

Tax-compliant global electronic invoice lifecycle management



White paper, October 2010

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1 Introduction

This white paper is meant for tax and invoice process managers who need to take critical investment or design decisions for the cost-effective compliance of an e-invoicing system. Vendors of software or services facilitating the emission, receipt or archiving of invoices can also benefit from this white paper. While this document aims to avoid tax, legal and IT technical jargon and abbreviations without prior explanation, some basic knowledge of business processes, typical legal structures of multinational companies, business information systems, tax compliance and Internet-related technologies is required.

This document does not provide a comprehensive inventory or interpretation of legal requirements in the countries addressed; rather, general information on readiness and regulatory approach to e-invoicing is provided as a first outline that users and vendors might need to judge the feasibility of exchanging invoices electronically within or with these geographies.

Readers who are interested in a shorter overview are referred to the executive summary in section 3.

2 Terminology

This document uses the term Value-Added Tax (VAT) to describe the category of consumption taxes that most frequently include specific requirements for electronic invoices or invoicing generally. This often includes consumption taxes such as Goods and Services Tax (GST). We do not enter into the general tax-technical differences between VAT and such similar types of taxation.

3 Executive summary

Converting paper-based invoice flows to electronic channels is an efficient way to cut costs and enhance supply chain integration. However, for electronic invoices to be recognized on an equivalent audit basis as paper invoices for VAT purposes, most countries require e-invoices to be processed and stored in such a way as to enable tax authorities to determine that they are the original invoices that were sent or received at the time of the transaction. Many countries have quite specific requirements about the ways in which such invoice auditability must be guaranteed. Even in countries that do not have prescriptive requirements around the form of invoices or the method by which they are created or exchanged, it is important to remember that the invoice is often the ultimate and sometimes the only transaction proof companies have. Companies that fail to meet prescriptive formal requirements or that do not otherwise maintain adequate transaction evidence can build up significant risks of tax sanctions including fines and the possibility of buyers losing their right to deduct (or having to repay –with interest– already deducted) VAT, which averages 20% of the transaction value¹.

Importantly, the cost of an evidence deficit in case of tax or other regulatory audit is often underestimated or not even measured. In a multinational corporation, however, the total cost of internal and external expert support, document rooms, system access and general process interruption can be significant. Reducing the risk of audit penetration by ensuring high standards of locally recognized digital evidence across the extended enterprise can bring significant savings and gives companies certainty that they will not find themselves with several years' worth of tax risk on their books.

¹ The EU average standard VAT rate is just over 20%.

In the EU, the conditions for e-invoicing were first established in the 2001 Invoicing Directive. Since its coming into effect on January 1, 2004, all EU member states must accept electronic invoices for VAT purposes subject to customer acceptance and guarantees of integrity and authenticity of the electronic invoices. On integrity and authenticity, three options are available (advanced electronic signatures, Electronic Data Interchange with certain security guarantees and “other means”) that Member States have transposed and continue to enforce in accordance with their individual legal, tax and business cultures. A modification of the VAT Directive agreed by the European Council in July 2010 will bring into effect in 2013 a broader set of options for evidencing invoices including demonstrating the validity of an invoice by proving the veracity of the associated supply through audit trails. There will therefore be a number of approaches that trading partners can adopt to comply with VAT requirements depending on the nature and in particular the evidence deficit of their invoicing and associated business processes. In many EU countries, the evidence of integrity and authenticity of an invoice must be available electronically if the original invoice is in electronic format.

Since entry into force of the 2001 EU Invoicing Directive, many countries worldwide have enacted laws legitimizing the use of electronic invoices as originals from a VAT perspective. This good news is tempered by a relatively high diversity among legal regimes, which creates additional challenges for companies.

TrustWeaver's view is that the easiest, most cost-effective and future-proof way to make an international e-invoicing process comply with local laws worldwide is to use electronic signatures. Electronic signatures are very suitable as the basis of an internationally coherent business control framework that minimizes the costs associated with long, intrusive or embarrassing tax audits, because electronic signatures:

1. *Are accepted in all countries that allow e-invoicing;*
2. *Enable a very high degree of legal certainty and, when the highest standards of locally recognized e-signatures are used, allow the burden of proof as to integrity of the invoice and the authenticity of the issuer's identity to be reversed;*
3. *Are available at prices representing less than 1% of the average savings achieved by going paperless;*
4. *Provide for the highest degree of cross-border acceptance;*
5. *Allow for invoice integrity and authenticity controls to have a minimum footprint on a company's applications and processes;*
6. *Allow a single, easily maintainable compliance strategy to be rolled out across an extended enterprise including diverse trading partners, B2B processes and product/service line;*
7. *Enable integrity and authenticity evidence management to be independent from networks and archive solutions, which reduces businesses' dependency on specific technology solutions or vendors;*
8. *Are highly standardized and supported by all major business software.*

Electronic signatures are not a silver bullet that magically makes sales transactions tax compliant; naturally, an electronic signature cannot fully guarantee that an invoice relates to a real sales transaction. However, electronic signatures are the best available technique to quickly satisfy a tax auditor that he is looking at invoices as sent or received. Most companies want to be as certain as possible that a tax audit performed in, say, 6 years from now at a trading partner or a subsidiary can be quick and clean to avoid tax risks including:

- Protracted audits
- Trading partner audits
- Mutual assistance procedures

- Administrative fines
- Loss of right to deduct VAT
- Obligation to pay VAT over fraudulent invoices
- Spillover effects into other areas of taxation law

These risks typically lead companies to adopt a low-risk strategy for tax compliance. When a company does business across a number of countries with differing tax cultures the conclusion will often be that an electronic signature-based process is the common denominator. A significant number of large trading nations do not accept other methods. However, also in situations when other integrity and authenticity compliance choices are legally available, electronic signatures are often the most commonly applicable control method guaranteeing the highest degree of legal certainty.

Today, electronic signatures can easily be implemented to meet all integrity and authenticity requirements across all countries that permit e-invoicing – no matter how diverse their legal and law enforcement cultures. Standards are mature, and solutions based on Service-Oriented Architecture are available that minimize the compliance footprint on any e-invoicing system while allowing straight-through processing in parallel to providing long-term verifiable integrity and authenticity of original invoices at a very low cost.

A company that wants to optimize the use of this cost-effective control technique must take a holistic approach that takes into account technical, process and legal aspects of its invoice processes throughout the relevant disciplines in the company. The design of an e-invoicing system must incorporate the tax perspective, which means first deciding on the desired outcome of an audit process and then designing the system from the resulting requirements.

4 The opportunity

The Internet has created expectations of a friction-free future in which more business processes can be automated more cost-effectively. Many larger companies are now seizing the opportunity to streamline their business-to-business (B2B) processes and consolidate data flows. While most B2B messaging – such as purchase orders and delivery confirmations – can easily be automated, companies have been reluctant to embark on paperless invoicing. This has been partially due to interoperability and

Electronic invoicing (e-invoicing) is the sending, receipt and storage of invoices in electronic format without the use of paper invoices as tax originals. Scanning incoming paper invoices, or exchanging electronic invoice messages in parallel to paper-based originals is not e-invoicing from a legal perspective.

security concerns, but the greatest obstacle has been legal uncertainty. After all, the invoice is not just an important document in the business process; it is also essential in governments' collection of VAT – important sources of revenue for many countries. Non-compliance with VAT requirements can lead to significant financial penalties and other sanctions.

Recent progress in the areas of interoperability, security and legal requirements has, however, brought paperless

invoicing within reach for most businesses. Many countries today accept electronic invoices for tax purposes, provided certain legal conditions are met. New technologies and services have emerged to enable such compliance without compromising business processes. Many companies now seek to implement compliant e-invoicing on the back of existing B2B strategies. Significant benefits are immediately available for companies that can avoid the twin pitfalls of over-simplification and over-complexity.

Benefits include:

- *65% reduction of per-invoice costs, which can range from 0.35 to 60 USD*
- *Better spend analysis, leading to a 1.3% to 5.5% spend reduction*
- *Enhanced contract performance analysis*
- *Better track/enforce internal and trading partner compliance with commercial terms and objectives*
- *Error reduction and faster error correction*
- *Improved dispute handling and avoidance*
- *Opportunity to realize more supplier rebates/discounts*
- *Instant on-screen auditability of invoices with unprecedented levels of integrity and authenticity guarantees*
- *Provision of better data for regulatory compliance in adjacent fields, e.g. corporate governance and supply chain traceability.*



5 Value-Added Tax (VAT) basics

This section presents a basic overview of VAT, how it works and what it represents to governments. These basics are not intended for tax experts.

The form, content and/or method of creating or exchanging invoices are often regulated because invoices are the prime source of audit for VAT. VAT was first introduced in the 1950s and quickly spread throughout European and other countries.

There are no global rules or even any attempts at creating global rules for VAT. The EU VAT system is the closest any region has come to a harmonized VAT system, but even in the EU rules are notoriously complex and diverse.

The basic principle of VAT is that the government gets a percentage of the value added at each step of an economic chain, which ends with the consumption of the goods or services by an individual. While VAT is levied until that end consumer, only businesses can deduct their input tax. Therefore, VAT requirements concerning invoices ordinarily only apply between businesses.

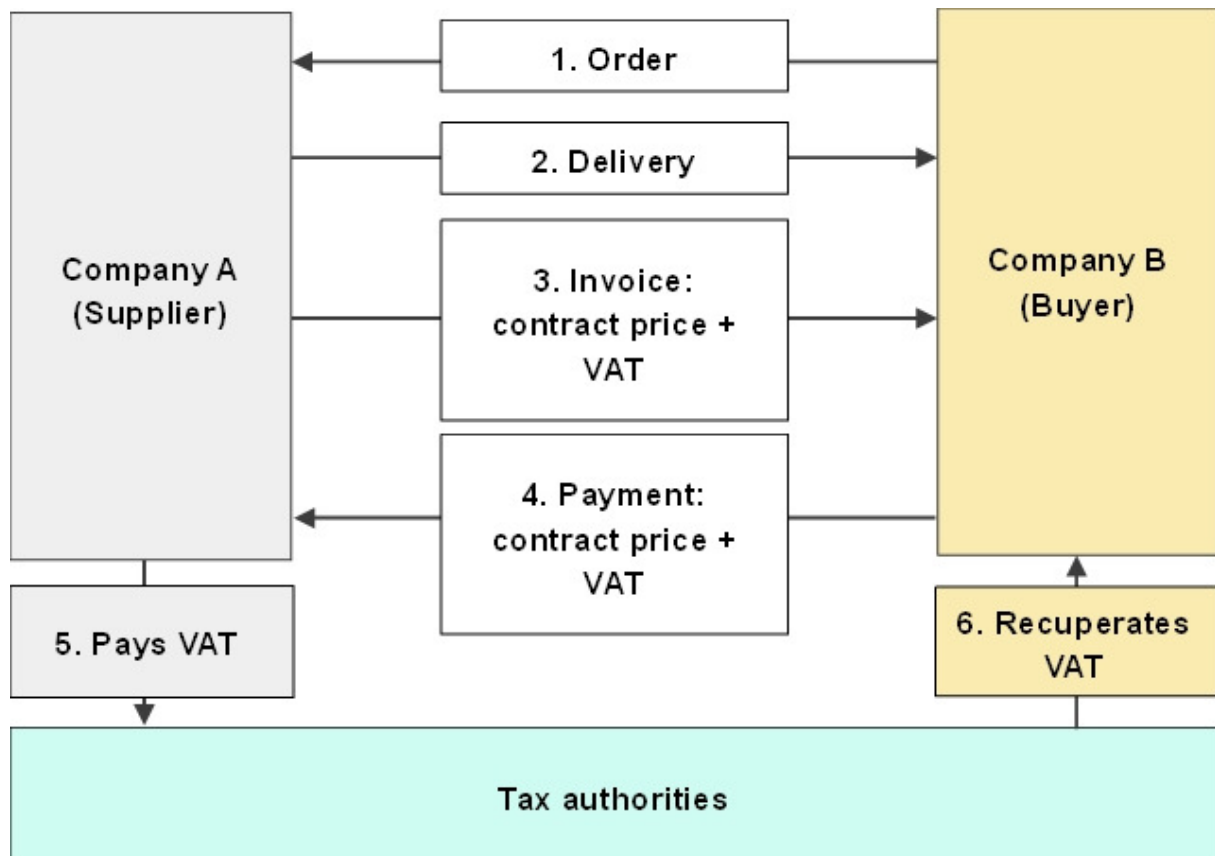


Figure 1: High-level VAT collection process

6 VAT compliance, your business

VAT as a tax method essentially turns private companies into tax collectors. The role of the taxpayer in assessing the tax is critical, which is why these taxes are sometimes referred to as “self-assessment taxes”. The proper functioning of VAT depends on companies meeting public law obligations right inside their sales, purchase and general business operations. The shorthand “VAT compliance” is often heard to describe these tax obligations as a whole, but they break down into a number of quite separate types of requirements:

- A tax administration must be able to verify that invoices they audit are real and unchanged; therefore the **integrity and authenticity** of invoices must be guaranteed.
- A tax administration must be able to interpret invoices they audit: the **legibility** of invoices must be guaranteed.
- To verify that VAT has been correctly administered, reported and paid, a tax administration must be able to verify that nature of the supply, the consideration (fee) and relevant business terms of the transaction; therefore the **content** of an invoice must meet certain minimum criteria.

The perfect law or enforcement method for ensuring VAT invoicing compliance has not been created yet – most likely it never will. In the past decades, rules and enforcement practices have evolved in step with the evolution in business practices. Regulatory changes typically try to balance the state’s need to maximize tax revenue against the need to minimize the impact on diverse and constantly evolving business practices.

OECD statistics reveal why VAT is such a serious matter: revenue from VAT usually represents a significant portion of state income. Figure 2 shows Goods and Services (taxes) (read: VAT in relevant countries) as a portion of total tax revenue in OECD countries, which in turn in 2004 on average represented more than a third (36.3%) of GDP.

