 100.000s
Core offering	- SaaS (Software as a Service) for State or State agent clearance, signing, validation, time stamping, archiving and invoice content.
Covered processes/messages along the supply chain	Invoices and associated business or administrative documents (e.g. TORG12 in Russia).
Value-added services	Knowledge services on e.g. invoice content, process integration of compliance components.
Main target market segments	Leading B2B and e-invoicing vendors/networks.
Competitive differentiator	Geographic spread, deep compliance and business process knowledge, 100% cloud.

TrustWeaver – Centralized Global Business Transaction Compliance

TrustWeaver Software as a Service (SaaS)

TrustWeaver SaaS is a comprehensive security compliance service based on a unique legal and B2B integration concept. The purpose of the service is to provide access to a **complete but modular set of legal compliance functions through a single technical interface.** Each on-demand service is connected to a unique Compliance Map™ in which the requirements are documented for more than 50 countries. By mixing and matching services, trading partners and exchange platform providers can outsource their compliance issues to a single expert service in the cloud.

Electronic Invoice Compliance

By adding legal certainty, we allow hundreds of the world's largest enterprises to automate and consolidate business processes globally. Unlike alternative solutions, **TrustWeaver's cloud solution decouples legal compliance from the process for scalable, guaranteed results**.

The Challenge—Multi-Country Compliance

For organizations operating across multiple countries and striving to centralize business transaction management, complying with various laws is challenging at best.

The Solution – guaranteed legal certainty

TrustWeaver-enabled solutions allow companies to focus on their core added value while providing state of the art VAT **compliance spanning 50 countries**. By adding a thin, cloud-based compliance layer, TrustWeaver guarantees long-term legal certainty for suppliers and buyers without any footprint on their systems or processes.

Digital Certainty

TrustWeaver's **unique blend of legal and technical components** allows modern organizations to execute their ERP, workflow, archiving and B2B consolidation strategies with guaranteed respect for the multiple national and sectorial laws governing such data flows as well as their long-term retention and auditability. This unique digital certainty consolidation concept always comes with unambiguous TrustWeaver commitments to ensure the desired level of confidence.

About TrustWeaver

- Global experts in law, security, cloud and IT
- Used by 100s of the Global Fortune 1000
- 50+ countries
- 50+ partners
- HQ in Stockholm, Sweden
- Established in 2001

Website: www.trustweaver.com
Contact: Christiaan van der Valk, +32 (478) 66 32 47, christiaan.vandervalk@trustweaver.com

8.22   Tungsten built on the OB10 network

Headquarters:
Pountney Hill House,
Laurence Pountney Hill,
London, EC4R 0BL

Countries with highest E-Invoicing revenues	Australia, Belgium, Canada, Denmark, France, Germany, Ireland, Italy, Malaysia, Netherlands, Poland, Spain, Sweden, Switzerland, UK, US, Singapore
VAT compliant E-Invoice processing guaranteed for	Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Canary Islands, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malaysia, Malta, Mexico, Netherlands, New Zealand, Norway, Philippines, Poland, Portugal, Puerto Rico, Romania, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Turkey, UK, US
Number of employees dedicated to E-Invoicing and directly related offering	>300
Active users on E-Invoicing platform	Suppliers: 145,000 Buyers: 129 Consumers: N/A
Core offering	B2B e-Invoicing network, SaaS, supplier enrolment, e-Invoicing compliance, PO services, archiving, invoice status service
Processes/messages along the supply chain	P2P, accounts payable, accounts receivable
Value-added services	Supply chain financing, real-time spend analytics
Main target market segments	Large buyers and any sized suppliers
Supported languages (with application/service and the online-help/customer support)	English, French, Spanish, German, Dutch, Portuguese, Italian, Polish. Bulgarian, Mandarin, Cantonese, Malay, Hindi for enrolment and support
Competitive differentiator	The Tungsten Network is built on security. Through our compliant electronic invoicing, and secure, smart, fast service, we help customers deliver more value from their AP, AR and shared service centres.

