2016

E-Invoicing / E-Billing

Digitisation & Automation

Bruno Koch
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Author contact:
Bruno Koch
Billentis
9500 Wil
Switzerland
Email: report2016@billentis.com
www.billentis.com
Free, bi-monthly newsletter

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0. Executive Summary

Today's business models evolved through decades, which focused on conventional paper processing. In the northern hemisphere, businesses and governments are usually taking a gradual approach to replacing these paper-based systems with digital substitutes. Small steps can only create incremental improvements. Paper invoices are clearly still dominating the landscape. Scan and capture can bring first improvements. Image-based PDFs and a minor proportion of structured electronic invoices follow this evolutionary step quite often.

This kind of digitisation requires organisations to increasingly establish invoice workflow and archiving solutions. As a consequence of this improvement, many disadvantages of conventional paper processing disappear, yet several other ones remain.

Digitisation of invoices alone is not sufficient for achieving zero-touch and automated invoice processing. The proportion of exception handling is still too high in most organisations. One major reason is poor data quality in invoices. Inaccurate information in B2B invoices is a major reason for payment delays. Reducing the proportion of exception handlings might increasingly become a priority. Automated e-invoicing is an excellent vehicle to combat this quality problem.

More advanced organisations might have a broader objective than merely to optimise invoice processes. This is indeed a worthwhile undertaking: automation and optimisation of invoice process usually represents only one third of the total potential. In light of this, the full purchase-to-pay and order-to-cash process may be brought to the foreground over the upcoming years. Larger businesses in the private industry are the innovators in this field.

The public sector is responsible for 16-18% of all purchases in given countries. Nevertheless, a maximum of 5% of public purchases are processed using electronic procurement solutions. Now, this is in progress of being changed – at least within the European Union. The EU intends to modernise public administration with end-to-end e-procurement and e-invoicing. There is a tremendous impact of new government initiatives for e-invoicing and directly related topics. The author estimates that 100,000+ public administrations / agencies in Europe will be affected by new directives by 2018 – at the latest.

In today's erratic economy, business agility is more important than ever before. According to the concept of business agility, organisations seek to approach their operations and resources in a flexible manner. The concept also concerns the ability to rapidly adapt to market and environmental changes in a productive and cost-effective way. Simultaneously, a rapidly growing number of disruptive next-generation technologies lay a strong foundation as strategic drivers. They pave the way to substitute old solutions and processes by a completely new approach.

A new era for digitisation and automation lies ahead of us and the environment might change dramatically in upcoming years.

A number of Latin American and Asian countries are developing disruptive models instead that are optimised for a fully digital world on a broad scale, considering all fiscal documents. It is the invoice that provides the most complete information for tax authorities. Invoices are therefore moved to the foreground as part of the next step. In this phase, tax authorities mandate the organisations in a country to exchange invoices in electronic format only. These developments on a national level also make sense on a company level. The time is right to critically question the use of traditional models and shift to disruptive technologies.

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-invoice" is used for the Business-to-Business (B2B) and Business-to-Government (B2G/G2B) segment. It includes exclusively the electronic invoice exchange between suppliers and buyers, but does not consider the data exchange between suppliers/buyers and tax authorities for reporting and control purposes. 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 includes image-based digital invoices (mainly PDFs).

Definitions in other regions of the world differ greatly. Although, in any case, it is not valid, for others e-invoicing means much more than simply 'automated invoicing'. In this report, 'e-invoicing' is used in the broad legal sense as described above. Terms like 'touchless e-invoicing', 'zero touch e-invoicing' or 'true e-invoicing' are used in the event of structured e-invoices.

Figure 1: Definition of e-invoice in a global context

Not considered as e-invoices:

Fiscal documents not representing a commercial transaction followed by "demand for payment", e.g. bank statements

Fully electronic invoices that are not tax-compliant due to lack of integrity, authenticity and legibility

'Electronic invoices' are supported by legally relevant paper summary invoices (parts of the EDI world), scanned or printed/archived by recipients (if just the paper version is stored as the 'new' de-facto original).

'Asymmetric e-invoice', buyers can demand a printed invoice and consider it as the legal original invoice.

Major bulk of paper invoices, even if in parallel some invoice data are transmitted to the tax authorities or trading partner.

> **E-invoices in the broader legal sense:**
>
> 'Simplified low value' e-invoices with reduced content requirements (often just 4-8 mandatory data fields) and without customer authentication
>
> Legally can this category include invoices in a broader sense. It might become part of a separate statistic in the future.
>
> > **E-invoices in the narrow legal sense:**   Only this part is included in the statistics.
> > E-invoices with the full content (typically 10-16 fields) and authentication of the issuer & recipient.
> >
> > Two organisations in the role as supplier and buyer exchange a digital and tax-compliant invoice as the valid original invoice. They exchange them directly via service providers and/or via the platform provided by tax authorities. These e-invoices are preserved. They are the only relevant original invoices for the tax authorities and auditors (any paper copies produced are only used as representations).
> >
> > Paper representations can be found, but will never be considered as the legal original versions.

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.

Remark: In the past, the author included invoices/e-invoices in the statistics if they fulfilled the description as defined in their national legislation. Unfortunately, the figures were not completely comparable at a global level. This approach is now replaced by a common denominator, valid for a majority of countries around the world. The new figures are therefore lower than in past publications.

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 and Latin America is relatively well known, figures for other continents may just be guessed.

Figure 2: Guess for global bill/invoice volume

Segment	Estimated annual volume to be at least
B2C/G2C	200[1] billion
B2B/B2G/G2B	170 billion
Total	**370 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, tickets). 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. Classical examples of these "invoice-like documents and messages" are
- Invoice data sent to the tax authorities just for validation or audit reasons, e-reporting
- 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

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[1] Compared to past publications significantly reduced figure; got meanwhile more accurate figures from some larger countries.

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 36 billion and could increase to **37 billions in 2017**. Approximately half of the volume is sent to consumers (B2C), the other half to enterprises and the public sector (B2B/B2G/G2B).

Figure 3: Invoice/Bill volume breakdown by industry (issuer view)

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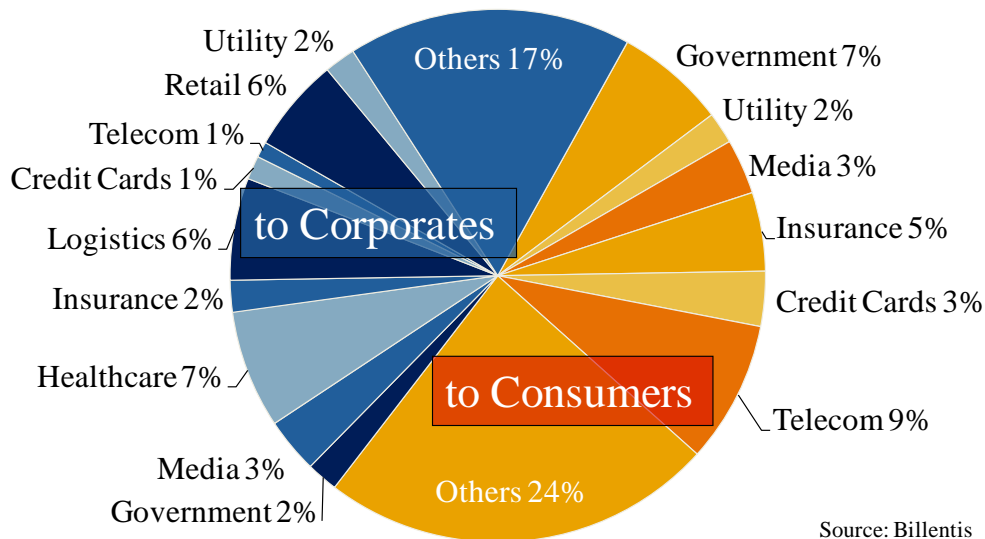
<u>Legend:</u> 1% of all invoices in a country are sent by Telecoms to corporations and 9% to consumers. Telecom invoices represent typically 10% of the total market volume.

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

Figure 4: 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 (to buy wholesale)	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
- Optimise cash management
- 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 replaced 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.

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 5: Overview about main market models
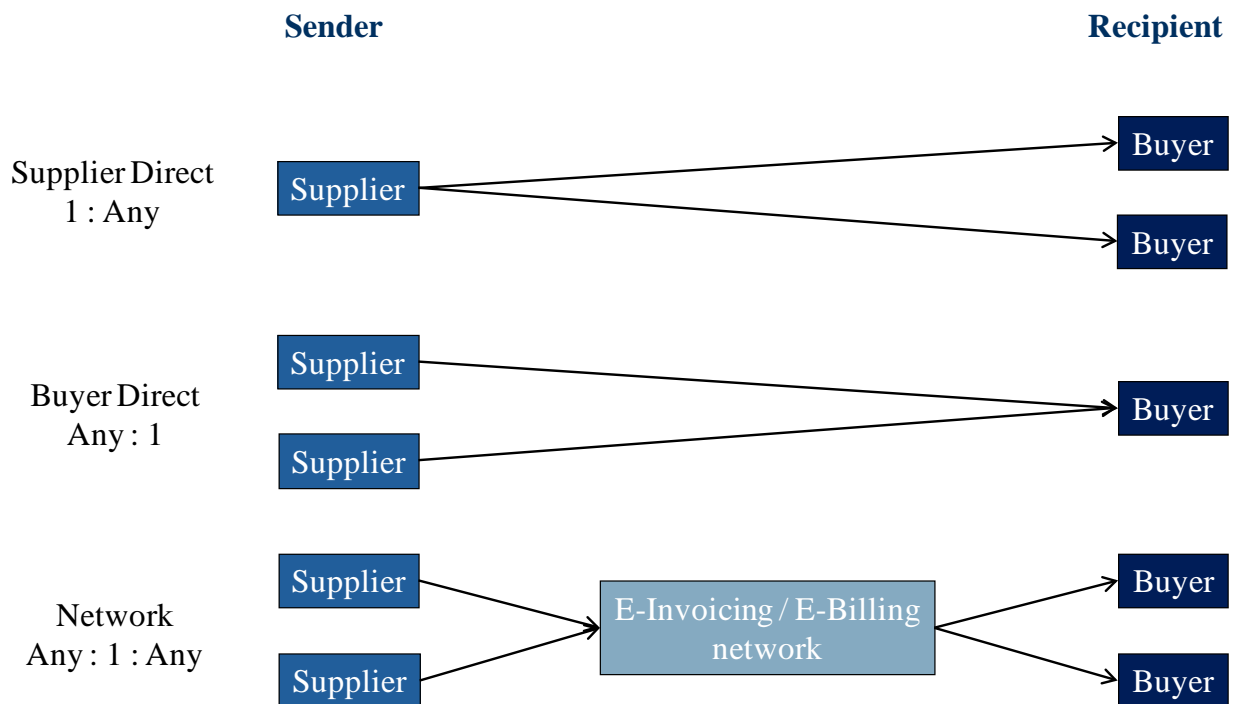
2.3.2 Supplier Direct Model

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 high-volume industries like telecommunications, utility and card companies, as well as online shopping portals. Small businesses also have a preference to exchange e-invoices directly with their trading partners. Due to their size, they do not have the capacity to provide e-invoices on their own portals, but instead exchange them as PDF invoices attached to emails.

Figure 6: Supplier Direct Model
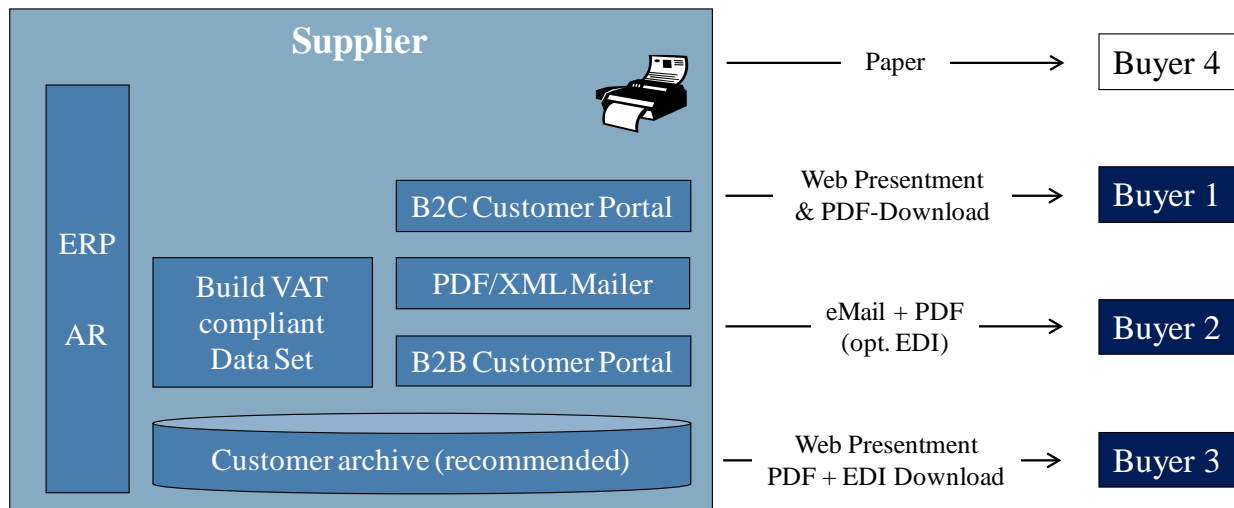
Source: Billentis

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 (attachment 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 of the verification process in a log file (must also be archived)

Figure 7: 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 may 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, B2B 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 45.

An alternative option builds on the push model and utilizes intelligent PDF invoices including XML data embedded in the document.

Figure 8: 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 9: Buyer Direct Model
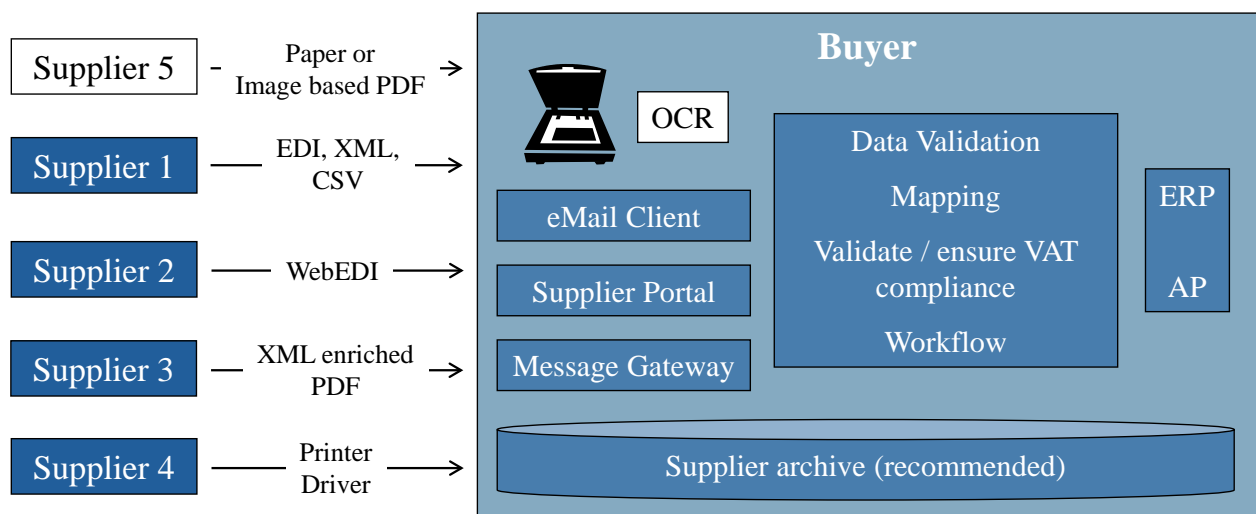
Source: Billentis

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 10: 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 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. These providers typically develop, maintain and operate the software. Customers pay just a fixed integration fee and a volume/time based fee.

Figure 11: Advantages and disadvantages of Direct Model as a Service

Advantages	Disadvantages
+ Direct contact with counterparts, chance for interaction + 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 + Most service providers have considered and implemented solutions around security, auditability and proof of sender identification to comply with the in country legal and taxation requirements. + SaaS models typically provide a reliable, stable and scalable platform. + When delivering an e-invoice/e-bill via email deliverability, track and traceability is at the forefront of the service providers service level agreements. + Management information and statistical reporting is available as a result of most SaaS providers platform capability.	− Counterparts dislike logging on to various websites or making multiple integration projects − 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[2]. 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.

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[2] In some countries, the terms "consolidator", "service provider", "e-Commerce network", "B2B network", "e-invoice cloud" or "supplier network" are more common.

Figure 12: Network Model
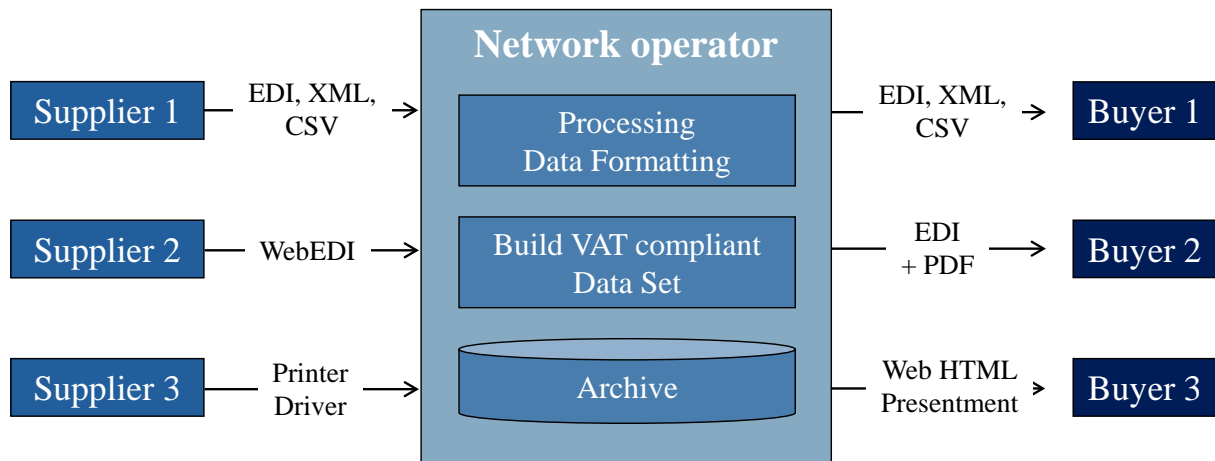
Source: Billentis

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.

Figure 13: 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 14: Total Invoice Management
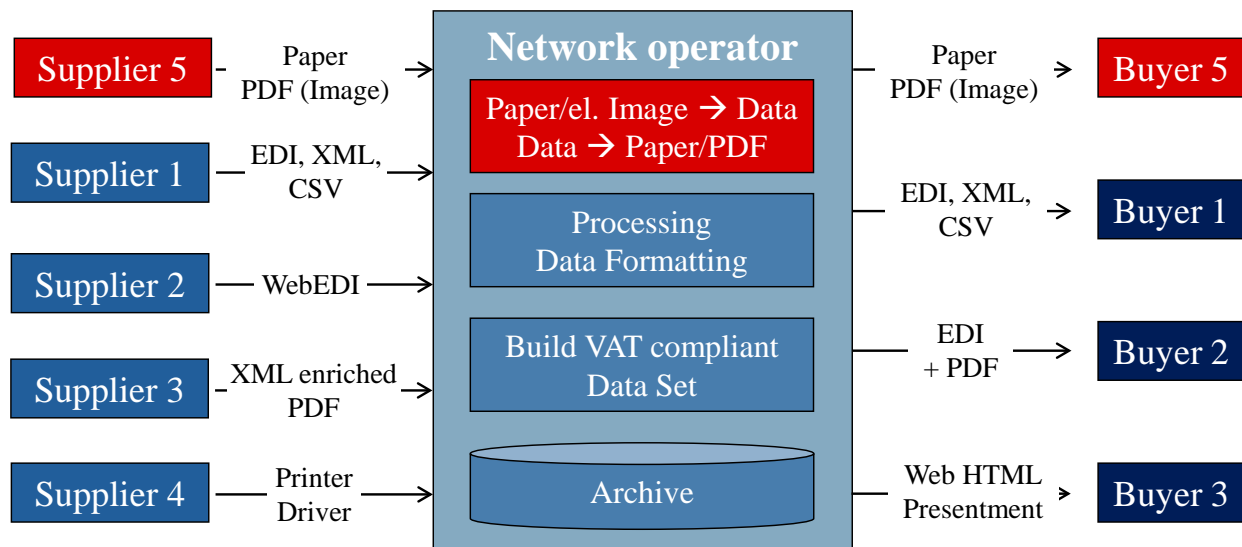
Source: Billentis

Figure 15: 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 16: 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	Some 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. Some billers enhance their scope by using in addition to their portals 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-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.

Phase	Description
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 17: Market maturity for electronic invoices/bills

Source: Billentis, 2016
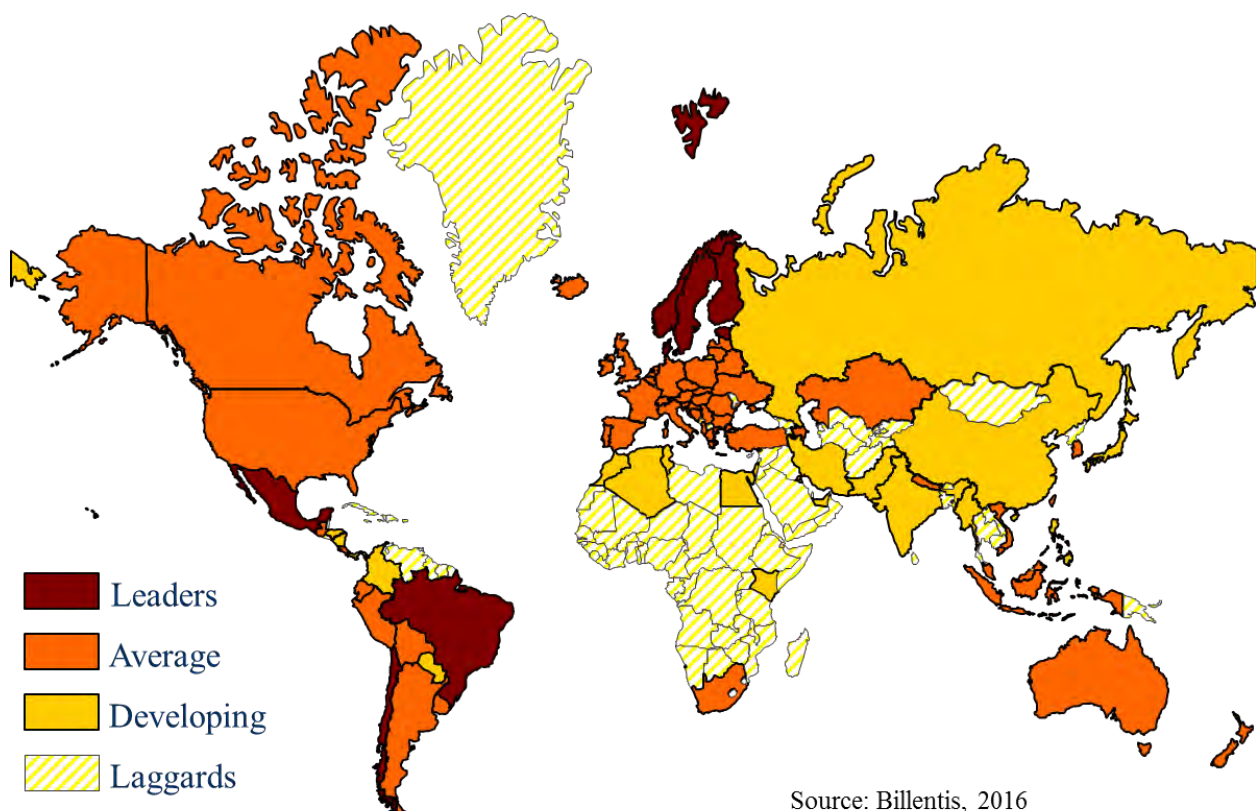
The term "Laggards" in the chart above does not mean that there was no e-invoicing activity in these countries. It just expresses that they are typically in evolution step 1 or 2. "Developing" means that countries are typically in evolution phase 3. Either they are preparing their legislation for B2B e-invoicing as well or, if already in place, the e-invoicing volume is still very low.

It is expected that the 2016 volume for e-bills/e-invoices will achieve around 30 billion worldwide with annual growth rates of 10-20%.

Figure 18: Estimated volume of electronic invoices/bills in 2016

Recipient segment	Europe		LATAM		North America		APAC Africa	
Consumer	3	➡	3	➡	4	➡	2	⬈
Business & Government	5	⬈	8	➡	3	⬈	2	⬈

Estimated electronic invoices/bills 2016 (billions)   Relative growth rates ⬈

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 19: 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. Typically, tax authorities completely disrupt the traditional paper scheme, as they design and implement a completely new system. The resulting clearance system[3] for the trading parties is quite complex. The companies' internal invoice process efficiency

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[3] See definition in Appendix B, Glossary

Focus	Description
	and electronic collaboration between suppliers and buyers are not yet necessarily optimised, but VAT declaration and tax returns may become much easier and more efficient.
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. However, the market becomes increasingly mature for focus 3.
3	**Major parts of Europe:** In contrast to Latin America, the conventional invoicing mechanisms and processing methods are not critically scrutinised, but replaced by a comparable working digital substitute. 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 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 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 16): Large bill issuers start with "Bill Presentment" via their company portals or internet banking.

E-invoicing in B2B is in some Asian countries 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**. 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.

Australia and NZ are at a similar stage to Asia. Today, we have seen phases 1, 2 & 3 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. The retail industry is already quite active regarding digital processes. Pushed by the National E-Health Transition Authority, the healthcare industry is increasingly exchanging health information and related messages like invoices electronically. A limited number of businesses achieved a considerable adoption rate regarding electronic business messages and invoices within their eco system. At this stage however, the majority of invoices in most other industries is exchanged paper-based or as PDF directly via email.

In early 2015, the Australian Government decided to actively push e-invoicing on a broad scale. As a result [1] of a consulting mandate, the author recommended a range of activities for the public and private sectors. Some of the recommendations have since been launched. A multi-stakeholder forum, the Australian Digital Business Council (ADBC, http://digitalbusinesscouncil.com.au/), was kicked off in December 2015. One of the council's first deliverables concerns a document draft for an e-invoicing interoperability framework which shall be ratified in June 2016 [2]. The strong integration of the Australian Business Register for the country-wide rollout is worth particular mention. This should help to significantly improve invoice accuracy (issuer and receiver identification) and simultaneously reduce tax evasion.

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. Further evolutionary steps around paperless billing/invoicing, reporting and archiving are now in progress or respectively being announced. New measures for managing accounting archives have now entered into force, thereby allowing the electronic archiving of e-invoices [3]. The new measures only treat the issue of archiving tax records, but do not regulate the e-invoicing process itself. A B2C pilot project run by the National Tax Bureau with a limited number of online retail stores is still in progress. A pilot project for B2B e-invoicing and archiving shall be extended in the near future. There are clear indications that these activities will play the first foundations towards a clearance system in the future.

Regardless of this progress, the author would still not describe the Chinese system as e-invoicing in the sense as described in figure 1.

India has made announcements about allowing e-invoicing more broadly; however, electronic invoicing remained rare because Central Sales Tax explicitly required paper invoices, while only about half of the states allowed e-invoicing under their VAT law. In early 2015, the legislation was changed, allowing all service-related and domestic invoices to be transmitted electronically from March 2015.

From July 2016, almost all taxable entrepreneurs in **Indonesia** will be required to issue their VAT invoices (Faktur Pajak, FP) electronically and settle tax payments online only. Manual tax payments can no longer be conducted using a tax payment slip.