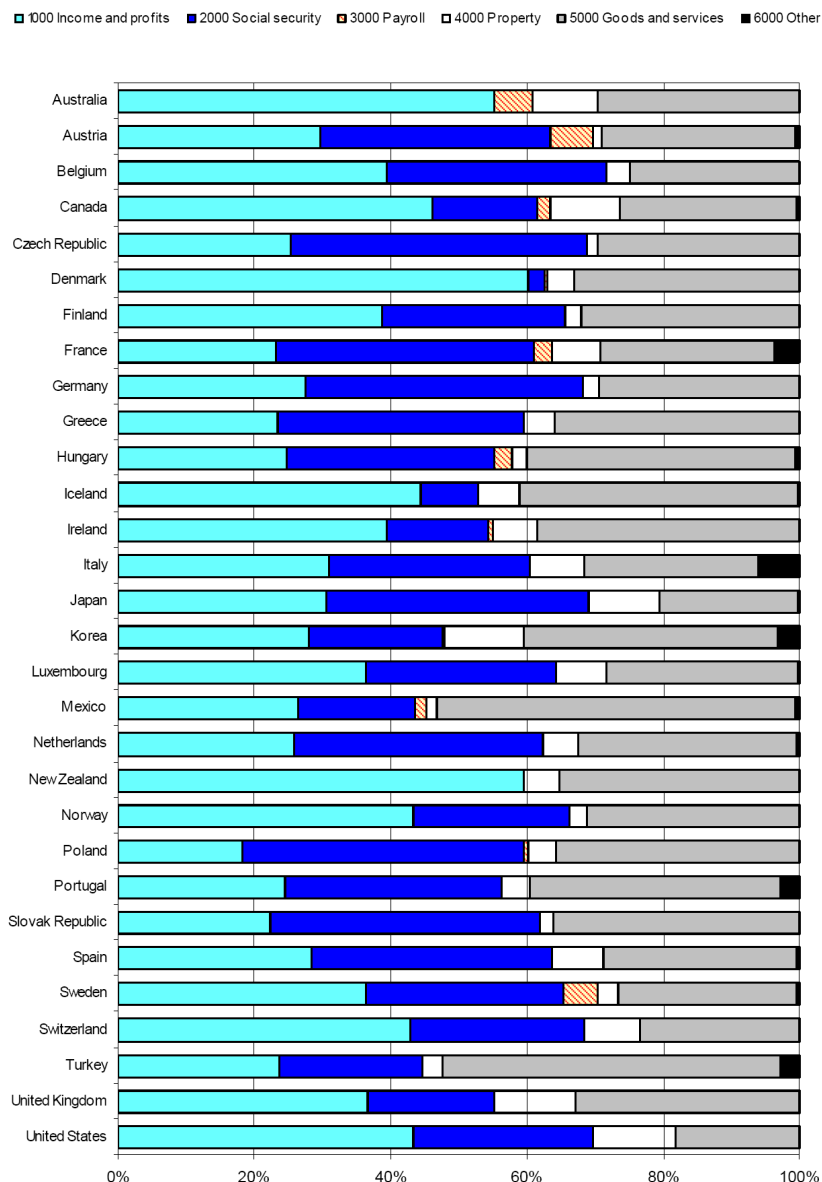


Figure 2: tax revenue in OECD countries (source OECD 2005)

Tax laws that impose specific requirements on the form or method of invoicing attract more attention than those that leave businesses more freedom. However, regulatory approaches differ significantly among geographies and it would be a big mistake for any company to worry about e-invoicing auditability and controls only in countries with explicit requirements. Indeed, most countries that have relatively little legislation about the method or form to be used in e-invoicing are still very serious about the need for proper evidence in case of an audit. The bottom line in an e-invoice process design should therefore be to achieve not only compliance with explicit requirements but also – and perhaps more importantly – to provide excellent auditability for any tax administration in any country.

Some – but unfortunately still relatively few – tax administrations now publish public versions of their tax audit guidelines. While every tax authority's audit practices are influenced by local specifics, including local tax law, there is a great deal of similarity as regards the basic conditions for a successful tax audit.

One common objective of tax audits (especially when the primary audit purpose is VAT compliance) is to verify that transactions recorded in a company's books actually took place. The extent to which the invoice is viewed as the sole or primary information platform in this context varies from country to country, but it is generally true that a well-managed invoicing process including credible evidence of integrity and authenticity of invoices during the storage period can be a determining factor in a strategy to keep audit time and compliance risks to a minimum. Enabling tax authorities to easily ascertain the trustworthiness of stored invoices can therefore be a key strategy for rolling out low-risk electronic invoicing across an extended enterprise or service environment.

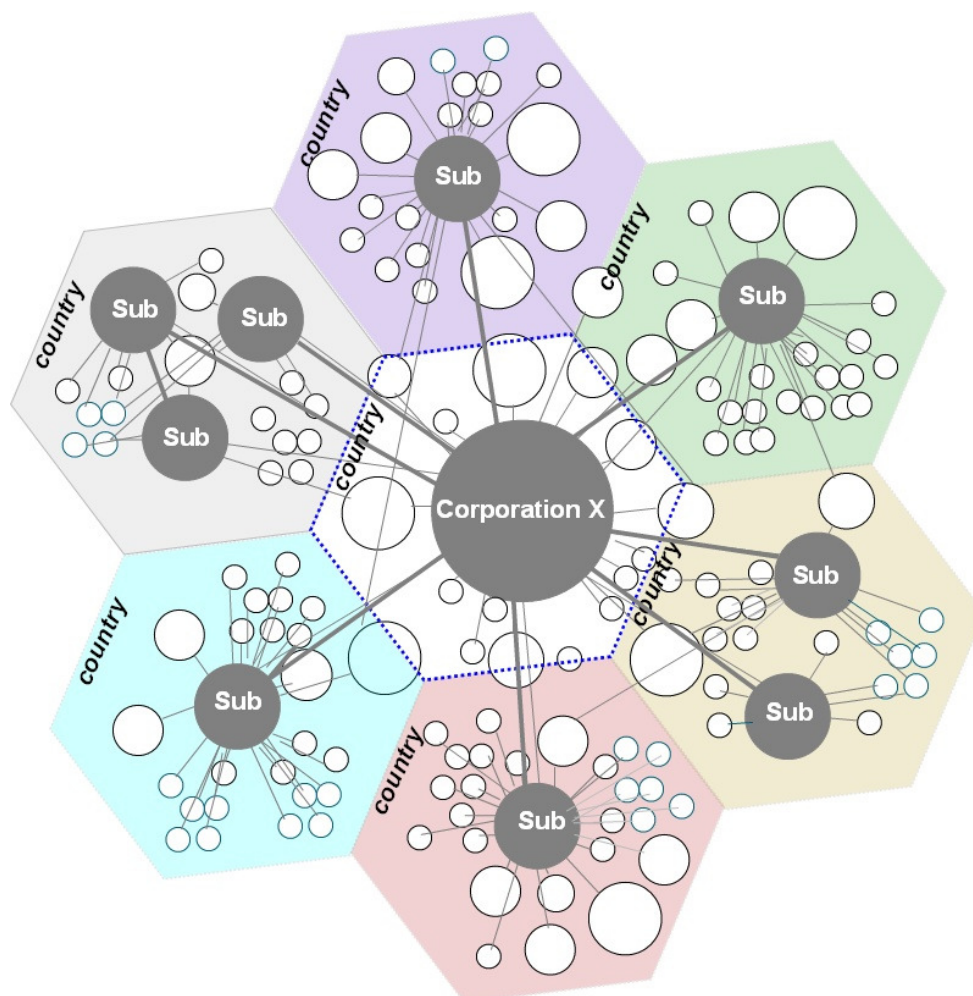


Figure 3: a common transaction environment for an international company. Some 5-25% of invoices are cross-border, the rest are multi-domestic; however the corporation increasingly manages invoice flows from one or a few central locations. Managing technical and process changes in such a way as to ensure auditability across homogeneous trading relationships requires a single robust auditability strategy.

The design of an e-invoicing system that adopts this low-risk strategy should always keep in mind that multiple legal entities (subsidiaries and trading partners, whether customers or suppliers) will need to rely on the evidence level of invoices produced in the system for a long time. An evidence strategy should also take into account the fact that trading partners may range from very large to very small, and that each trading partner must ensure long-term evidence regardless of its size. Another factor to take into

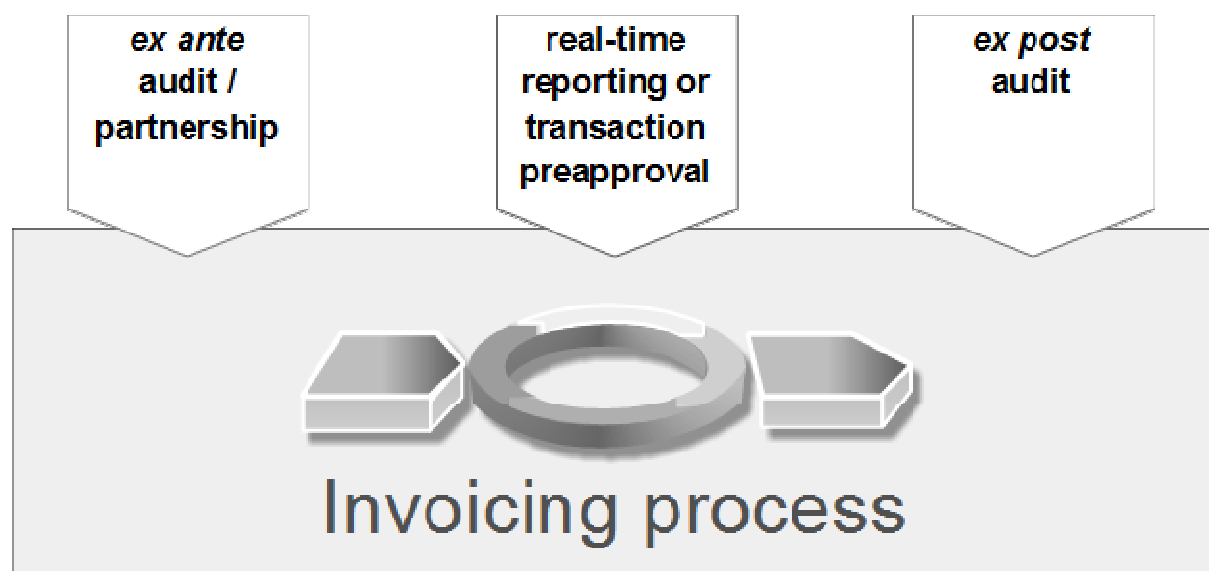
account is the rate of change: the average storage period for invoices in countries with VAT is 7 years – a period during which many companies change staff, processes, systems, legal structure, physical establishment, production, distribution and management several times.

7 Types of VAT law enforcement

Traditionally, countries with VAT have placed the emphasis of law enforcement on the *ex post* (after the fact) audit. In most such circumstances, actual audits generally take place with a low frequency. Consequently, evidence must be provided for supplies from (many) years ago.

Only recently have tax administrations started experimenting with different methods for enforcing VAT law. In the Netherlands and Australia, for example, a voluntary partnership model is proposed to certain companies with the aim of building a transparent trusted relationship which reduces the potential for friction. The feasibility to set up such *ex ante* (in advance) programs and their effectiveness depend on cultural factors; it is unlikely that a partnership model will be viewed as meaningful in countries that traditionally have a tougher tax culture or high levels of evasion or fraud.

A different, more technology-oriented and control-focused model based on real-time reporting has been introduced in a number of countries. Brazil and China were among the first to experiment with such a model, albeit in very different ways; meanwhile, Turkey, Greece and Mexico are implementing variations on the Brazilian model. These efforts almost always go together with the introduction of –often compulsory– electronic invoicing. In nearly all cases, both the invoice itself and the communications channel to the administration are technically secured. While one obvious benefit of real-time reporting is that tax administrations can gain much more detailed insight into a company's transaction environment and could therefore reduce or even eliminate the need for *ex post* audits, we are not familiar with any cases where the tax administration has simultaneously waived its right to perform such audits.



8 Optimizing auditability in *ex-post* audit systems

An auditor wishing to ascertain VAT compliance of a taxable person over a past period must always make a judgment as to the reliability of a company's accounts, which form the basis for a company's VAT declarations.

The objective of an *ex post* audit is to establish that a company's accounts reflect all the actual sales/purchase transactions based on which VAT if applicable, is calculated and reported. Such evidence is based on historical information that, within the limits of applicable law and practical parameters, can be obtained from the taxable person being audited.

8.1 Key role of the invoice

Historical information is trustworthy as evidence of accurate accounts when it can be established that its origin is real (authenticity) and that it has not been modified (integrity). These trust attributes are interdependent: if the integrity of records cannot be established, they are logically not authentic, and if the authenticity of the data cannot be established their integrity is of no interest. Before looking at different types of trustworthiness in section **Error! Reference source not found.**, it is important to clarify why VAT laws and audit practices single out the invoice as the primary focus of enforcement.

When the auditor does not have other reasons to assume that a company's accounts and VAT administration are impeccable, his primary source of evidence is ordinarily the invoice. The invoice is a logical candidate for this star role, because it usually contains all or most of the information required to judge the reliability of a company's accounts and VAT administration. The law in countries with VAT typically obligates suppliers to issue invoices with a minimum set of content so that all relevant information for this evidence is structurally present in the invoice exchanged between the parties. Often implicitly, the buyer is held to verify this invoice upon receipt and reject it in case of errors. Both parties must store the invoice for a period prescribed by law, during which the invoice must also be legible. Both parties must be able to demonstrate the integrity and authenticity of the invoice. Table 1 below shows why an invoice is such a potent concentrate of trade information. Once accepted and stored by the buyer, a reliable invoice provides much more comprehensive evidence of a supply than any other key transaction document (shown here are purchase orders, delivery notes, bank statements and contracts; other documents which have been left out include dispatch advice, remittance advice, order confirmation).

Table 1 - Comparison of tax-relevant data in key business documents, assuming reliability

	Invoice/credit note	Purchase order	Delivery note (goods receipt, time-sheet etc)	Bank statement	Contract
Who were the parties?	Yes	Yes	Only if actual contract parties named	Often	Yes
What was the nature of the supply (quantity of goods or extent of services)?	Yes	No, supply could differ from order	Often	No	Infrequently ; most contracts are frameworks
What was the consideration (price) of the supply?	Yes	No, final supply could differ from order	Sometimes	Yes	If no point discounts, currency or commodity fluctuations
Was the consideration actually performed (supply paid)?	Can be reasonably presumed.	No	No	Yes	No
Was tax correctly calculated?	Yes	No	Sometimes	No	No
Was the supply actually performed?	Can be reasonably presumed.	No	Yes	Can be reasonably presumed	No
When did the supply take place?	Yes	No	Yes	No	No
From where was it supplied and where was it delivered?	Yes	No	Yes	No	No

If an invoice is deemed reliable but a tax auditor nevertheless wishes to ascertain himself that an actual supply took place, a company would on the basis of the above analysis be able to provide conclusive evidence of a supply relatively easily e.g. by producing a reliable bank statement. A purchase order (even if reliable) does not add valuable information if the invoice itself is reliable. If the invoice is not reliable by itself, however, multiple sources or records (see below in section 8.3) will in all cases be required to corroborate a supply.

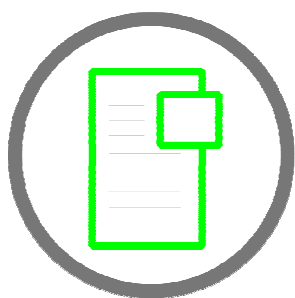
8.2 Source data and records

To prove the reliability of its accounts, therefore, a company must traditionally retain its source documents, which typically leads to distinct administrative subsystems with different functions:

1. **Accounting records – the thing to prove:** in most cases (where a company does not use cash basis accounting), a company's accounts must accurately and completely record invoices when issued or received. These bookings are not invoices themselves, even if accounting staff may sometimes call them that. In modern times, these records are retained in a company's accounting system – either a software package or online service or a more complete Enterprise Resource Planning (ERP) system for larger companies.
2. **The invoice: primary source of evidence:** in case of doubt concerning the veracity of a company's accounts or correctness of the VAT treatment of supplies, an auditor will typically turn to the invoice source document and ask himself the question: are these the invoices exactly as exchanged at the time of the supply or have they been erroneously or fraudulently created or modified? If the invoice is deemed reliable and there are no other reasons to suspect fraud or misconduct, the auditor can ordinarily conclude that the accounts and VAT administration are reliable. In other cases, an auditor may review complementary sources of evidence.
3. **Complementary sources of evidence:** in most countries, tax law also requires companies to maintain an orderly and auditable administration, which in practice often means that companies must meet general requirements under applicable accounting law. These requirements, in turn, often generally include a general obligation to retain all records that may be required to substantiate a company's accounts. Trading partners are not explicitly obligated to exchange formalized trade data (key pre-contractual, contractual and transaction data beyond the invoice), but if they do they should generally store these as well.