Tungsten, the global trading network

Tungsten Corporation and OB10 joined forces in October 2013, signalling a new era for global trading. Tungsten helps customers streamline invoice processing, improve cash-flow management and make better buying decisions from their detailed line-level spend data.

Compared to traditional paper-based invoicing, electronic and automated processes can result in savings of 62% (Billentis e-Invoicing/e-Billing report 2013) and B2B e-Invoicing can save European businesses up to €238bn (European Commission). E-Invoicing also helps SMEs gain easier access to alternative sources of finance, including invoice discounting and specialist export or import finance (ACCA).

In addition, more governments are harnessing the power of e-Invoicing, as demonstrated by the mandates in Mexico, Brazil, Turkey and Italy, and the coming EU directive for e-Invoicing in public procurement.

e-Invoicing is here to stay.

Built on the OB10 e-Invoicing network, Tungsten delivers services along the value chain from cost avoidance to straight-through processing and then detailed spend analysis and stronger supply chains.

Tungsten Network: Electronic invoicing for connected supply chains

The e-Invoicing network sits at the heart of our organisation and proposition. It gives customers a stable and secure platform, a growing number of compliant countries to transact in, guaranteed supplier onboarding and the ability to process invoices in any format.

By becoming part of the global e-Invoicing network, companies around the world are radically reducing the effort it takes to submit,

approve and process invoices while also enhancing supplier relationships. Straight-through invoice processing allows customers to elevate the role of their Accounts Payable and Accounts Receivable functions as they start to contribute to the bottom line.

Tungsten Network Analytics: Real-time information for better buying decisions

In this era of big data, businesses cannot afford to ignore the cost-saving potential of spend analytics. Tungsten Network Analytics examines line-level invoice data in real time to identify price variances on individual items and opportunities for cost savings.

By analysing customers' invoice data through our sophisticated artificial intelligence application, organisations can expect savings of >1% of their spend.

> In this era of big data, businesses cannot afford to ignore the cost-saving potential of spend analytics.

Tungsten Network Finance: Invoice financing for business growth

Embedding early payment services in the Tungsten Network gives suppliers the option to receive their money when they need it. Based on suppliers' approved invoices and our access to dedicated funds, we give companies a reliable and regulated alternative source of finance.

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9.   Appendix A: Law and regulations

Appendix A written in cooperation with Christiaan van der Valk

9.1   Legal acceptance of electronic invoices

Almost all countries in the world, except some in Africa and Asia, accept correctly processed & archived electronic invoices as originals. Therefore, from the legal point of view, there is no longer any reason to wait with an E-Invoicing project.

Only where E-Invoicing is an in-house development do users have to invest a significant amount of time and money in further legal analysis. That is why the author recommends either purchasing existing packaged solutions or using third party services compliant with law in all countries where you trade. Experienced providers of such solutions and services will be able to inform you in more detail about the legal requirements. The following chapters will give just a brief overview for readers interested in a generic overview.

For detailed questions, the author recommends to investigate the sources as mentioned in appendix B or a discussion with your solution/service provider.

9.2   Types of legal requirements; a rapidly changing picture

The world of electronic invoicing has changed drastically between 2012 and 2014. Viewed from an international business perspective, developments around the European model, which essentially transforms paper-based processes into electronic ones, were still centre stage at the beginning of 2013; just a year later, Europe has become just one consideration among a patchwork of national E-Invoicing regulatory challenges faced by international business. This rapid change in the perspective of enterprises has been driven by the fact that countries newly introducing electronic invoicing mandates have almost without exception chosen a model inspired by the Latin American 'clearance' approach. The mushrooming of mandates based on this 'clearance' model has been a wake-up call for many larger corporates, which are now typically working towards a proactive global E-Invoicing strategy where operational readiness for compliant E-Invoicing in countries in Latin America, but also for Turkey, Russia and China ranks among the highest priorities.

The following figure shows the composition of the principal regulatory features in a number of selected regions (averages among countries with active E-Invoicing regimes) and a number of significant individual countries.