The current stage of e-invoicing in **Russia** may be described as dynamically developing, especially in the segments retail, FMCG, automotive, pharmaceuticals and power generation.
As of today, there has been a considerable growth of interest among large and medium-sized businesses in implementing projects concerning electronic invoice and document management. This is supported by the fact that the total electronic administration of value added tax was introduced by the Federal Tax Service in 2015. VAT invoices are mandatory following every commercial transaction. They have to be sent electronically to the tax authorities in order to confirm the correctness of the calculation of value added tax. The purpose is different and they do not directly correspond with the definition of 'e-invoices' as used in this report.

The size of the **Turkish** market amounts to two billion annual invoices/bills (source: Turkish Ministry of Finance, 2013). With respect to e-invoicing, the country has made huge progress during recent years. It implemented e-invoicing requirements gradually for an increasing number of industry sectors. In a first step, the Turkish Revenue Administration (TRA) established a state-owned e-invoicing platform. Third-party service providers (certified and linked to the state-owned service provider) are able to address the divergent market requirements. They are interconnected with the TRA platform and leverage market reach significantly. There are currently more than 50,000 businesses that are required to be e-invoice users. The vast majority of them (35,000+) is using the third-party service providers, followed by the portal users on the TRA platform (around 12,000) and the remainder with direct integration on the TRA platform. All the invoices based on this e-invoice scheme are transmitted and received through the TRA system. Meanwhile, Turkey has additionally introduced the e-archive scheme. The e-archive is positioned in Turkey as a new version of electronic invoicing. It is a brand new application which paves the way for addressing new user groups, even if a recipient were not listed in the e-invoice registry.

In the e-archive application, the invoices are transmitted to end users via electronic mail (in PDF format or structured data with an embedded 'style sheet') and invoices that are sent within the month are submitted to TRA as a report. The buyer is not required to register in the e-archive system. Upon the request of end users, the e-archive invoice is printed out and can be delivered to its user as a hard copy.

2.4.4 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 exception, 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.

2.4.5 North America

Considering the annual survey of Fiserv, 24% of all U.S. consumer bills are sent electronically, only with paper suppressed) [4].

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 is rising sharply.

In relation to the huge size of this market, it may come as a surprise that in early 2016 there are 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 steadily 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.

Surveys also directly or indirectly taking consideration of the e-invoicing topic are relatively rare. Most currently focus on the AP side, and mainly with regard to very large businesses.

Considering various sources, the results/trends for larger businesses can be summarised as follows

- Around 40 percent use frontend scanning and OCR solutions for the invoice processing; trend: increasing
- Supplier portals are in place; trend: remains stable
- Purchasing cards (P-Cards) are popular and common for purchases with a high volume, but a small amount. Using P-Cards is directly affecting the invoicing volume and the kind of processing; trend: remains stable
- Roughly 2/3rds of businesses issue PDF invoices via email, but less than 20% via EDI
- For AP departments, e-invoicing is priority number 4-5 (behind imaging, scanning/OCR, workflow, matching)
- Third-party services like e-invoicing networks or alternatively SaaS becomes increasingly important. Using this service helps significantly reduce high in-house investments, but at the same time paves the way to exploit the saving potential; trend: increasing
- Around 50 percent of the B2B invoices are still paid by checks; trend: stays stable
- Any alternative invoice payment and cash optimisation instruments are clearly gaining momentum. Offerings for Dynamic Discounting and Supply Chain Financing vehicles are benefitting in particular.

The vast majority of US businesses, however, employ less than 500 employees. Their behaviour and their preferences are not sufficiently reflected in today's available surveys. If the market behaves in a way comparable to the corresponding user segment in other countries, we may soon expect a very solid growth of third party cloud services.

This prediction is also confirmed in a recent study by Ardent Partners. According to the study, 19% of companies are using these networks and the number is expected to rise to 41% within the next two years.

The US Federal Administration intends to make a huge step forwards. After a pilot programme which explored the feasibility and benefits of e-invoicing in the public sector, the Office of Management and Budget (OMB) released a memorandum [5] directing federal agencies to transition towards electronic invoicing. Government agencies must begin processing all invoices electronically by the end of FY 2018. They can do so either by migrating to a Federal Shared Service Provider (FSSP) and using the FSSP's e-invoicing solution, or by using an OMB-approved electronic invoicing solution such as the Department of the Treasury's Invoice Processing Platform (IPP). IPP has already been implemented at three out of four FSSPs and has nearly 80 agencies enrolled and using the service.

2.4.6   Latin America

Chile may be identified as the root of the Latin American market model and its development. Other markets like Brazil and Mexico are among the early adopters and some of them overtook Chile due to strict obligations for the usage of e-invoicing in that country. Meanwhile, almost all other countries in Latin America are rapidly evolving.

Argentina's tax authority (AFIP) announced a further expansion of the mandatory e-invoicing regime to all sectors of the economy. The final deadlines depending on business revenues are set in April, July and November 2016. The AFIP forecasts that the requirement to issue e-invoices will affect a total of 810,000 taxpayers.

Brazil achieved the highest market penetration globally for electronic invoices in the B2B/B2G segment. With very few exceptions e-invoicing is mandatory for all businesses and around 1.3 million businesses issue e-invoices for goods [6]. This result was possible due to the strict implementation of its e-invoicing requirement several years ago. It is now a pleasure to see Brazil as one of the innovators for users in the retail segment. The project 'Nota Fiscal Eletrônica para Consumidor Final – NFC-e' was launched at the end of 2011. The aim of the NFC-e project is to provide an alternative to the current fiscal printers used in the retail segment in the form of a fully electronic solution, based on an XML file, including a digital signature which is authorised online before the payment at the point of sale. In addition, customers (individuals or businesses) with purchases above $ 5,000 are required to provide identification. NFC-e follows the same technical and operational model of the NF-e (B2B/B2B) used for all industry and wholesale companies in Brazil. NFC-e is already in operation in more than 15 states. NFC-e is the last frontier of electronic tax documents in Brazil. Soon all tax documents will be in the database of the Tax Administration prior to implementation. Electronic reporting and auditing plays a key role in Brazil. They consequently expand upon its reporting requirements significantly. From 2017, Brazil intends to require businesses to also submit monthly inventory and production reports. E-reporting increasingly considers all documents relevant for tax purposes. This also includes documents regarding labour costs, employment etc.

After several years of following a voluntary approach, the **Chilean** tax authority declared a requirement for electronic invoicing. Consequently, at the end of 2015, 200,000 businesses were already registered as e-invoicing users [7]. In 2015, they already exchanged 77% of all invoices in the country electronically. Tens of thousands of other SMEs will be required to issue invoices exclusively electronically from August 2016 or respectively February 2017. The remaining 64,000 businesses will be affected by the requirement in 2018. The requirement to issue e-invoices forms one part of the model. On the other side, the tax authorities also offer incentives for recipients to provide electronic confirmation of received e-invoices. This shall ensure that business only consider the purchases of confirmed e-invoices in their monthly tax returns.

Colombia is also promoting the e-invoicing landscape. The constraints here are much more flexible and market-focused. The legislation permits 'technology neutrality' and format flexibility (XML, PDF, TXT, etc.). In December 2013, CONPES [8] published a new concept with the aim of pushing the mass market in Colombia. E-invoicing was voluntary in phase one, but it will become mandatory in the future. It will also ensure that the structured invoice data are actually received by customers. The new decree will require buyers to digitally acknowledge receipt of the e-invoice by issuing a digitally signed XML message to the supplier, and accept or reject the invoice by issuing a second digitally signed XML message.

Combatting tax evasion is a major objective of the new 'Sistema de Facturación Electrónica' (SIFEL). It is the aim of the tax authorities DIAN to halve VAT evasion using this new electronic system.

Mexico is among the leading countries worldwide and is mainly driven by a government requirement. Meanwhile, more than 5.4 million taxpayers are issuing electronic invoices for goods and services in Mexico.

Additional initiatives are being taken in Mexico beyond electronic invoicing. E-accounting has become mandatory for companies and individuals with annual revenues in 2013 greater than

US$ 270,000. Companies and individuals with revenues below this threshold will have to adopt e-accounting by 2016.

Besides efficiencies in the generation, distribution, archiving, collection and reduction in the use of paper, Mexico's positive results in the adoption of e-invoicing and e-accounting have paid off in the reduction of tax evasion. Mexico has already increased tax revenues by more than a third without raising tax rates and will further enhance electronic audits. This goes far beyond the reporting of accounting and invoice data. It also includes documents regarding the relationship between businesses and their employees. For example, all the monthly salary slips must already be sent electronically. The ultimate goal is to conduct all audits for tax-relevant business processes electronically. The e-audit system is scheduled for update in the second half of 2016.

In addition to the past and present activities regarding the domestic electronic exchange of tax relevant information, there are also projects in progress in order to consider cross-border invoices. Mexico intends to expand the international acceptance of electronic invoices across the American continent. The SAT is therefore working with tax authorities in several Latin American countries, the United States and Canada [3].

In January 2013, **Peru** started a pilot project with the aim of declaring e-invoicing as mandatory for suppliers to public administration. The approach in Peru takes international standards into consideration (UBL 2.0 as the content standard). It shall enable easier integration with trading partners in the European Union and the APEC (Asia-Pacific Economic Cooperation) countries. The Peruvian model has similarities with the Brazilian model insofar as shipping documents are also part of it. Either the 'Factura' or 'Boleta' should accompany the carrier in conjunction with the 'Guia de Remision' (signed bill of lading that forms part of the process). The rollout is steadily mandating new groups of invoice issuers; 11,800 issuers have been affected from July 2015, followed by more in coming years. The objective is to achieve full mandatory e-invoicing by 2017 [3][9].

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 countrywide 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 high market penetration rates, 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.
- Consider the classical invoices, but also other tax documents like credit notes, debit notes, receipts respectively "boletas de ventas" or "tickets" as they are also named
- 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 or a barcode / QR code.
- 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. A very large proportion of the numerous SMEs still prefer printing a paper copy of the invoices, regardless if they were available electronically as well [10].

2.5   The European Market

2.5.1   Market characteristics and development

The European landscape is not comparable with Latin America or the US for several reasons. Here just some facts about Europe in the narrow sense:
- 40+ countries (28 of them members of the European Union)
- 40+ legislations
- 100+ languages
- 22+ million SMEs (with less than 250 employees)

Europe has a long tradition of optimising electronic business processes, but the development happens step-by-step.

Figure 20: e-invoicing development in the European Union

Phase	Description
1	Classical bottom-up growth in each single country, solution and service providers developed the market in the early stage, but with an isolated approach.
2	Especially the stakeholders in Nordic countries launched national initiatives for improving the collaboration. E-invoicing became increasingly a cornerstone of the digital agendas defined and pushed by the government; first national multi-stakeholder I were founded with the aim for faster market development and at least harmonisation on national level.
3	Due to the market fragmentation and growing cross-border trade, e-invoicing became a key topic also in the digital agenda and activity plans of the European Commission. It resulted in some directives, removal or reduction of barriers and standardisation work.
4	In 2014, Directives 2014/24/EU and 2014/55/EU were released. They will affect probably more than 100,000 Public Administrations in EU member states. They will be obliged from end of 2018 to support a certain e-invoicing standard and to become able for automated processing of electronic invoices. In addition have they to change certain procurement processes towards electronic procedures. Although the obligation is valid just for the public sector is it obvious that it will have a major impact to the public sector as well as to all suppliers to the public sector.

2.5.2 The Business-to-Business & Business-to-Government market

2.5.2.1 Market penetration

VAT compliant B2B e-invoicing has been legally permitted in Nordic countries since around the millennium, in the EU since 2004 and meanwhile in all larger, mid-sized and de-facto all smaller European countries.

Status and market development differ from country to country.

Figure 21: B2B/B2G/G2B: Estimated market penetration 2016 per country
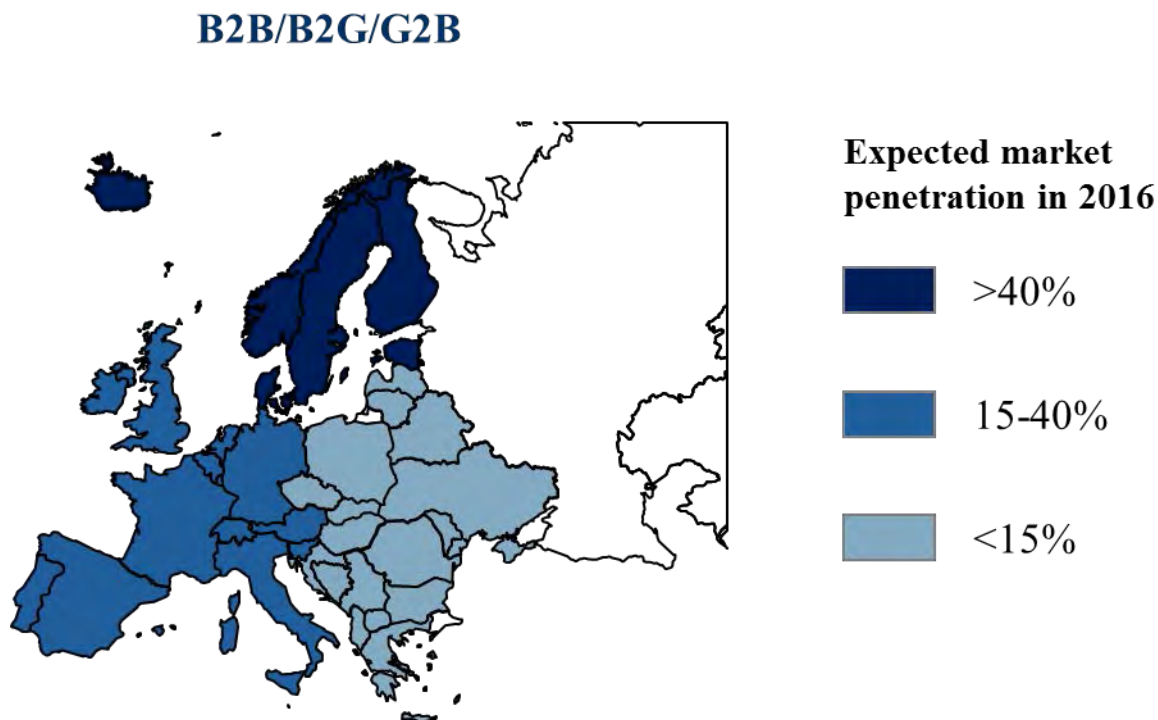
2.5.2.2 Transition from large innovators to mass market

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, 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.

2.5.2.3 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. Unfortunately, no international survey gathered such data on a comparable base. That is why the author shares here the results of a study done with survey participants in German-speaking countries in 2011 and 2015, with a focus on the largest European country.

Figure 22: Multi-channel invoice exchange methods in German speaking countries

Invoice exchange methods 2015 (Focus Germany)
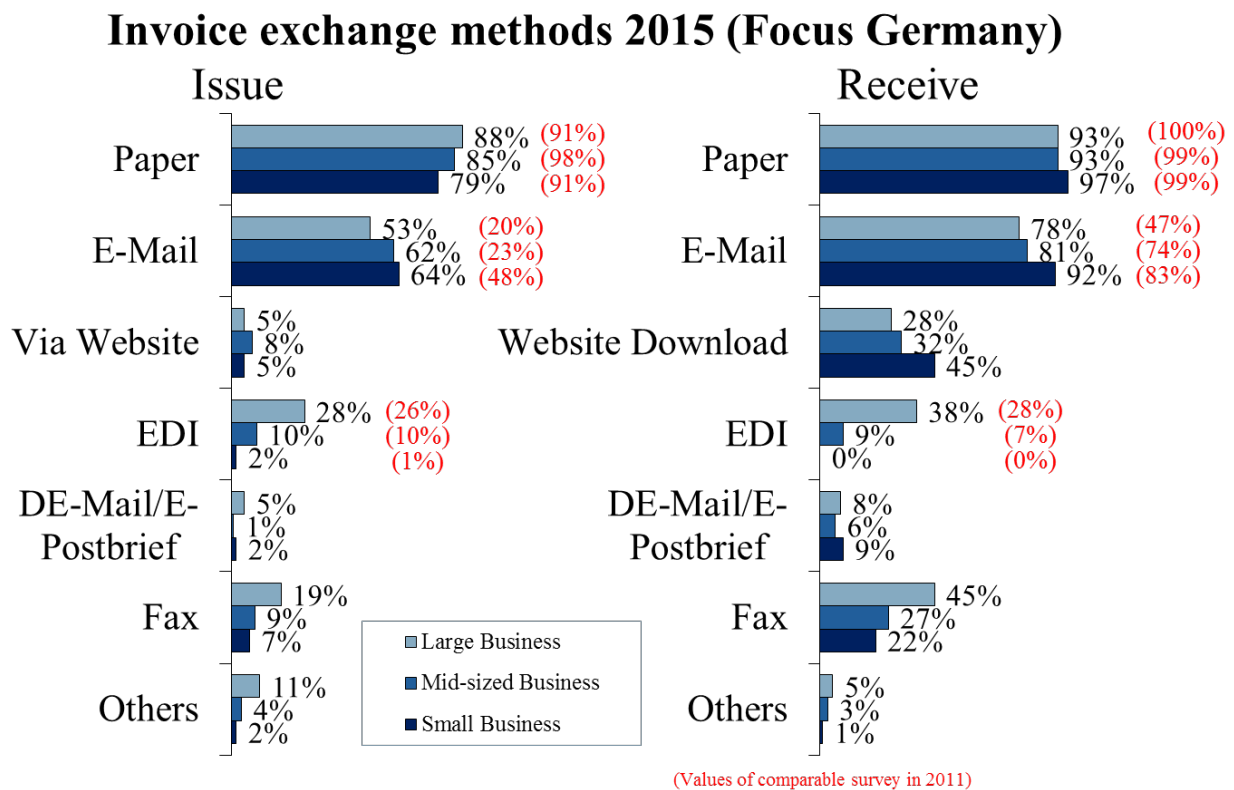
Source: ibi research [11]

Multiple answers were possible. The majority of companies interviewed are located in Germany and are enriched with a few survey participants from Austria and Switzerland.

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
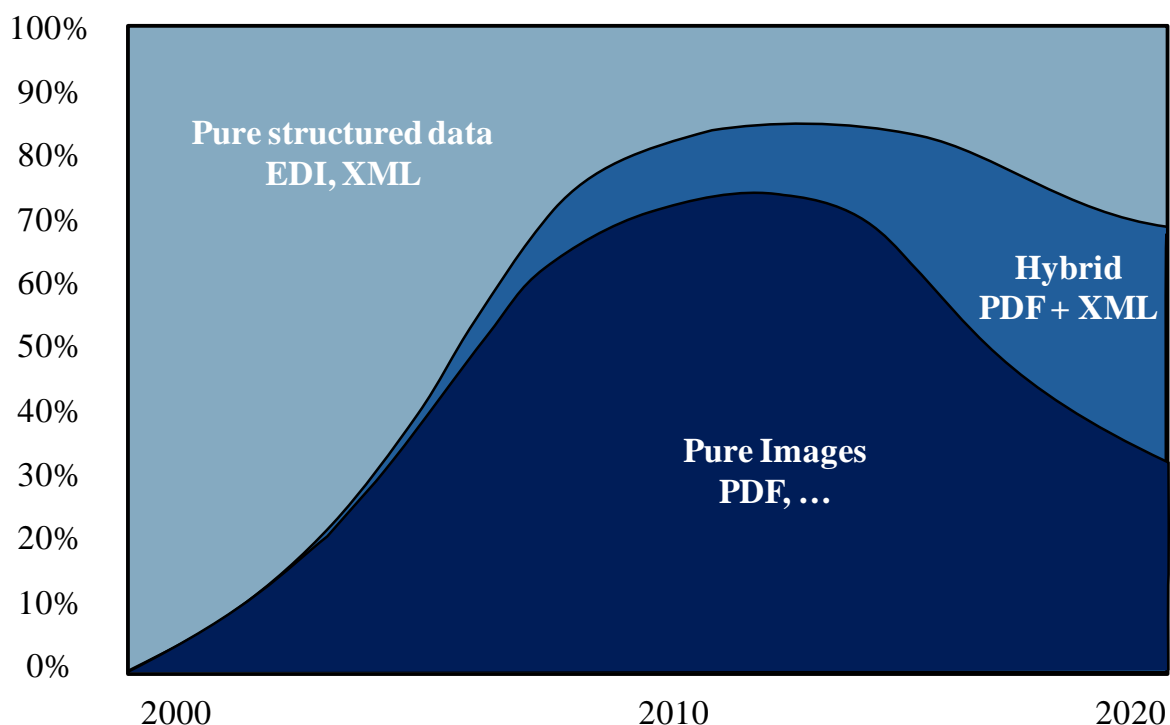
Recent surveys in countries like Austria, Estonia, Germany, Spain and the US indicate that in 2015, the proportion of PDF invoices was around ¾ of all electronic invoices.

The public sector is definitely 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).

2.5.2.4 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
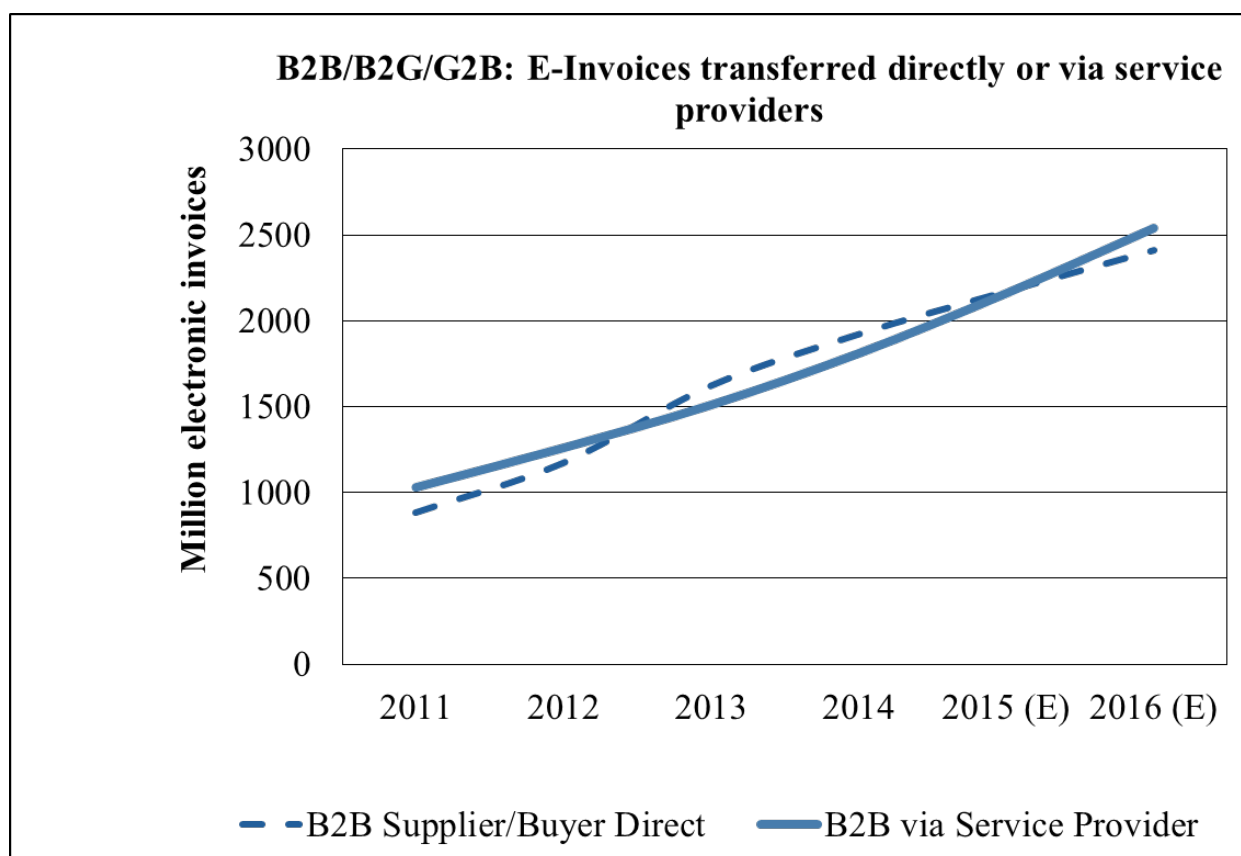
Source: Billentis

The temporary 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 is 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 2015-2018 due to EU digital agenda and new directives).

2.5.2.5 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

Evolution steps of public sector

6 — Automate the full Supply Chain including e-Procurement

5 — Obligation for B2G E-Invoicing

4 — All administrative units are enabled to process electronic invoices

3 — Part of own administration are enabled for the voluntary use of electronic invoices

2 — Optimized rules

1 — Defines strict rules mainly affecting users outside the public sector

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 fully 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.

At least with respect to the federal administration, Austria, Estonia, France, Italy, the Netherlands, Slovenia, Spain, Sweden and Switzerland are already on level 5, or respectively are expected to reached this level within the coming twelve months (as is the case for France).

The regulatory field in the UK has now also been prepared. It is covered by the Small Business, Enterprise and Employment Act 2015, which received final Royal Assent and passed into law in March 2015. The Act contains a regulation-making power which allows the UK Government to mandate a range of measures relating to public procurement in the future, including the use of electronic invoices.

Preparing the regulatory field at the EU and national level is often a necessary first step for broad support in the public sector. This is now fully in progress and an important deadline in EU member states is set at the end of 2018.

The results of two surveys in the German-speaking countries are available and show the increased awareness in the public sector. Survey 1 [12] shows that just 8% of the German municipalities already used e-invoicing in March 2015. Only an additional 19% planned to implement e-invoicing by the end of 2016. 77% of municipalities and states in Germany as well as 23% of the public administrations in Austria and Switzerland took part in survey 2 [13]. This survey was conducted in October/November 2015 and showed a more advanced state of progress: 19.6% responded that they already use e-invoicing, whereas a remarkable 60.1% had plans to implement it. This indicates that the awareness for the relevant EU directive in the analysed markets has

sharply increased within just a few months. Although the public sector is increasingly maturing, it will be a major challenge for the public administrations to keep within the timeframe as defined in the EU directive.

2.5.2.6 Market Maturity in the private industry and 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.

2.5.3 The Business-to-Consumer market

2.5.3.1 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.

Status and market development differ from country to country.

Figure 26: B2C: Estimated market penetration 2016 per country
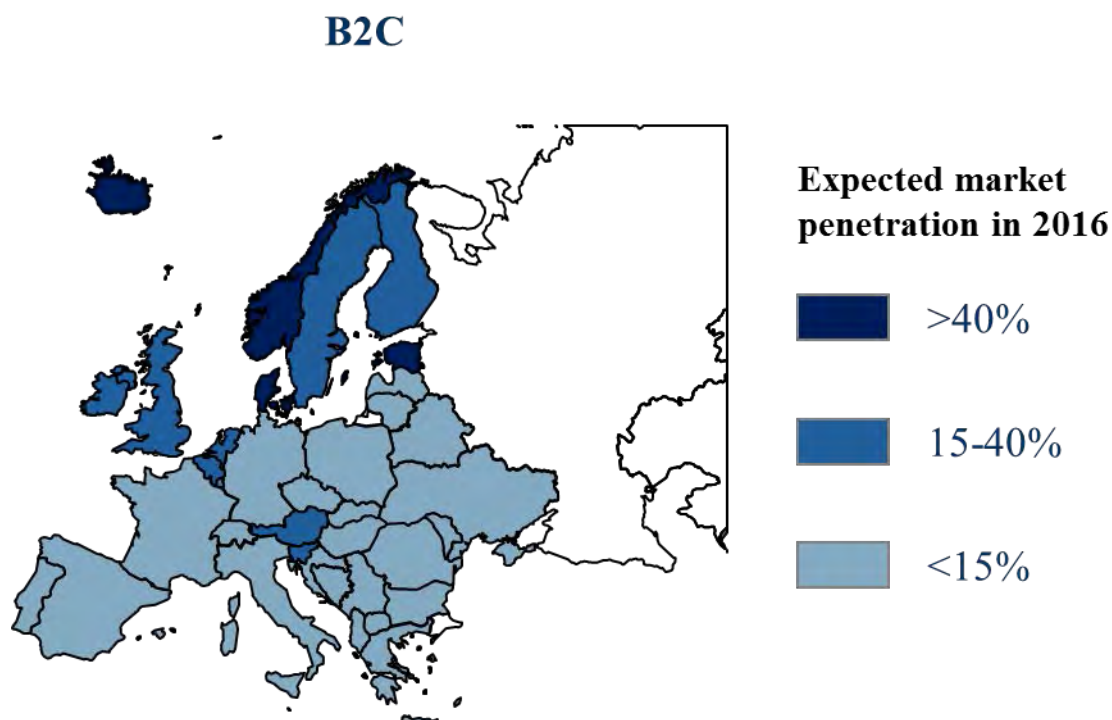
2.5.3.2 Transition from large innovators to mass market

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.