8.3 Why would a tax administration trust your accounts?

8.3.1 Intrinsic (portable) evidence



In some cases, the integrity and authenticity of the data object (paper or electronic document, or structured data) can be demonstrated without reference to other business data or processes.

This type of trustworthiness is based on intrinsic or logically associated features of the 'object' constituting or carrying the business document in question; therefore, it is always portable.

The storage or carrier medium (examples: sealed envelope; tamper-proof paper; encrypted communications channel) can prove the integrity and authenticity of data between two communication or processing points, or at a specific point in time. When evidence is logically associated with the data (example: an advanced electronic signature), integrity and authenticity can be verifiable regardless of the storage or carrier medium and, in certain cases, for a very long period of time. (Note that just trustworthiness of the *storage* system and processes, or the adding of technical verifiability to an invoice at the moment of storage, is almost never by itself sufficient to ascertain integrity and authenticity because the invoice lifecycle does not begin with storage). Theoretically, where electronic signature techniques are used that benefit from

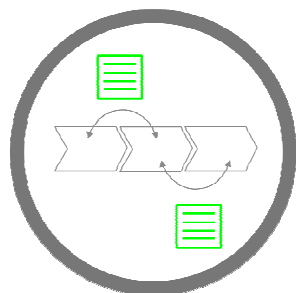
a high degree of general security and legal recognition, integrity and authenticity evidence is conclusive. If this type of trustworthiness is available for the invoice, a presumption of the taxable person's accounts being based on reliable source data generally becomes justifiable. When other business data (e.g. purchase orders, bank statements) can be verified this way, they can increase the total transaction evidence to the extent inherent in their scope (see Table 1 for examples).

Examples:

- Point-to-point:
 - Sealed envelope
 - Tamper-proof paper
 - Encrypted communications channel
- Data-level:
 - Advanced electronic signature

8.3.2 Other types of evidence

When the business document itself does not convey conclusive evidence about its integrity and authenticity, such evidence can arise from other sources in an *ex post* audit. Each of these types of trustworthiness rarely suffices by itself – therefore a combination is often required for conclusive evidence:

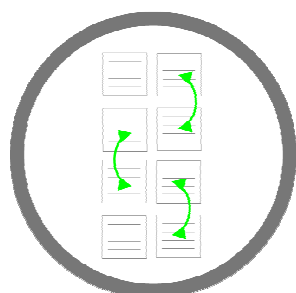


Historical context data (audit trail): when the auditor has access to adequate information about the invoice process or associated business processes, he can logically reconstitute the chain of controls guaranteeing trustworthiness. This notion, however, presupposes that the historical context data (e.g. information system logs) are trustworthy themselves. Such trustworthiness must arise from one of the other trustworthiness types in this list. When the historical context data are conclusive

evidence of an invoice, the taxable person therewith strengthens his evidence that the relevant supply was actually performed and paid. Alternatively, when the historical context data are conclusive evidence of a sales or purchase transaction, such evidence logically obviates the need to prove validity of the invoice as a standalone piece of business data.

Examples:

- Information system logs
- Related trade data or documents
- Approval signatures.
- Process documentation.
- Internal audit reports.

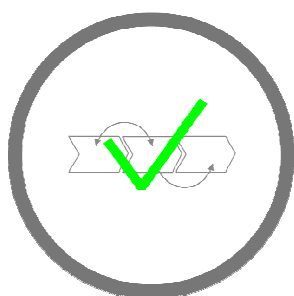


Internal coherence of complex data: generally speaking, the likelihood of a large amount of complex yet semantically coherent data having been modified or falsified is low. What constitutes a sufficient large amount is directly dependent on the technical capabilities which allow a potential wrongdoer to generate such data within a reasonable time-frame: in a traditional paper-based

environment one may more easily rely on a binder containing various types of trading documents with coherent information pointing to the occurrence of a supply at some point in history. In a computerized environment more, or more complex data may be needed to prove the same thing because it is not hard to output significant amounts of complex yet internally coherent data in a short time.

Examples:

- Automated analysis of ERP system data (however note that this kind of analysis will often merely contribute to a general picture and cannot easily by itself justify the conclusion that the accounts are reliable).



Third party historical audit: Business records can be trustworthy because an independent third party has vouched or vouches for the correctness of the historical process for which a taxable person is responsible. A reliable historical audit report can guarantee that the invoicing and/or associated business processes were sufficiently controlled. Naturally, the audit report or certificate must itself be trustworthy – hence, other evidence types from this list may be required to conclude trustworthiness.

8.4 The business economics of ex post tax auditability

The enforcement of tax law is in nearly all countries a matter of national law without much influence from supranational bodies. In particular the actual performance of a tax audit and criteria applied to judge whether a company complies –or not– are often regulated exclusively on the national level. National tax law often provides the general framework and base rules for such activities, but in a real-life audit situation an auditor must very frequently interpret applicable legal requirements in the context of an almost infinite number of business practice possibilities. Technology and process expectations on which such practical audit decisions are made can be influenced by the often very tightly-knit local fabric of public and private law, law enforcement and business practice that has evolved over many centuries and which are much harder to influence than primary law. Naturally, negative decisions made in an audit process can be appealed in nearly all countries, but few administrative courts are sufficiently responsive for formal legal recourse to be a reliable parameter from a business economics perspective: the time to a final decision is often measured in years. Businesses generally therefore tend to avoid taking interpretation risks in relation to tax law.

Where a taxable person has an explicit obligation to demonstrate the integrity and authenticity of invoice, the burden of proof for such invoice validity during the legal storage period is logically placed upon the taxable person. As we have seen above, if an invoice is complete and its integrity and authenticity can be ascertained, such proof will in many countries routinely be viewed as adequate and invoices are presumed to reflect actual supplies. However, the integrity, authenticity, legibility and completeness of an invoice do not by themselves conclusively prove a supply due to incomplete delivery and payment information. Therefore, despite the correct appearance of invoice a tax administration may always decide to subject a company to more pervasive audits.

If, on the other hand, an auditor does not judge the invoice as such reliable, the tax administration will nearly always pursue a more intrusive audit of other books and records so as to compensate for this evidence deficit.

In many countries, the tax administration can also audit a taxable person's local trading partner(s) if the evidence available at the taxable person being audited proves inconclusive. In cross-border situations, if justified due to questions about potential loss of revenue where tax liabilities could have arisen in a country but were not reported, similar trading partner audits may be organized under mutual assistance treaties.

In addition to a financial risk created by the duration and penetration level of an audit, administrative fines and/or loss of the buyer's right to deduct input VAT, companies can run a reputational risk if they do not ensure a sufficient level of auditability for VAT purposes.

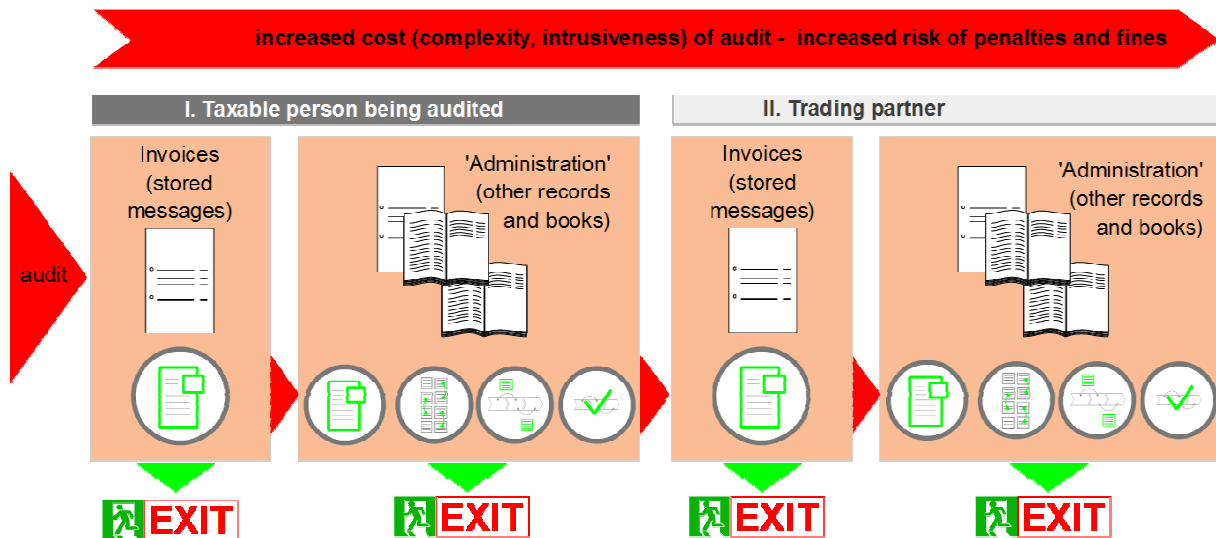


Figure 4: auditable data layers in a typical audit process where the trustworthiness of a company's accounts is evaluated.

9 A short history of ex-post auditability options

9.1 Before the information age: the classic evidence scenario

In the traditional paper-based world, before the advent of information systems, an invoice would be issued on a piece of paper that became the buyer's 'original' invoice. A second, identical piece of paper was stored by the supplier as proof that an invoice was indeed correctly issued. The buyer received the invoice and, upon manual verification of its content against the status of the corresponding supply, manually entered the transaction information in his accounts.

In this situation –which is still prevalent in many countries with a low penetration of information technologies –, a tax auditor who wants to verify that a company's accounts are based on real invoices will consult the binder where the original tax invoice is stored. The intrinsic evidence value of the stored traditional invoice is considerable due to the fact that typewriter fonts, invoice formatting, letterheads and other distinctive features are created in an artisanal manner; further, the weight, color and quality of the paper can be recognizable as coming from a certain supplier. Upon verification after several years, the paper might have been perforated for storage in a binder and its distinctive acid level may have yellowed it since. The envelope in which invoices were invariably transported in many cases left the paper with distinctive fold marks. The default transportation system is a state monopoly or large regulated entity. Any fraudulent modification of letters after posting –which in itself would have been a tall order due to the other features of the invoice–, is highly unlikely. Since invoices are mixed in the general postal triage system rather than managed in a dedicated channel, the 'attack surface' is extremely thin.

The book-keeping of most companies in this age of traditional paper invoices was often limited to a simple separate entry into a general ledger of sales and purchase invoices in chronological order. Where present, non-invoice trade documentation (including copies of paper cheques where payment was not made in cash) would be kept as separate administrative records, far from the company's accounts, in the same relatively reliable paper form. To the extent that an invoice would not be considered sufficiently reliable, such separate records and books could be consulted – but this would not happen routinely due to the relatively high trust level of the paper invoice system.

With these inherent levels of invoice auditability, tax administrations have long been able to strike a balance between their legitimate interest in audit and businesses' need for minimum impact of VAT law enforcement.



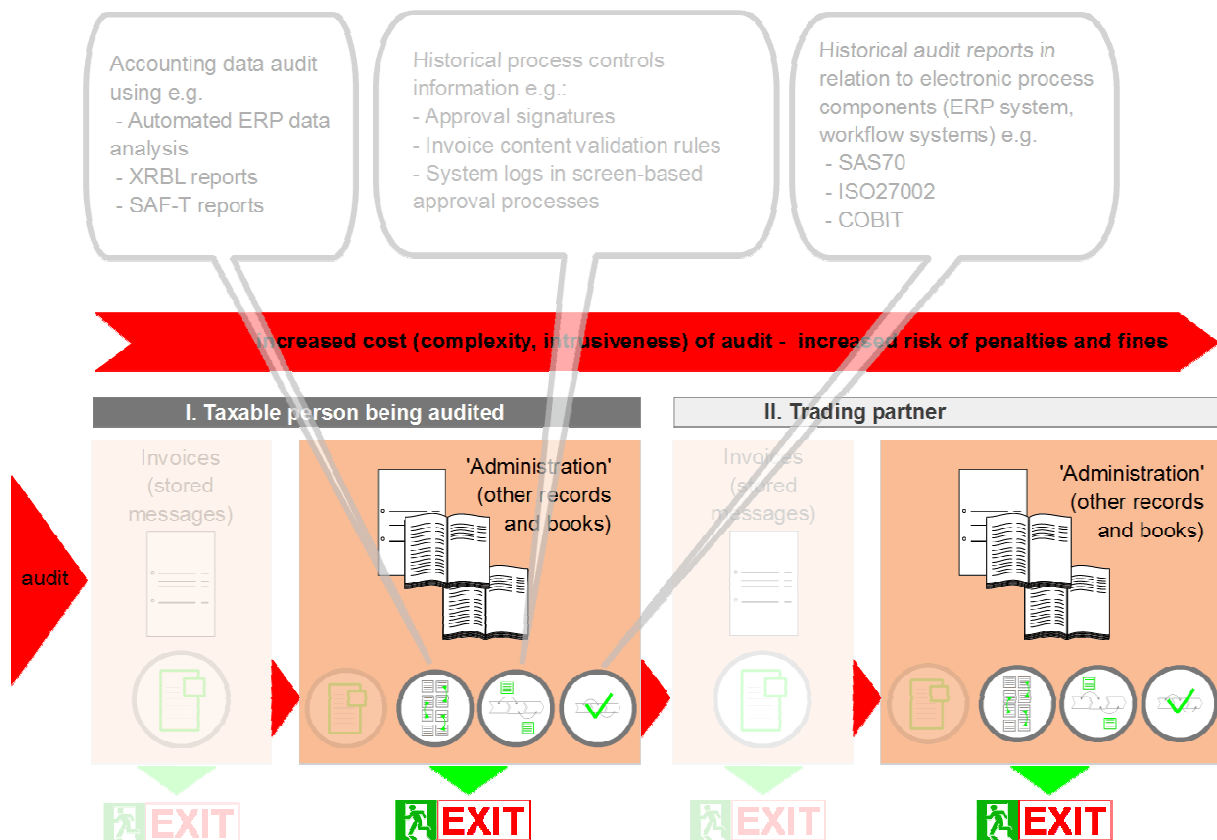
9.2 The modern paper-based world: challenges for all stakeholders

With the advent of information technologies in the 1980s, businesses' administrative practices were radically transformed. Typewriters were replaced by personal computers and printers. The invoice creation process used more standardized techniques –first using word-processing software, followed later by desktop spreadsheet software which would facilitate invoice calculations. Just like the printer paper itself, the format, fonts and layout of invoices were increasingly uniform. Anyone with simple drawing software could fake or create colorful logos and produce professional-looking invoices. Invoice models would be stored on relatively unprotected PCs and could easily be reprinted and sent with e.g. different bank account information. Similarly, new photocopiers could render near-identical copies of any document, including invoices. Physical invoice delivery could be industrialized through professional agreements which would increasingly involve private operators outside the public law sphere distributing a company's invoices in a more dedicated process resulting in a somewhat greater attack surface.

A tax auditor who wants to verify that a company's accounts are based on real invoices will still be pointed to the binder where the original tax invoice is stored. The invoice is still on paper, which may have physical qualities that can be of help in an audit process, however the intrinsic evidence value of the stored traditional invoice had been reduced from the old manual days.