Figure 58: summary of regulatory requirements across selected regions and countries[3]
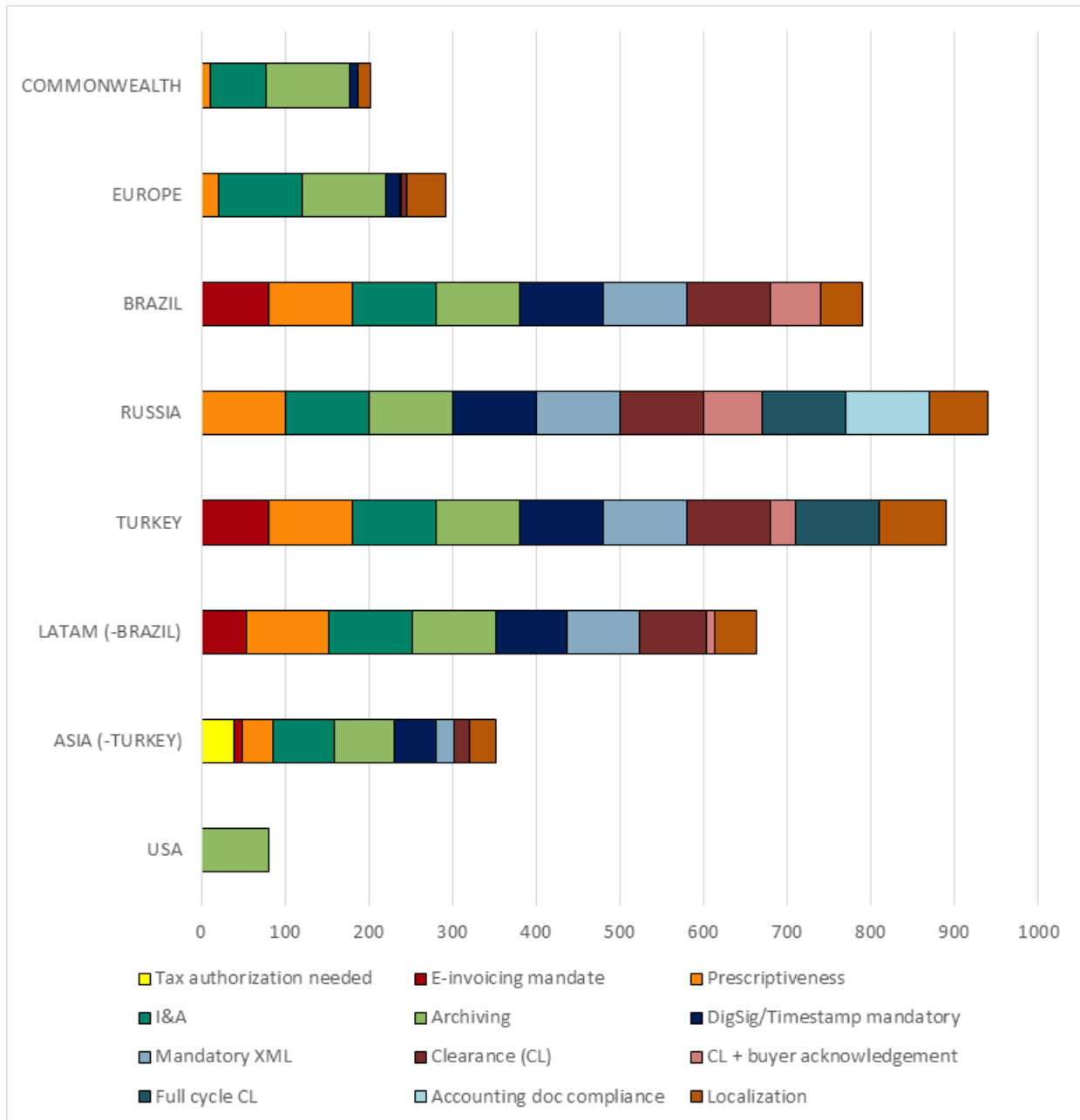
Below is a brief description of these features and the methodology used for their relative importance in the chart:

Tax authorization needed
A value of 100 was allocated where a country requires that the tax administration, Finance Ministry or other part of the public administration (including law enforcement) explicitly authorizes a business before it starts sending and/or receiving invoices electronically. A value between 0

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[3] Countries included in the regional summaries: for "Commonwealth" (Australia, Canada, Hong Kong Special Administrative Region, New Zealand, Singapore, South Africa), for "EUROPE" (Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Ukraine), for "LATAM minus Brazil" (Argentina, Chile, Colombia, Costa Rica, Mexico, Peru, Uruguay), and for "ASIA minus Turkey" (Israel, United Arab Emirates, South Korea, Taiwan, Japan, Malaysia, Philippines, Thailand).

and 100 was given if such authorization requirement is conditional, implicit, recommended or customary.

E-invoicing mandate
A value of 100 was allocated in cases where all businesses must by law use invoices in electronic format. A value between 0 and 100 was given if such a mandate does not address all businesses or if the mandate is not all-encompassing in terms of types of invoices, business processes etc.

Prescriptiveness
A value of 100 was allocated where a country leaves no choice to businesses as to how to achieve E-Invoicing compliance. A value 0 means complete freedom of choice as to the method used by businesses to comply. A value between 0 and 100 was given if the applicable legal regime falls in between these two extremes.

I&A (integrity and authenticity required)
A value of 100 was allocated where a country requires businesses to ensure and be able to demonstrate (a) the integrity of all mandatory fields of an invoice and (b) the authenticity of its origin (the identity of the supplier or, where allowed, the third party acting on its behalf) during the legal lifetime of an invoice. A value between 0 and 100 was allocated where such requirements are generally assumed but not explicit in the law, or if there is a formal policy within the tax administration not to seek such evidence.

Archiving
A value of 100 was allocated in case there is a requirement for an electronic invoice to be archived for subsequent tax administration auditing purposes. A value between 0 and 100 was allocated where archiving requirements exist but the period is very short (less than a year), or it if such archiving is viewed as more of a formality which the tax administration does not typically pay attention to.

Digital signature/Timestamp mandatory
A value of 100 was allocated when a country has a hard requirement for an electronic invoice to be digitally signed and/or time-stamped using a Public Key Infrastructure-based time-stamp at some point during its legal life time. A value between 0 and 100 was allocated where such signature or time-stamp requirements are not absolute and can under certain conditions be replaced with technologies and/or processes that provide an equivalent result.

Mandatory XML
A value of 100 was allocated when a country specifies an XML-based invoice schema as the exclusive format for an electronic invoice original.

'Clearance'
A value of 100 was allocated if an electronic invoice must be sent to the tax administration or its licensed/accredited agent for authorization prior to issuance as an original tax invoice. A value between 0 and 100 was allocated if clearance is required within a relatively short time after instead of after the transaction, or in cases of alternative clearance processes e.g. requirements for a code to be fetched from an online tax administration service and integrated into an invoice instead of the whole invoice being sent to the clearance service.

Clearance + buyer acknowledgement
A value of 100 was allocated if the clearance process is legally only considered complete if the buyer has sent the tax administration or its licensed/accredited agent a confirmation that it has received and validated the invoice.

Full cycle clearance
A value of 100 was allocated in case the tax administration or its licensed/accredited agent not only clears the invoice but also serves as transport mechanism or access point for the buyer to obtain the cleared invoice.

Accounting document compliance
A value of 100 was allocated in case the clearance process for invoices also applies to certain other formalized B2B/accounting documents if sent electronically.

Localization
A value of 100 was allocated when a country's requirements for electronic invoicing are exclusively or to a large extent intertwined with requirements for processes, service provider relationships, hardware and/or archiving to remain within its national boundaries. A value between 0 and 100 was allocated where such localization requirements exist but are conditional or narrower.

9.3 Electronic invoice issuance/processing and archiving by third parties

Most countries' E-Invoicing laws allow outsourcing of tax-relevant functions to third parties. This gives issuers and recipients of electronic invoices the opportunity to offload technical and legal complexity to experienced service providers. They then typically act in the name of and on behalf of the issuer/recipient. Such services can include data conversion from source to target format, digitally signing and verifying, validating invoice content, various 'clearance' processes, exchanges between issuer and recipient, archiving data on behalf of users, etc.