2.5.3.3 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 exchanged e-bill volume via online banking portals is almost as high as the one distributed by other channels.

Figure 27: Electronic bill volume B2C, direct and via Service Provider
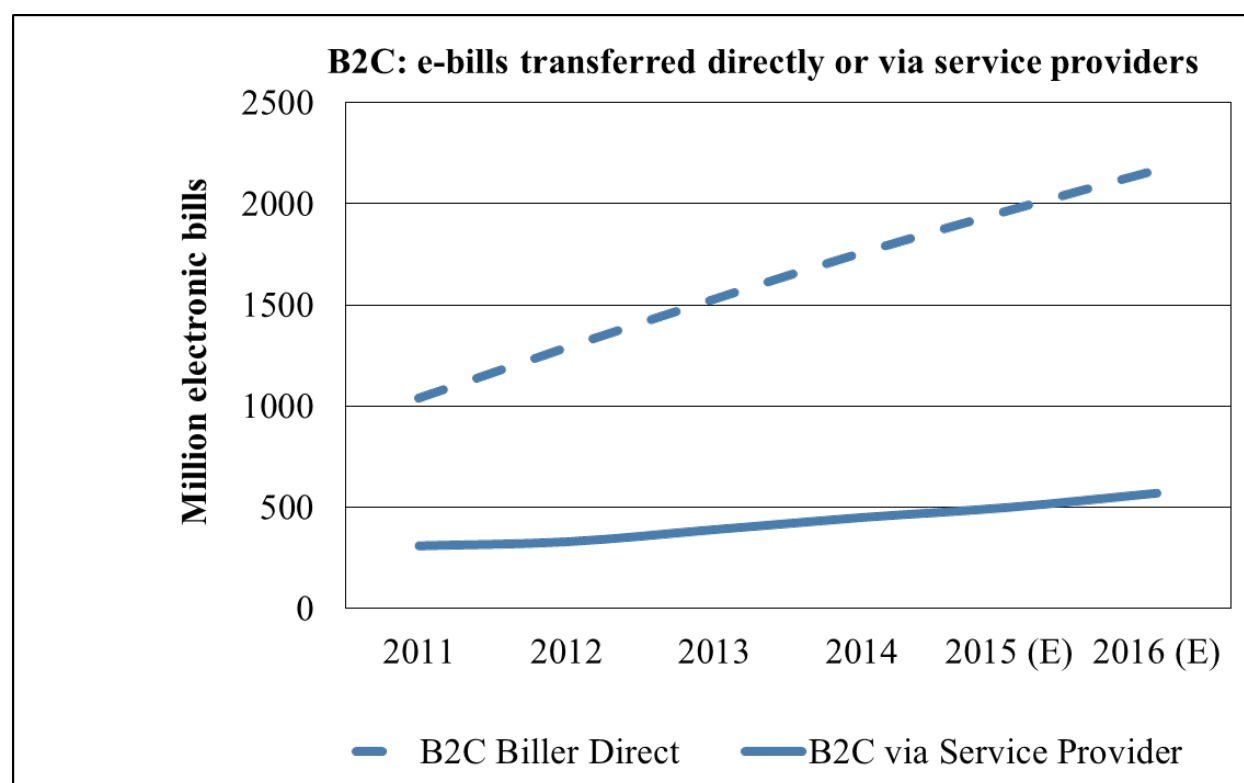
Source: Billentis

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 (16+ million e-bill subscribers), it has an impact on the European figures.

2.5.4 Supporting initiatives

2.5.4.1 Overview

The private industry is typically the catalyst for almost all digitalisation and automation projects. Although the solution providers are in competition with each other, as well as often the users in specific industries, they frequently build supportive initiatives and associations with the aim to standardise and promote the new technologies. Classic examples include OASIS, UN/CEFACT,

GS1, CEN, EESPA (European E-Invoicing Service Providers Association) and many national or industry-specific organisations.

The public sector supports development through a variety of activities
- Considering the topics in the digital agenda and supporting it in various ways
- EU directives and implementation into national legislations
- E-Government Action Plan 2016-2020
- Launching/supporting standardisation initiatives
- Mandating public administrations to prepare their systems and processes for e-invoicing and e-procurement
- Promoting or mandating its suppliers to communicate exclusively by electronic means

2.5.4.2 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 28: Global and industry independent standards for invoices and business messages

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 ISO/IEC 19845:2015	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. UBL v2.1 has now been approved for release as ISO/IEC 19845:2015 Standard. UBL provides the standards for the PEPPOL (Pan European eProcurement Online) platform and public procurement initiatives in several countries.

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
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 Germans embed a subset of CEN CII (Cross Industry Invoice) and MUG (Message User Guides) as XML into the PDF/A-3 files.
CEN/PC 434	The new Directive 2014/55/EU requires the development of a European standard for e-invoicing in public procurement with the aim of removing cross-border barriers. The future standard should be based on existing initiatives, such as the CEN Workshop on Business Interoperability Interfaces for Public Procurement in Europe CEN WS/BII, the MUG (Message User Guide UN/CEFACT Cross Industry Invoice) and other international standards if required. The deliverables of the project group will include a European standard on the semantic data model for the core elements of an electronic invoice, a technical specification on a limited number of invoice syntaxes and other components. The standard will be transposed to Member State level and is intended to be supported by all EU public administrations by the end of 2018. The core invoice is also intended for B2B use.
CEN/PC 440 Electronic public procurement	The main objective of the committee will be to develop standards to support and facilitate the electronic public procurement processes and their underlying accompanying information flows in the physical and financial supply chain (for all other document exchanges in electronic public procurement). The committee will work in close collaboration with the CEN Project Committee on Electronic Invoicing (CEN/PC 434).

Industry specific standards are
- ETIS: Telecom invoices
- GS1: EANCOM, GS1 XML and GS1 UN/XML standard mainly for various sectors including retail
- 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
- Germany: ZUGFeRD
- Italy: BTW, FatturaPA
- Spain: facturae
- Sweden: Svefaktura, SFTI
- Switzerland: swissDIGIN
- Turkey: UBL-TR (based on UBL)

2.5.4.3 Electronic invoicing and procurement 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.

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 EU has adopted a new regulation, which will introduce a new legal framework for electronic signatures, seals, time stamps and electronic documents. These rules aim at creating a uniform regime across EU for the mutual recognition of electronic identification between member states. This new regulatory framework (910/2014/EU) will apply from 1 July 2016 replacing the Directive on Electronic Signatures (1999/93/EC). The new directly effective Regulation will ensure uniformity across the EU, and will address the existing problem of different national rules on electronic signatures, which is due to every member state implementing the law individually.
- The European Committee for Standardization (CEN), a major provider of European Standards and technical specifications, defined useful e-invoicing Guidelines. Further specifications will follow within the CEN/PC 434 and 440 project.

e-SENS (Electronic Simple European Networked Services) is a new large-scale project that embodies the idea of European Digital Market development through innovative ICT solutions. The

project will consolidate, improve, and extend technical solutions to foster electronic interaction with public administrations across the EU (www.esens.eu).

2.5.4.4 Impact of new government initiatives

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 into 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 there is 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.

In a second step, suppliers (or at least larger ones) are mandated to send the B2G invoices electronically. Denmark is a pioneer in this segment (obligation since 2005). Austria, Finland, Italy, Norway, Slovenia, Spain and Switzerland belong to the early adopters.

Some countries in Latin America, Asia and Europe mandate businesses to send electronic invoice data to the tax authorities mainly for reasons of validation. This is sometimes just reporting invoice-related data, but appears increasingly to be combined with real e-invoicing between suppliers and buyers.

Last year, Directives 2014/24/EU and 2014/55/EU were passed. From the end of 2018, Public Administrations (PAs) in EU member states will be obligated to support a certain e-invoicing standard (see CEN/PC 434 in Figure 28) and to develop the ability to carry out automated processing of electronic invoices. In addition, they have to migrate certain procurement processes towards electronic procedures. The schedule is quite tight for the PAs affected. This means that most of them are starting their projects now. Because of the obligation, many PAs are now also evaluating strategic options that go beyond the objectives of the EU Directives. They are developing strategies with the aim to achieve broad-scale market adoption rates for electronic processes. The directives shall increase the proportion of electronic invoices and pave the way for cross-border interoperability.

The author estimates that the new directive will affect 100,000+ public administrations / agencies in Europe. They have to enable their systems and processes until 2018 at latest with the aim to receive and process invoices electronically.
Almost all EU member states have meanwhile launched projects for planning and implementation. In parallel, the update of their legislation is in progress.

This step paves the way for a broad-scale market adoption. Several countries are also expected to declare an obligation for Business-to-Government electronic invoicing in addition.

Government e-invoicing initiatives are certainly not limited to Europe. More than 50 countries around the world are pushing e-invoicing and other paperless processes.

3. Market trends and changing environment

In view of the rapidly changing environment, the author sees these topics as being in the foreground for the two years ahead of us:

- Many new government initiatives resulting in B2B and B2G e-invoicing, e-reporting and e-auditing requirements are forcing large international invoice issuers in particular to act.
- The business models and IT systems of most organisations evolved in decades characterised by the use of paper-based processes. Businesses are required to become more agile. They are recommended to replace their traditional models with disruptive innovations and to re-engineer the processes.
- Pure e-invoicing services are no longer sufficient. The demand to support additional documents, processes and value added services is increasing substantially.
- Accurate data build the pre-requisite for automated processing of invoices and other business documents. Improving the data accuracy is also increasingly required to be fully tax compliant.

3.1 International invoice issuers being forced to take action

Many larger companies have already been sending their invoices to customers domestically and abroad in electronic format for around a decade. This format was and still is quite often a PDF and sometimes enhanced with structured data as defined by the invoice issuer. A sharply increasing number of governments abroad are mandating their suppliers to send the invoices in a specific format. The receiver defines this target format. Further legal requirements can force these international suppliers to not only convert invoice data, but also to process and archive them on servers in the country of destination. The in-house IT and legal staff can often no longer guarantee to fulfil the compliance requirements of customers abroad.

The author has already noticed a sharply increasing demand of international invoice issuers for consultation and solutions. This might be just the beginning of a major trend for the next 4-5 years.

3.2 Increase business agility with disruptive innovation

3.2.1 Trends to increase business agility

In today's erratic economy, business agility is more important than ever before. According to the concept of business agility, organisations seek to approach their operations and resources in a flexible manner. The concept also concerns the ability to rapidly adapt to market and environmental changes in a productive and cost-effective way. Next-generation technologies lay a strong foundation as strategic drivers. Cloud computing allows scalability and adjustable costs per transaction, while mobile devices enable employees to work more easily away from traditional office environments, as well as providing a new form of interaction between people and machines.

Today's business models evolved during decades which focused on conventional paper processing. In the northern hemisphere, businesses and governments are typically taking a gradual approach to replacing this paper-based systems with digital substitutes. Small steps can only create incremental improvements. A number of Latin American and Asian countries are instead developing disruptive models that are optimised for a fully digital world on a broad scale. These developments on a national level also make sense on a company level. The time is right to critically question the use of traditional models and shift to disruptive technologies.

Some innovative organisations have already realised the need to change and are therefore replacing their existing solutions with next generation technology.

Gartner predicts that 47% of (US) companies with less than $ 1 billion in revenues will move their core ERP systems to the cloud within the next five years. A new generation of providers has already launched services for cloud-based accounting and data entry via Click- or Crowdworker. They even believe that the new accountant of the future is a robot. This will of course have a significant impact on the next generation of AR, AP and e-invoicing solutions. E-invoicing clouds, compliance & archive services might soon gain momentum.

Associations such as https://www.eurocloud.org/ and others are pushing and coordinating this development. As a result, the author expects an increasing number of platforms featuring trusted cloud components (portals/shops with a catalogue of numerous cloud components). This allows end-users and service providers to form the desired cloud services into a complete service.

This development is still in its early stage, but may have the momentum to disrupt conventional models. By using these services, organisations will have the chance to be much more agile in the future.

3.2.2   Overcoming the 'not-invented-here' syndrome

Many organisations have a DIY (do-it-yourself) culture. They even develop in-house solutions for e-invoicing and the entire automation of business processes.

This results in insufficient business agility:
- Regulators are steadily increasing the requirements regarding tax compliance for invoices and other business and fiscal documents. Ongoing changes to the companies' own systems and processes are required.
- The trading partners send or request the business documents in diverse formats. Organisations with in-house solutions have to invest a lot of time in building and maintaining the corresponding mapping tables and divergent processes.
- It is hard to maintain and expand functionality in a tax-compliant manner, while also staying flexible.

Tax-compliant invoice processing and archiving is business critical. In the vast majority of cases, it should therefore not be re-invented. Instead, users have the opportunity to replace in-house solutions with flexible and field-tested cloud services.

3.3   Beyond e-invoicing

3.3.1   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 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.

- Analytics solutions for procurement, invoicing, spend and payment trends might gain momentum. They deliver valuable results which are required improve the entire order-to-pay and purchase-to-pay processes.

3.3.2 SMEs demanding new solutions and on-boarding models

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 that 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.

3.3.2.1 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 their way of doing business. It should be ensured that the solution/service could be used within minutes. Instruction video clips are a useful guide for new subscribers for setup up to the point where the first electronic invoice is successfully exchanged.
- Intelligent PDF invoices or 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.

3.3.2.2 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 45.
- 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.

3.3.3   E-invoicing & e-procurement

In many countries, e-invoicing is much more visible on a broad scale than e-procurement. One reason for this is that e-invoicing was pushed by tax authorities around the world as a top priority and e-procurement was mainly an issue of the private industry. According to Eurostat [14], 17% of all businesses with 10 or more employees in the EU received at least 1% of its orders electronically in 2015. Considering this statistic, Belgium, Croatia, the Czech Republic, Denmark, Germany, Iceland, Ireland, Norway, Portugal, Sweden and the United Kingdom are more advanced than average. Sweden maintains a nationwide index on the growth of e-invoices and e-orders. In Q2 2014, the ratio was 11.4 e-orders for every 100 e-invoices. The absolute growth rates of e-orders are clearly below the values achieved for e-invoices. [15]

The public sector is responsible for 16-18% of all purchases in a given country. Nevertheless, a maximum of 5% of public purchases are processed using electronic procurement solutions. This is now in progress of changing – at least within the European Union. The EU intends to modernise public administration with end-to-end e-procurement (from the electronic publication of notices to electronic payment). Specific concepts and standards have already been developed or are currently being drafted. [16]

These public sector activities in the EU might generate a strong tailwind for e-procurement initiatives in the private sector as well. It paves the way for closing the electronic loop in the processing of orders and invoices.

3.3.4   E-invoices & other fiscal documents

Governments' revenue departments combat tax evasion wherever they can. They seek to gather vast amounts of data regarding all relevant issues – following the concept of Big Data. Today, the status quo in all countries is just to collect general ledgers and other audit data. In most countries, this is still only required periodically, after transactions have already occurred, and paper-based reporting is in most cases still permitted. This likely has no real influence on reducing tax evasion.

Considering all fiscal documents, it is the invoice which provides the most complete information for tax authorities. Invoices are therefore moved to the foreground as part of a next step. In this phase, tax authorities mandate the organisations in a country to exchange invoices in electronic format only. The invoice data also have to be sent to the tax authorities (clearance model) before or after the shipment of goods. A major focus is place on real-time or near real-time processing. E-audit and data forensics help the tax authorities to detect anomalies sooner. As we see in a number of countries, these steps significantly facilitate a reduction in tax evasion.

Nevertheless, tax evasion is still possible, for instance, if goods are sold over the counter, or if paid salaries are wrongly declared or not declared at all etc. Consequently, countries that in particular exhibit a level of tax evasion above the international average are currently attempting to completely close the electronic loop between tax payers and the tax authorities. All data of fiscal relevance will be reported to the tax authorities electronically in the future. Real-time or near real-time audits will become a matter of course.

Most countries in Latin America, as well as some in Asia and Southern Europe (Portugal, and Spain from 2017) are forerunners with respect to this development.

This concerns several fiscal documents, which are increasingly required to be exchanged with tax authorities, trading partners and employees in an electronic format only, including:
- Salary statements (such as in Mexico)
- Bank statements (such as in Mexico)
- Bill of lading or delivery note, to ensure that a supply follows an invoice (such as Brazil)
- Invoice
- Goods received notes (such as Manifestacao do Destinatario in Brazil)
- VAT declarations
- VAT deduction documents
- Payment slips to cover revenues made over the counter (fiscal document issued by tills at the point of sale)
- Export/import, trade facilitation documents
- …

As the electronic gaps from the taxation perspective will be closed, tax declarations, deductions and the traditional audits will no longer be required in the future.

The results for the tax authorities are remarkable:
- Brazil has seen a $ 58 billion (USD) increase in tax revenue as a result of plugging gaps in invoicing and reporting.
- Mexico increased tax collections by 34% in the first wave of its e-invoicing rollout, before mandates on reporting even went into effect.
- Colombia found that it could reduce 50% of the country's tax evasion by applying these forms of models.

To achieve this, it is necessary to completely disrupt the conventional paper-based models. Not all countries have this capability or the political support for the strict replacement of traditional models.

3.3.5   Solution providers challenged by diversified demand

Even for larger businesses it is often too difficult to comply with these rapidly changing requirements using in-house solutions. Therefore, it is even more important to involve third-party solutions and service providers to support them through this transition phase.

Specialised solution providers are experienced in this area and they have the business focus to handle this level of complexity. Nevertheless, it is also quite challenging for them to support their customers through the transition phase. The competition between solution providers is now

quite tough. Customer-oriented offerings and innovations are in demand more than ever. A suitable and affordable long-term strategy for managing future business may become a key issue for these service providers.

Figure 29: Future Markets Radar for Service Providers – Future Management

Phase	Description
1	The commodity service could include any-to-any data formatting, tax compliant e-invoice preparation (domestic and cross-border), transport/distribution and archiving. Cost leadership is required for being competitive in the future. Providers unable to increase the processed invoice volume above the market average growth should think about mergers with competitors for achieving the critical mass.
2	The author expects that in the provider community the "wheat will be separated from the chaff" based on the capacity to be a champion in these disciplines: Specific business rules are applied at least for validating the mandatory data fields in invoices. Data accuracy is a cornerstone for significantly reducing the costly exception handling of invoices. Electronic invoices can become the catalyst for this improvement. Meanwhile, a few service providers have developed excellence to engage and on-board a high number of users in a short time. In just a few years, the most attractive market segments in advanced countries might be occupied. In today's globalized world it is no longer sufficient to support just the domestic requirements. Country- and even industry-specific enhancements should also be supported.
3	Value Added Services (VAS) are increasingly an important differentiator to other competitors. In the spotlight today are hybrid services (processing of paper and electronic invoices in parallel), instant payment features, any kind of Supply Chain Financing & Trade Financing, Dynamic Discounting, data synchronisation services (master data, product data), analysis of invoice and processing related data.
4	The tax authorities are increasingly demanding with regards to the reporting of any tax documents in electronic format. In the past this was often limited to general ledgers and VAT declarations. Increasingly taxpayers are also requested to send electronic

Phase	Description
	data of audit files, invoices, credit notes, debit notes and even the payment receipt data produced by fiscal printers at the point of sales. Service providers mainly acting in Latin America, Asia, South and Eastern Europe are affected by this development. The IT challenges for many taxpayers are too high and they prefer to involve a service provider doing this on behalf of them.
5	A pure focus on processing solely electronic invoices is no longer sufficient. Meanwhile, more than 50% of service providers offer also support for other related business messages (e.g. orders, order confirmations, statements). In a first step they transport such documents in an electronic envelope. Leading providers offer advance services like content validation and matching between the different messages. The most popular services are currently the matching between orders, invoices and delivery notes. This can also include the optimisation of expenses management (e.g. comparison of invoice line items with orders and/or prices as agreed in contracts).
6	Traditional electronic marketplaces grow increasingly into the business area of e-invoicing networks and vice-versa.
7	Exporters and importers process many cross-border invoices, but also a high number of customs, trade and transport documents. These additional trade documents have a high degree of overlap with the commercial and tax invoice. Tax authorities and auditors increasingly demand documents approving supplies and customs documents. The first e-invoicing network operators enter into this area in order to offer a full e-document service to their customers (full service for exporters and importers). This development is still in its early stage but might gain momentum until the end of this decade.

Today the service providers have an extremely high degree of vertical manufacturing (make almost everything by themselves). It is obvious that most providers do not have the capacity and resources to develop and process all future services by themselves. Comparison: The automotive industry today has a depth of manufacture of 20-25% and still tries to reduce it. Specialized partners do the rest. In the end the author expects (and recommends) a similar development of the solution provider community.

Disruptive innovations should not only be considered by end-users, but also by solution and service providers. The market ultimately demands a highly holistic solution, exceeding the capability of most solution providers. Segmentation into specific functions that are provided by specialists to other service providers could become a realistic scenario. Finally, the potential innovation models for service providers are comparable to those of end-users (chapter 3.2.1).

3.4　　Improve the data accuracy of tax-relevant documents

3.4.1　Brief analysis of challenges

Recipients particularly understand the problems of poor data quality in invoices. This starts with differences in the master data and other data fields mandatorily required by the tax legislation. Inaccurate invoice data result in expensive exception handling and payment delays.

As many businesses optimise taxes through illegal and legal methods, tax compliance is increasingly put into the spotlight. The OECD and G20 countries agreed to increase the requirements for reporting and the tax compliance of any business documents. The Panama papers scandal

might further strengthen and accelerate this trend. Businesses have to provide more precise evidence that trading partners really exist and that business documents are based on a supply of goods or services. The current accuracy of invoices and related business documents may no longer be sufficient.

Invoice issuers and recipients also have tremendous costs associated with inaccurate invoices. This is well reflected in a survey. Atradius [17] analysed the main reasons for payment delays by domestic B2B customers. Incorrect information on invoices was the reason for 25.7% of these delays in Asia Pacific, 26.3% in the Americas and 15.1% in Europe. Even worse is the fact that in 19.2% of the cases in Asia Pacific, the invoice was sent to the wrong person. The value in the Americas was 21.4% and in Europe 11.6%.

Higher invoicing accuracy can be achieved by improving the address data of issuers and recipients, and all data related to the underlying supplies (goods and services).

Phantom trading partners (fictitious corporate entities) and supplies (never delivered) are also a main reason for AP fraud. According to a 2015 APN survey, 44% of organisations have been affected by fraud in the last three years [18]. According to the 2014 Report to the Nations on Occupational Fraud and Abuse, the typical organisation loses five percent of its revenues to fraud each year [19].

Not all, but many of these challenges can be overcome with an appropriate measure to improve data accuracy and validate the data on a real-time or near real-time basis. E-invoicing based on accurate data lays an excellent foundation to this end.

3.4.2   Accurate addresses and master data

Tax compliance requires that both trading partners really exist, and that their addresses are correct and in line with the entry in the business register.

Digital certificates can be one tool that may be used to unequivocally identify trading parties, at least on the technical authentication level. They are already in use in some countries with this objective. However, this unique identification does not necessarily guarantee that the issuer and recipient addresses on the invoice will correspond. This can rather be ensured by a synchronisation of the master data with accredited registers. Such accredited registers may be the national business registers. In addition, public sector registers – including the public administrations/agencies on all federal levels – may be established and maintained. The data of these registers are sometimes not yet fully public, mainly for privacy reasons. If this is the case, the legislation can be changed to pave the way for easy online access to them. For practical reasons, registers are required to support a number of specifications regarding hierarchies such as for headquarters and branches, subsidiaries etc. If these prerequisites are fulfilled, the market participants can use lookup routines to dynamically synchronise key parts of their master data in their ERP solutions or respectively the user directories of e-invoicing network operators. Australia might be one of the first countries going this way with dynamic lookup routines [1][2]. Some Nordic countries, Austria, Italy (public administrations) and a number of others are also quite advanced in this respect due to their use of public registers in the context of e-invoicing.

Direct data synchronisation between the systems of trading parties will still play an important role in many high volume industries, but might in the medium term be complemented or replaced by synchronisations with national registries.

Some projects are paving the way towards the identification of trading parties in the future, including for cross-border transactions. The EU has initiated eIDAS [20]. Mexico is also very active regarding unique cross-border identifiers for trading partners in Latin American countries, the US and Canada.

3.4.3 Accurate product and service information

Due to compliance requirements, businesses have to provide the evidence that business documents are based on a supply of goods or services. Tax optimisation by over-invoicing (fraudulently increasing the price of a good or service) or under-invoicing (decreasing the prices) shall thereby be avoided.

Businesses also have their own interests in accurate goods or service descriptions in invoices. For standard or mass goods and services, especially in regulated market segments, such data can be synchronised with a central data base. One example is TARMED, the tariff structure in the Swiss healthcare industry. The supplies in the invoices are matched with these standardised data. Most businesses are operating in a less standardised environment. For them, good options for increasing the accuracy of such invoice data are also available. Integrated purchase-to-pay solutions are leading to catalogue data matching.

For most organisations, it makes sense to issue orders predominantly by electronic means and receive e-invoices. The content of these two messages can be automatically matched.

4. Digitisation & Automation

4.1 From gradual evolution to innovative business process automation

Remark: In order to simplify the description, the author focuses on the invoice recipient side in this chapter. The steps for improvement are accordingly also valid for the invoice issuer side.

Organisations typically follow an evolutionary path and gradually improve their processes in 10-20% steps. Substantial savings are possible with this approach. Besides the introduction of these classic steps in this chapter, the author will also encourage the readers to assess a more revolutionary model for business process automation based on disruptive innovation with the aim to improve to 90%.

Figure 30: From gradual evolution to innovative business process automation
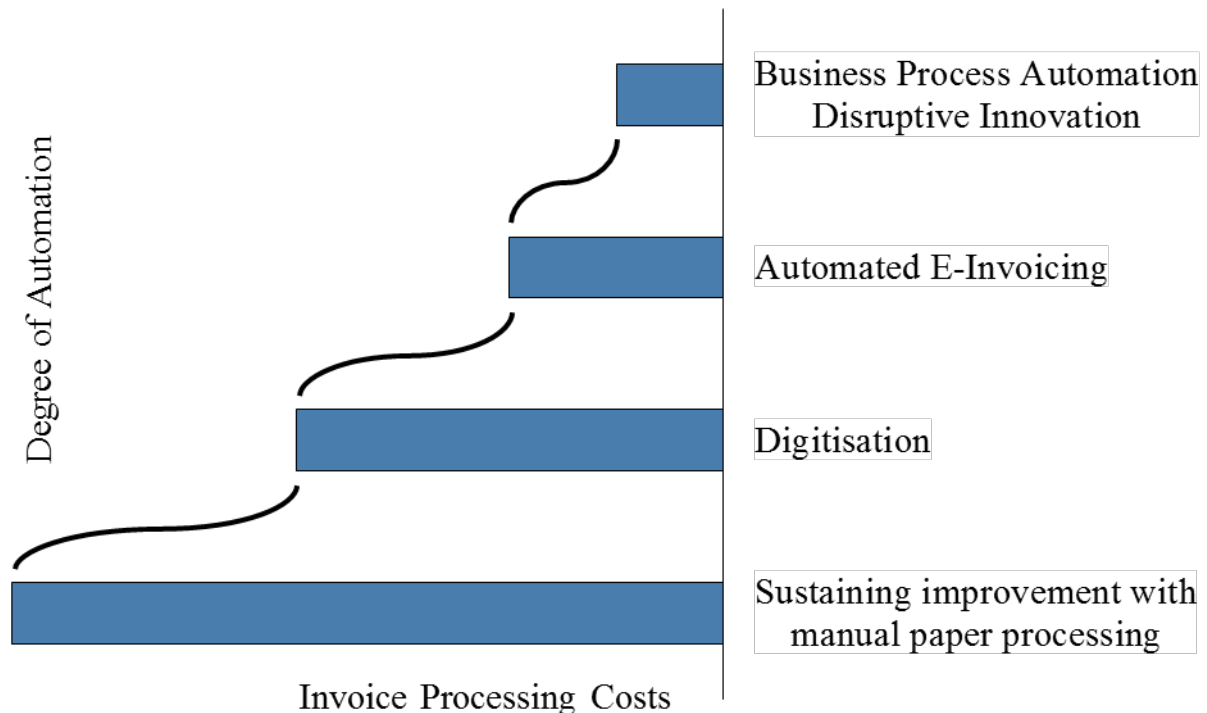
4.2 Sustaining improvement with manual paper processing

In most organisations, conventional paper processing is not optimised. Invoices are often received decentrally by many departments. Cash managers do not have an overview of all invoices in the workflow and therefore only have limited opportunities to improve the working capital.