Companies' accounting systems had also evolved and, especially for larger companies, quickly became subsumed into Enterprise Resource Planning (ERP) systems which would tie several core business processes into a single system that re-used data based on defined roles and controls. This development could make more information about the commercial process available to a tax auditor in a more convenient manner. While in many countries taxes may have been accepted as "original invoices" and, somewhat later, it would be allowed to scan paper documents, this world of paper "originals" and separate accounting systems still maintained a sharp legal distinction between the books and the evidence of the books.

This era and its invoice methods create various challenges for tax administrations. Neither the stored invoice message nor the accounting system by themselves provide a sufficiently reliable single point of evidence. While payment often occurs by bank transfer, this process rarely leaves reliable traces that tax auditors can easily access.



This situation effectively aligns the interests of tax administrations with those businesses that wanted to eliminate the "switch to paper" between a supplier's and a buyer's accounting system by transmitting and storing "original invoices" electronically.

The capabilities of modern information technologies to facilitate such fully fledged electronic invoices have also introduced a bifurcation in businesses' administrative practices:

1. For some –very stable, high value or high volume– business relationships, large companies took advantage of emerging computer and network technologies to rapidly introduce significant levels of automation. Already in the 1980s, some companies were performing automated B2B processes based on agreed data format definitions. For legal reasons (in some countries: prohibition of e-invoicing, but in some cases also the requirement for human-readability), many such transactions nevertheless did not produce electronic tax invoices; rather, these

exchanges were treated as for business convenience only and a paper tax invoice was exchanged and stored for tax purposes. With the emphasis on structured data, these systems have gradually been integrated with ERP systems and other automated or computer-facilitated business processes.

2. Many other business relationships moved much more slowly and continued to rely on human-readable documents rather than structured data. Since these images (e.g. PDF files) were created in electronic format they could easily be exchanged electronically (e.g. via email), but such images merely served as 'copy' information while the paper continued to be the formal tax invoice.

9.3 Paperless invoicing

With the introduction of fully paperless invoicing as an option under VAT laws, the bifurcation noted in the previous section created a tension between VAT law enforcement approaches. From this tension emerged two distinct approaches to VAT auditability:

9.3.1 Advanced Electronic Signature (AdES): dematerializing the classic evidence scenario

This method is, in a sense, an electronic version of the classic paper-based scenario: it focuses on the auditability of the invoice as a discrete logical object. However, the use of data-level security technologies such as PKI allow for much higher levels of verifiability and, therefore, legal certainty: by building on a legal framework for the legal recognition of electronic signatures, in certain cases the burden of proof as regards the integrity and authenticity of the invoice can be reversed. The attack surface during the invoice process is negligible because any change to the invoice can be immediately detected at any moment from formal issuance until the end of the storage period.

Since many companies whose evidence strategies are in this category will also have basic or even sophisticated ERP systems as well as other (often not highly integrated) business process automation systems (e.g. order systems, inventory management or customer relationship management systems), tax auditability is further enhanced for cases where an auditor wants to investigate additional evidence that a supply actually took place – but this would not happen routinely due to the high trust level of the invoice system.



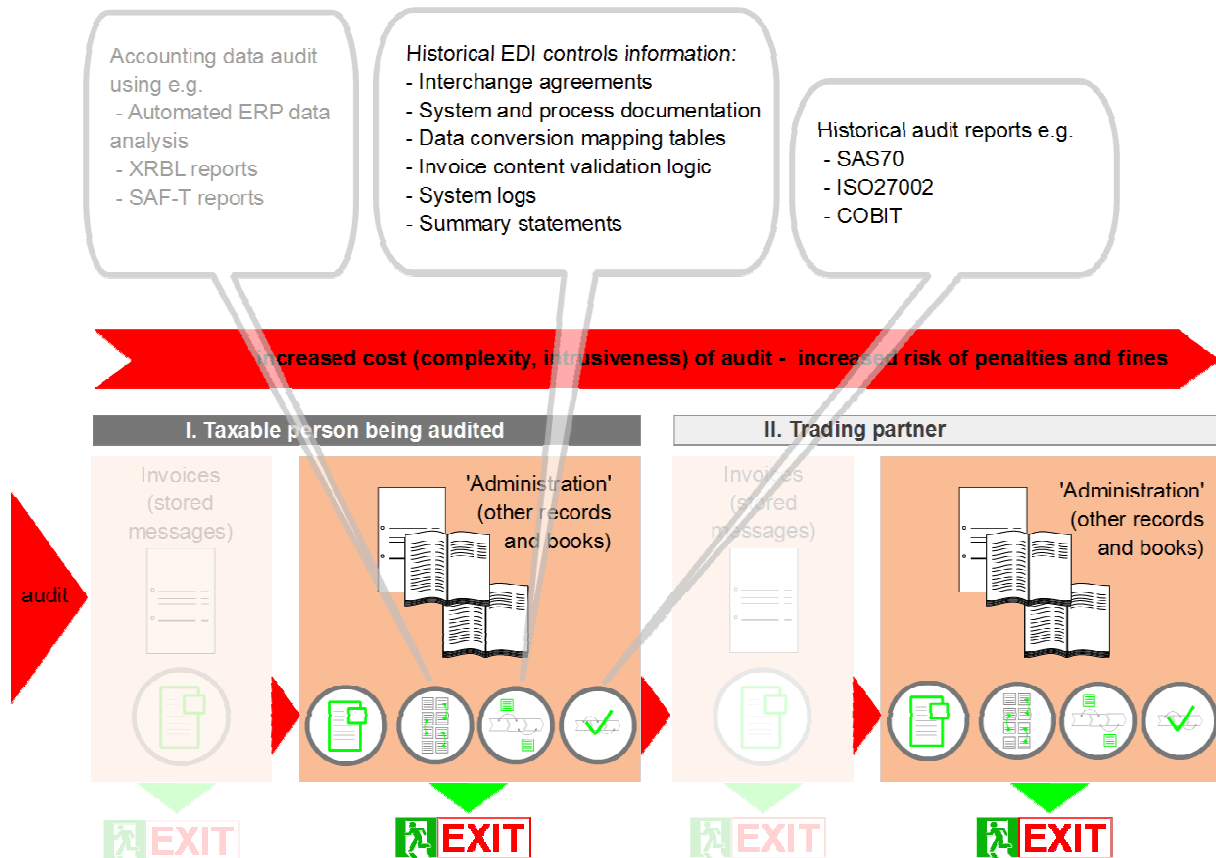
An alternative to the method whereby an electronic signature is used for this control type is the 'safe custody' method whereby the invoice is created, exchanged, received and archived in a closed environment. By using this kind of system whereby the tax invoice can only be consulted but not extracted from the safe custody environment, parties and tax authorities can be certain that invoices are trustworthy from issue until the end of the storage period. This method is similar in terms of general evidence setup, however a significant difference is that the evidence resides in the safe custody environment and is not portable.

9.3.2 **EDI: deriving evidence from the exchange process**

Many medium-sized and larger companies have implemented a form of integrated electronic data exchange for a portion of their transactions. These exchanges are really a next step up from situations as described in 9.2 numbered paragraph 1, whereby the structured message rather than the paper becomes the 'original invoice'. The invoice message must still be stored as received or (in many countries) sent, however the evidence of the invoice's integrity and authenticity does not lie in the invoice as an object but rather in security processes that the parties have agreed to in the underlying interchange agreement. Often, this includes strict rules concerning the technical format and content of the invoice, as well as robust transport-level security in the channel over which the invoice is carried. When modern transport security standards are used, the data may, in addition to being sent over an encrypted channel, also be temporarily signed during the transmission. Since in all cases invoices are again technically unprotected when they leave such a point-to-point connection, parties must generally ensure that no uncontrolled steps occur in the end-to-end invoicing process whereby data could be exposed to change. Laws permitting this "EDI" method sometimes require the archiving system to be directly populated from the EDI system to avoid such lacunae and keep the attack surface to a minimum. Parties availing themselves of this option must naturally still ensure that the stored invoices can be presented in a human-readable format.

Due to the fact that the invoice object carries no distinctive features permitting its integrity and authenticity to be independently verified, this method logically also requires parties to ensure that the interchange agreement be stored. Information that is required to prove

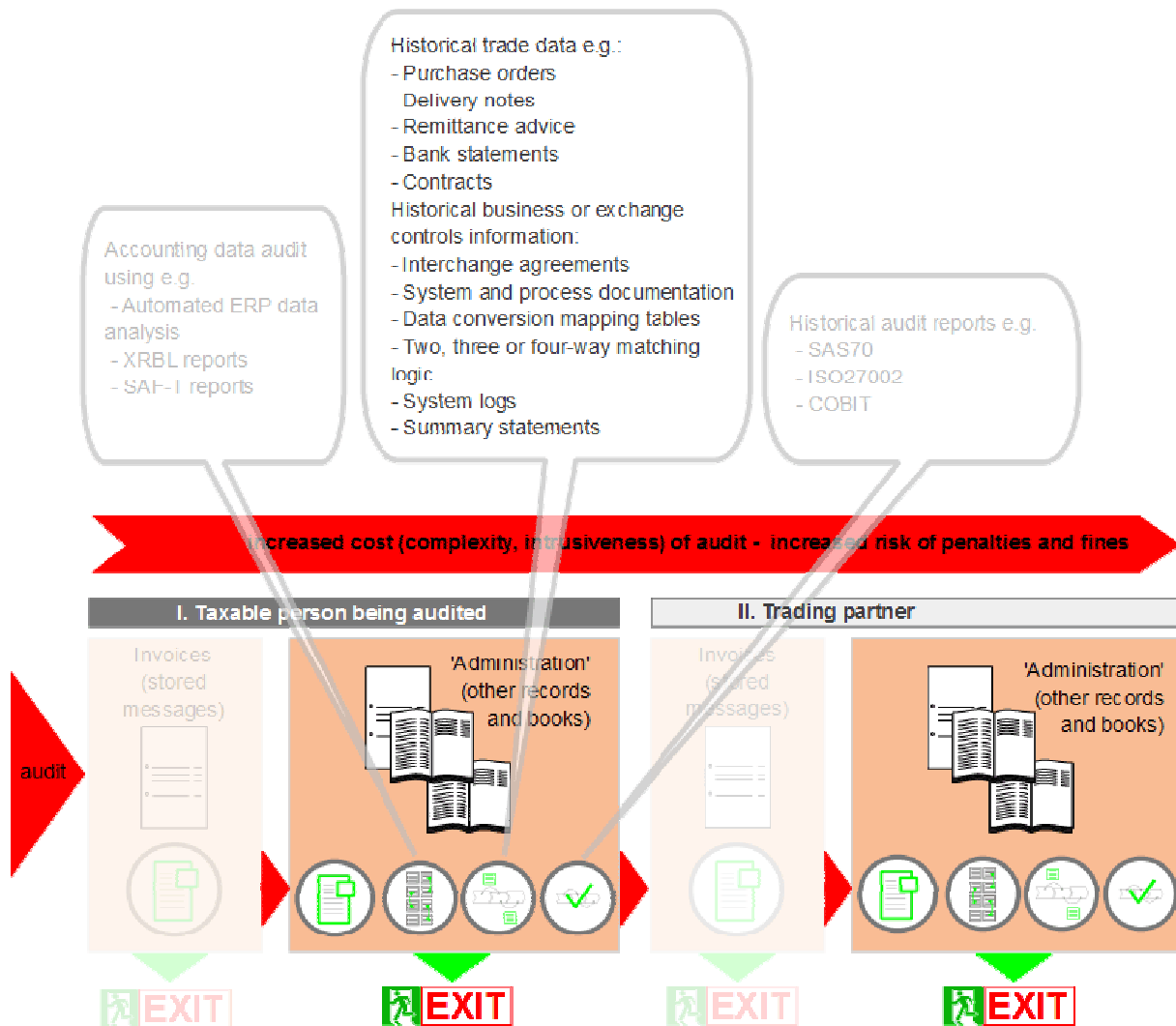
that the interchange agreement rules were followed (e.g. sent/received logs, mapping tables where invoices are converted, third party system audit reports and data validation rules) must also remain auditable during the storage period.



Since many companies whose processes are in this category will also have basic or even sophisticated ERP systems as well as other (often not highly integrated) business process automation systems (e.g. order systems, inventory management or customer relationship management systems), tax auditability is further enhanced for cases where an auditor wants to investigate additional evidence. Such verifications may take place relatively frequently where the evidence of a fully controlled end-to-end exchange process is not very robust.

9.3.3 Audit trail: the business process is the evidence

This method of paperless invoicing does not put the emphasis of the evidence in the invoice as a separate object, but rather in the integrated or transparent nature of the business processes used by the supplier and the buyer. In a sense, in this method the invoice is not just dematerialized but effectively immaterial: the invoice represents merely one step in a process whereby controls performed on the semantic level form an inextricable whole proving more than just the specific part that is the invoice. Prime examples of such processes are those where the recipient performs three- or four-way matching with purchase orders, delivery confirmations and, in extreme cases, contracts. (Documentation of) the rules applied in this chain, together with logs of these control processes as effected, possibly supplemented with the trade data in its various iterations when going through the end-to-end process, form a strong audit trail that proves that a supply took place and was correctly accounted for. Third party audit reports can corroborate the process-based evidence. There is no discrete invoice document that is worth storing as a standalone object, and an archiving system with proof of an 'original' invoice as sent or received is strictly speaking not necessary if the ERP data contain all legally required information for a VAT-compliant invoice.



10 Auditability strategies in real time reporting audit systems

There are a number of variations of real-time reporting audit systems. The Chinese Golden Tax System, for example, is based on a point-of-sale generation of identical bills for each trading partner which are subsequently reconciled in a central government reporting system. In Brazil, the reporting system functions on the basis of pre-approval. The only strategy available to businesses whose transactions are governed by such rules is to scrupulously meet each and every requirement.

11 Legal recognition of electronic data: the foundation of certainty

Today, most significant businesses rely, to a very large extent, on digitized information throughout their global processes. Increasingly the Internet is their principal communications medium. These developments have put pressure on existing laws and regulations that assume or require the use of paper as the principal information carrier in business processes.

One obstacle to giving any legal status to electronic data is the difficulty in attributing ownership and responsibility to bits and bytes that look like any other bits and bytes, and which can be replaced, changed and copied indefinitely.

Two of the biggest questions in the legal world in the past 25 years have been: (1) medium neutrality (ensuring that electronic data are not discriminated against just because it is electronic); and (2) equivalence (treatment of electronic data on par with paper-based data).

The legal and legislative communities have been working on various instruments since the 1980s to resolve these questions. The work has often focused on re-interpreting concepts such as writing, document, record, original and signature. Initially inspired by private business rules for electronic data interchange, the UN Commission on International Trade Law (UNCITRAL) has taken a leading role in reinterpreting these concepts through a series of globally accepted model laws and guidance materials. Similarly, regional bodies such as the Organization for Economic Co-operation and Development (OECD) and the European Commission (EC) have been active in developing new concepts and regulatory frameworks in this area. The consensus positions developed in these intergovernmental organizations have been followed by the adoption of laws and directives on medium neutrality and equivalence worldwide.

It has not been difficult to write rules to ensure medium neutrality. However, ensuring equivalence is more difficult to achieve as this requires criteria to determine when electronic information can be recognized as being 'good enough' – for example to establish that an electronic invoice is the original tax invoice as sent or received.