Outsourcing of tax-relevant functions never changes the fact that the parties to the underlying sales transaction are accountable to the tax authorities. Enterprises can seek to obtain warrantees for compliance with certain legal requirements by service providers, but this always remains a private agreement and has no impact on the taxable person's tax responsibility.

In some countries with a 'clearance' model, service providers accredited by the tax administration must be used, or their use may be among a limited number of implementation options. In such cases, the service provider is primarily an agent acting on behalf of the tax administration (or at least performing processes that are regulated and supervised by the tax administration) rather than a private vendor; however, it is common that such tax administration-accredited entities also provide non-regulated value-added services.

In many countries, restrictions are in place regarding the location for the archiving of E-Invoices. This is of special interest if cloud computing is the base for archiving. Cloud computing is a very young technology. It is for sure not the objective of legislators to prohibit the usage of Cloud computing, but the legislation is lagging behind the practice and the global scandal created by the USA's National Security Agency's extensive data access in 2013 has made users more conscious of political factors related to where and by which vendors data are processed or archived. Enterprises in EU member states are advised to ensure that archiving services by third parties are performed in compliance with the law, which in most cases means that the invoices need to be stored within the territory of an EU Member State. Even if all legal requirements can be met by using a Cloud storage service for archiving electronic invoices, there is little experience with this type of solution and users should exercise caution before making design decisions involving Cloud storage.

9.4 Procedure/Process description

Many countries require businesses to document their E-Invoicing process environment, the end-to-end electronic invoice transport, processing and storage. Where such documentation is not

mandatory, it is commonly viewed as good practice. Descriptions should typically include all relevant information about:

- Flow of invoices & related documents
- Manual and automated process steps
- IT and communication environment, interfaces, database
- Procedures for guaranteeing invoice integrity and authenticity

Procedure descriptions play a major role for all users in such countries, regardless of their approach to compliance. When a service provider is used for certain tax-relevant processes, users can often obtain the documentation of these processes from the service provider.

9.5   Objectives and status of legal changes in the European Union

Background

While it was stated above that the relative importance of the EU approach to electronic invoicing has somewhat diminished in recent years, it is worthwhile briefly looking back at the regulatory changes that entered into force early 2013. The primary purpose of the changes enshrined in VAT Directive No. 2010/45/EU, which creates the foundation for today's rules in EU Member States, was to give businesses more implementation choice as regards compliant electronic invoicing on the basis of a legal regime that in principle has the same requirements for paper and electronic invoices.

The key points of the Directive are

- The use of an electronic invoice shall be subject to acceptance by the recipient (remark of author: this can be a constraint for the usage of the Opt-Out rollout).
- It must comply with VAT Regulations
    - Electronic and paper invoices are to be treated equally – the administrative burden on paper invoicing should not increase.
    - The authenticity of the origin, the integrity of the content and the legibility of an invoice, whether on paper or in electronic form, shall be ensured from the point in time of issue until the end of the period for storage of the invoice.
- Proof of authenticity and integrity may be provided:
    - With any mechanism each taxable person deems suitable (setting a *freedom of evidence* rule for EU invoices, whether paper or electronic; note that evidence must still be provided within a reasonable time)
    - A reliable business controls-based audit trail between an invoice and a supply of goods or services. This method is available for paper and electronic invoices.
    - An advanced electronic signature on an electronic invoice based on a qualified certificate and created by a secure signature creation device.
    - Electronic data interchange (EDI) of electronic invoices.
- Member States do not have the option to impose other rules for E-Invoices
- The rules regarding electronic invoices that apply are the rules of the Member State from which the supply is made (this relates to the complex subject of 'place of supply' rules but in practice is often the Member State of the supplier).
- Rules concerning the storage of invoices are in practice mostly determined by the Member State where the taxpayer is established.