A first step of improvement is to centralise inbound invoices. From the very beginning, they can be processed more efficiently in a shared service centre. Offshoring such shared service centres can again reduce the processing costs substantially.

Nevertheless, the classic shortcomings caused by the paper format remain, such as:
- The accuracy of the invoice content remains a problem; typically 20-30% of all invoices have to be treated as exceptions in one form or another, resulting in very high processing costs.
- The data are validated and matched with related documents manually; this is time-consuming and costly. Delayed payments are often caused as invoice errors are detected very late during the processing cycle. Potential discounts are missed and the DSO stays too long.

- The master data have to be updated manually, resulting in high trading partner administration costs.
- For archiving paper invoices, a great deal of space is required. It is also costly to retrieve paper invoices in the event of audits or queries.
- The demand of trading partners for an electronic channel is not satisfied.
- Last but not least, paper invoices are harmful to the environment.

4.3   Digitisation

Digitisation is a huge step forward. Currently, two methods are in the foreground:
- Paper scan and capture
- Image-based PDF invoices

Digitisation requires organisations to establish invoice workflow and archiving solutions. As a consequence of this improvement, many disadvantages of conventional paper processing disappear, but several still remain:
- The accuracy of the invoice content remains a problem; typically 20-30% of all invoices have to be treated as exceptions in one form or another, resulting in very high processing costs.
- The master data can be updated on a semi-automatic basis, but the risk of redundancies of master data with minor differences could increase.
- The demand of trading partners for an electronic channel is not, or not fully, satisfied.
- Last but not least, paper invoices are harmful to the environment.

Image-based PDF invoices are for many organisations a first step towards paperless invoices. Invoice issuers favour these as they have an immediate positive impact on costs. Larger invoice receivers are more sceptical towards exclusively image-based digital invoices. Nevertheless, it is even an improvement for them compared to paper invoices. Transport is much faster. They have access to a quick, digital channel for feedback and rejects. For internal processing, recipients can feed the PDF invoices into the scan and capture process. The resulting data quality of this is slightly better than with paper invoices.

4.4   Automated e-invoicing

The legislation in many countries (in Europe, North America, Pacific etc.) considers paperless invoices in any electronic format to be e-invoices. This includes structured electronic invoices as well as image-based PDFs. Depending on the country, up to 50% of all businesses use office programs to generate invoices. They often neither have AR nor AP modules for their accounting. Many of them have outsourced invoice-related processes to third parties. For them, it is challenging to practically automate e-invoicing processes. For most others, however, a key objective is to fully automate these processes. Terms like 'touchless e-invoicing', 'zero touch e-invoicing', 'true e-invoicing' or 'automated e-invoicing' are used in this connection.

Suppliers and buyers use structured invoice data and typically establish direct two-way communication or increasingly use a service provider for the bilateral exchange. This results in many benefits.

E-invoicing is typically practiced in a centralised manner for all outbound and inbound invoices. This results in increased transparency and builds an excellent basis for the optimisation of cash management.

A major shortcoming of any paper and digital image-based approach is that the accuracy of invoice data is not guaranteed. With the appropriate approach, this problem can immediately be eliminated or at least improved (see chapter 3.4). The unique identification of trading partners based on compliant master data is a prerequisite and becomes the norm for automated e-invoicing.

True e-invoicing paves the way for real-time or near real-time data validation. The earlier an incorrect invoice is rejected, the sooner a new one can be sent. As a result of the improved invoice accuracy, the approval and processing time can be reduced significantly. The DSO can in most cases be shortened by several days[4].

Dispute handling can be conducted in a more structured way by using the same electronic communication channel. As a result of the increased electronic interaction, the trading partner administration costs can be reduced substantially.

Compared to conventional paper invoice processing, the automated e-invoicing will result in cost savings of 60-80% in most cases.

Structured e-invoices build a good starting basis for value-added services and the easier implementation of trade financing services.

4.5 Business process automation with disruptive innovation

More advanced organisations might have a broader objective than merely to optimise invoice processes. This is indeed a worthwhile undertaking: the automation and optimisation of the invoice process typically represents only one third of the total potential. In light of this, the full purchase-to-pay and order-to-cash process may be brought to the foreground over the coming years.

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[4] A survey in Germany confirmed 5.4 days for example.

Figure 31: Exploit the full optimisation potential
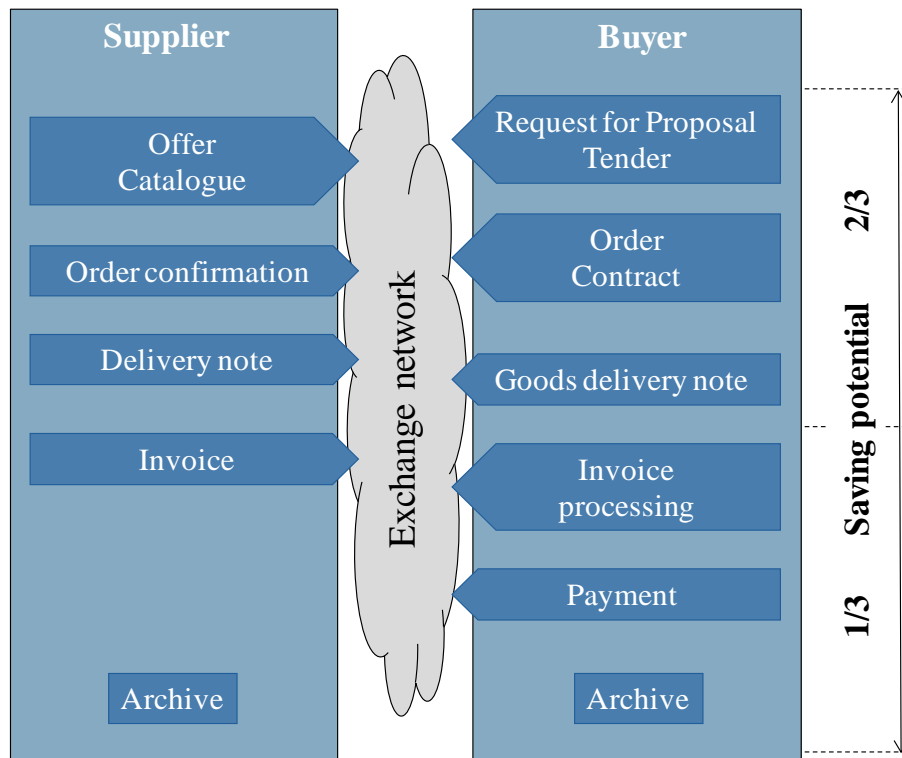
Many businesses seeking to optimise the full purchase-to-pay and order-to-cash cycle intend to replace paper processes with electronic processes. They can thereby achieve substantial savings. However, it can be worthwhile to critically scrutinise the current processes and systems. Both of which likely evolved over one or two decades. Gradual improvements achieved by substituting paper-based processes are positive, however it is possible to take a disruptive approach and thereby improve the entire financial supply chain by many factors.

Experience shows that often one third of the sub-processes can be removed without losing anything essential. Monolithic systems can be replaced by cloud services on a modular basis. Costs can be significantly reduced and the organisations following this approach can become more agile.

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 [21]. 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 [22].

> 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 32: 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
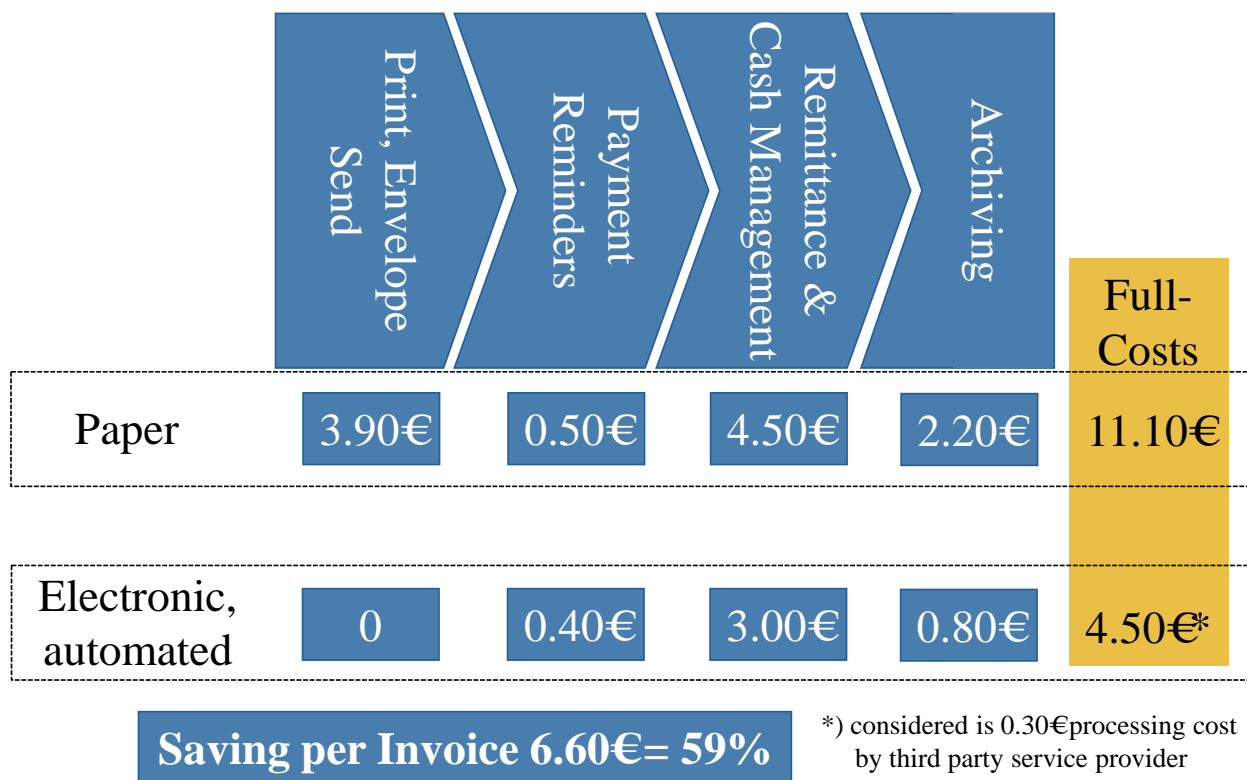
Source: Billentis

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 up-dating of master data directly by the customers.

Figure 33: 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
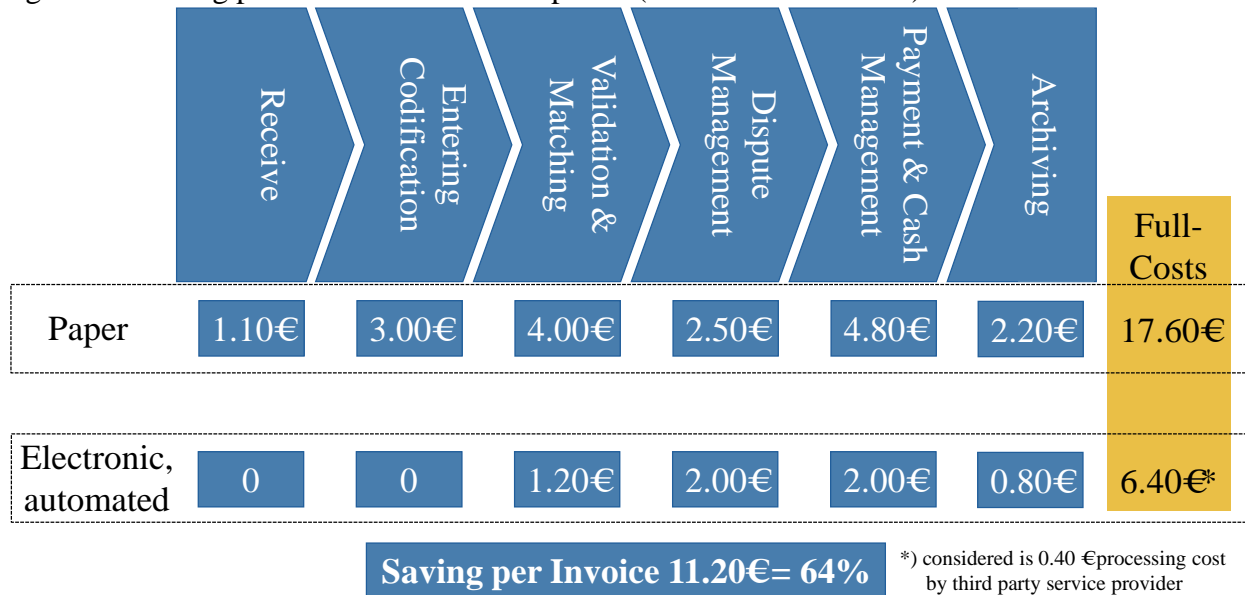
Source: Billentis

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 18 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 34: 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[5]

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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[5] 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 than in Europe. This is understandable for several reasons. The US does not apply the VAT sys-tem 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 0.20 – 0.80 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 [23].

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 35: 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 annual 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 36: Breakdown of saving potential in the public sector

Sources: Federal
Administrations of Denmark & Switzerland
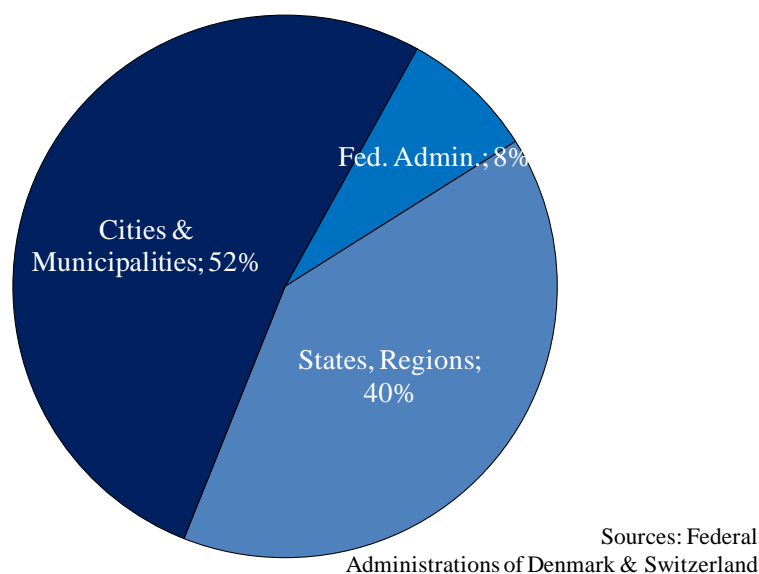
In the broadest sense, this breakdown might also be applicable for many other countries. Assuming so, the saving potential breakdown for various countries could look as shown in the following table.

Figure 37: Indication for the saving potential in the public sector of some European countries

Country	Minimum public sector saving potential (million Euro a year)	States, Regions	Cities & Municipalities
Austria	600 [24]	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 38: 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 39: Main barriers in many European countries [24]

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 [23]
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.	Third 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 to clarify and show the risk of resistance to the opportunities of new electronic methods.

Figure 40: Main barriers for mid-sized and larger US companies

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 [23]
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 41: Priorities of invoice streams

Source: Billentis
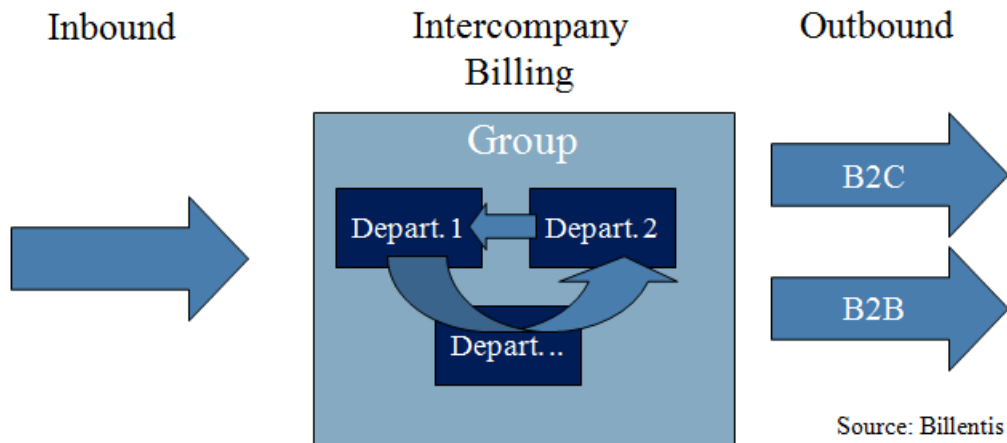
Inbound

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 45) 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 42: Optimisation steps and benefits

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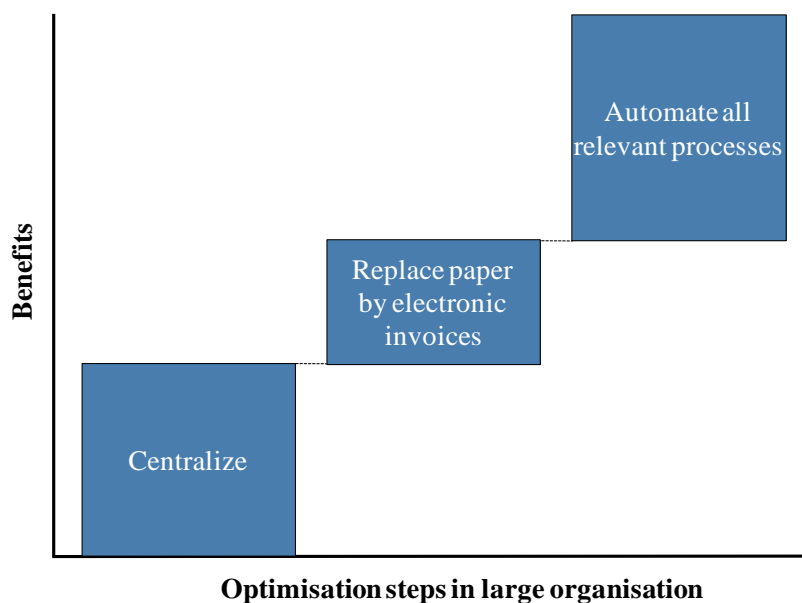
As this objective can be (too) time consuming (e.g. 2 years) a good alternative is migration within a decentralised environment. If the constraints of future centralisation are already known, they can be considered in the planning and implementation of systems and processes.

Improve to electronic and automated processes is generally a good step. However, in most organisations, it may be advisable to critically scrutinize and streamline first all the processes. Often, 30% 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 43: Pattern for inbound invoices
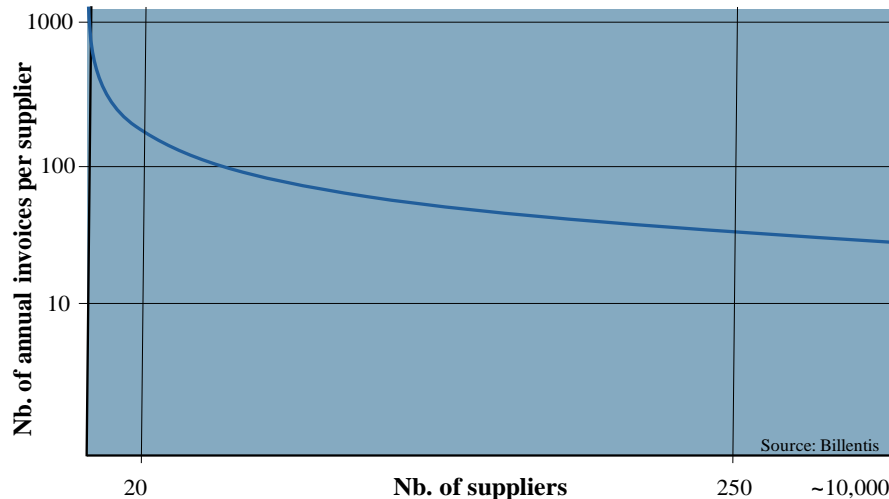
The number of suppliers sending more than 100 invoices per year is quite often just among 20-50. Perhaps another 1,000 send 10-100 annual invoices and the vast majority send less than 10 annual invoices. Large organizations have typically 10,000 suppliers and depending on the product n0,000 customers. 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 44: 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 45: 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 46: 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 47: 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 48: 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
    - o Involved and related processes, systems and divisions/branches/subsidiaries
    - o Invoice streams
    - o Obstacles and how to solve them
    - o Structure, capability and legal constraints (especially in multi-national companies)
- Of your counterparts
    - o Volume
    - o Technical capability
    - o Willingness to adopt
    - o 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 49: Optimise corporate finances with e-invoicing
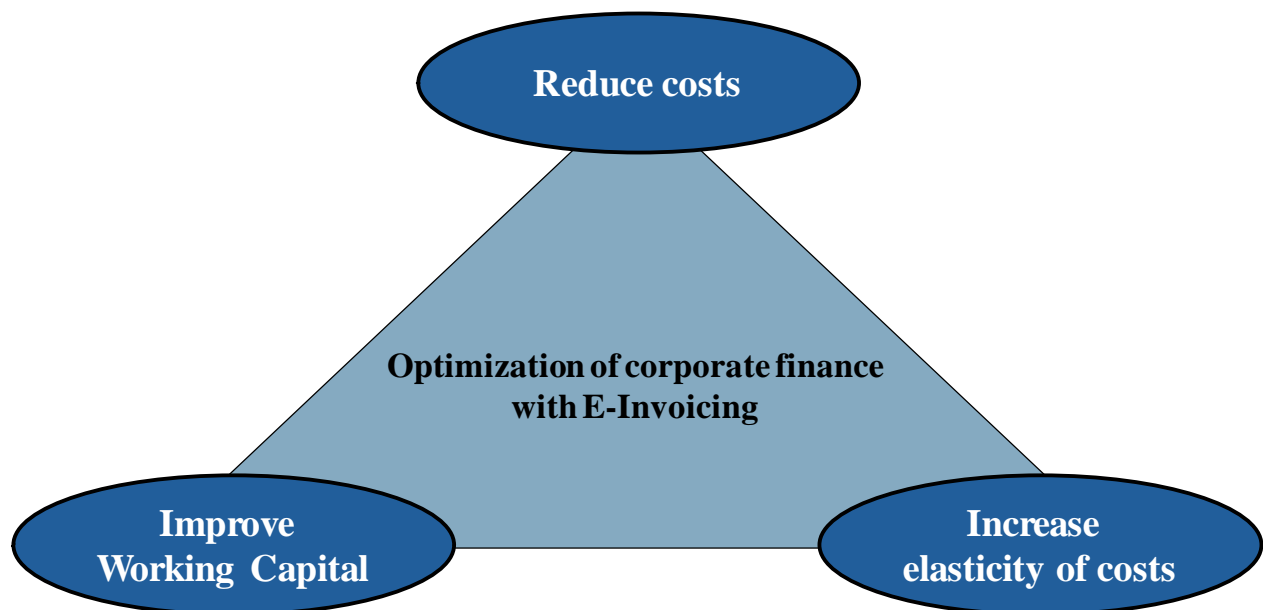
7.2 Reduce costs

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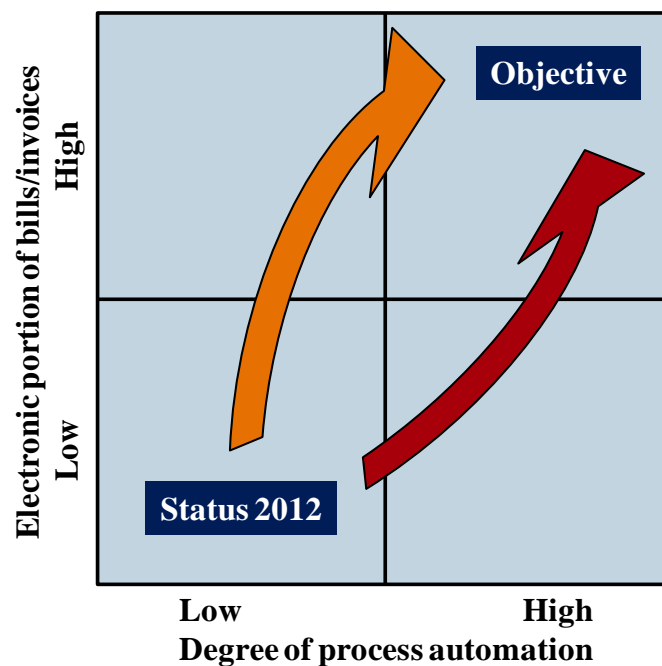
7.2.1 Increase electronic proportion

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 51: 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. 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.

7.3 Increase elasticity of costs

7.3.1 Inhouse developments vs. third 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 surprising that mainly businesses in larger countries still intend to re-invent things and develop inhouse 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 [25]. In an US survey of 2014 [26], the percentage of respondents reporting that they use supply chain financing increased to 13.7 percent from 8 percent a year ago.

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 [25], 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 52: Complementary collaboration model
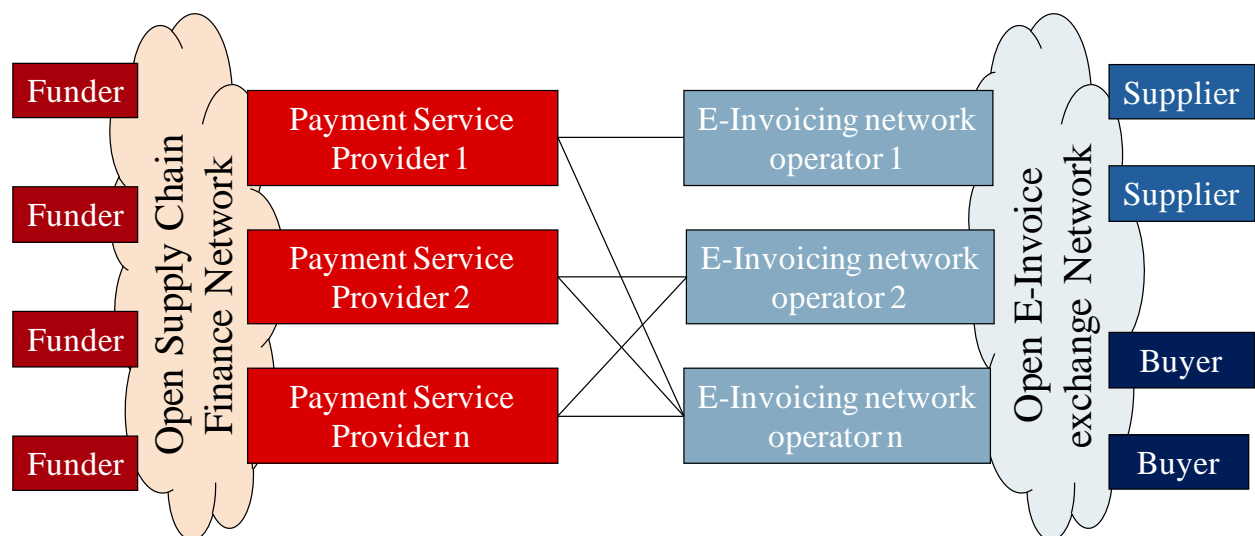
Role	Description & comments
Funder	Funders might be financial institutions, investment funds, private equity companies or the buyer himself. A funder establishes the rating criteria against which it elects to provide its funding capital. Funders commit to the pool and can

Role	Description & comments
	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.
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

Basware	OfficeTorque FRM
Causeway Technologies	OpenText
Comarch	OpusCapita
crossinx	Order2Cash
Datamolino	PostFinance
DOCPROCESS	Saphety
EDICOM	Seeburger
eFinans	Signature South Consulting
Esker	SIX
FIT Solutions (FIT)	Striata
Global Healthcare Exchange (GHX)	Swiss Post Solutions (SPS)
Indicium Solutions	Tieto
InExchange	Top Image Systems
INPOSIA	TrustWeaver
Just.On	Tungsten Network
Lexmark Enterprise Software	Vereon
Netsend	

Remarks regarding this chapter

The following articles, profiles and case studies are fully provided by sponsors. It is not guaranteed that they used the same "e-invoice" definition for their contribution as the report author did.