These criteria have often revolved around concepts such as authenticity and integrity of the electronic data. This, in turn, has led to many discussions about the type of security safeguards that are needed to ensure such protection. This is how discussions about the legal value of electronic data have become intertwined with discussions about IT security, and, in particular, with electronic signatures. When these issues were being discussed, new technologies based on Public Key Infrastructure (PKI) were becoming mature. The legal instruments often favored high-quality electronic signatures over other security mechanisms for creating paper/electronic equivalence because electronic signatures based on PKI (digital signatures) held the promise of watertight and, above all, easily verifiable integrity and authenticity for electronic data, as well as for creating electronic equivalents of handwritten signatures (e.g. a signing of a contract). This general preference for PKI was often expressed in terms of electronic signatures that met certain criteria benefiting from the highest level of recognition – an assumption of equivalence.

While a common framework of legal acceptance criteria for electronic data has been developed, governments have generally been reluctant to include documents with a significant public character – such as customs documents, wills, and real estate title documents – in their scope. The public law use of such documents rarely raises the question of non-discrimination: the law traditionally prescribes precisely how such documents should be formed (real estate title documents, for example, often need to be notarized). The question of equivalence between paper and electronic information in this context is usually addressed on a case-by-case basis and, where applicable, involves the agencies responsible for enforcing the laws in question. The equivalence of electronic customs documents, for example, is generally decided by customs authorities.

Invoices have a dual public and private character: they are both normal trade documents and key transaction evidence for tax and customs purposes. The European Union has taken a lead in resolving the question of invoice equivalence for VAT purposes. The resulting rules have been inspired by – but are not identical to – private law rules on equivalence. Other regions and countries are following in the EU's footsteps – but a high level of diversity remains among each country's approach.

An important conclusion from an analysis of the general legal framework around electronic commerce and electronic records is that *certainty* as to legal recognition of electronic data as being reliable can only be achieved by applying a digital signature that meets the specific criteria set forth in local law. Businesses often don't realize that the evidentiary benefits awarded to such signatures are rather unique, both in terms of legal status and cost-effectiveness: while in the electronic world one can apply thousands of

electronic signatures in a matter of seconds or even milliseconds, in the paper-based world one would probably need to spend hours in a notary's office to achieve a similar level of upfront legal recognition for a single document.

12 “Approvals” for legal certainty

Tax authorities audit businesses when they decide to do so. Tax authorities very rarely provide approvals of systems or processes outside audits.

Tax authorities will sometimes, on a case-by-case basis, accept to informally meet with taxable persons (sometimes accompanied by their service providers) for a presentation of a specific implementation. Sometimes this may lead to an oral appreciation or – much more rarely – a ‘comfort letter’.

Some tax authorities offer formally binding procedures for *taxable persons* (not for service providers) in the form of an advance ruling.

Tax authorities sporadically “approve” or provide other types of certainty about VAT compliance aspects of *vendor* solutions. Of TrustWeaver's currently supported countries, only Romania has a formal requirement and ability to approve e-invoicing systems and services.

Comfort letters, trust marks or certificates from tax consultants or external auditors may be viewed as helpful by the market but they cannot bind tax authorities. Often, such comfort letters are based on documentation-based review only and do not go beyond confirming that a solution meets the letter of the law. In obtaining such third party review services, one should always enquire if the result may be published or shared with (prospective) customers – in some cases, review results are only provided on a confidential basis, which reduces the usefulness of such investments.

13 Evidence in the Cloud

The short history set out in section 9 ends at a rather open note, whereby ultimately different paths (data-level evidence of the invoice, exchange-level evidence of the invoicing process or transaction evidence from internal business controls) can lead to the same required level of auditability. Progress in the deployment of new computing models, such as Cloud computing, is however quickly chipping away at some of the underlying assumptions. Cloud computing, in a business sense, is an extreme version of outsourcing whereby (depending on the type of Cloud used) potentially all responsibilities in relation to licensing, deploying and operating IT functionality disappear into a pay-as-you go model with much higher levels of flexibility. But not only end-users move to the Cloud for more of their IT-supported processes: also Cloud providers will be sourcing functional components from the Cloud in order to build comprehensive offerings.

One of the considerable advantages of service-oriented architecture is the low-threshold availability of standardized programmatic interfaces to well-defined blocks of service functionality. The contractual corollary of these features will be an evolution towards standardized service level agreement models with only minimal opportunity for non-core or negotiated terms and conditions. It is likely that backend Cloud services end up not only constituting long chains of sub-outsourced services, but also that such chains will be de- and re-composed over time as competition creates pressure for backend providers to differentiate through price, performance and scalability. While contractually the principal Cloud service providers will certainly still –or better than ever– guarantee overall service reliability, long-term evidence provision through process audit trails is likely to become a greater challenge in such dynamic Cloud ecosystems.

14 Typology of e-invoicing legal regimes

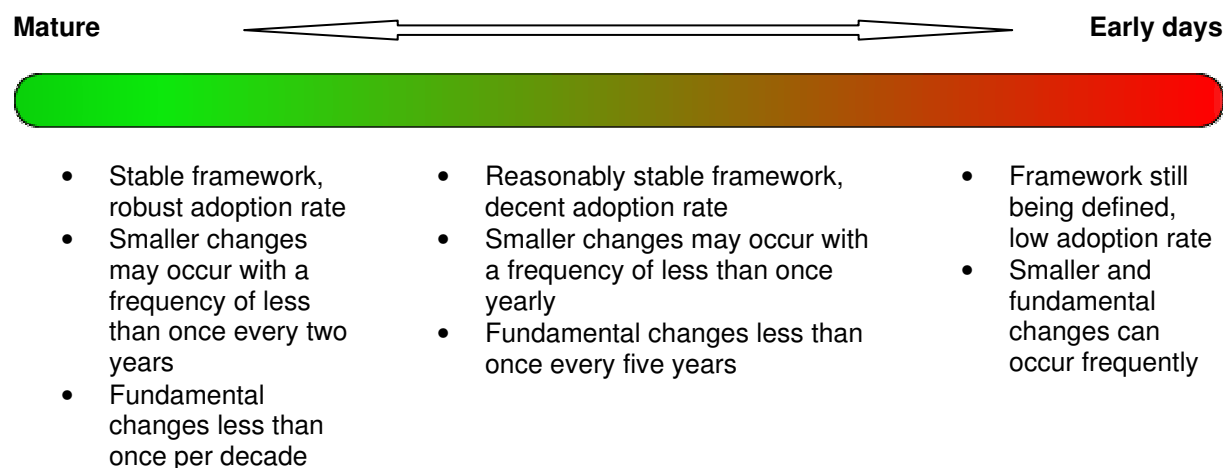
14.1 Introduction and scope

Based on its long experience with this subject matter, TrustWeaver has introduced a typology of e-invoicing legal regimes that differs from most other classifications. Rather than viewing regimes primarily as being restrictive or permissive, strict or liberal, the TrustWeaver classification works from the assumption that all regimes are more or less comparable in terms of tax authorities' desire to minimize the risk of errors or fraud. No tax authority in the world is "liberal" with that notion – however, not all countries have the same way of creating and enforcing tax law. Differences in e-invoicing legal regimes (but also any other difference in tax-related legal regimes) can be caused by a very broad variety of reasons, most of which can be placed under the general umbrella "culture". The TrustWeaver typology therefore is primarily an assessment of culture, which in addition to positive law² addresses such things as the degree of change that positive law is typically subject to, the maturity of positive law in a specific area, the existence and relevance of jurisprudence, the means available and general approach of law enforcement, the judicial system and the relationship between on the one hand a country's specific fabric of trade and commerce and, on the other, public administrations. As an assessment of these cultural aspects, the typology – when used for any specific geographic region – is entirely *subjective*. Nonetheless, in publishing the assessment of the countries in this document, we have tried to base our assessment on thorough research and empirical evidence rather than "feeling".

The TrustWeaver typology of e-invoicing law includes an assessment of features of a country's e-invoicing regime that are *specific to electronic invoicing*. Therefore, requirements that may prove problematic in implementing e-invoicing but that apply equally to paper-based invoicing (for example: self-billing and invoice content requirements) are not evaluated.

14.2 Maturity of the e-invoicing legal regime and market

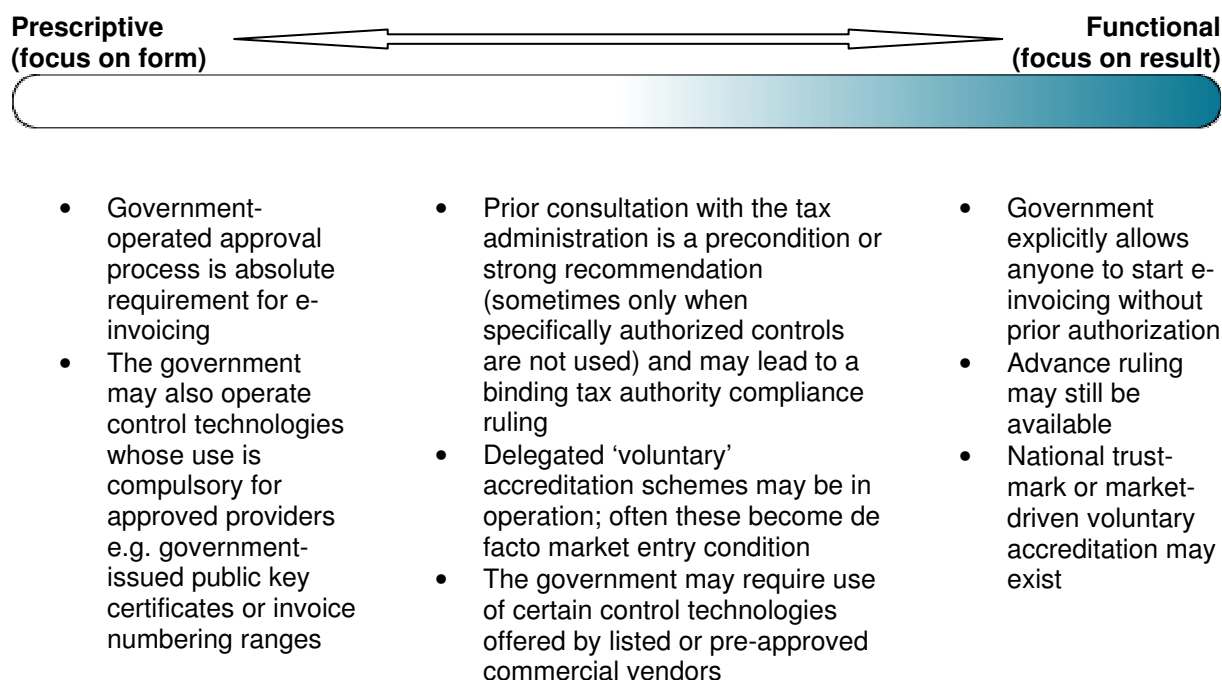
This scale evaluates whether a legal regime and associated market for e-invoicing is relatively mature or not.



² Law actually and specifically enacted or adopted by proper authority for the government of an organized jural society.

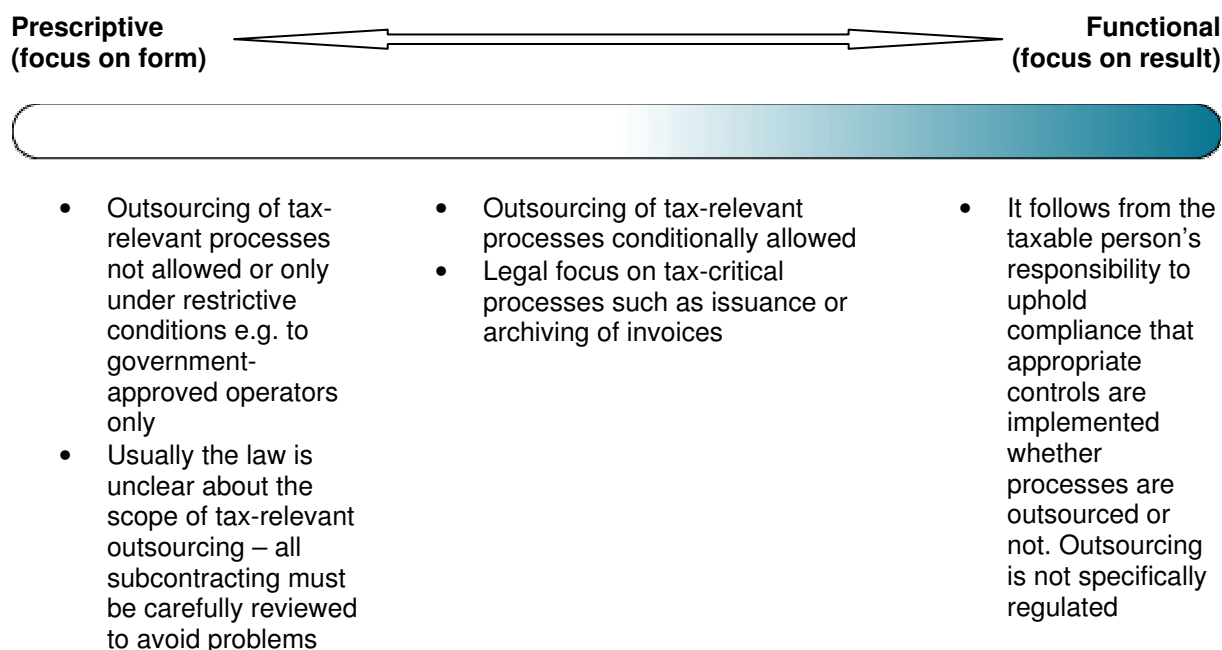
14.3 Is prior approval (accreditation, certification, approval...) required?

This scale shows whether a form of government-operated or delegated approval is required in relation to any parts of an e-invoicing system or process as a precondition for compliant e-invoicing.



14.4 Can tax-relevant processes be outsourced?

While outsourcing is a very widely accepted practice in business today, various levels exist that may or may not be of concern to the tax administration. Few laws today prohibit the use of third party data centres outsource operations or application management to specialized service providers. However, when certain tax-relevant business processes including certain key decisions and controls from a VAT perspective are completely outsourced to a third party, formal conditions may apply. Outsourcing of the issuance of an invoice to a third party is by definition highly tax-relevant and is not seldom regulated. In practice it is not always easy to determine when outsourcing is tax-relevant.