Status

All EU Member States have now transposed Directive 2010/45, including the compliance options set out above. In a number of Member States, the tax administration has issued further guidance on each of the compliance options.

Not all Member States have faithfully transposed the Directive:
- One group of countries have introduced additional options or requirements.
- Others have not implemented all elements of the Directive i.e. some have not explicitly transposed the freedom of evidence rule.
- Some do not mention all compliance methods, e.g. stating only one or a subset, or only the general requirement of integrity and authenticity.

9.6   Which method is appropriate for organisations in the European Union?

The new European legislation aims to give enterprises more choice from among equivalent implementation options to meet the legal requirements of integrity and authenticity evidence. The base idea behind this new legislation is that business practice is too diverse to be caught in a limited number of compliance methods. However, more choice of means to comply also means that businesses will now have a greater *responsibility* to select an implementation option that ensures compliance. Unfortunately, the wording of Directive 2010/45 on available *methods* ("business controls" for example) is often used to justify a relaxed view of the regulatory *requirements*. This is a grave error: *businesses must still be able to prove integrity and authenticity of their invoices over a long period*, and this long-term evidence position is often not fully achieved by existing control frameworks. Businesses should therefore analyse their ability to generate and maintain appropriate evidence across their different processes and trading relationships, and on that basis decide which mechanism is the most cost-effective to ensure compliance where gaps are identified. Since all businesses are different, no method is more or less appropriate than others are in an absolute sense.

When assessing the relative costs and benefits of available options, companies should base their ROI calculations on actual solution costing rather than preconceived ideas or popular views of what is cheap or expensive. When a service provider is involved on behalf of one or both trading partners, certain compliance methods may become more or less attractive due to this particular type of setup. One thing that has changed since entry into force of VAT Directive 2010/45/EU is that businesses, rather than mechanically adopting a technology-based compliance method, have started becoming more cognizant of the importance of high-quality end-to-end processes. This often leads to more awareness of strengths and weaknesses of existing processes, including a better understanding of the transaction evidence such processes naturally generate. Based on such a gap analysis, we see many businesses make choices for or against using technology (such as compliant EDI or qualified electronic signatures) for maintaining adequate integrity and authenticity evidence with more confidence and on a more strategic basis than previously.

A number of publications providing guidance on the new EU legislation are available. This is especially valid on the European scale with the European Commission [12] and CEN Workshop on E-Invoicing [13]. Readers more interested in a compendium about E-Invoicing legislation in Europe and many other countries around the globe are recommended to read the TrustWeaver whitepaper as referenced in [20].

10.   Appendix B: Glossary, Sources

10.1   Glossary

In the course of this report, a number of key notions are frequently referred to. To avoid any ambiguity, the following definitions apply to these notions.

Figure 59: Glossary

AR	Accounts Receivable
AP	Accounts Payable
B2B Invoices	In this report: Includes all tax compliant invoices to corporate as well as to the public sector
Bill	Includes all categories of bills sent to consumers (B2C/G2C)
E-Billing	"E-Billing" covers in this report the electronic bills from Business-to-Consumers (B2C). Some market participants use this term alternatively for the process on issuer side in general, regardless if the customer is an enterprise or household.
EBPP	Electronic Bill Presentment and Payment; focus in B2C; this acronym is more popular outside Europe
EIPP	Electronic Invoice Presentment and Payment; focus in B2B/B2G; this acronym is more popular outside Europe
E-Invoicing	Electronic invoicing is the sending, receipt and storage of invoices in electronic format without the use of paper-based invoices as tax originals. Scanning incoming paper invoices, or exchanging electronic invoice messages in parallel to paper-based originals is not electronic invoicing.
Invoice	Includes in this report all categories of invoices: B2B, B2C, B2G
Issuer	Invoice issuer, Supplier, Biller
Network operator	Service provider respectively operator with any-to-any model; an invoice issuer or recipient needs just one interface for achieving any other counter-party in the same network; In some countries, the terms "operator", "service provider", "consolidator" or "supplier network" are more common.
Order-to-Cash	Supplier perspective for the processes order-delivery-invoicing-payment
Purchase-to-Pay	Buyer perspective for the processes order-delivery-invoicing-payment
SME	Small and Medium sized Enterprise