8.1   Basware

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

Countries with highest e-invoicing revenues	Europe, Nordics
VAT compliant e-invoice processing guaranteed for	ARG, AUS, AUT, BEL, BRA, BGR, CAN, CHE, CHL, COL, CRI, CYP, CZE, DNK, ECU, EST, FIN, FRA, DEU, ESP, GBR, GRC, HOK, HUN, ISL, IRE, IMN, ISR, ITA, LVA, LIE, LTU, LUX, MLT, MAL, MEX, MCO, MAR, NLD, NLZ, NOR, PER, POL, PRT, ROU, SGP, SVK, SVN, SWE, TUR, URY, USA, ZAR
Number of employees dedicated to e-invoicing and directly related offering	1600+
Registered users on own e-invoicing platform	Suppliers: >1,000,000 Buyers: >80,000
Processed volume on own e-invoicing platform	>100 Million per annum
Core offering	Services for sending and receiving e-invoices, purchase messages and catalogue exchange. Solutions for invoice automation and procurement. Financing services via the network.
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	Supply chain financing, dynamic discounting, archiving and analytics.
Main target market segments	A broad, globally available portfolio of e-invoicing sending and receiving services meeting the needs of different organizations of all sizes.
Supported languages (with application/service and the online-help/customer support)	Basware Network Services supports many languages. Customer service is available in English, Finnish, Swedish, Norwegian, Danish, Dutch, German and French.
Competitive differentiator	The Basware Network is the largest open commerce network globally with over 1,000,000 organizations connected across over 100 countries, through +200 interoperability partners. The organizations transacting through the network have easy and quick access to value-added Financing Services.

Making electronic invoicing easier for companies of all sizes

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 the most 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. With Basware PDF e-Invoice's new capabilities you able to easily submit invoices electronically and with even less resource required to integrate with existing billing systems. PDF documents are sent by e-mail into the network which are converted into true e-invoices. You can create them manually via a network web form or you can create them in bulk through a virtual printer. Lastly, 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 who 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 online. Alternatively we can print the invoices if a paper copy is preferred.

Of course invoices and payments are a two-way street, so for receiving e-invoices Basware offers a range of services that ensure our customers are 100% electronic from day one. E-invoices can be received through direct integration with your invoice processing system.

Basware's Scan and Capture service converts all incoming paper invoices (and emailed PDFs) into electronic form.

This service can be complemented with Basware CloudScan, an easily downloaded application allowing users to locally scan occasional paper or PDF invoices themselves. The user can decide to self-validate the invoice data or send them on to be validated by Basware and returned as e-invoices.

For low invoice volume suppliers, Basware offers a variety of solutions to get all suppliers on-board. PDF via email is typically the preferred method but submission by web form is also popular – 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.

Basware also offers advanced, value-added financing services through the network, such as e-payments and dynamic discounting. By speeding up payment processes, you can benefit from invoice financing and early payment opportunities. Especially for many growing businesses, improved cash flow through faster payment is a significant motivator to e-invoicing adoption.

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.

With Basware's easy-to-use, cost-effective solutions combined with the reach of Basware's open commerce and financing network you'll be able to share e-invoices and other business documents instantly and easily with businesses in over 100 countries and territories around the globe.

Website: www.basware.com – Contact us: www.basware.com/contact

8.2   Causeway Technologies

Headquarters:

Causeway Technologies
Comino House
Furlong Road
Bourne End
United Kingdom
SL8 5AQ

Countries with highest e-invoicing revenues	United Kingdom, Republic of Ireland
VAT compliant e-invoice processing guaranteed for these countries	United Kingdom, Republic of Ireland
Number of employees dedicated to e-invoicing and directly related offering	260
Active users on e-invoicing platform	Suppliers: > 22 000 Buyers: > 15 000
Core offering	e-Invoicing Platform Supplier Accreditation Performance Management e-Catalogues & e-Procurement
Covered processes/messages along the supply chain	Source-to-Pay
Value-added services	Automated invoice validation, 3-way matching of invoices, business rules, supply chain finance, centralised supplier database, multiple connection options, integration with multiple finance systems, e-Catalogues and e-Procurement
Main target market segments	Organisations of all sizes in all industries, particularly the UK construction sector
Supported languages (with application/service and the online-help/customer support)	English
Competitive differentiator	Flexible connection methods for trading partners that makes supplier on-boarding projects successful

Causeway Tradex – Making your Invoicing Costs Disappear

Designed to simplify the process of exchanging trading documents, Tradex has been refined over the last 15 years to become a Source-to-Pay solution that enables trading partners to take advantage of the efficiencies and intelligence brought about by digitisation.

Enhancing business relationships is not new to us. In 15 years we have dealt with a variety of supply chain challenges faced by businesses of varying sizes, enabling us to gain a grounded understanding of how best to tackle them.

We serve over 35,000 customers, including Shell, Lyreco, Kone, Travis Perkins, Carillion and many others who are saving time and money by digitising their invoicing processes. As a Tradex customer, you gain access to the very latest advancements in e-Invoicing technology.

Automate to reduce costs
Automated acceptance of invoices, orders, remittance notices and receipts from multiple partners on the network, lower the costs associated with document exchange.

Fast on-boarding
Tradex has flexible and unrivalled partner on-boarding options, suited to all types of organisations, no matter their size or IT maturity. The platform allows buyers to connect to their suppliers using new or existing connections, meaning there is no additional work required to start trading with the existing supply base. One of our customers was able to on-board 1,000 suppliers in just 8 weeks.

Business Rules to improve query management
Our built-in business rules dramatically reduce query rates, as invoices that are incorrect are never received by the buyer, but are re-routed to the supplier, allowing for corrections to be made and the invoice re-submitted.

Approval for payment
When invoices are received electronically and auto-matched with Goods Receipt Notices and Purchase Orders, the OK-to-pay notices can be confirmed within hours. This allows the buyer to negotiate early payment incentives with the supplier.

Suppliers who provide accurate invoices that are approved electronically can be offered the option of receiving accelerated payment for a small discount.

Centralised supplier database
Our centralised supplier database allows Tradex users to benefit from a single classification convention to manage suppliers across their entire Source-to-Pay process. Suppliers looking for work can be discovered by other businesses seeking business partners that fit certain criteria.

Our customers typically achieve:
- 95% first-time match rates
- Minimum 50% reduction in invoice processing time
- Up to 67% reduction in their accounts team
- Several days saved per month through improved market intelligence on trading partners
- Eliminated invoice leakage
- Improved data availability for the rest of the business
- Improved data security
- Reduced invoice queries and shortened time-to-query resolution
- Reduced carbon footprint
- Increase retrieval speed & accessibility

Website: http://www.causeway.com/tradex-einvoicing
Contact: Simon Bond, +44 (0) 1628 552 000, marketing@causeway.com

8.3   Comarch

Headquarters:

Comarch
al. Jana Pawla II 39a
Cracow
Poland

Countries with highest e-invoicing revenues	Germany, France, Poland, Russia, Turkey,
VAT compliant e-invoice processing guaranteed for	Most of the EU countries plus Russia, Turkey, Ukraine
Number of employees dedicated to e-invoicing and directly related offering	170
Registered users on own e-invoicing platform	50 000
Processed volume on own e-invoicing platform	30 million e-invoices per year
Core offering	Managed services for sending and receiving of e-invoices in various formats/channels. In addition other message types like purchase, logistic and product data
Covered processes/messages along the supply chain	Order-to-Cash / Purchase-to-Pay in the supply chain
Value-added services	Supply chain financing, master data management, B2B-commerce, other document types, content validation, archiving, reporting, on-boarding
Main target market segments	Suppliers and buyers of any size
Supported languages (with application/service and the online-help/customer support)	English, French, German, Polish, Bulgarian, Hungarian, Romanian, Russian, Turkish, Ukrainian
Competitive differentiator	One cloud-based platform to connect all partners globally regardless technological maturity and complex management of all paper and electronic documents

COMARCH

The e-invoicing has become one of the key points in the enterprises' strategies. With the growing data volume the companies are looking for the comprehensive solutions providing management of the information flow and cost optimization.

Complex platform covering each link in the supply chain.

On-boarding
Most of the companies have already launched e-collaboration with biggest partners. Once the infrastructure has been prepared to exchange electronic data it should be extended to all partners. Having multilingual Service Desk with advanced tools (e.g. manuals, webinars and workshops) Comarch guarantees connection of all partners regardless technological maturity.

Multi-format support
The platform based on cutting-edge technology enables the users to convert data to/from various formats (e.g. XML, EDIFACT, IDOC, PDF). Taking an example of a manufacturer issuing invoices in XML format the platform may convert it to formats depending on the receivers' requirements (e.g. IDOC to one group, EDIFACT to second group and PDF with e-signature on behalf of the customer to the third one). Similarly to inbound traffic, the documents may be converted from many formats to one format.

Distribution channels
As the companies cooperate with different partners the documents may be delivered with Comarch EDI platform directly via the integration or by choosing a dedicated portal solution or even e-mail.

Sales/purchasing cycle
The high quality of the invoice is guaranteed, on the one hand, on legal validation and, on the other, on business data verification.

The invoice data should be verified with the reference documents like order or delivery confirmation and receipt.

This results in the significant volume decrease of credit or debit notes. Moreover, with integration of Master Data catalogue, Comarch validates the transactional data based on the data in the catalogue (e.g. actual prices, units).

Invoice processing
Besides providing electronic archive, the e-invoices are further processed within the company. Comarch EDI platform has been integrated with Comarch ECM solution improving the documents workflow. Accounts Payable ensures a decrease in the workload associated with manual processing. Use of the process engine accelerates the acceptance of documents and collects data entered at every stage of the process.

Comarch EDI e-Invoicing features:
- Compliance with international standards and legislation
- Multilingual and multicurrency
- Full AR & AP invoicing support
- Various distribution channels (e.g. e-mail, portal, integration)
- Worldwide partners onboarding
- Electronic archiving

Website: www.edi.comarch.com
Contact: Bartlomiej Wojtowicz, Comarch EDI Product Manager,
email: bartlomiej.wojtowicz@comarch.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	75
Registered users on own e-invoicing platform	Suppliers: 18.000 Buyers: 12.000
Core offering	crossinx is the leading German service provider for e-Invoicing, cloud-based Financial Supply Chain Services and Supply Chain Financing.
Covered processes/messages along the supply chain	Full Supply Chain Order-Invoice-Payment/Financing. Compliant processes also with local authorities.
Value-added services	Trade Finance, Hybrid Services (electronic and paper processing), Invoice Workflow, EDI, Mobile Banking, Supply Chain Financing (American Express).
Main target market segments	Large and medium-sized suppliers and buyers in any industry, including authorities.
Supported languages (with application/service and the online-help/customer support)	German, English, Spanish, French, Portuguese, Russian, Romanian, Turkish, Persian, Pashtun.
Competitive differentiator	The leading German Service Provider with the largest portfolio of e-Invoicing solutions available in more than 50 countries worldwide.

crossinx - e-Invoicing und Financial Supply Chain Services

As the **leading German Service Provider** for e-Invoicing, EDI and the Supply Chain Financing crossinx supports companies to realise the potential of their networks. Flexible and scalable solutions 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. This cloud-based Financial Supply Chain Management allows a 100% conversion to electronic processes – **independent of existing IT infrastructure and company size.**

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 working with associations in Germany and Europe

crossinx was founded by Marcus Laube 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 former member of the e-Invoicing expert group of the European Commission and Co-Chair of the European Association "EESPA" Marcus Laube is focused on the market development beyond the borders of Germany.

Private cloud in the Rhine Main Area

Headquartered in Frankfurt/Main, crossinx has further locations in Switzerland and Moldova. The two data centers are located in the heart of the Rhine Main Area: this is not only a geographical advantage for many customers, the two mirrored data centers also guarantee a highest degree of system reliability and data security

- **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
- **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
- **safe**
- mirrored data centers guarantee a high degree of system reliability and data security
- tax compliance in over 50 countries
- future-proof by independence of ERP- and ECM-systems

e-Invoice compliance in over 50 countries worldwide
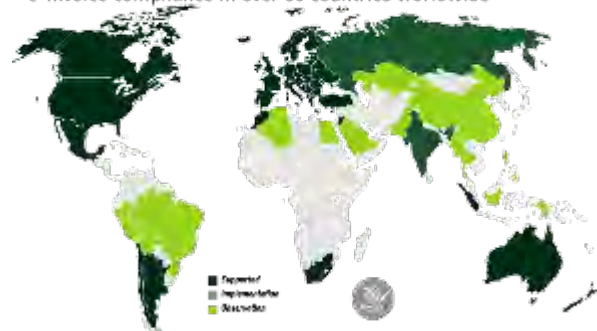
Website: www.crossinx.com
Contact: Marcus Laube, +49 69 4800651-0, info@crossinx.com

8.5   Datamolino

Headquarters:

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

Countries of operation	UK, Australia, New Zealand, Singapore, South Africa, Switzerland, Germany, Austria, Czech Republic, Slovakia
Number of employees	20
Number of customers	180+ accounting & bookkeeping firms; 1,600+ end users (business entities);
Core offering	SaaS (Software as a Service) that turns unstructured 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 in any format without manual data entry. This process can be linked via Datamolino API to any BPM or DMS software used by the customer. 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 (mainly via their accounting or bookkeeping function). 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, Spanish, 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 from scans is extracted using OCR (Optical Character Recognition) technology and stored in your Datamolino cloud based archive. We also offer a validation 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 integrated with popular cloud accounting solutions like Xero and Sage One. Integration with other solutions are in the pipeline (e.g. Quickbooks, FreeAgent, Kashflow). Datamolino can also be easily integrated with common 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 DOCPROCESS

Headquarters:
DOCPROCESS SRL
11, Albac Street, Sector 1
Bucharest
Romania

Countries with highest e invoicing revenues	Romania, France
VAT compliant e-invoice processing guaranteed for	Romania, France, Austria, Germany, Belgium, Bulgaria, Czech Republic, Spain, Hungary, Italy, Holland, Poland, Turkey, Slovakia. DocProcess is based in Romania and it is connected for EDI services with platforms in the mentioned countries.
Number of employees dedicated to e invoicing and directly related offering	35
Active users on e-invoicing platform	Suppliers: 17 000 Buyers: 20
Core offering	Electronic documents intermediation platform DocXchange which allows organisations to outsource the EDI processes. DocProcess also facilitates the migration from paper to electronic gradually for many retailers on the Romanian market.
Covered processes/messages along the supply chain	Full Supply Chain Order-Invoice-Payment and Electronic reporting to the Client (Content control – parties agreement and legal compliance control), Web Invoice by DXPortal; Workflow, Scanning/OCR; Electronic Archive, Electronic Signature
Value-added services	e-Catalogue, Orders, Forecasts, Despatch Advices, Receipt Advices, Invoices processing – Invoice control by DX Platform; returning messages to the sender of the invoice (RECEIVED, ACCEPTED, REJECTED + the reason of REJECTION); n-way matching; master data update; validation workflows.
Main target market segments	Large retailers and their suppliers; Insurance companies, Banks, Oil &Gas companies
Supported languages (with application/ service and the online-help/customer support)	Romanian, French, English
Competitive differentiator	The only company in Romania that can assure the real control of the information on the e-Invoice. The client receives a report with the e-Invoice status. If rejected, DocXchange is capable to send the reason of the rejection. The client support is entirely realised by DocProcess.

DOCPROCESS – a business for the future
EDI Services, Consultancy in Document Management

About us:

Created in 2005 in Romania, by the owner Liviu Apolozan (after 15 years of experience in France and Europe), as a consultancy company for Document Management, DocProcess became today the most important provider of EDI services on the Romanian market. DocProcess developed its own e-invoicing platform DocXchange, capable to control the document (compliance and business rules) and to return messages of status to the sender. We succeeded to avoid/reduce litigations and long delay of payments and delivery. With 35 employees and more than 17000 clients, DocProcess remain a reference on the e-invoicing market and a pioneer of this field in Romania.

Services
Digitisation:

Received paper documents are scanned and they go through a useful information extraction process comprising several stages. The first stage is preparing the documents for scanning. To this end, they are sorted and grouped by physical, technological and content features. The second stage is the scanning itself, performed using professional devices.

DocProcess offers dematerialization services for documents used frequently by the companies (invoices, notices, forms). With DocProcess, the company can save 30%-40% from the current operating costs. The digitization of supplier invoices may constitute the first stage in automating the invoice control process.

Additional services: updating the client's reference (master data), reconciliation with the orders and acceptances for merchandise invoices, making available validation / approval flows to clients, electronic archiving. All these in one global platform developped by our team: DoXchange.

Process automation

It is when a company wishes to transfer its strategy into operational processes. This needs the experience of our consultants. The purpose is the operational performance and the cost reduction. To this end we offer assistance for: process modelling; defining the applicative and technical architecture; implementation and integration; personnel training. If a company wishes to outsource part of the processes, we have available teams for performing operational services such as document cataloguing, archiving, support, database updating, and reconciliation.

Electronic Archive

All the electronic document are stocked in an electronic archive. We offer to the clients the complete solution of an electronic archive.

Document Management

Paper or digital documents, document creation, digitization, classification, sending and archiving can be seen or experienced as a necessary evil for developing a business. By modeling and automating document management, our consultants and IT personnel help the clients to increase the added value of the processes in their organization.

Our service: classification, access, security, life-cycle, document version management. Our consultants help with the specifications of the enterprise document model, product and services selection, solution implementation and training users. We offer the possibility to use an efficient infrastructure, without initial investments, with costs dimensioned to use outsource solution SaaS.

www.doc-process.com; email: liviu.apolozan@doc-process.com; phone:+4021 5280237

8.7   EDICOM

Headquarters:

Parque Tecnológico de Paterna
C. Charles Robert Darwin 8
46980 Paterna (Valencia)
Spain

Countries with highest e-invoicing revenues	Mexico, Spain, France, Italy, Portugal.
VAT compliant e-invoice processing guaranteed for	European Union, Mexico, USA, Guatemala, Costa Rica, Colombia, Ecuador, Peru, Brazil, Uruguay, Argentina, Chile, Turkey, Russia, etc..
Number of employees dedicated to e-invoicing and directly related offering	There are 150 employees dedicated directly to e-invoicing
Registered users on own e-invoicing platform	Suppliers: 14000 Buyers: 400
Processed volume on own e-invoicing platform	250 millions of invoices last year
Core offering	E-Invoicing Network Service electronic market place SaaS Project Management Advanced Services Customer support center Mapping management Integral partner management International support center (Global C.S.C)
Covered processes/messages along the supply chain	We covered every message, unlimited.
Value-added services	Certification authority, Van, e-invoicing, EDI, CRP/VMI, Data Catalog
Main target market segments	suppliers in any industry
Supported languages (with application/service and the online-help/customer support)	English, Spanish, German, French, Portuguese, Italian
Competitive differentiator	international coverage trusted service

EDICOM INTERNATIONAL BENCHMARK IN B2B E-COMMERCE

EDICOM, an international reference for EDI and ELECTRONIC INVOICING, designs models for data transmission and integration between companies, using strict professional, transparent and efficient criteria.

Our technological solutions, which are all our own design, are totally adapted to suit the needs of each individual client way beyond frontiers, legislation or technical complexities. All this is carried out through a powerful infrastructure of technical and human resources who attend to our more than 6,000 clients daily to administer and manage their B2B communications platforms and achieve a solid exchange of all types of electronic transactions with their clients, suppliers, logistics operators, etc.

This vast array of knowledge and experience allows us to become the client's best technological ally, assuming all the functions associated with the management and maintenance of all resources implemented in each one of our projects. To achieve this objective, we unite 3 powerful value-generating propositions: Permanently updated cutting-edge technology, carefully selected team of professionals, a strong commitment to transparency and profitability with all our clients

Our Commitment

EDICOM, with offices in Spain, France, Italy, the United States, Mexico, Colombia and Argentina, is positioned as a company with a clear international projection.

This projection gives us the impetus to go that extra mile, developing global ASP-SaaS type solutions, and creating multilingual support services to provide communications projects wherever the client needs us.

EDICOM develops B2B communications projects tailored to suit the needs of each client, according to their specific reality and their present and future needs. In this way, we can

provide solutions to thousands of companies worldwide to enhance their businesses through the improvement and consolidation of their commercial relationships with all types of partners or interlocutors.

Connecting solutions that work

EDICOM's solutions work. They work because we have set the highest quality standards for their development and commissioning to respond to the current and future needs of our clients, and even surpassing the initial expectations.

The service we offer goes far beyond software, communications systems and hardware resources. It is a service that reflects a way of being and an understanding of our work. A service that puts itself before any other factor, and which represents our commitment to the client to fulfil their expectations and commitments in terms of deadlines, security, profitability and satisfaction.

Certification authority (C.A.EDICOM)

The EDICOM (ACEDICOM) Certification Authority provides individuals and companies with secure electronic identification mechanisms allowing them to carry out activities where the electronic signature substitutes handwritten ones with identical legal guarantees.

Integrated within the service infrastructure offered by EDICOM, our Certification Authorisation integrates mechanisms which permit the exchange of electronic messages in a secure, integrated and confidential way.

Website: http://www.edicomgroup.com/en_ES/home.html
Contact: http://www.edicomgroup.com/es_ES/edicom-connecting-business/offices.html
Tel. 902 119 228 | +34 961 366 565 Fax. +34 961 367 117
info_spain@edicomgroup.com

8.8   eFinans

Headquarters:

eFinans Elektronik Ticaret ve
Bilisim Hizmetleri A.S.
Mecidiyeköy Mah. Buyukdere Cad. Stad Han
No:85 Sisli / Istanbul
TURKEY

Countries with highest e-invoicing revenues	Turkey
VAT compliant e-invoice processing guaranteed for	Turkey
Number of employees dedicated to e-invoicing and directly related offering	30 sales-operations, training, communications, support; 100+ programmers, 1500+ representative agents employed by main shareholders at 640+ contact points
Registered users on own e-invoicing platform	6800+ active users (e-Invoice; including e-Ledger, e-Archive and REM users)
Processed volume on own e-invoicing platform	Over 15 million e-Invoices (2015)
Core offering	e-Invoicing; Network Service, Saas, Licensed Software, e-Ledger, e-Archive and Registered Electronic Mail (REM)
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	e-Invoice based financial solutions (e-Credit), All in One Portal
Main target market segments	Both corporate and retail customers from all segments
Supported languages (with application/service and the online-help/customer support)	Turkish, English
Competitive differentiator	The first firm that provides the four e-Transformation products; e-Invoice, e-Ledger, e-Archive and Registered Electronic Mail (REM) along with free 10 year data storage with a bank guarantee, in Turkey

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 A.S. that owns 51% and Sibertek Danismanlik Egitim ve Yatirim A.S. (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 and Registered Electronic Mail. It plans to add innovative 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 user-friendly portal. With eFinans'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.

Financial Solutions

In a competitive environment of non-bank and bank-internal E-Invoice providers in Turkey, eFinans enjoys a prestigious place as the first 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 effective 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 with 80+ current ERPs and several more in the making assist clients in fully automating collections, payments, cash flow and financing.

STANDARTS & CERTIFICATES

- ISO 22301 - International Social Security Business Continuity Management System
- ISO 27001 ve TS ISO IEC 27001 - Standard of Information Security Management System
- TS ISO IEC 20000 and ISO 20000 - Information Technology Service Management System Document
- TS ISO IEC 20000 ve ISO 20000 - Information Technology Service Management System Certificate
- ITIL (Information Technology Infrastructure Library) Certified Staff
- PSM (Professional Scrum Master) Certified Staff
- PSPO (Professional Scrum Product) Certified Staff

Website: www.efinans.com.tr
Contact: Okan Murat Dönmez, +90 (212) 3704200, info@efinans.com.tr

8.9　Esker

Headquarters:

Esker
10 rue des Emeraudes
69006 Lyon
France

Countries with highest e-invoicing revenues	France, USA, Spain
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	380
Registered users on own e-invoicing platform	Suppliers:　600 Buyers:　650,000 Consumers:　100,000
Processed volume on own e-invoicing platform	5.8 million e-invoices per year
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, cash collection metrics and tools
Main target market segments	Large and SMBs in any industry
Supported languages (with application/service and the 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, receiving 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 support regulatory compliance in over 50 countries. The integrity and authenticity of each invoice is ensured during transmission and archiving. E-invoices can be generated in all types of formats (e.g., PDF, XML, EDIFACT, ANSI, UBL, etc.) and communicate with platforms from other service providers and public administrations.

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 50 countries. Today, 27 Arkadin subsidiaries (in Europe, North America, Asia Pacific and Africa) use Esker to send over 25,000 monthly invoices.

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

8.10   FIT Solutions (FIT)

Headquarters:

FIT Solutions | F.I.T Bilgi İşlem Sist. Serv.
San. Tic. Aş.
Gold Plaza, Altayceşme Mh. Öz Sk. No: 19
Kat: 4-7 Daire: 21-22-34 Maltepe
Istanbul
Turkey

Countries with highest e-Invoicing revenues	Turkey
VAT compliant e-Invoice processing guaranteed for	Turkey
Number of employees dedicated to e-Invoicing and directly related offering	100+
Registered users on own e-Invoicing platform	3500+
Processed volume on own e-Invoicing platform	120 million e-invoice per year
Core offering	e-Invoice and e-Finance Supplier Financing bases on SaaS (Software as a Service), PaaS, and on premise.
Covered processes/messages along the supply chain	ERP integrated Supplier Finance build on e-Invoicing
Value-added services	e-Finance Supplier Financing, e-Reconciliation, e-Audit, e-Backup
Main target market segments	SMEs and Large suppliers in any industry
Supported languages (with application/service and the online-help/customer support)	Turkish, English
Competitive differentiator	FIT Solutions provides innovative technology solutions to its customers such as e-Invoice, e-Ledger, e-Archive, e Payment, e-Signature, e-Registered Mail, e-Ticket, e-Finance, e-Backup, e-Reconciliation, Process Management and e-Audit. In addition, customers could use FIT's services in three different option; on premise, PaaS and SaaS with integrated more than 40 major ERPs.

FIT Solutions

FIT Solutions was established in Turkey in 1999 as a software company offering innovative technology solutions and services with its innovative and experienced team over 100 employees.

FIT Solutions, creator of **e-Transformation®** concept in Turkey, is bearing the leadership of electronic transition as a result of following world trends by its increasing R&D teams.

Until today, 10 million invoices have been passed through FIT Solutions Special integrator system with more than 3500 clients and total value of e-invoices processed on our system was 22 Billion TL ($7.7 Billion)

FIT Solutions proceeds the leading solution partner in e-Invoicing process for the companies by managing 60% of the entire e-Invoices in Turkey. FIT Solutions products are also preferred by SME scale companies. In addition to e-Transformation applications of FIT Solutions, there are various solutions in benefit of customers such as e-Invoice, e-Ledger, e-Archive, e Payment, e-Signature, e-Registered Mail, e-Ticket, e-Financing, e-Backup, e-Reconciliation, Process Management and e-Audit.