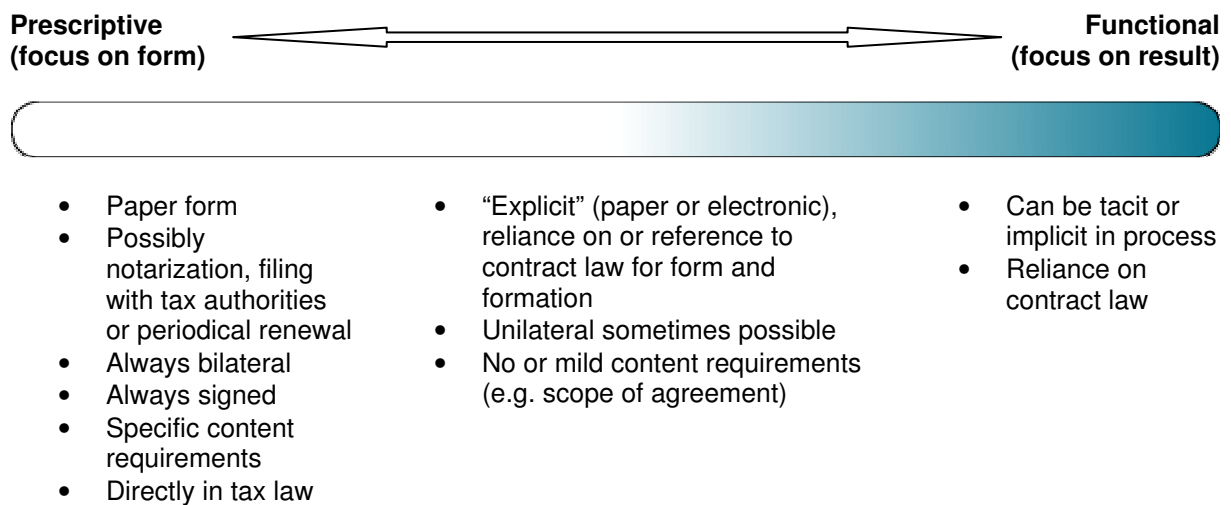


14.5 E-invoicing compliance-specific agreements

Electronic invoicing legislation often requires parties involved in transactions to execute certain agreements as a precondition; for example –

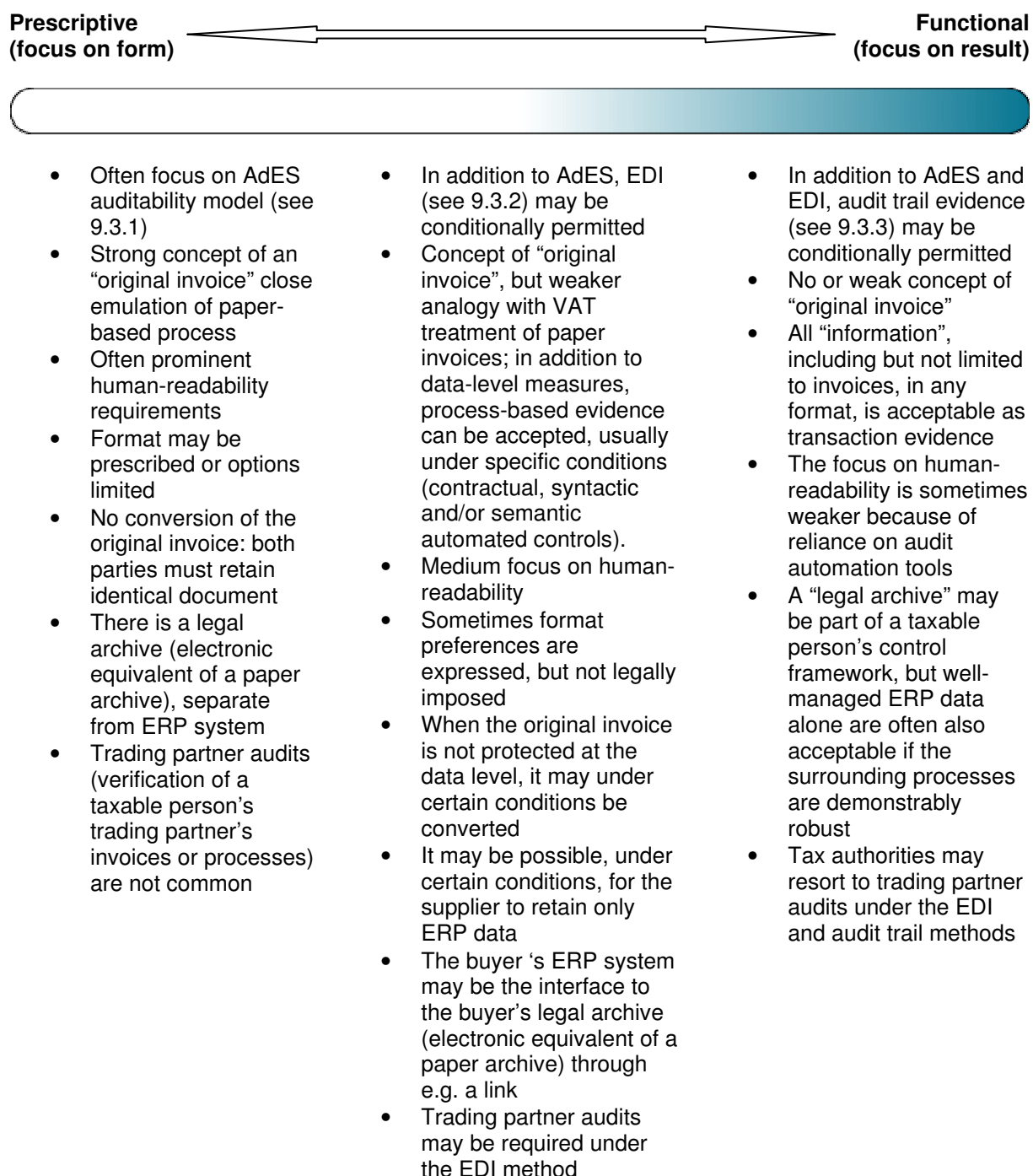
- Buyer's acceptance to receive invoices in electronic format.
- Outsourcing of e-invoice issuance, receipt or archiving to a third party.
- Interchange or trading partner agreements.

This scale evaluates whether these agreement requirements are written or enforced with more or less emphasis on formalities and specific issues that must be regulated in such agreements.



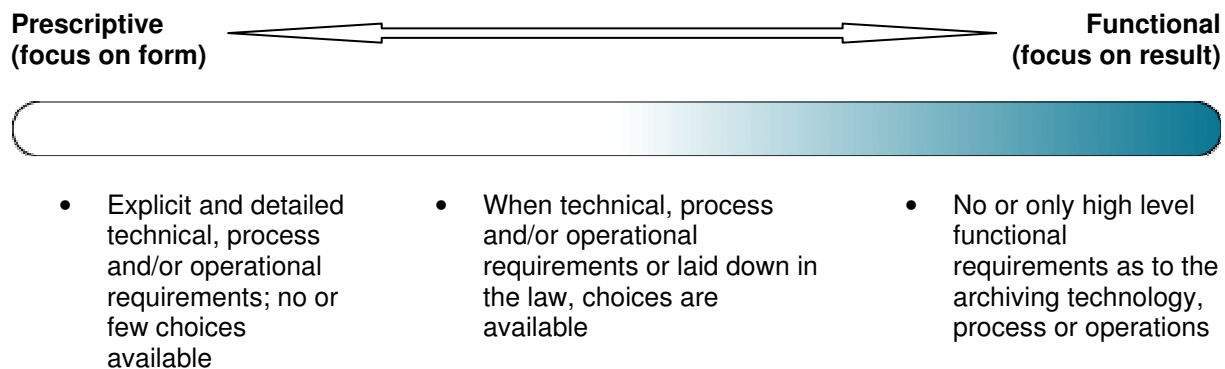
14.6 Integrity and authenticity

This scale evaluates a country's attachment to form in relation to evidence of integrity and authenticity of electronic invoices over their life cycle. TrustWeaver has observed that regimes with a higher attachment to formality work from the assumption that there is an "original" invoice document, whereas on the other end of the scale the invoice is merely information.



14.7 Archiving

This scale assesses specific requirements for the technical, operational and process environment of the archive in which e-invoices are stored.



14.8 Cross-border (processing)

This scale indicates the level of formality of a country's e-invoicing regime in relation to the processing of e-invoices or e-invoice data taking place outside that country's borders.

Prescriptive
(focus on form)

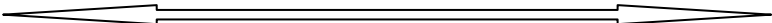
Functional
(focus on result)



- | | | |
|--|--|--|
| <ul style="list-style-type: none"> • All or principal processing operations must be on national soil • Outsourcing of issuance/ processing must be to locally established or recognized service provider • Foreign invoices that comply with the exporting country's requirements may not be accepted, or only under certain explicit conditions (N.B. some countries in this category do not apply any criteria to foreign invoices) | <ul style="list-style-type: none"> • There are no explicit requirements on the topic, however a degree of local processing operations is expected or clearly preferred • Often requirements for a processing service provider to be established in a country with which the VAT jurisdiction has a relevant mutual assistance agreement • There may be requirements for a medium/low level of local registration for outsourcers, or certain conditions or tax disadvantages for outsourcing to a foreign service provider • Foreign invoices that comply with the exporting country's requirements are accepted unless there are concrete reasons to doubt a minimum or equivalent of controls were respected; in practice there may be hesitation or lack of means to easily determine the origin country's level of legislation or actual controls performed (N.B. some countries in this category do not apply any criteria to foreign invoices) | <ul style="list-style-type: none"> • Processing may be anywhere • Processing documentation is often still expected to be held locally • Foreign invoices are in principle accepted without problems, unless there are prime facie shortcomings (N.B. some countries in this category do not apply any criteria to foreign invoices) |
|--|--|--|

14.9 Cross-border (archiving)

This scale indicates the level of formality of a country's e-invoicing regime in relation to the archiving of e-invoices (depending on legal regime: "originals" or ERP records representing invoices) taking place outside that country's borders.

Prescriptive (focus on form)  **Functional** (focus on result)

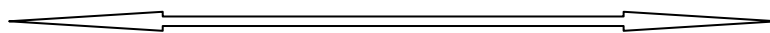


- | | | |
|---|---|--|
| <ul style="list-style-type: none"> • Archiving must be on national soil • Outsourcing of archival must be to locally established or recognized service provider | <ul style="list-style-type: none"> • There are no explicit requirements on the topic, however local archiving is expected or clearly preferred • Often requirements for an archiving service provider to be established in a country with which the VAT jurisdiction has a relevant mutual assistance agreement • There may be requirements for a medium/low level of local registration for archiving outsourcers, or certain conditions or tax disadvantages for outsourcing to a foreign service provider | <ul style="list-style-type: none"> • Archiving may be anywhere, or prohibitions are limited to a few (categories of) countries, • Archiving documentation is often still expected to be held locally |
|---|---|--|

14.10 Form or format of an e-invoice

Countries have varying approaches to the form and format of invoices. In relation to paper-based invoices, very few countries still issue mandatory template or pre-numbered forms themselves. The base rule in most countries is that an invoice must be stored in the form in which it was sent or received; however, the “grey zone” between paper and electronic invoicing is not often comprehensively regulated. When can a supplier maintain only an electronic copy of a sales invoice issued on paper; when can a scanned invoice be thrown away? When regulating e-invoices specifically more countries have included requirements concerning the technical format, either in transmission or as a capability to convert to one or a limited number of prescribed formats.

Prescriptive
(focus on form)



Functional
(focus on result)

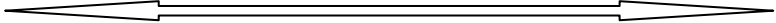


- | | | |
|--|--|--|
| <ul style="list-style-type: none"> • Sharp distinction between paper and electronic invoicing. Sending both paper and electronic flows for the same supply represents a risk • Supplier must store his copy of the sales invoice in exactly the same form as sent; buyer exactly as received • If any exceptions, e.g. scanning, are allowed this is comprehensively regulated • For e-invoicing, specific formats may be required for the original tax invoice, either for all e-invoices including B2B or only for B2G • Specific requirements for technical presentation formats (conversion capability in case of audit) often apply for e-invoices | <ul style="list-style-type: none"> • A legal distinction between paper and electronic form exists but some hybrid forms are generally accepted • Exchanging both paper and electronic invoices may be allowed during the transition from paper to electronic or vice versa between trading parties, or generally if one flow is prominently designated to be for information or convenience only • Specific requirements for technical presentation formats (conversion capability in case of audit) may apply for e-invoices | <ul style="list-style-type: none"> • A legal distinction between paper and electronic form exists but this is not rigidly enforced; the emphasis is placed on general auditability including invoice content rather than specific form or format of an invoice • Specific requirements for technical presentation formats of ERP data (not original e-invoices) may be recommended but not mandatory |
|--|--|--|

14.11 Minimum content of an invoice

Nearly all countries with VAT regulate the minimum information to be contained in an invoice. While there is a base set of information that applies generally across all countries, and which generally overlaps with data that a non-tax invoice would contain for commercial efficacy, some countries require a much more comprehensive set of information. Invoice content requirements can become complex to cope with when specific notices or types of information to be included are conditional or process-specific.

Please note that this scale evaluates VAT requirements only; in some countries (but infrequently) invoice content requirements may also stem from commercial or other laws.

Prescriptive (focus on form)  **Functional** (focus on result)



- | | | |
|---|--|--|
| <ul style="list-style-type: none"> • A significant number of data items must be included • A number of mandatory data items may be process-driven or otherwise conditional based on commercial or administrative context • Non-inclusion of such items is penalized as a rule; an invoice may simply not be valid due to certain formal information lacking. | <ul style="list-style-type: none"> • Some but not many additional data items compared to a non-tax invoice • Relatively few exceptional data items based on process or other context • Non-inclusion of mandatory data items is often sanctioned in accordance with the tax importance of such information. | <ul style="list-style-type: none"> • Requirements are either well aligned with non-tax invoices or there are no explicit requirements at all • Where requirements are explicit, the mere absence of such data items rarely justifies sanctions |
|---|--|--|

14.12 Self-billing

This document does not include an evaluation of self-billing requirements in the countries addressed below.