Recipient	Buyer, Customer; The individual or organization that will receive the invoice

10.2 Sources

Figure 60: Key sources used in this report

Ref	Document and/or hyperlink	Date or version
[1]	E-Invoicing network associations & alliances: a. European E-Invoicing Service Providers Association http://www.eespa.eu/ b. Global E-invoicing Network Alliance, www.gena.net c. SimplerInvoicing, http://simplerinvoicing.org/ d. The Association for Electronic Invoicing www.e-invoice-alliance.de	2014
[2]	OpenPEPPOL, http://www.peppol.eu/	2014
[3]	FutureGov Magazine, Indonesia tests e-Billing for tax payments	August 2013
[4]	Australian Business Register http://www.abr.business.gov.au/	2014
[5]	PayStream Advisors: a. Global Electronic Invoicing b. Electronic Invoice Adoption Benchmark Report c. Invoice and Workflow Automation Benchmark Report d. Electronic Invoice Management	Q1 2013 Q1 2013 Q3 2013 Q1 2014
[6]	EXPP Summit: SAT, Fernando Martínez Coss, E-Invoicing in Mexico Newton Oller de Mello, E-Invoice in Brazil – 90% Market Penetration	September 2011
[7]	AFIP, Facturación electrónica : nuevas actividades y sujetos alcanzados	December 2013
[8]	Newton Oller, National Leader of Brazilian Project of Electronic Invoice for Retail	March 2014
[9]	CONPES (Consejo Nacional de Política Económica y Social del Departamento Nacional de Planeación) 3786	December 2013
[10]	SAT, Modificaciones al Régimen d Factura Electrónica, Acuerdo de directorio número 08-2011	August 2011
[11]	European Commission, draft directive on e-invoicing in public procurement	June 2013

Ref	Document and/or hyperlink	Date or version
	European Parliament legislative resolution Link European Commission, E-invoicing: European Parliament backs Commission proposal to eliminate barriers to cross-border public procurement	March 2014
[12]	European Commission – Information Society http://ec.europa.eu/internal_market/payments/einvoicing/index_en.htm	2013
[13]	CEN E-Invoicing Guidelines ftp://ftp.cen.eu/CEN/Sectors/List/ICT/CWAs/CWA16460_.pdf	2012
[14]	Helsinki School of Economics, "Electronic Invoicing Initiatives in Finland and in the European Union"	2008, B-95
[15]	Politecnico di Milano, Alessandro Perego, Presentation "Process Optimization and Saving Potential with e-Invoicing" at the EXPP Summit in Munich/Germany	October 2010
[16]	Tools and ROI calculators: a. Industry portal with numerous tools in several languages http://www.einvoicingtoolbox.com/ b. Fachhochschule Nordwestschweiz (in German only) http://www.swissdigin.ch/apps/swissdigin.nsf/de/ressourcen_recommend c. Politecnico di Milano (in Italian only) http://www.osservatori.net/fatturazione_elettronica_e_dematerializzazione/qrat d. Paystream Advisors (US) http://www.paystreamadvisors.com/advisory_services/cost_per_invoice_calculator.cfm	March 2014
[17]	Billentis, Nutzenpotenziale der E-Rechnung http://wko.at/e-rechnung	October 2011
[18]	EXPP Summit: PayStream Advisors, 2011 North American eInvoice Outlook – The Billion Dollar Opportunity	September 2011
[19]	Demica, A Rising Role, "A study in the growth of Supply Chain Finance, as evidenced by SCF-dedicated job titles at top European banks"	April 2014
[20]	TrustWeaver, Tax-compliant global electronic invoice lifecycle management	March 2013 April 2014
[21]	EDICOM respectively forecast of AMEXIPAC, Ten years of e-Invoicing in Mexico	March 2014
[22]	Servicio de Administración Tributaria, Cesar Luis Perales Tellez	April 2014
[23]	Dirección General Impositiva, Daniel E. Laffitte	March 2014