In Turkey, the estimated number of companies using e-Transformation applications will exceed to 200.000+ in 2020, and today 30 percent of e-Transformation market is dominated by FIT Solution products. Due to FIT's powerful R&D studies, reliable infrastructure and experienced staff, FIT Solutions offers innovative technology services that increasing labour efficiency, facilitating time management and declining transportation costs. Besides that, by eliminating the use of paper, it contributes to both environmental protection and economy.

Provides convenience for SMEs with special integrator system

As a result of the collaboration between FIT Solutions Special Integrator System and ING Bank Turkey, FIT supports infrastructural and operational assistance to more than 3500 customers in different sectors. Moreover, FIT Solutions also gives real-time support for accountants with its specialized call center team.

Website: www.fitsolutions.com.tr
Contact: info@fitsolutions.com

8.11   Global Healthcare Exchange, LLC (GHX)

Headquarters:

Global Healthcare Exchange, LLC (GHX)
1315 W. Century Drive
Louisville, Colorado 80027
USA

Countries with highest e-invoicing revenues	United States, Canada, Germany, United Kingdom
VAT compliant e-invoice processing for	Germany, Netherlands, Switzerland, United Kingdom, Spain, Italy, Sweden, Finland, Norway, Denmark
Number of employees dedicated to e-invoicing and directly related offering	Not available
Active users on e-invoicing platform	Suppliers: 500+ Buyers: 4,000+
Core offering	Full order-to-cash cycle automation, order channel consolidation, master data management and pricing alignment, services and tools for standards compliance in healthcare.
Covered processes/messages along the supply chain	Invoices, purchase order, purchase order acknowledgement, advanced shipping notice, catalog, contract
Value-added services	Business document validation, cleansing and enrichment, business intelligence and reporting tools, inventory, catalog and contract management, consulting services. The only GDSN certified data pool focused exclusively on healthcare.
Main target market segments	Healthcare medical-surgical manufacturers, distributors, hospitals, group purchasing organizations.
Supported languages (with application/service and the online-help/customer support)	English, German, French, Dutch
Competitive differentiator	Strong healthcare expertise in supply chain automation and integration technology, operating the biggest B2B network in healthcare. Our customers form the largest community in healthcare, and collectively saved over $5.3 billion since 2010 by using GHX solutions.

GHX

GHX enables better patient care and billions in savings for the healthcare community by maximizing automation, efficiency and accuracy of business processes.

Healthcare Supply Chain Automation

Supply chain is the 2nd largest and fastest growing area of spend in healthcare, accounting for 40–45% of operating expenses. Hospitals can reduce supply chain costs by 5–15% if they better analyse, plan and control the purchase and use of goods and services, gaining a profit increase of 2–7%.[1] For suppliers to hospitals, supply chain automation optimizes the order-to-cash cycle, reducing the effort associated with order management by up to 75%, reducing the cost of processing invoices manually by up to 40%, and the time an invoices is paid by up to 30%.[2] GHX has a strong expertise and state-of-the-art solutions to help turn an inefficient supply chain into a strategic asset with reduced operating costs.

GHX – The Strategic Partner

GHX, a healthcare technology company, operates the Global Exchange, the largest supply chain platform in healthcare, enabling automation of business document transactions between hospitals and their suppliers, and elimination of manual processes. As a result, transactions move faster, visibility into supply chain data improves, efficiency increases and savings can be realized. Furthermore, resources can be reallocated on value-added work, such as providing better patient care, or new product innovations. With the largest footprint in the healthcare supply chain, we deliver cloud-based technology and strategic healthcare consulting services enabling organizations to make the best use of our technology.

GHX Statistics

- 5,600+ healthcare providers and 750+ suppliers in North America and Europe, forming the largest trading community in healthcare
- 419,000+ trading partner connections established on the Exchange (85% of market in North America and over 50% in Europe)
- 120+ million business documents processed through the GHX Exchange in the last 12 months, representing $63+ billion in volume of supply spend
- $5.3 billion in healthcare savings achieved by GHX customers between 2010 and 2015.

What We Offer

Open and neutral electronic trading exchange – A single sign-on provides overview and ability to manage electronic business transactions (purchase orders, return documents, invoices) in one place. With our intelligent processes and value-added solutions, business documents are validated and enriched before they reach the receiver to increase accuracy and minimize any need for manual intervention. In addition, we enable customers and trading partners to translate business transactions between EDI and non-EDI formats (e.g., fax, email, paper) as long as one party is connected to our network.

Procurement and accounts payable automation – With GHX solutions, customers can gain visibility and control over maverick spending, identify saving opportunities and take their procurement to the next level. Automating invoicing eliminates manual processing of paper invoices and helps lower costs, improve efficiency and speed processing.

Content, contract and inventory management – As accurate data are the cornerstone of efficient supply chain processes, GHX provides solutions for data cleansing, management and item data enrichment. Our contract management solutions help create process efficiencies and drive contract compliance, and inventory management solutions enable automation and inventory tracking and ordering. All solutions help remove errors from the supply chain, and increase visibility and transparency for strategic supply chain management.

In addition, GHX offers a number of *business intelligence and reporting tools* for customers to enable them to make informed strategic decisions. GHX is also leading provider of services that help industry *adopt and synchronize global or regional data standards*

1. Supply Chain Consultants and Outsourcing Providers for Healthcare Delivery Organizations. Gartner Research; 5 July 2011.
2. GHX value study

Contact: contact@ghxeurope.com, www.ghx.com

8.12   Indicium Solutions

Headquarters:

Indicium Solutions, S.A. de C.V.
Bosques de Duraznos 75-1103
Col. Bosques de las Lomas
11700 México, D. F.
MEXICO

Countries with highest e-invoicing revenues	México, Chile
VAT compliant e-invoice processing guaranteed for	México, Chile, Argentina, Colombia, Costa Rica and Brasil
Number of employees dedicated to e-invoicing and directly related offering	48
Registered users on own e-invoicing platform	Suppliers: 65,000 + Buyers: 4,500 +
Processed volume on own e-invoicing platform	200 million e-invoices per year
Core offering	In-House or Hosted e-Invoicing System (Inbound/Outbound), e-Accounting and e-Payroll slips for Mexican compliance.
Covered processes/messages along the supply chain	Inbound / Outbound electronic invoicing. Muti-Pac platform for electronic stamping simultaneously supported by 5 PAC approved by SAT.
Value-added services	Management of high-volume, complex electronic document processes.
Main target market segments	Large suppliers in any industry as well as Balanced offering for suppliers and buyers in mid-sized and small organizations
Supported languages (with application/service and the online-help/customer support)	Spanish, English.
Competitive differentiator	e-Documents customized solutions to meet a wide range of business requirements.

PROFILE OF INDICIUM SOLUTIONS

Indicium Solutions is a leading supplier of electronic invoicing, e-Accounting, e-Payroll slips and fiscal documents solutions to comply with the Mexican regulations.

The capability to respond to a wide range of business requirements in a personalized way, makes Indicium's customized solutions the preferred choice for large multinationals operating in Mexico and in the Latam Region.

Inbound/Outboud, In-house and Hosted systems, has also help expand Indicium presence into the mid-market and small companies.

The portfolio of solutions include systems for:
- Inbound/Outbound electronic invoicing
- Electronic Accounting
- Electronic Payroll Slips
- Tax withholding certificates (Constancias)
- Point of Sale electronic Invoicing
    - Food and Beverage
    - Pharmacy
    - Books
    - Toll-roads
    - Services
    - Air tickets
    - Air service tickets
    - Transportation
    - Others
- Electronic Bank Statements
- Electronic Insurance / Bonds Documents
- Electronic Contracts
- Managed e-mail delivery
- Multi-Pac platform for electronic stamping simultaneously supported by 5 PAC authorized by SAT
- Secure integration with major ERP's (SAP; Oracle IBS, Microsoft, QAD, BPCS, MAPICS, JD Edwards, PeopleSoft, Legacy Systems, others.
- GPS Solutions to control fleets and personnel productivity (Sales groups, Agentes, Service staff, others)
- e-factura SaaS. Cloud based e-invoicing.

Indicium has an excellent track record of successful implementations with leading companies in industry sectors like:
- Financial and Banking Services
- Insurance
- Manufacturing
- Distribution
- Health and Pharma
- Retail
- Automotive
- Editorial
- Courier
- Air Transportation / Services
- Electronics
- Food and Beverage
- Logistics
- Education
- Others

Indicium's is based in Mexico and serves the Regional market thru Partners with local presence in:

- ✓ Chile
- ✓ Argentina
- ✓ Costa Rica
- ✓ Colombia
- ✓ Brasil

Website: www.indiciumsolutions.com.mx
Contact: Maricela Sanchez (General Manager), phone: (5255)5245 7093, e-mail:
maricela.sanchez@indiciumsolutions.com

8.13   InExchange

Headquarters:

InExchange AB
Kaplansgatan 16e
Skövde
Sweden

Countries with highest e-invoicing revenues	Northern Europe
Number of employees dedicated to e-invoicing and directly related offering	80
Active users on e-invoicing platform	390 000
Processed volume on e-invoicing platform	25 000 000
Core offering	E-procurement, Network Service, electronic market place SaaS (Software as a Service) Software, Dynamic Discounting, business intelligence
Covered processes/messages along the supply chain	Full Supply Chain Order-Invoice-Payment
Value-added services	Financial services, Debt collection, spend and cash flow analysis
Main target market segments	Large suppliers in any industry, Balanced offering for suppliers and buyers in mid-sized organizations
Supported languages (with application/service and the online-help/customer support)	English, Swedish, Danish, Finnish, Icelandic, Norwegian
Competitive differentiator	The largest e-invoice network in Scandinavia

InExchange

Who are we?

We're one of Europe's fastest growing companies according to the Deloitte Fast 500 list and one of Swedens best employers according to Universum and Metro Jobs. We have agreements with all major operators in the market as well as direct integration with 500+ independent ERP's and a large network, consisting of more than 400 000 organizations, which makes us the main operator in all of Northern Europe.

But what makes us different?

Our goal is to make your business better, by giving you more control.

Economy, just like pretty much everything else, is becoming more and more connected. The need to be able to share information at your fingertips is rapidly growing - as well as the need to be able to make fast and reliable decisions.

We want to provide you with the tools you need to be able to do all that. Be it sales analysis, spend analysis or just a quick check to see how the company is actually doing - we've got you covered.

We analyze your data, refine it and give it back to you - instantly. You get fast, accurate information without having to dig for it yourself - so that you can make faster, and more profitable decisions.

The obvious points

Oh, and we also also provide most of Northern Europe with state of the art e-invoicing services, fantastic supplier and customer activation, an outstanding reminder and debt collection service, and magnificent solutions for e-orders.

Website: www.inexchange.com
Contact: info@inexchange.com

8.14   INPOSIA

Headquarters:

INPOSIA Solutions GmbH
Ottostraße 18
76227 Karlsruhe
Germany

Countries with highest e-invoicing revenues	Europe (key areas: Germany, Austria, Switzerland, Turkey, Italy and France)
VAT compliant e-invoice processing guaranteed for	More than 50 countries in Europe, North and South America, Asia-Pacific and Africa.
Number of employees dedicated to e-invoicing and directly related offering	55
Registered users on own e-invoicing platform	Suppliers: 77000 Buyers: 21000
Processed volume on own e-invoicing platform	Over 35 Mio. Transactions per year.
Core offering	Business Integration Service for the entire business process supply chain, E-Invoicing / E-Ledger / E-Archive (Invoicing B2C, Private Integrator for Turkey), Order2Cash and Purchase2Pay Solutions, EDI / EAI /B2Bi Service, ZUGFeRD
Covered processes/messages along the supply chain	Purchase processes, Storage and Delivery processes, Invoicing and Financial processes.
Value-added services	Dynamic payment services, Archiving, Document Digitalization, Business Partner Enablement, professional consulting services.
Main target market segments	Intersectoral, Company size not relevant
Supported languages (with application/service and the online-help/customer support)	German, English, Spanish, Turkish, Russian, Italian and French.
Competitive differentiator	INPOSIA relies on economic sustainable and profound business relations, which stand considerably for the business growth of the company. INPOSIA grows nationally as well as internationally: stability and solidity are not in conflict with dynamic

INPOSIA-Business Integration

Added-value-oriented B2Bi all-inclusive service

Full compliance of all operations, specific highly skilled consultancy, international establishment of service and support – INPOSIA always unifies the requested expertise in Business Integration with an innovative and pioneering solutions portfolio.

INPOSIA
GLOBAL PROCESS EXCHANGE

- E-Invoicing
- EDI, EAI, B2Bi
- Scanning/OCR
- Document based messaging
- Archiving
- Dynamic Payment

Business Enablement - Unlimited

The services of INPOSIA are applied across all branches and processes. Complex Just-in-Time delivery processes as well as business-critical finance transactions are integrated sustainable and competently along the supply chain of our customers.

International focused E-Invoicing coverage, specific licensed service solutions, integrated B2Bi-solution, added-value-oriented solutions portfolio, cross-platform consulting, member of VeR and EESPA (European E-Invoicing Service Providers Association).

By INPOSIA's portfolio all business and trading partners can be integrated, for instance largescale customers, haulage businesses, international distribution structure as well as the entire supply chain and structure.

Solid strength

INPOSIA relies on economic sustainable and profound business relations, which stand considerably for the business growth of the company. INPOSIA grows nationally as well as internationally: stability and solidity are not in conflict with dynamic.

Data Security

With regard to the enormous importance of data security, INPOSIA carries out its services in highly secure, certified data processing data service centers. The international locations of the data centers are chosen by customer requirements, which implies that we carry out our services for German customers in German data centers; our Turkish customers for instance, are obliged, in conformity with the law, to process their electronic financial transactions via Turkish data centers.

Advantages

- International guarantee of compliance over all invoicing processes
- Significant improvement in quality / error reduction in document postings.
- Considerable minimization of input by electronical order- and invoice processes
- Remarkable higher saving potential by quicker achievement of cash discount.
- Seamless integration in Enterprise Resource Planning System.
- Maximum transparency of all Transactions.
- Less own resources (e.g. IT staff)
- Avoidance of own investments and operating expenditures for software and hardware resources.

Website: http://www.inposia.com
Phone: +49 721 – 50955 0
E-Mail: info@inposia.com

8.15   Just.On

Headquarters:

JustOn GmbH (formerly OnCommerce)
Otto-Schott-Str. 13
07743 Jena
Germany

Countries with highest e-invoicing revenues	Germany, USA, France
VAT compliant e-invoice processing guaranteed for	EU
Number of employees dedicated to e-invoicing and directly related offering	10
Registered users on own e-invoicing platform	Suppliers: 100
Processed volume on own e-invoicing platform	25 Million
Core offering	SaaS plattform for agile monetization and billing Contract Management, Supplier Invoices and Online Payment Automization
Covered processes/messages along the supply chain	Contract-to-Cash inclusive online payment with sophisticated agile monetization capabilities
Value-added services	Online Payment Services Integration into Salesforce CRM
Main target market segments	Suppliers with an outgoing invoice volume of 100 to 100.000 invoice per month
Supported languages (with application/service and the online-help/customer support)	English, German, French, Dutch
Competitive differentiator	Agile Monetization and Cloud Billing on the Force.com Platform; 100% integrated into Salesforce CRM

Just.On - Billing and Agile Monetization

Just.On is Billing as a Service based on the Force.com platform. Users of our cloud software are able to bill any pricing model and reduce process cost for creating and sending invoices electronically.

Commerce Management

Just.On makes it easy to convert sales opportunities into contracts. Contracts build the basis for the invoicing. It is the central place for controlling and growing your business once the customer is won. No matter if it is a subscription or a usage based pricing model, Just.On provides you with a lot of pre-configured business and pricing models.

Invoicing

Based on events, like an order has been received, a project is finished, usage data have been received or others, Just.On starts generating invoices. Just.On cares about running these automatic tasks based on various configurations. In a Salesforce CRM environment any information can be billed: opportunities, orders, contracts and custom objects.

Payment & Collection Management

An overview of all transactions is provided in the account balance: invoices, payments, payment attempts, late fees, pre-payments etc. With Just.On our clients can make decisions based on the customers payment history: continue to deliver service as long as you'd like or stop it if the customer does not pay.

Dunning is an integrated piece of our cloud-based monetization solution, it is more than just collecting on debt. The Just.On online dunning processes are integrated in the CRM system, such that one can use it for managing service availability for past-due accounts and closing the door on potential revenue leakage.

Force.com Platform

Force.com is the cloud platform on which the world's leading CRM system Salesforce CRM has been developed and more than 2,000 business apps are made available.

Just.On uses Force.com as a secure, stable and scalable environment to automate the electronic invoicing of its customers. More than 100,000 customers use the platform and trust the provider and its partners.

Successes

Customers appreciate the advantage that Just.On is seamlessly integrated into their own CRM processes.

Companies of the AOL Group use Just.On for billing its publishing and media services. With Just.On the process chain from the allocation of consumption data to sending the invoices out could be shortened dramatically.

Just.On

Just.On is a provider of B2B software for automated, electronic invoicing and implementing agile monetization strategies. The company is based in Germany and was founded in 2010.

With the aim to develop easy to use software, Just.On offers a Billing as a Service solution that lets customers create contract-based invoices. Just.On is provided on the leading cloud computing platform Force.com.

Yearly revenues of more than 1 Billion Euros are billed with Just.On worldwide. Customers are companies of the digital economy such as the AOL Group or Delivery Hero, the leading provider of food delivery services. Just.On is official development partner of salesforce.com.

Website: www.juston.com
Contact: Marko Fliege, m.fliege@juston.com

8.16   Lexmark Enterprise Software

Main office in UK:
Lexmark Enterprise Software
Highfield House, Foundation Park
8 Roxborough Way
Maidenhead SL6 3UD, UK

Countries with highest e-invoicing revenues	Australia, Benelux, Brazil, Chile, Denmark, France, Finland, Germany, Malaysia, Norway, Poland, Spain, South Africa, Sweden, Switzerland, United Kingdom, United States
VAT compliant e-invoice processing guaranteed for	Benelux, Denmark, France, Finland, Germany, Norway, Poland, Spain, Sweden
Number of employees dedicated to e-invoicing and directly related offering	600+
Registered users on own e-invoicing platform	Consumers: 12,000 enterprises on Lexmark platforms
Processed volume on own e-invoicing platform	> 2 billion invoices/year across all solutions
Core offering	Accounts payable automation, E-invoicing, Invoice capture, Workflow automation, ERP matching.
Covered processes/messages along the supply chain	Financial Process Automation, AP and AR solutions, Procure to Pay, Order to Cash.
Value-added services	Hybrid services (cloud and/or on-premise), mobile-enabled, self-service supplier portal, analytics, workflow and exception management, dynamic discounting, web-based EDI/XML for supplier, article/catalogue exchange.
Main target market segments	B2B (Large enterprises and SMEs)
Supported languages (with application/service and the online-help/customer support)	English, German, French, Spanish, Swedish, Danish, Norwegian, Finnish.
Competitive differentiator	**We love all invoices.** Lexmark offers the powerful combination of technology ownership, industry expertise and customer engagement to deliver solutions of superior value.

LEXMARK ENTERPRISE SOFTWARE

Send and receive invoices the way you prefer
With Lexmark's unique mix of on-premise eInvoicing tools for AP and our eInvoice network, you give freedom to your suppliers to send e-invoices the way they prefer. Lexmark bridges the gap between the supplier's format and your requirements. Lexmark converts incoming invoices to the right format and applies your business rules. This means not only that every invoice can become an electronic invoice, it means those invoices have a higher rate of success than traditional formats. In fact, the invoice can be automatically rejected back to the supplier if anything is incorrect at any time in the process. Your invoice is also archived and accessible from any system, ensuring you can meet your regulatory and compliance requirements.

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 XML or EDI format. This is the most automated way to send e-invoices, and it is also easy to set up – all the mapping can be done on the fly by a non-technical user, meaning the change to supplier process is simple.
- *Email or Virtual printer*: This is recommended to suppliers with a billing system that cannot produce a standard e-invoicing or EDI format. Invoices are simply emailed to an inbox and automatically extracted, or the customer sets up a provided virtual printer that automatically redirects a print output to the customer.
- *Send from the web interface*: This option allows the supplier to log onto Lexmark and key in the invoice data manually or upload images – perfect for low volume or one-off suppliers.

Constantly expanding interoperability
Lexmark 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). For our cloud and on-premise offerings, we include standard EDI 810 mappings as well as common XML formats used by eInvoicing networks or regional requirements such as ZUGFeRD in Germany that allow customers to work with eInvoice formats without ever signing up for any network.

Integrate with new networks instantly using RPA
Lexmark's Robotic Process Automation (RPA) tools allow non-technical users to build integration to new networks in less than a day. RPA means users no longer need to manually enter data into or pull invoices from portals. RPA means no waiting on IT to set up interoperatability with a new network, or to complete an EDI map. Instead, users mirror the logic they use to enter data into a portal today, and the RPA tool builds an intergration point by simply watching the user's interaction with the portal. The result? Integrations built the same day they're requested.

Website: www.lexmark.com
Contact: info@lexmark.com
Twitter: @LexmarkFPA @LexmarkSW

8.17   Netsend Ltd

Headquarters:

Netsend Ltd
Battersea Studios
80 Silverthorne Road
London
SW8 3HE

Countries with highest e-invoicing revenues	United Kingdom, France, Sweden, Germany, Italy, Spain, Austria, Australia, Brussels, Japan, USA and Hungary
VAT compliant e-invoice processing guaranteed	Globally
Number of employees dedicated to e-invoicing and directly related offering	All of them, it's what we do
Registered users on own e-invoicing platform	Suppliers: 45 Buyers: 3,000,000
Processed volume on own e-invoicing platform	18,000,000 per annum
Core offering	The outsourcing of business-critical document distribution, with a focus on electronic delivery.
Covered processes/messages along the supply chain	Document creation and distribution. Multi-channel delivery options including portal, email, fax, EDI and post. Open connectivity to A.P. focussed e-invoicing providers.
Value-added services	Migration to electronic delivery methods. Integration with Credit Card portals and Credit management software. Invoice analytics. Transpromo tools.
Main target market segments	Financial, technology, media, retail, food and drink, pharmaceutical, recruitment, travel, energy, engineering and manufacturing
Supported languages (with application/service and the online-help/customer support)	Application, documents and portals supported in all languages. Customer support in English, French, Russian and Italian.
Competitive differentiator	The key to our success with major multinational clients is simple: focus. Our systems, protocols and people are 100% focused on e-invoicing as a competitive edge for our clients.

Netsend – Financial Efficiency Through Invoicing Simplicity

About Netsend

Netsend is at the vanguard of companies dedicated to eradicating issues of credit control. Through its management of business-critical document distribution, Netsend ensures accurate and efficient delivery of invoices to your customers in the medium which suits them.

Beyond saving time and cost through invoice automation, Netsend enables a risk-free and seamless shift towards electronic invoicing, reducing errors and driving down DSO.

Netsend also removes the classic challenges of document storage and retrieval for auditing and compliance. FTSE 100 businesses depend on Netsend to provide secure online access to their document distribution history, facilitating ease of reporting, performance analysis and proof of delivery amongst a range of other document management functions.

Headquartered in the UK, Netsend has clients operating in over 52 countries.

Why Netsend?

We focus on our business, So that you can focus on yours. It's what we do, and we've been doing this since 2005.

That experience provides our clients with access not just to a mature, feature-rich and road tested solution but also a future-proofed one. Netsend is constantly evolving, as we refine processes, add new functionality and develop services based on input from clients and their customers.

In any enterprise, working capital improvement means business gain. From 20th Century Fox to easyJet, from ITV to Pizza Hut major brands are turning to Netsend to achieve this.

How Netsend Works

The key to our success with major multinational clients is simple: focus.

Our systems, protocols and people are 100% focused on outsourced document distribution for business critical functions, such as credit management. Whether your requirements include print, email or EDI – Netsend will manage the process for you.

However your customers want to receive invoices, Netsend achieves it simply, scalably and efficiently.

Creation - Netsend creates documents by parsing data from your accounts package and combining with previously built templates.

Distribution - The heart of Netsend is a multi-channel document delivery service, handling email using both push (with attachment) and pull (to portal) methods, as well as EDI, fax, post, FTP and other formats.

Portal - The Netsend portal is a feature-rich, web-based management and analytics platform; configured and branded to your requirements.

Migration - Netsend's customer migration service typically results in a shift to at least 80% electronic invoicing within 1 year.

International - Headquartered in the UK, Netsend has clients operating in over 52 countries with a variety of language requirements.

Website: www.netsend.com
Contact: info@netsend.com, +44 20 3177 1700

8.18   OfficeTorque FRM

Headquarters:

OfficeTorque Limited
Albany
Auckland
New Zealand

Countries with highest E-Invoicing revenues	Australia, New Zealand, United Kingdom
VAT compliant E-Invoice processing guaranteed for	Australia, New Zealand, United Kingdom
Number of employees dedicated to E-Invoicing and directly related offering	20+
Active users on E-Invoicing platform	Customers: 1400 + instances
Core offering	Comprehensive credit to cash cycle management solutions including: Interactive hybrid e-Invoices / e-Bills, customisable self-service Portal, segmentable AR Management system, built in multi channel communications, integrated ePayment options.
Covered processes/messages along the supply chain	Credit risk analysis; EIPP / EBPP; ePayment; AR Management; matching & allocations; business intelligence.
Value-added services	Integration to ERP, accounting, practice management and CRM systems; paperless adoption strategies; shared services strategies; AR best practice consulting; ePayment integration; document management integration; automated print file delivery.
Main target market segments	Medium, Corporate and Enterprise businesses in either B2B or B2C markets in any industry that bills and collects payment.
Supported languages (with application/service and the online-help/customer support)	English
Competitive differentiators	Enhanced customer and user experience; easy to deploy; rapid ROI.

OfficeTorque FRM – Financial Relationship Management

FRM brings automated process and communications to the "credit to cash cycle management" in a similar way that CRM does for sales and marketing.

Our web-based software connects to, and augments your existing ERP, accounting, practice management or CRM software.

Key components include:

- high function interactive hybrid e-invoices / e-bills (image plus data)
- high function Client Portal
- invoice data export
- customisable automated workflow and communications (AR and dispute Management)
- comprehensive AR Management tools
- built in multi-channel communications
- integrated PCI compliant ePayment options direct from interactive e-invoices / e-bills or Portal
- custom branding options
- comprehensive reporting and business intelligence

Typical results:

- \>80% of customer self service
- \>80% reduction in paper and postage cost associated with bills
- 60% reduction in billing effort
- Customer can pay within the iBill / Portal
- Payments automatically allocated and receipted to the invoice
- 60% reduction in reconciliation effort
- "Promise to Pay" ratio improves from 40% to 90%
- 60-80% reduction in collections effort
- General DSO improves by >20%
- Customers and Operators alike satisfaction improves
- ROI 6-9 months

Specialist sector experience includes:
- Professional and financial services
- Distribution
- Publishing
- Trades
- Utilities
- Strata Management
- Local government

OfficeTorque FRM is available for single entity use or shared services environments.

Our fully integrated solution is easy to deploy, easy to use, easy to support, and delivers rapid results for you, and an enhanced experience for your customers.