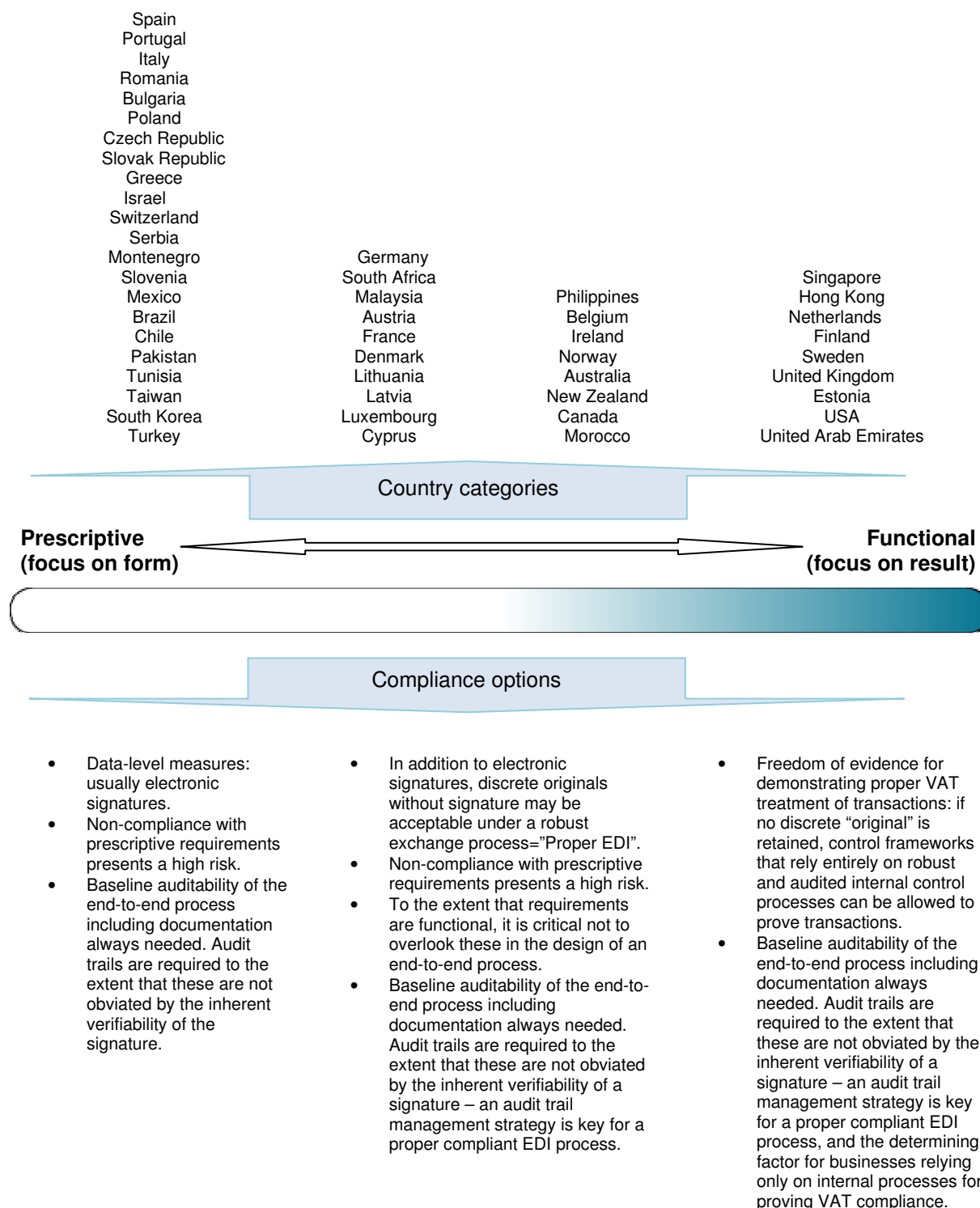
Self-billing is the practice whereby the buyer in a sales transaction issues the invoice for a supply in name and on behalf of the supplier. This mechanism, which is common in certain industries such as automobile and construction but occurs infrequently in most others, is often used so that parties can better exploit the processing capacities of larger buyers. Self-billing is an accepted practice in many countries but often under relatively strict conditions. The conditions for self-billing are generally the same for paper and electronic invoices: specific contractual and procedural measures often have to be taken prior to starting the self-billing process. Contractual measures often include the need for a written agreement, sometimes with specific content (e.g. as in France) which includes the description of the procedure required for the supplier to accept or reject the invoice created by the buyer. Sometimes, contracts must be periodically renewed. Rejection and acceptance procedures are sometimes regulated in great detail, including the need for the supplier to physically sign the invoice for approval. These and other compulsory measures can make it challenging to implement self-billing in an electronic environment.

It should also be noted that the widespread use of service providers in e-invoicing makes self-billing less relevant due to the fact that the service providers usually becomes the issuer of the invoice – since there can only be one issuer for an invoice, this obviates the classic setup of a self-billing invoice issued by the buyer on the supplier's behalf.

15 A strategy for globally coherent integrity and authenticity management

15.1 General picture

Below is a summary of the assessment of countries addressed in the Annex to this document along the spectrum ranging from “prescriptive” to “functional”:



15.2 Compliance in a rules-based environment

On the left side of the general picture presented in section 15.1, there are not many compliance strategy options. When legal requirements are clear enough to implement, compliance with the letter of the law minimizes the risks of VAT sanctions. Unfortunately, not all countries that prescribe specific compliance measures for integrity and authenticity present these requirements in a manner that answers all questions that technologists or process experts may ask about them. In such cases, it is important to follow general principles of VAT law and to keep in mind the general tax law and law enforcement culture in the country in question. Local advice is in these cases often needed to avoid drawing conclusions from another legislative or business culture.

15.3 Compliance in a principle-based environment

The correct VAT treatment of sales transactions that are governed by the VAT law of countries on the right-hand side of the chart in section 15.1 can be evidenced in many different ways (see section 9.3). Trading partners can therefore choose the compliance strategies that best fit the nature of their business interaction. This does not mean that “normal” business processes are always a sufficient business control framework: the long-term auditability requirement that is inherent in all VAT law often means that companies have to take additional steps to ensure compliance over the invoice life cycle. While there are by definition no explicit requirements as to how such life cycle auditability management should be performed, it must not be forgotten that both trading partners must retain sufficient evidence of correct VAT treatment of transactions.

In these countries, the use of electronic signatures or ‘proper EDI’ is always available as the basis of integrity and authenticity-related compliance strategies. These are tested methods that have the benefit of requiring trading partners to coordinate their invoicing processes; this promotes appropriate compliance assurance across a company’s diverse trading relationships (large and small, integrated and non-integrated trading partners, direct and indirect materials etc).

15.4 Electronic signatures as the basis for a universal low-risk strategy

Most companies want to be as certain as possible that a tax audit performed in, say, 6 years from now at a trading partner or a subsidiary can be quick and clean to avoid tax risks including:

- **Protracted audits** – audits should generally take only a few days but many companies are audited for weeks or even months. This eats up precious expert resources and creates risks of more processes and documents being scrutinized and, potentially, found flawed or lacking.
- **Trading partner audits** – the tax administration may have no choice but to verify the records and original documents of the audited company’s trading partners.
- **Mutual assistance procedures** – auditors may need to call on their counterparts from other countries to obtain evidence about certain aspects of the company’s operations.
- **Administrative fines** – if a company cannot prove transactions or demonstrate it has credibly retained certain source documents such as invoices, it may be fined. Trading partners in the same position may be fined as well.

- **Loss of right to deduct VAT** – A company that does not have sufficient evidence of purchases – that cannot prove it was in control of its processes at the time of



Figure 5: Fake invoice scams cost businesses billions worldwide. "Invoicing squatting" - a third party sending fake invoices under a company's real name and logo - can create tax risks for the presumed supplier. This creates an incentive for invoices to be distinctive and authenticated, also in the absence of explicit legal requirements.

the transactions – may need to pay back input VAT it reclaimed on such purchases. With an average VAT rate of 20%, this means a high risk of that company retroactively losing more than its profit margin.

- **Obligation to pay VAT over fraudulent invoices** – If a fraudster can easily forge invoices that are not reasonably distinguishable from a supplier's normal invoices, the tax administration may consider such invoices to be that supplier's invoices if the buyer reclaimed VAT on the basis of such an invoice.
- **Spillover effects into other areas of taxation law:** once a tax administration has established that a sales transaction cannot be evidenced, a company may also face sanctions in other areas of taxation. For example, the company may not be able to deduct the corresponding expense from revenue for corporate income tax purposes.

Most companies seek to implement a coherent low-risk strategy for tax compliance. Indeed, multiplying compliance approaches across different business processes can significantly increase total cost of ownership of a company's tax compliance control framework and heighten the risk of failure.

When a company does business across the spectrum of countries shown in section 15.1, the conclusion will often be that an electronic signature-based process is the common denominator. A significant number of large trading nations do not accept other methods. However, also in situations when other integrity and authenticity compliance choices are effectively available (if a company only interacts with countries to the right of the spectrum), electronic signatures are often the most commonly applicable control method guaranteeing the highest degree of legal certainty.

Today, electronic signatures can easily be implemented to meet all integrity and authenticity requirements across all countries that permit e-invoicing – no matter how diverse their legal and law enforcement cultures. Standards are mature, and solutions based on Service-Oriented Architecture are available that minimize the compliance footprint on any e-invoicing system while allowing straight-through processing in parallel to providing long-term verifiable integrity and authenticity of original invoices at a very low cost.

16 Designing a compliant process

16.1 *Holistic approach starting from a legal design*

The key to unlocking the full potential of e-invoicing is to design and set up a process that meets both business and regulatory requirements. There are some golden rules to follow to avoid the twin pitfalls of over-simplification and over-complexity:

- Follow a legal design which views transactions from a tax – particularly a tax audit – perspective; and
- Take a holistic, multidisciplinary approach that pays equal attention to business process, technical and legal imperatives.

Starting design discussions from a legal perspective enables all parties involved to have a clear understanding of how in-scope transactions will be presented to tax administrations in anything between 3 and 11 years from now. The proof of a good e-invoicing system will always remain in its ability to allow quick and easy audits by tax inspectors; therefore, a legal design process should work its way back from the question of how to prove that invoices meet all requirements.

The proof of the pudding...

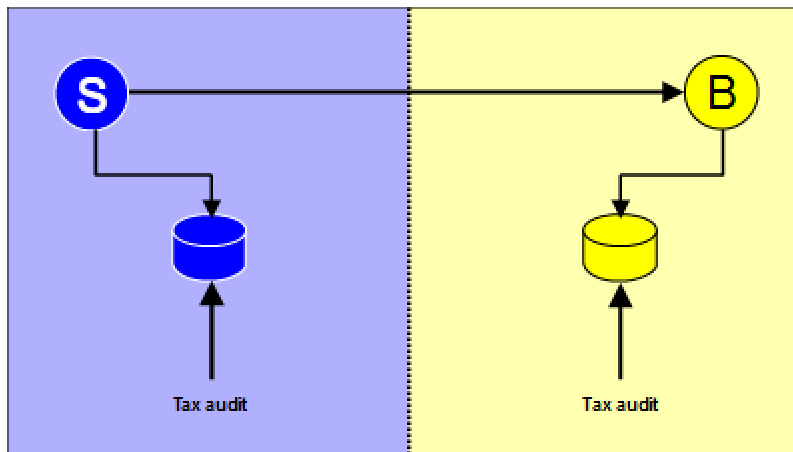
Many companies do not make a proper distinction between doing the right thing (*de facto* compliance) and being able to prove one did the right thing in the past (durable auditability). The result of neglecting this evidence dimension is that appropriate controls may be put in place without any improvement of the company's compliance position because they cannot at a later stage be evidenced.



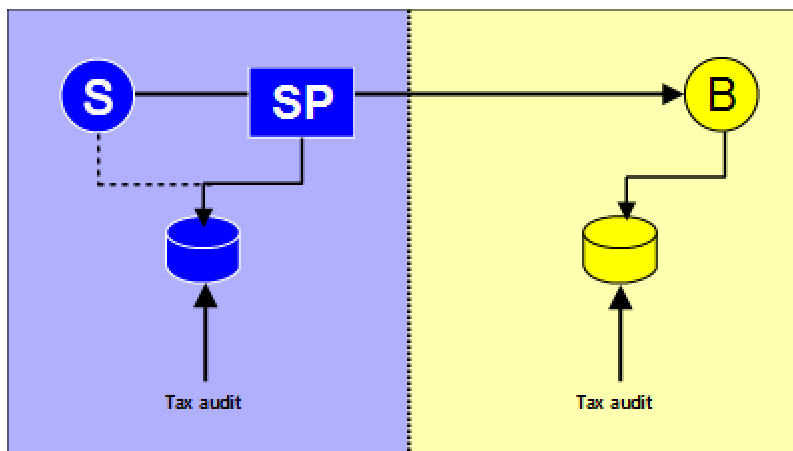
Companies should always strive to have a corporation-wide view of the key points in the invoice life cycle. To begin with: when and by whom is the invoice issued? In a world where many companies are integrating their ERP and supply chain automation systems,

it is quite common for different parts of the same extended enterprise to refer to different datasets as 'the invoice'. From a legal perspective, only one of the different data sets can be the original tax invoice.

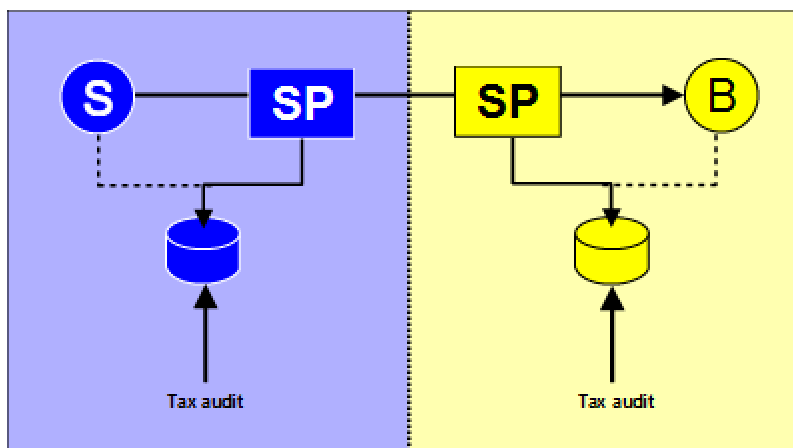
Tax law is based on the simple model of two distinct taxable persons conducting a transaction. There is always one buyer and one supplier and a delivery of goods or services according to a contract. The supplier is ordinarily obligated to issue an invoice. No matter how complex a company's commercial and technical reality, the company has to reduce, for tax purposes, its flows of goods, services and money to a series of defined buyer-supplier transactions. It therefore has to start its analysis of invoicing requirements and compliance solutions from this model. The legal design should be built around one of the principal invoicing models, the most familiar of which are shown in Figure 6.



Direct or straight invoicing.
The supplier is the issuer.



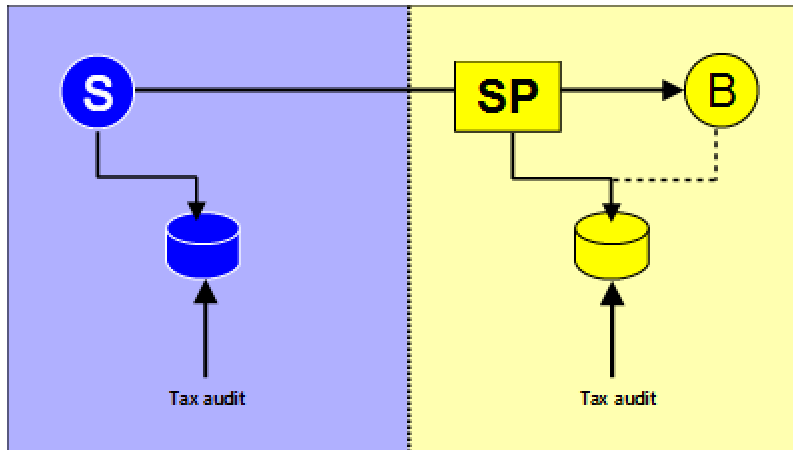
Intermediated invoicing.
The supplier's service provider issues the invoice "in name and on behalf of" the supplier under an appropriate authorization.



Intermediated invoicing; also referred to as "four-corner model".

The supplier's service provider issues the invoice "in name and on behalf of" the supplier under an appropriate authorization.

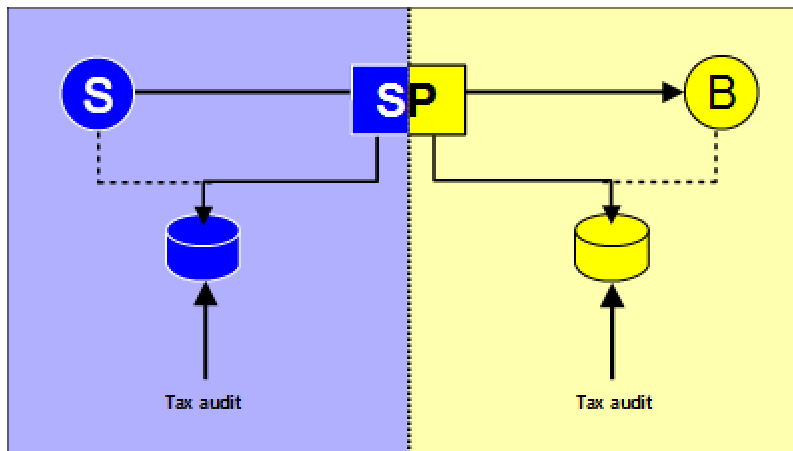
The buyer outsources tax-relevant receipt activities (including signature validation where relevant) to a different service provider under an appropriate authorization.