Website: www.officetorque.com or email cashflow@officetorque.com

8.19 OpenText

Headquarters:

OPENTEXT™

OpenText
275 Frank Tompa Drive
Waterloo, ON N2L 0A1
Canada

Countries with highest e-invoicing revenues	France, Germany, UK, USA
VAT compliant e-invoice processing guaranteed for	46 countries – including: AUS, AUT, BEL, BRA, BGR, CAN, HRV, CYP, CZE, DNK, EST, FIN, FRA, DEU, GRC, HKG, HUN, ISL, IRL, ISR, ITA, LVA, LIE, LTU, LUX, MEX, MAR, NLD, NZL, NOR, POL, PRT, ROU, ZAF, SGP, SVK, SVN, ESP, SWE, CHE, TUR, GBR, USA
Number of employees dedicated to e-invoicing and directly related offering	>1000
Registered users on own e-invoicing platform	Connected Businesses: >600,000 Customers: >40,000
Processed volume on own e-invoicing platform	Almost 1 billion e-invoices per year
Core offering	Active Invoices with Compliance for E-Invoicing for AP and AR, Active Orders for P2P automation, digital enablement for SME trading partners, OpenText Trading Grid®, B2B Managed Services.
Covered processes/messages along the supply chain	End-to-end physical/financial supply chain automation – from order through to invoice/payment. Support for multiple standards; can support custom messages.
Value-added services	Trading partner on-boarding services; Active Community for community management.
Main target market segments	**Large Enterprises** – simple to complex E-Invoicing scenarios. Cost-effective solutions for enabling connectivity with non-digital trading partners.
Supported languages (with application/service and the online-help/customer support)	English, French, German, Italian, Spanish, Japanese, Korean, Portuguese, Chinese.
Competitive differentiator	Truly global network and presence, with the world's largest business network and range of E-Invoicing solutions available to suit the needs of enterprises in a variety of industries.

OpenText

OpenText operates the world's largest business network with over 600,000 connected businesses and over 16B transactions per year. OpenText (formerly GXS) has provided electronic invoicing solutions globally for over 40 years. Today, we provide E-Invoicing services for thousands of enterprises with SaaS and outsourced options to suit each customer's specific E-Invoicing requirements.

OUTBOUND E-INVOICING

OpenText enables companies to exchange electronic invoices via EDI and other preferred methods. Suppliers 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.

We can also create and send compliant PDF invoices to smaller businesses who do not have automated ERP/accounting systems.

Business to Government (B2G E-Invoicing)

In an increasing number of jurisdictions it is now mandatory when trading with government entities like schools, hospitals and local/regional government offices to switch to electronic invoicing. OpenText supports B2G e-Invoicing in a range of countries.

INBOUND E-INVOICING

OpenText delivers your supplier invoices and other documents according to your accounts payable system's required format. As a result, invoices flow directly from suppliers into your enterprise systems without the need for manual intervention – enabling straight-through processing.

For inbound e-invoicing we also provide:
- Three-way matching of PO, shipment receipt and invoice document
- Exception alerts
- Configurable business rules for monitoring data quality, process steps, and time-based activities
- Regulation compliance in 46 countries

E-Invoicing with non-digital trading partners. We provide a range of cost-effective connectivity solutions for enterprises to integrate with their non-digital trading partners.
- Web-based portal
- Excel®-based connectivity

E-INVOICING COMPLIANCE

Our solutions are tax compliant globally, meeting legislation within the EU, North America, Latin America and Asia Pacific for both outbound and inbound E-Invoicing. Our E-Invoicing solution is inclusive of EDI, digital signature and government integrated processes as permitted/mandated.

Many countries, particularly in Europe and Latin America, enacted tax legislation to regulate electronic invoicing. We offer digital signature and EDI solutions that shield customers from compliance complexity by providing:
- Content validation
- Digital signature
- Electronic archive
- Delivery to tax authorities
- Human readable invoice creation

Website: Visit us at www.gxs.com and www.opentext.com for more information. Also visit www.einvoicingbasics.com for advice on eInvoicing adoption and implementation.
Contact: www.opentext.com/contact

8.20   OpusCapita

Headquarters:

OpusCapita Group Oy
Keilaranta 13, FI-02150 Espoo
Espoo
Finland

Countries with highest e-invoicing revenues	Finland, Sweden, Norway
VAT compliant e-invoice processing guaranteed for	Finland, Swede, Norway, Germany, Poland, Slovakia, Lithuania, Latvia, Estonia, Netherlands, France, Spain, Italy, Spain, Austria, Hungary
Number of employees dedicated to e-invoicing and directly related offering	100
Registered users on own e-invoicing platform	Suppliers: > 16 000 Buyers: > 10 000
Processed volume on own e-invoicing platform	200 million e-invoices per year
Core offering	E-Invoicing and supply chain Network Services, Finance and accounting services, financial software services. Offering is delivered as SaaS, BPaas or Full out-sourcing – as demanded by customer
Covered processes/messages along the supply chain	Financial processes like Purchase-To-Pay, Order-To-Cash, General Ledger, Record-To-Report and Payroll. Next to that also value added processes like Payment Factories, Full Supply Chain and Electronic reporting to authorities
Value-added services	Trade Finance, Robotic automation of financial processes, Document process outsourcing Hybrid Services
Main target market segments	Large suppliers in both B2B/B2G and B2C industry. Balanced offering for suppliers and buyers in midsized organizations.
Supported languages (with application/service and the online-help/customer support)	English, Swedish, Finnish, Norwegian, Polish, German
Competitive differentiator	Extended P2P. Traditional Purchase-to-Pay process is extended with cash management and financing solutions.

DEVELOPMENT PARTNERSHIP WILL PRODUCE GREAT STRIDES IN DIGITALIZATION AND PRODUCTIVITY WITHIN PUBLIC ADMINISTRATION

The State Treasury in Finland, which produces internal services for public administration, is developing the financial and personnel administration processes of Finnish government agencies in collaboration with OpusCapita.

"Efficient and sound practices will help to reduce the pressure on central government finances and support improvements in productivity in government agencies and departments. The digital transformation of our financial administration will play a major role in the digitalization of Finland's public administration in general, as the effects will extend to the agencies' own service processes," says Mikko Kangaspunta, Head of Division at the State Treasury's Financial and Personnel Administration.

OpusCapita has acted as partner to the State Treasury over ten years in building electronic invoicing processes, and it now transmits the purchase and sales invoices of the government's agencies and departments. The collaboration with OpusCapita has broadened from an invoice transmission service to a development partnership. The focus has been especially on improving efficiency in the purchase-to-payment process. OpusCapita produces also document digitization services for government agencies.

"A long-term contract gives us the opportunity to develop processes as a whole. OpusCapita is an active and broad-based partner for us. It knows how to collaborate successfully and its approach represents the leading edge in this sector."

In 2014, Finnish government agencies and departments received a total of 1.2 million purchase invoices. Almost 90% of these were e-invoices. OpusCapita forwards all incoming invoices in electronic form for processing in the government's Kieku information system. The system is used by the Finnish Government Shared Services Centre for Finance and HR and by the government agencies.

"Together we have developed a purchase invoice handling process that includes automated posting and automatic reconciliation of invoices with orders and procurement contracts. New practices are being introduced in the agencies, and the aim is that in just a few years 90% of all invoices received will be processed automatically," explains Kangaspunta.

This will bring a productivity improvement of as much as 20–30%. Greater efficiency in expenditure processing is also one of the goals of the Government Program with annual saving of EUR 15 million in this area by 2019.

Government agencies send out about 9 million sales invoices each year. E-invoices currently account for 15% of these. The State Treasury is monitoring this percentage closely with the aid of OpusCapita's reports. In the Finnish Tax Administration, for example, electronic invoicing of real estate taxes has proceeded well and the aim is to launch activation campaigns in other agencies to encourage invoice recipients to switch to e-invoices.

"Electronic purchase and sales invoices and automation are part of the infrastructure needed for the digital transformation of society. The State Treasury, the Finnish Government Shared Services Centre for Finance and HR and OpusCapita are all working together to achieve this," says Kangaspunta.

"We have also talked about making use of software robotics. If we're looking to achieve digitalization at a deeper level throughout public administration, then software robotics is an area of great interest.

OpusCapita transmits all central government purchase and sales invoices, which amount to an annual total of more than 10 million invoices. OpusCapita also provides government agencies and departments with document digitizing services and the iPost printing service. Each year millions of letters are printed for government agencies and departments.

Website: www.opuscapita.com, Contact: pellervo.hamalainen@opuscapita.com

8.21 Order2Cash

Headquarters:

Order2Cash
Joop Geesinkweg 310
1114AB Amsterdam-Duivendrecht
The Netherlands

Countries with highest e-invoicing revenues	1. Europe. 2. USA 3. Australia
VAT compliant e-invoice processing guaranteed for	Worldwide coverage and experience; including Europe, US, Canada and Australia.
Number of employees dedicated to e-invoicing and directly related offering	50+
Registered users on own e-invoicing platform	Suppliers: 420+ Buyers: 3.6M Consumers: 20.5 M
Core offering	Order2Cash global process optimization services delivered via SaaS solutions. Available as custom-built Corporate White-Label Solutions or via a standardised Cloud-Based platform.
Covered processes/messages along the supply chain	Complete Order2Cash process; from Credit Scoring to Contract Management, e-Invoicing with multi-format, multi-channel interoperability, Online Payments, Credit Management and more.
Value-added invoicing services	Full hybrid e-invoice delivery with print and post possibilities. Extensive interoperability support for B2B/B2G roaming delivery. Payment features and in-built dispute management.
Main target market segments	Mid-Large Scale Corporates and Multinationals
Supported languages (with application/service and the online-help/customer support)	NL, ENG, FR, DE, PL, LI, ES (Others available on request.)
Competitive differentiator	The only true end-to-end Order2Cash service provider in the industry.

Order2Cash

Order2Cash is the new name for Anachron, Europe's pioneering provider of Order2Cash process optimization services. Founded in 2000, our cutting-edge SaaS solutions empower the work of large scale and multinational B2B & B2C organizations, including Fortune 500 companies, across the globe. Our customers cover all industries and sectors and include some of the world's leading brands; PPG, GE Oil & Gas, Hertz, Kone, Tommy Hilfiger and Calvin Klein being a few notable examples.

Our Order2Cash solutions can revolutionize all aspects of your business; helping to optimize financial workflows, increase working capital and reduce costs. Our solutions are designed to make your finance move faster, enabling you to achieve business objectives today while positioning your company effectively for future growth.

Accelerate your Order2Cash processes.
We offer you a unique combination of order to cash related services. Choose to work with us to establish a custom-built, white labelled corporate solution for your company. Alternatively, outsource your entire Order2Cash process through our innovative, hosted web platform.

Once you've chosen a preferred platform, simply select the services you need to suit your business objectives. These include credit scoring, e-Invoicing, secure online contract & document signing, e-Payments and Credit Management Services. Tailor a solution to suit your business needs and you can effectively monitor and control your entire global Order2Cash process, with full transparency of each stage, through a single platform.

Your trusted e-Invoicing provider
Moving your invoices online will pay rich dividends. Enhance the relationship between your company and its customers by making it easier for them to conduct business with you. Recognized by Gartner as a 'Pure-Play' provider on three separate occasions, our e-Invoicing services offer unparalleled value and expertise to your organization and its customers.

Deliver invoice data from any ERP to Order2Cash and automate the creation, distribution and presentment of all invoices you send to customers. We make it easy to distribute large volumes of invoices worldwide; instantly and cost-effectively. Hybrid print & post options enable you to outsource your entire invoicing process; ensuring you can deliver all critical communications to customers, in whatever format they require and benefit from a digital archive of all invoices (both print and electronic) to fulfil legal requirements.

Hassle-free delivery to any B2B/B2G Invoice Network
Our commitment to interoperability and expertise in network roaming engagement enables us to support you with seamless delivery to any B2B or B2G invoice network. We have in place an array of connectors to a wide range of existing networks and will arrange connections to any new networks on your behalf. Order2Cash's customers can rest assured that their invoices can be delivered anytime, anywhere and through any required network.

Contact us today to discuss your requirements:
Visit us online: www.order2cash.com
Contact Form
Email: info@order2cash.com
Tel: +31 20 531 3900

8.22 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	24
Registered users on own e-invoicing platform	Suppliers: ~ 2'500 Buyers: ~ 12'000 (~ 10'000 SE) Consumers: More than 1.4 million consumers (incl. consumers on partner platform)
Processed volume on own e-invoicing platform	10 million e-invoices per year
Core offering	Consolidated network and signature service
Covered processes/messages along the supply chain	Ordering, billing/crediting, payment, archiving
Value-added services	Full banking and payment services, Working Capital Management Solutions
Main target market segments	Suppliers/recipients of all industries, independently of company size
Supported languages (with application/service and the online-help/customer support)	English, German, French, Italian
Competitive differentiator	E-Invoicing and E-Banking solution combined, Working Capital Management Solutions

POSTFINANCE – THE E-INVOICING PROVIDER IN SWITZERLAND

PostFinance is the E-invoicing provider for SMB as well as for large companies in Switzerland. Electronic exchange of invoices reduces the administrative expenses, lowers costs and offers huge benefits to suppliers and their customers.

At 2.95 million customers, PostFinance is the fourth-largest financial institution in Switzerland. As a pioneer in the E-invoicing business, PostFinance is able to look back onto more than 15 years of experience and offers its business customers a number of solutions for debtor/creditor management.

PostFinance is one of the exclusive E-invoicing providers of the Swiss Administration. Large companies like Swiss Railways or Telcos, as well as public administrations and SMB may use the numerous benefits of E-invoicing due to the intense cooperation of PostFinance with software providers and numerous interconnects to other solutions.

The first solution in 2001

The original B2C solution was introduced at the end of 2001. In 2005, PostFinance expanded the service to ensure VAT-compatibility. The path for developing and enlarging B2B processes was prepared.

Benefits for suppliers
Reduced payment periods and faster receipt of payment
High data quality
Increasing customer demands are met and customer loyalty is increased
Reduction of paper archives
Simple traceability of actions
Reduction of print, postage and process costs

Solutions can be combined

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

Benefits for buyers
No manual recording of invoice contents
All invoices are available at all times
Automation of invoice and payment processing
Fast and secure payments
Simple traceability of actions
Cost savings of up to 12 Euro per invoice

Core services of E-invoicing by PostFinance:

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

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

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

8.23   Saphety

Headquarters:

Saphety Level – Trusted Services, S.A.
Rua Viriato, 13, 2º Piso
1050-233 Lisboa
Portugal

Countries with highest e-invoicing revenues	Portugal, Brazil, Colombia.
VAT compliant e-invoice processing guaranteed for	AU, AT, BE, BG, CA, CY, CZ, DK, EE, FI, FR, DE, GR, HK, HU, IS, IE, IM, IL, IT, LV, LI, LT, LU, MT, MX, MA, NL, NZ, NO, PL, PT, RO, SG, SK, SI, ZA, ES, SE, CH, GB, US.
Number of employees dedicated to e-invoicing and directly related offering	60+
Active users on e-invoicing platform	Suppliers: 40.000 Buyers: 15.000
Core offering	E-invoicing Network Service; Electronic Market Place; SaaS (Software as a 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	Services for invoice automation and procurement; Accounts Receivable and Accounts payable solutions; Integration and Messaging; Documents Signature and Archiving.
Main target market segments	Large suppliers in all industry areas; Large buyers in all industry areas; Community Enablement.
Supported languages (with application/service and the online-help/customer support)	English, Spanish, Portuguese.
Competitive differentiator	Since 2002, Saphety has been a partner with GS1 for data synchronization between organizations. This experience has helped us to understand the needs and key success drivers for implementing data interchange process among complex organizations, particularly in the Retail and Public Administration Industries.

Saphety | E-Invoicing, eBilling & EDI

Saphety is a leading global group in purchase-to-pay solutions and data and media synchronization. It was founded in 2000, in Portugal, as part of Sonae, the largest commercial group in Portugal outside the banking sector.

Saphety owns the SaphetyDoc solution that allows buyers and suppliers to exchange electronic business documents, such as purchase orders, delivery notes and invoices; and then to file all invoices in digital format, with full legal and fiscal validity.

With the inevitable change from paper to digital business transactions, there come two immediate advantages: economic and environmental. This translates into effective savings in terms of resources, costs and space, such as:

• Error reduction and faster error correction;
• Improved dispute handling and avoidance;
• Instant on-screen auditability of invoices with unprecedented levels of integrity and authenticity guarantees;
• Elimination of paper archiving;
• Provision of better data for regulatory compliance in adjacent fields, e.g. corporate governance and supply chain traceability.

The main benefits of SaphetyDoc include:

No technical skills needed: with an intuitive and user friendly interface there is no need for technical skills or specific training: everyone can use it. SaphetyDoc is an internet based portal for sending and receiving business documents, such as orders, invoices and delivery notes, among others.

Fast and simple account activation: with SaphetyDoc, the whole registration process is done online. Instead of taking several weeks, or even months, the system is up and running in a few hours.

Cheaper: the SaphetyDoc system is charged based on a monthly fee, which depends on the amount of documents exchanged. SaphetyDoc customers may also choose the payment plan that best suits their documentation volume and distribution schedule, when exchanging documents with their business partners.

Other Saphety solutions:
• **Public procurement**
  SaphetyGov is an electronic public procurement platform which manages the whole contracting process - pre-award - in a simple, safe and clear way. Is a certified public procurement platform for the Portuguese Public Procurement Process.
• **Document presentment (eBilling by Saphety)**
• **Data synchronization (SaphetySync)**

With 16 years of expertise, Saphety has 4700 client companies and over 129000 users throughout more than 30 countries, and is a strong supporter of the dematerialization of business processes in both the public and private sectors.

Saphety is an official member of EESPA.

https://youtu.be/9iWP6pCMfJs

Visit us and learn more at **saphety.com**.

Website: saphety.com. Brazil: saphety.com.br. Colombia: saphety.com.co.
Contact: Miguel Zegre, CMO, tel: +351 210 114 640, email: marketing@saphety.com.

8.24   SEEBURGER AG

Headquarters:

SEEBURGER AG
Edisonstraße 1
75015 Bretten
Germany

Countries with highest e-invoicing revenues	Austria, France, Germany, Scandinavia, Switzerland
Number of employees dedicated to e-invoicing and directly related offering	50+
Partner profiles available in profile library	Suppliers: 30.000+ Buyers: 30.000+
Operating models of own e-invoicing solution	All Options: SEEBURGER solutions can be installed on-premises or operated on-demand as a private or shared cloud solution. Hybrid forms are also available.
Processed volume on own e-invoicing solution	50.000.000+ Exact figures for on-premises e-invoicing solutions are unknown.
Core offering	The SEEBURGER »Business Integration Suite« is a central data platform for secure and reliable transfers of data. It is also capable to integrate automatically all business processes with external business partners and internal applications.
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	SEEBURGER Trading Partner Services: Onboarding Service, B2B Community Service and B2B Clearing Center
Main target market segments	Solutions for all industries and companies of any size
Supported languages (with application/service and the online-help/customer support)	English, German
Competitive differentiator	− No "club-fees" for your business partners − Free choice best fitting operating model − Secure and traceable invoice exchange

SEEBURGER AG - Connecting Business Partners – Integrating Processes Worldwide – Across Organizational Boundaries

In every company, there is a requirement to safely and securely transmit data, which is handled via business processes using structured (EDI) or unstructured formats in a variety of situations such as:

- Exchanging securely e-orders, e-order responses, e-invoices etc. with business partners and public administrations
- Securing important quotes and tenders, ensuring their safe transmission to buyers or suppliers
- Sharing confidential data such as price lists, construction data, contracts, and delivery information
- Connecting information flows, synchronizing databases, Cloud, Web, Webshops and other applications

E-Invoicing with SEEBURGER

- SAP-certified solution extensions "SAP Order-to-Cash" and "SAP Purchase-to-Pay" to ensure transparency, workflow approval and booking of any invoice by providing
    - Comprehensive search functionality
    - Online invoice status overview
    - Detailed performance reporting
- Secure multiprotocol communication via encrypted connections
- Hybrid formats e.g. EANCOM + PDF; PDF + XML; ZUGFeRD PDF/A-3
- Closed e-invoicing community options
- All formats and protocolls
- Many regional EDI invoicing requirements: Austria, Czech Republic, Denmark, France, Germany, Italy, Spain, Mexico

An all-in-one central platform for all integration tasks (B2B, EDI, EAI, MFT, ETL, ESB)

With the SEEBURGER »Business Integration Suite« we offer a central data platform for the secure and reliable transfer of data and the capability to automatically integrate all business processes with external business partners and internal applications. The »Business Integration Suite« supports all information transfer channels with business partners such as EDI, paper, fax and the Web. The Suite converts data into the required structures, runs according to configurable rules and processes to be carried out, links to all renowned ERP systems and databases while monitoring these processes. Confidential and sensitive information of all types is transferred safely and traceably, going over and above for our customers, ensuring fulfilment of compliance requirements.

Solutions for all industries and companies of any size

Based on many years of experience, SEEBURGER provides tailored solutions to handle the idiosyncrasies of every industry. The platform is designed to be scalable, suiting changing data volume demands and integration requirements with pre-configured solutions for SMEs to individually furnished and consolidated solutions for enterprises. Furthermore, to ensure fast and secure roll outs, comprehensive content is available in the form of pre-configured mappings, process workflows and extensive business partner network master data.

All Options: ON-PREMISES, IN THE CLOUD, HYBRID

SEEBURGER solutions can be installed on-premises or operated on-demand as a private or shared cloud solution. SEEBURGER data centers are ISO 27001 certified. Hybrid forms are also available.

Website: www.seeburger.de
Contact: Gerrit Onken, +49 40 23882435, g.onken@seeburger.de

8.25   Signature South Consulting

Headquarters:

Signature Corp S.A
Av. Vitacura 2808
Santiago
Chile

Countries with highest e-invoicing revenues	Latin America
VAT compliant e-invoice processing guaranteed for	Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Guatemala, Mexico, Peru and Uruguay.
Number of employees dedicated to e-invoicing and directly related offering	100+
Registered users on own e-invoicing platform	Suppliers: +45,000 Buyers: +200,000
Processed volume on own e-invoicing platform	+200 million e-invoices per year
Core offering	e-Invoicing solutions Full web e-invoicing services e-Factoring services Supply Chain Finance e-Payments
Covered processes/messages along the supply chain	Full Supply Chain Order-Invoice-Payment-Finance and Electronic reporting to tax authorities.
Value-added services	Gosocket, a b2B2b open and free electronic invoicing network that connects companies with their clients (buyers) / suppliers through their exchange of compliant electronic invoices.
Main target market segments	Large, medium and small suppliers of main industries around Latin America.
Supported languages (with application/service and the online-help/customer support)	English, Spanish, Portuguese.
Competitive differentiator	The only company in the world with **local presence and expertise** in electronic invoicing solutions. Signature/Gosocket solutions have been implemented by several multinational companies, developing centralized projects for the region, but with local compliant approach.

LATIN AMERICA COMPLIANCE 2.0 THROUGH GOSOCKET

Latin America is known for being the region with the most complex, and also most successful, electronic invoicing models on the planet.

Founded in 2001 with headquarters in Chile, Signature South Consulting is the leader in the Electronic Invoicing Industry in Latin America.

https://www.youtube.com/watch?v=fHI1kgvv2hA

Signature's local presence in Latin America and expertise in all electronic invoicing models implemented in this region, allows this provider to help multinational companies, with a very unique approach, to solve their e-invoicing necessities in all countries of this so complex region. This Latin American coverage is based on a regional network of subsidiaries in Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Guatemala, Mexico, Peru and Uruguay.

As part of Signature's commitment to the worldwide development of e-invoicing and its best practices, the top Signature executives have advised all Latin American Tax Authorities on improvements for their electronic invoicing regulations and platforms.

Compliance 2.0 through Gosocket

Now, there is a second wave in which Latin America seems to be the leader yet again in a new definition of compliance (which we are calling Compliance 2.0), regarding supply chain finance regulated by governments.

This began in Chile when the local tax authority

structured a centralize database to control electronic factoring transactions, where companies register their operations and which includes an online validation that guarantees the following:

- The tax compliance of the e-invoices;
- The certainty that e-invoices have not been cancelled by an electronic credit note;
- The impossibility of discounting e-invoices twice;
- The legal ownership by financial institutions of Account Receivables their clients discounted with them.

This Compliance 2.0 that began in Chile in 2005 also became available in Peru this year. Uruguay, Mexico and Colombia are currently working on these types of electronic validations and registrations.

This is not just Supply Chain Finance, but the most secure and effective funding model available on the planet for B2b.

Gosocket, taking advantage of its open network concept, which connects thousands of companies using hundreds of millions of Latin American compliant e-invoices (issued with any electronic invoicing solution from the market), offers financial services in a very simple but effective way.

https://www.youtube.com/watch?v=OUgnAfm9X7Q

Contact: Sergio Chaverri
Website: www.southconsulting.com / www.gosocket.net
Tel: +506 2288-1122 / Email: sergio@gosocket.net

8.26   SIX

Headquarters:

SIX Paynet Ltd
Hardturmstrasse 201
8005 Zurich
Switzerland

Countries with highest e-invoicing revenues	Switzerland
VAT compliant e-invoice processing guaranteed for	Thanks to SIX, companies can optimize their billing processes by providing invoices electronically to their customers – not only in Switzerland, but also across national borders.
Number of employees dedicated to e-invoicing and directly related offering	42
Registered users on own e-invoicing platform	Consumers: more than 1.4 million (including on partner platform)
Core offering	E-billing network and consolidator services in B2B and B2C, for example signature, verification, archiving, interconnect
Covered processes/messages along the supply chain	Full supply chain: Order-Invoice-Payment
Value-added services	Archiving, Workflow, EDI, PDF Upload, onboarding including professional project management
Main target market segments	Comprehensive offering for senders and recipients (SMEs and large companies likewise) in all industries
Supported languages (with application/service and the online-help/customer support)	English, German, French and Italian
Competitive differentiator	SIX is the market leader for electronic billing in Switzerland. We are the only provider offering an interface to over 90 Swiss banks. Billers can send their invoices electronically into the e-banking account of over one million retail and business customers.

SIX – Leading e-billing provider in the Swiss market

SIX is the market leader for electronic billing in Switzerland, operating the largest network for the transmission of VAT-compliant and signed electronic invoices in both the B2B and B2C areas.

E-bills in e-banking

More than 90 Swiss banks are connected to our e-billing network enabling 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 invoice presentment and payment method. More than one million e-banking customers were signed up for e-bill at the end of March 2016.

Most large companies and increasing numbers of SMEs in all industries offer e-bill to their customers. With our "E-Bill Business Package", we offer companies that pay their invoices via e-banking an all-in-one solution for VAT-compliant e-bill receipt via e-banking, including electronic archiving.

E-bills in accounting systems / ERP systems

In the B2B area, SIX has developed a large network with participants from all major industries. Billers send invoices electronically to our network, where the data is verified, electronically signed and sent to the recipients. Though our offer is industry neutral, it also has thorough know-how in specific industries including healthcare, commerce and utilities.

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

Large partner network

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

About SIX

SIX operates the infrastructure underpinning the Swiss financial sector and offers a comprehensive range of services around the world in the fields of securities trading and settlement, financial information and payment transactions. The company is owned by its users (approximately 140 banks of various orientation and size). Its workforce of over 4,000 employees and presence in 25 countries throughout the world generated operating income of CHF 1.8 billion and adjusted Group net profit of CHF 713.7 million in 2015.
www.six-group.com

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

8.27   Striata Limited

European Headquarters:

18 King William Street,
London,
EC4N 7BP

Industry Positioning	Secure Electronic Customer Communication Management specialists in B2C and B2SME servicing 250 customers globally. Experienced data integrator with open platform, offering flexible solutions aimed at assisting any size business to comply with e-Invoice distribution requirements and integrate with multiple e-Invoicing platform formats.
Specialised Offering	Reliable, stable and scalable Application Platform: cloud, SaaS or in-house deployed solution. Provides distribution of e-Invoices and other secure documents by email to consumers, SME and non-integrated businesses; plus secure storage/archiving for multi-channel presentation requests from integrated portals/systems.
Value Added Services	Paperless adoption strategies, data hygiene, best practice consultation, multi-platform delivery, secure access through existing portals via web-services, FTP and EDI support.
Covered processes/messages in the supply chain	Secure delivery of data in various formats including multi-layered interactive PDF documents, XML, CSV and custom structured data formats. Secure Document Repository supports multiple document formats and presents documents via existing, integrated Biller portals.
Main target market segments	e-Invoicing for SME & non-integrated businesses; secure electronic document delivery to business customers - Banks, Insurance, Telco, Utilities, Retailers; storage of documents in secure repository for access via existing portals and apps.
EU compliance for e-Invoicing	Assistance with consent from the end customer to switch to electronic invoicing; auditable proof of sender identification; original e-Invoice that cannot be edited.
Competitive differentiator	Multiple file types can be personalised, encrypted and compressed into a single package and formatted for different platforms based on preference. Document storage is secured on multiple levels, supports all common document types and can be accessed via existing Biller portals/applications. Covers 100% of your client base.

SIZE DOES MATTER WHEN IT COMES TO E-INVOICING - THE 80/20 PRINCIPLE

e-Invoicing does not present the same level challenge for every business. The amount of revenue represented by the client has a significant impact on the biller's willingness to accommodate different invoicing processes.

Large, strategic customers are in a much stronger position than SMEs in insisting suppliers meet their e-Invoicing requirements. They simply publish their data/document format standards and the supplier has to comply if they want to get paid.

Smaller firms may succeed in automating a portion of their inbound bills, but are likely to be left with a group of suppliers that continue submitting invoices their own way. They may have to accommodate multiple e-Invoicing processes, while having little capacity to do the development and integration to comply.

An Electronic Invoice Presentation and Payment (EIPP) partner like Striata can remove the challenges of sending and receiving bills electronically, irrespective of your particular requirement.

I need to send PDF invoices to clients, and store them for retrieval.

We specialise in distributing PDF invoices by email and making them available online. We compile the invoice, send in encrypted PDF format by email and store in a secure vault for retrieval through a front end or API.

I need to send PDF invoices to clients, plus a custom data format to my largest client using Platform X.

Striata can assist with PDF invoicing and the creation of the any custom data format including XML and CSV, as well as integration into e-Invoicing portals.

I need to send a multi-purpose PDF with an XML layer that complies with Platform X's standards.

We are experts at multi-layer PDF and can provide expertise, consulting and execution to meet both your invoice delivery needs and your platform integration requirements.

I need to send formatted data to my top client as well as build PDF documents for storage and retrieval.

In addition to being Secure Document Delivery experts, we also offer our Secure Document Repository for storage of any format of document.

I need to make PDF documents available for a client's platform to fetch via API.

All common document formats can be stored in the Secure Document Repository for retrieval via an API. Security and authentication are built in to the application.

My top 5 clients all use different e-Invoicing platforms. I don't have the capacity or skills to develop multiple data streams.

Our data integrators can convert your billing data into any custom format and assist in integrating with major e-Invoicing networks.

If one of the scenarios above describes your e-Invoicing challenge, get in touch with us.

Website: www.striata.com
Contact: Paul Robinson on +442072683941 or Email: info@eu.striata.com

8.28   Swiss Post Solutions

Headquarters:

Swiss Post Solutions AG
Pfingstweidstrasse 60b
8080 Zürich

SPS

a Swiss Post company

|	
Countries with highest e-invoicing revenues	UK, Germany, France, Switzerland
VAT compliant e-invoice processing guaranteed for	AD,AU,AT,BE,BG,CA,HR,CY,CZ,DK,EE,FI,FR,DE, GR,HK,HU,IS,IE,IM,IL,IT,JP,LV,LI,LT,LU,MY,MT,MC, ME,MA,NL,NZ,NO,OM,PL,PT,QA,RO,SA,SG,SK,SI,ZA, ES,SE,CH,AE,GB,US,BR,MX,CL,TR
Number of employees dedicated to e-invoicing and directly related offering	50+
Registered users on own e-invoicing platform	Suppliers: 6,700 Buyers: 500,000 Consumers: 175,000
Processed volume on own e-invoicing platform	25 million e-invoices per year
Core offering	Document Output – Print, Email, Secure Email, Fax, SMS, System to System, Portal,SaaS (Software as a Service), Scanning, BPO
Covered processes/messages along the supply chain	Accounts receivables document processing, query and payments processing, message notification channels, audit reporting and business analytics, invoice document support (PO's, Delivery notes, contracts)
Value-added services	Multi-channel document output and input, business process automation, Online payments, forms processing,
Main target market segments	Medium to Large suppliers in any industry, Multi-national corporations and local organisations
Supported languages (with application/service and the online-help/customer support)	All European languages, others by request
Competitive differentiator	True Global omni-channel services provider merging both the document input and output system, fulfilment and business processes throughout a document lifecycle.

Swiss Post Solutions' E-Billing Service offers enhanced multi-channel bill data presentment and payment capabilities, reduced costs and the environmental impact

Swiss Post Solutions (SPS) provides with its E-Billing offering a **hosted multi-channel service for Electronic Bill Presentment & Payment**, helping organisations to optimise and enhance the way they interact with their clients, partners and suppliers.

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 service is provided in different Service Levels to meet the client's requirements:

- multichannel **E-Billing** service
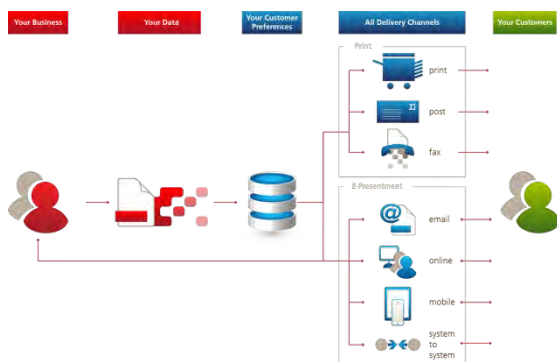
- **E-Bill pro** adds further features to specifically structure and analyse bill data, thus giving the recipients full visibility to any kind of consumption data.

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 by minimising the Days Sales Outstanding (DSO).

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 an usage analytics, to name only a few.

To support clients in transition from physical to electronic billing, SPS offers a managed migration service whereby it runs promotional campaigns on behalf of the client to promote the merits of switching to E-Billing and encourage adoption.

The implementation of SPS' E-Billing service has led its clients to direct cost savings of a least 0,24 €per invoice on production and delivery costs, while the potential indirect costs savings are estimated to be another 1-2 % of their revenues. Additionally it brings the environmental benefit of reduced carbon and therefor outlines the client's sustainable business practises.

This means a better overall experience for our client's customers and strengthens customer loyalty.

Additionally B2B customers will benefit from user-driven cost centre management and reporting, usage analysis and the ability to tailor bill to their unique reporting requirements.

Website: www.swisspostsolutions.com
Contact: Kerri Fabre, phone +44 777 460 67 95, email kerri.fabre@swisspost.com

8.29   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	AE, AU, AT, BE, BR, BG, CA, HR, CZ, CY, DK, EE, FI, FR, DE, GR, HU, IS, IE, IL, IT, JP, LA, LI, LT, LU, MT, MX, MC, MA, NL, NZ, NO, PL, PT, RO, RU, SA, SI, SK, ZA, ES, SE, CH, GB, US
Number of employees dedicated to e-invoicing and directly related offering	175
Active users on e-invoicing platform	Suppliers: 3417 Buyers: 2104 Consumers: over 1 700 000
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 , printing, scanning, digital signing, partner activation, white-label services. Trade Finance and BPO with partners.
Main target market segments	Large suppliers in any industry. Sales partner networks. Offering for suppliers and buyers.
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 – CONNECT ONCE REACH ALL

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 over 13 000 experts, the company operates in close to 20 countries with net sales of approximately EUR 1.5 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.

Tieto is rated in Gartner's Magic Quadrant for Integration Brokerage.

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 and especially ongoing EU standardization in CEN TC-434.
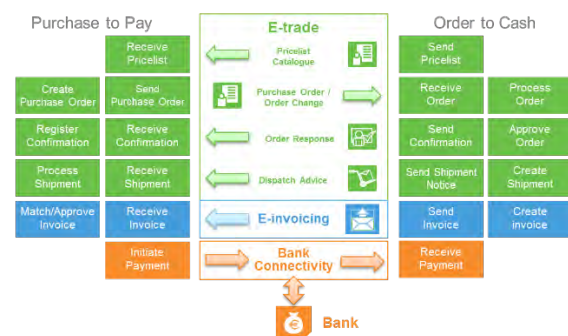
We offer our customers:
- Full purchase-to-pay and order-to-cash process coverage
- Cost savings through automation, process streamlining, faster process execution and improved information quality
- International functionality and large-scale service provision experience Customer centric solutions
- Evolving EU personal data legislation and data privacy requirements are addressed in the service

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

Czech	Petr Herudek	+420 725 543 903	petr.herudek@tieto.com
Finland	Tapani Turunen	+358 400 725 958	tapani.turunen@tieto.com
Sweden	David Göransson	+46 727 067708	david.goransson@tieto.com
Other	Magnus Åhlen	+ 46 727 191661	magnus.ahlen@tieto.com

8.30 Top Image Systems, Ltd.

Headquarters:

Top Image Systems, Ltd.
B.S.R. Tower 1, 4th floor
2 Ben Gurion Street
Ramat Gan, Israel 52573

Countries with highest invoice processing revenues	Germany, Switzerland, UK, Italy
Countries with highest number of active invoice processing customers	Germany, Spain, Switzerland, Austria
Number of active customers using invoice processing solutions	Over 200 direct customers as well as additional indirect customers via more than twenty BPO/SSC partners selling our invoice solutions
Invoicing offering	eFLOW AP (on premise, hybrid, cloud) eFLOW AP for SAP (on premise, hybrid, cloud) eInvoice Portal eFLOW Invoice Reader (automated capture) eFLOW Digital Mailroom
Covered processes/messages along the supply chain	Automated Invoice Capture and Approval Workflow Solution: – Invoice Recognition, Validation, Exception Handling, Approval, Posting and Parking, Monitor and Reporting; Archiving and Supplier Portal
Value-added services	Mobile invoice capture and approval Invoice and supplier performance analysis
Main target market segments	Accounts Payable & Finance Departments in mid–market (companies from $50 m - $200 million revenues) / Business Process Outsourcers & Shared Services Centers
Supported languages (with application/service and the online-help/customer support)	English, German, Italian, Spanish, Chinese, Japanese, Russian
Competitive differentiator	Flexibility to adapt our solution to how customers want to work – on premise/hybrid/cloud, with powerful SAP and multi-ERP integration and native cloud and mobile capabilities

Top Image Systems Next Generation End-to-End Accounts Payable Automation Solution Delivers Flexible On Premise, Hybrid and Cloud Deployment

TIS, a leading global provider of document capture and workflow automation, has a distinguished track record of automating AP processes for well-known companies across Europe and around the world, including Bosch, CNH - a subsidiary of Fiat Industrial, Enel, Pirelli and the Generali Group. TIS technology processes more than 260 million invoices annually.

As only 23% of businesses today have a high level of AP automation and more than 50% of companies still receive the majority of invoices as paper, multi-channel accounts payable automation is in strong demand.

In 2016, TIS launched its next-generation AP automation solution eFLOW® AP, combining the industry's most powerful data extraction and validation technology with best-in-class mobile capabilities and cloud, hybrid and on premise deployment options, giving customers unprecedented deployment flexibility.

The solution captures invoice data and automates invoice workflows through an SAP ABAP add-on that resides inside its own dedicated namespace within a user's SAP system. The solution can also be accessed through a user-friendly web GUI or via mobile device.

eFLOW AP provides end-to-end functionality through five powerful components:

Extract: Advanced extraction, validation and matching of data from captured invoices and other payables documents in any format from any source, including mobile.

Control: Streamlined invoice review, automated data completion and invoice validation including OCR on-the-fly capabilities.

Resolve: Approval and exception resolution, using self-learning technology, configurable workflows, mobile review and segregation of duties.

Portal: Integrated supplier collaboration tool for PO and invoice submission, real-time self-service status and dynamic discount offers.

Archive: Secure, cloud-based archive for instant access to images, data, workflow logs, reports and analytics from anywhere, any time.

Key Differentiators:

The SAP deployment option has important advantages. OCR on-the-fly inside of SAP enables control of the entire process from inside SAP, ad-hoc real time analytics to measure and adjust the AP process, a familiar environment, no need for data redundancy and efficient use of existing SAP infrastructure, while also leveraging the most up-to-date functionality that SAP offers, such as FIORI. This combination gives SAP users unmatched user experience.

The solution leverages TIS' eFLOW Cloud-Docs archival platform for state-of-the-art cybersecurity. With eFLOW CloudDocs, organizations can quickly organize documents by category, function, department or responsibility and can share and archive invoices, purchase orders and related documents. eFLOW AP also provides real-time reports and dashboards that identify process bottlenecks and monitor performance, empowering Finance organizations to continuously improve and streamline accounts payable operations.

By transforming paper-based manual processes to end-to-end automated processes, TIS helps the AP department lead the enterprise in the crucial task of cutting costs and improving agility to better compete in the digital economy.

Stefanie Koebke - EMEA Marketing Manager: Stefanie.koebke@topimagesystems.com;
Tel: 49 (0)221 933 13 0 Website: www.topimagesystems.com

8.31   TrustWeaver

Headquarters:

TrustWeaver AB
Kungsgatan 27, 4TR
111 56 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	35+
Active users on E-Invoicing platform	No. of TrustWeaver-enabled partners: +60 Number of end-user companies: 100.000s
Processed volume on own e-invoicing platform	Aggregate exceeding 100 million per year for TrustWeaver's shared service.
Core offering	SaaS (Software as a Service) for State or State agent clearance, compliant e-signing, validation, time stamping, archiving and invoice content.
Covered processes/messages along the supply chain	'Original' invoices and associated business or administrative documents.
Value-added services	Knowledge services on e.g. invoice content, process integration of compliance components. Verification of e-invoice system and process compliance.
Main target market segments	Leading integration brokerage, output management, procure-to-pay, source-to-settle etc vendors. Multinational enterprises.
Competitive differentiator	Legal certainty for many countries through one agreement, one liability regime, one technical interface. 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.

TrustWeaver provides a Cloud-based e-document clearing house service that assures the regulatory compliance of electronic invoicing and other legally critical documents for more than 50 countries. TrustWeaver's modular services allow trading partners and exchange platform providers to 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 business-to-business 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 can be very challenging..

The Solution – guaranteed legal certainty

In some countries, existing business solutions can be arguably compliant – TrustWeaver removes the need to argue. TrustWeaver-enabled solutions allow companies to focus on their core added value while providing state of the art VAT **compliance spanning 55**+ **countries**. By adding a thin, cloud-based compliance layer, Trust-Weaver ensured compliant 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
- 55+ countries
- 60+ partners
- HQ in Stockholm, Sweden
- Established in 2001

Website: www.trustweaver.com
Contact: Karsten Ahlberg, karsten.ahlberg@trustweaver.com

8.32   Tungsten Network

Headquarters:

Pountney Hill House,
6 Laurence Pountney Hill,
London,
EC4R 0BL
United Kingdom

Countries with highest e-invoicing revenues	Belgium, France, Germany, Netherlands, Singapore, Spain, Sweden, Switzerland, UK, US
VAT compliant e-invoice processing guaranteed for	AE, AT, AU, BE, BG, BR, CA, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HK, HR, HU, IE, IT, LI, LT, LU, LV, MT, MX, MY, NL, NO, NZ, PH, PL, PR, PT, QA, RO, SA, SE, SG, SI, SK, TR, US, ZA
Number of employees dedicated to e-invoicing and directly related offering	354
Registered users on own e-invoicing platform	Suppliers: 200,000 Buyers: 182
Processed volume on own e-invoicing platform	15 million e-invoices per year
Core offering	B2B e-invoicing network, SaaS, supplier enrolment, e-invoicing compliance, PO services, archiving, invoice status service
Covered processes/messages along the supply chain	P2P, accounts payable, accounts receivable
Value-added services	Invoice financing, real-time spend analytics
Main target market segments	Large suppliers in any industry Balanced offering for suppliers and buyers in mid-sized organizations
Supported languages (with application/service and the online-help/customer support)	Bulgarian, Dutch, English, French, German, Italian, Polish, Portuguese.
Competitive differentiator	Tungsten Network provides a best-in-class globally compliant e-invoicing service and is the inaugural recipient of the TrustWeaver-Verified Trust Mark, which recognises that Tungsten Network meets the highest standards of compliance best practice.

Tungsten Network – simplifying invoicing, digitizing business, connecting the world

Tungsten Network aims to be the world's most trusted business transaction platform, using data intelligently to strengthen the global supply chain. We do this by giving our customers increased control of their cash flow and greater visibility over their spending. The sheer size of the network, combined with our expertise in implementation and global compliance, mean that these solutions can be applied smoothly and effectively, whether for a locally-based SME or a multinational conglomerate.

Blue chip companies and government agencies are under increasing pressure from shareholders and taxpayers to cut costs and improve efficiency. New cases of invoice fraud appear daily, while big companies are publically chastised for increased payment terms and delayed payments to suppliers, and SMEs are struggling to access the finance they require to grow and, in some cases, remain solvent.

E-invoicing can transform the way an organisation processes, validates and pays its invoices. It has sparked a new phase of innovation for P2P functions, and Tungsten Network offers greater value to customers through spend analytics software and invoice financing. Tungsten Network is the world's largest compliant e-invoicing platform and is leading the way with value-added services.

Tungsten Network typically eliminates two thirds of the cost of processing invoices manually, meaning savings of over 60 per cent on your AP process. Tungsten Network also typically eliminates around 60 per cent of supplier queries regarding their invoice status by offering 24/7, real-time visibility over the status of their invoices.

GlaxoSmithKline, one of the world's largest healthcare companies, is successfully transacting more than 90 per cent of its invoice volume over the Tungsten Network.

Tungsten Network: *Connecting business, streamlining processes*. Tungsten Network is a secure e-invoicing platform that brings businesses and their suppliers closer together with unique technology that revolutionises invoice processing, maximises efficiency and improves cash flow management. Tungsten Network ensures that suppliers are able to send accurate, legally compliant invoices with minimum effort, often directly from their accounting systems in any format. And saving all that paper doesn't hurt the environment either.

Tungsten Network Analytics: *Intelligent data analysis*. Many businesses are flooded with data, but are challenged by how best to make use of it. Tungsten Network inherently gathers a huge amount of useful data by the very nature of the e-invoicing process and our compliance requirements. Tungsten Network Analytics uses data intelligently to provide customers with real-time spend analysis, giving valuable insights that can help to inform future business decisions.

Tungsten Network Finance: *Get paid early*. At the core of any business is its revenue stream. Too many suppliers have their invoices paid late. Tungsten Network Finance aims to mitigate the scourge of late payment by offering an advance finance product, giving suppliers more flexible access to cashflow by financing invoices even earlier than the payment due date, at the supplier's discretion.

www.tungsten-network.com
Ruud van Hilten, SVP Global Commercial Operations
+44 870 165 7420 / ruud.vanhilten@tungsten-network.com

Meet your peers at our major E-Invoicing events in 2016:

Exchange

From E-Invoicing to Supply Chain Financing

June 7 and 8, 2016 | October 10 and 11, 2016
Orlando, Florida, USA | Barcelona, Spain

Key topics 2016

- E-Invoicing entering a new era – global market development and forecast
- E-Invoicing from a corporate and governmental perspective
- Implementing tax compliance in a paperless world
- Compliance and fraud prevention within E-Invoicing
- Driving forward AR/AP and end-to-end P2P automation
- Global standardisation and status of E-Invoicing interoperability
- Best practice in onboarding customers to E-Invoicing
- Supply chain financing – new opportunities and challenges

Within our two major E-Invoicing events in 2016, you will

- network with more than 500 participants
- meet experts from over 40 different countries
- evaluate solutions from 50+ service providers
- benefit from exclusive keynotes, best-practices and discussions

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9. Appendix A: Tax compliant e-invoicing in an international environment

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 a legal point of view, there is no longer any reason to wait with an e-invoicing project. Rather, aggressive government mandates for B2B and B2G invoicing worldwide mean that delaying the implementation of a broad-based e-invoicing strategy could sharply increase future costs and risk.

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 Holistic view on tax compliance

Combatting tax evasion comes increasingly into the spotlight almost everywhere on our world. Invoices and everything related with them are recognised as a key instrument to ensure that all taxes due on transactions are collected. For many years, e-invoice compliance was mainly focused to ensure the authenticity, integrity and legibility. This is indeed a keystone. Even if this is ensured, however, tax evasion is still possible. Therefore, the scope of e-invoice tax compli-ance is steadily extended. Four types of compliance issues are mainly in the foreground [27].

Figure 53: Four types of tax compliance and methods of evidence

Type	Methods of evidence
Anti-Fraud compliance • Really existing trading parties • Supply behind an invoice	• Lookup with national business registers; know-your-trading partner and similar requirements. • Business Controls, Audit Trail, two/three way matching of invoice with contract, delivery notes, payment etc.
Form compliance	Ensure Authenticity, Integrity and Legibility of e-invoices.
Content compliance Correct application of legal rules	Rule-based data validation either in-house or provided by third party service providers: Are all legally required data included in the invoice and in the appropriate format? In addition, the emergence of realtime or frequent automated reporting of transaction data (see next item) exposes individual indirect tax choices (tax percentage, conditional mandatory notices etc.) to tax authorities in a much more granular manner than was previously the case with infrequent consolidated declarations; indirect

Type	Methods of evidence
	tax determination therefore also becomes an area where more precision will be required going forward.
Reporting Compliance	Reporting platforms, depending on country rules traditional (typically annually), near-realtime reporting (1-7 days) or real-time clearance & auditing. Frequent automated reporting is increasingly extended not only to business-to-business transactions but also to software systems and tills that support commercial transactions over the counter at the point of sales.

9.3   Types of legal requirements; a rapidly changing picture

The world of electronic invoicing has changed drastically between 2012 and 2016. Viewed from an international business perspective, developments around the European model, which essentially transforms paper-based processes into electronic ones, were centre stage until just a few years ago; in a relatively short period of time, 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, which is an extreme form of reporting compliance. 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 54: summary of regulatory requirements across selected regions and countries[6]
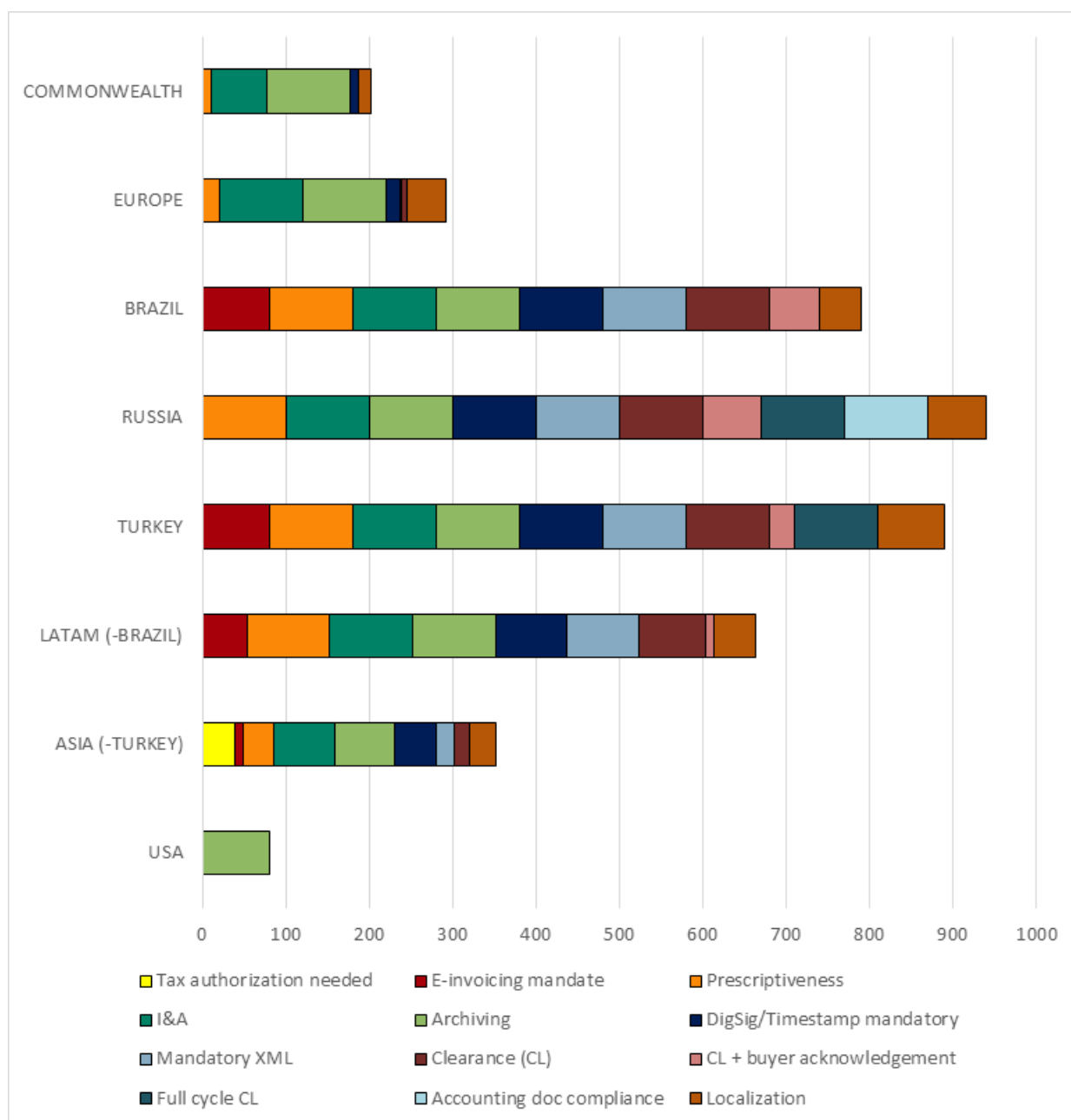
Below is a brief description of these features and the methodology used for their relative importance in the chart:

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 au-thorizes a business before it starts sending and/or receiving invoices electronically. A value between 0

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[6] 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).

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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.

9.4 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, collection of data contributing to reliable audit trails, 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, private service providers accredited by the tax administration must be used, or their use may be among a limited number of implementation options. This is for example the case in Mexico, Russia and Turkey. 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 trading 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. It remains important for every enterprise to seriously investigate how a prospective Cloud-based archiving vendor handles monitoring and implementation of legally required features, particularly in relation to the physical location of stored data.

9.5 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
- Increasingly, archive-specific descriptions are required or strongly recommended.

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.

9.6 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
  - o Electronic and paper invoices are to be treated equally – the administrative burden on paper invoicing should not increase.
  - o 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:
  - o 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)
  - o 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.
  - o An advanced electronic signature on an electronic invoice based on a qualified certificate and created by a secure signature creation device.
  - o 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, and the trend today is rather towards more regulatory fragmentation:

- One group of countries have introduced additional options or requirements; this is today a strong trend where many Member States (e.g. Portugal, Hungary, Spain) introduce variations of additional control mechanisms such as automated reporting, standard audit files, accounting software certification, data export requirements, invoice numbering requirements etc.
- Others have not implemented all elements of the Directive i.e. some have not explicitly transposed the freedom of evidence rule.
- Some countries do not mention all compliance methods, e.g. stating only one or a subset, or only the general requirement of integrity and authenticity.

9.7 Which B2B compliance method is appropriate for organisations in the EU?

The current 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 business 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. The worldwide trend towards wholly technology-based clearance schemes, as well as specific technological requirements for B2G e-invoices in a number of EU Member States, can be viewed as strengthening the case for a single layer of baseline technological controls that can be adapted to meet specific country requirements.

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 [28].

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 55: 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)
Clearance System / Model	Legal regimes in which an electronic invoice must be sent to the tax administration or its licensed/accredited agent for authorization prior to, during or just after issuance as an original tax invoice.
DSO	The days sales outstanding analysis provides general information about the number of days on average that customers take to pay invoices.
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 56: Key sources used in this report

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