Intermediated invoicing.

The supplier issues the invoice himself.

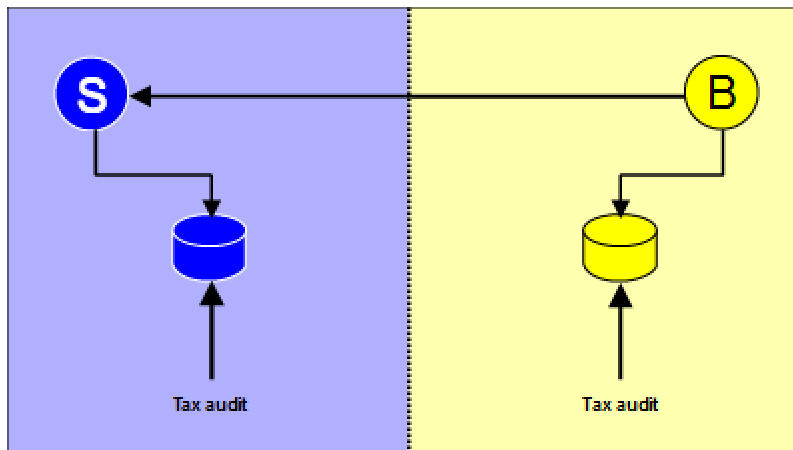
The buyer outsources tax-relevant receipt activities (including signature validation where relevant) to a different service provider under an appropriate authorization.



Intermediated invoicing; also referred to as "three-corner model".

The supplier's service provider issues the invoice "in name and on behalf of" the supplier under an appropriate authorization.

The buyer outsources tax-relevant receipt activities (including signature validation where relevant) to the same service provider under an appropriate authorization.



Self-billing.

The buyer issues the invoice "in name and on behalf of" the supplier.

Figure 6: Principal legal design options for compliant e-invoicing

If the e-invoicing system is based on an existing B2B system and back-office infrastructure, then a fit/gap analysis should be performed based on the principal processes and controls needed in any invoice life cycle for each flow.

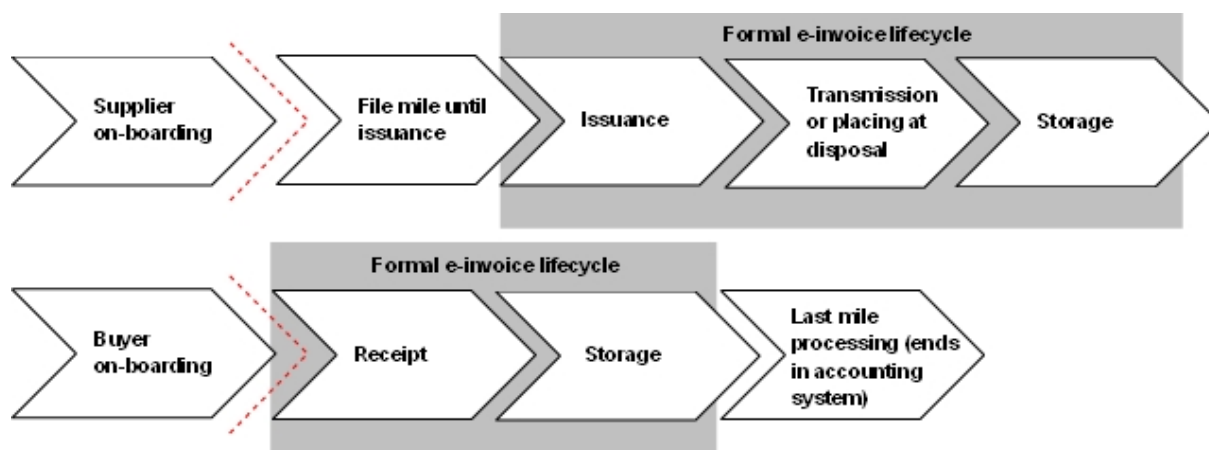


Figure 7: Overall process steps and key control points in an e-invoicing solution

Figure 7 shows the key process steps and controls that should form the principal structure of such an analysis. For each of these steps, the following points should be addressed:

- High-level process description
- Process owning legal entity
- System owning legal entity
- Physical location of hosting and operation of the system(s) involved
- Relevant agreements including on all levels of outsourcing
- Technical details of tax-relevant controls
- Evidence provision of the controls
- Error and exception handling

Once the identified gaps have been mended, these same principal processes and controls should be the core of the basic documentation each company engaged in e-invoicing uses so that tax authorities can understand the system. This documentation must be properly managed so as to ensure that an auditor can quickly consult relevant materials from the time an invoice was processed.

The legal design should drive the technical design, but it should also drive the agreements that will be needed between or among different parties to ensure an end-to-end compliant system. The initial technical and agreement design should be performed in close coordination, so that optimum use can be made of existing or planned interfaces (e.g. web interfaces) and business contracts.

The design of a compliant e-invoicing system must take into account business processes, and legal and technical parameters. In organizational terms, an e-invoicing project needs to include the legal, tax, IT, finance, accounts payable/receivable and supply chain experts from within a company.

REGULATORY REQUIREMENTS	BUSINESS PROCESS	TECHNOLOGY
Issues to consider:	Issues to consider:	Issues to consider:
<p>Hierarchies and types of rules. The entire hierarchy of applicable rules must be known, including (1) Formal legislation, secondary regulation (e.g. decrees), publications from regulatory authorities, jurisprudence etc. (2) Agreements with specific tax authorities (3) Opinions and guidelines from local industry associations, self-regulatory frameworks and experts.</p> <p>Geography. Laws frequently differ among regions, countries, provinces and states.</p> <p>Types of laws to be included. Legal areas adjacent to VAT law should be included in the analysis: other tax law, accounting law, corporate governance law, contract law, civil law, data protection law and cryptography import/export/use restrictions.</p> <p>Compliance of business agreements. Existing agreements should be reviewed and, potentially, new ones set up to easily prove the roles and responsibilities of parties involved.</p> <p>Applicable law. Establish which part of each e-invoicing transaction is regulated by which country's law.</p>	<p>Types of invoicing. Straight invoicing, self-billing or outsourced invoicing?</p> <p>Roles of trading partners. A trading partners can be supplier, customer, competitor and service provider all at the same time. Are you willing to issue invoices on behalf of your internal and external suppliers and customers?</p> <p>Invoice flows. Map out the flow of invoices, as well as how this flow relates to the flow of goods and money, in order to maintain a complete picture of key processes. Where in the flows is the invoice formally issued and received?</p> <p>Value considerations. Keep an eye on ROI and risks. Average transaction values, strategic importance, ownership ties and size of trading partners are among the many aspects that must be considered to apply an appropriate mix of compliance measures to a company's different processes.</p> <p>Storage. Should each internal entity store locally, or is a central archive more cost-effective? Outsourced or in-house? Are you willing to store for small external suppliers and customers?</p>	<p>Standards and formats. What standards do you support, which ones are critical for your trading partners? Compliance always implies ensuring an effective interface and audit capabilities for public authorities. This means that issues concerning standards and formats used in the system must be viewed not only from an internal business perspective, but also from a compliance risk management viewpoint.</p> <p>Technical security measures. A baseline level of security is required within and between system components, and choices must be made that balance the need for cost-effectiveness with regulatory compliance. As much as possible, the need for provable security must also be taken into account in the general system design; for example, transport and archival methods as well as data standards and formats must be used that allow the application of appropriate security measures. A minimum level of security documentation should be readily available at any time.</p>

Figure 8: Examples of issues to consider in a holistic approach

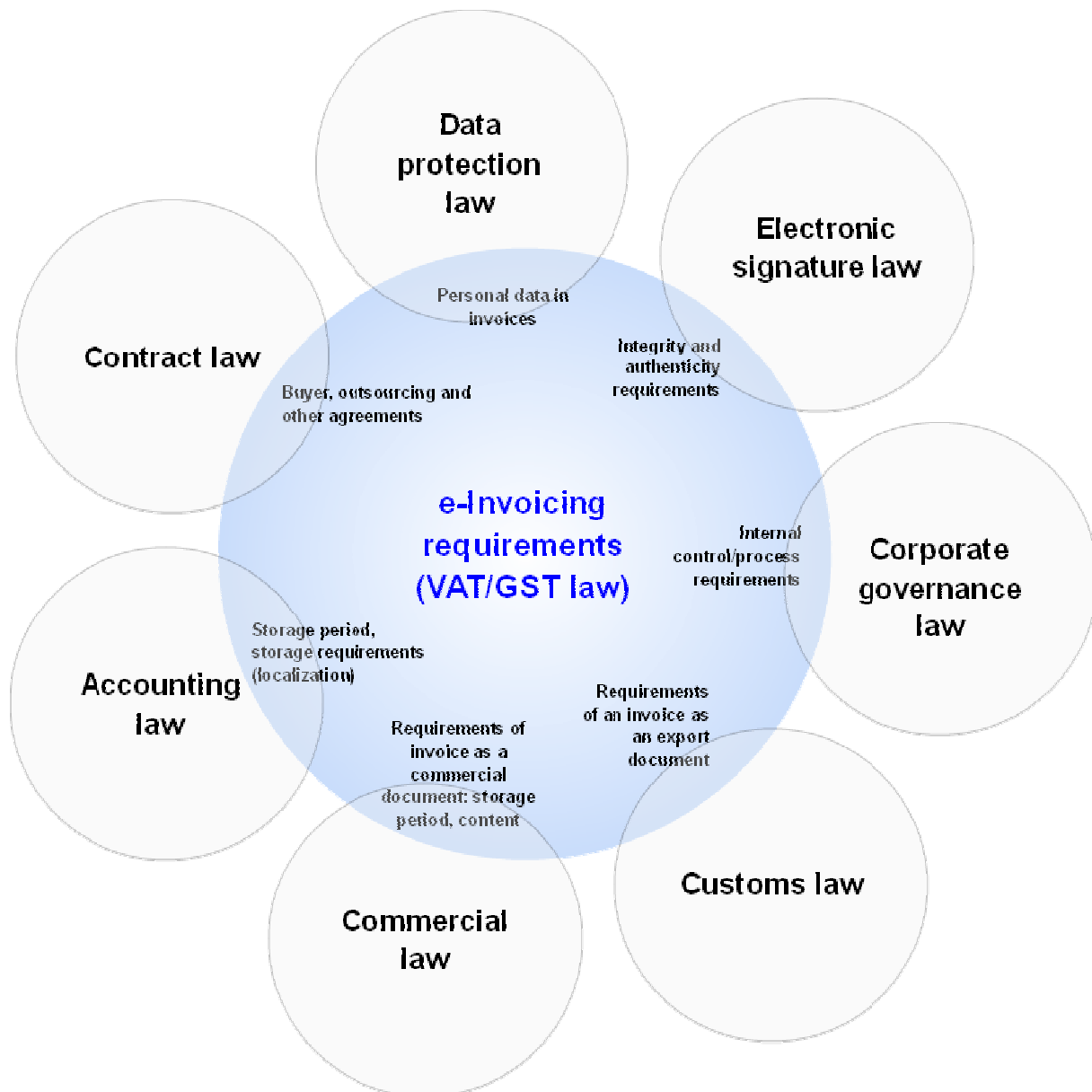


Figure 9: Important adjacent legal areas to be included in a holistic approach

16.2 *Maximizing the e-signature advantage*

The task of setting up and operating an end-to-end robust and compliant e-invoicing system may seem daunting at first. Indeed, covering the many complex issues in a project with professionals from different disciplines is never easy. However, appropriate use of electronic signatures can drastically simplify the solution design and operations.

By combining modern e-signature capabilities with invoice issuance outsourcing, one can centralize all decisions required for applying and verifying the majority of controls aimed at ensuring long-term evidence of integrity and authenticity. This is done in a central service point where much of the required evidence of controls is created and packaged on behalf of both the supplier and the buyer under appropriate authorizations. This makes it unnecessary for the transacting parties to deploy local e-signature technologies and processes in their own IT environments. With a shorter issuance-to-receipt cycle than in conventional invoicing processes, the process of creation and validation of the signature can be used to ensure clear and easily auditable processes for handling errors and exceptions in accordance with VAT laws.

The objective of any company engaged in e-invoicing is to make processes faster, better and cheaper while adding more value to customers. As explained in the previous section, electronic signatures can help corporations achieve these goals as well as ensure cost-effective legal compliance, provided they can ensure a high degree of local recognition of the e-signatures used.

Tax authorities are generally more comfortable with the signatures that evidently meet their domestic criteria than with signatures whose appropriateness must first be established through third parties outside their jurisdiction. To ensure the highest levels of upfront legal recognition of electronic signatures, therefore, it is often advantageous to use local signatures for the VAT jurisdiction(s) of an e-invoice.

In certain circumstances, depending on a company's general risk perception and tax compliance ambitions, it may be beneficial for a signature system to apply a double signature: one for the country of origin and one for the country of destination. This way, one can be sure that tax authorities in both countries can easily relate to and approve the integrity and authenticity mechanism used.

Importantly, the applicable tax laws for the supplier's and buyer's e-invoicing processes are normally not driven by their physical establishment or company registration. Instead, each country has rules determining which parts of transactions come under their jurisdiction. Within one corporation, one often finds very different interpretations of the countries involved in an invoice flow, because the business' perspective does not always align with the tax authority's perspective. It should be borne in mind that physical establishment, on the other hand, is often a criterion for the applicability of accounting and tax requirements concerning storage.

16.3 *Human-readability*

A key requirement for tax-compliant e-invoicing systems is human-readability. When the tax original of the electronic invoice is in machine-readable format, measures must be taken to ensure that the structured data can be viewed as a normal invoice.

Importantly, companies should be able to explain how this human-readable representation of the e-invoice relates to the source data. In most cases this means the ability to re-perform the process and obtain the same result. This is called the reproducibility requirement.

There are different techniques to address this requirement. Modern structured machine-readable data formats can, for example, often use style-sheets which allow for the transformation of e-invoice originals into human-readable equivalents at the moment of audit. In addition to keeping this additional conversion work out of the core e-invoicing process, this method has the benefit of the style-sheet literally embodying the translation process and, therefore, actually being the audit trail between the two formats.

When style-sheets cannot be used, companies often create a PDF from the structured message during the core e-invoicing process. This PDF is then stored together with the tax original and appropriate viewer software can be used to display the human-readable invoice on the screen. This method processes and stores two renditions of the invoice, which means that safeguards must be in place to allow tax auditors to easily determine which data set is the original invoice. Different techniques can be used to achieve this such as, when using signatures, not signing the human-readable document and clearly marking it a copy.

16.4 *Downstream processing*

Upon receipt of the e-invoice by the buyer, the dual public/private nature of the e-invoice becomes obvious. Parties need to ensure the existence of tax originals that can be

stored for compliance purposes, but the buyer also needs the electronic data for downstream business processing.

When designing the e-invoicing system, the challenge is to achieve both goals without compromising on either front.

Non-structured formats such as PDF may work well with certain workflow systems (which are often used for manually approving invoices without a purchase order), but they cannot easily be used for automated matching³ and direct integration with Enterprise Resource Planning (ERP) systems. ERP systems require the data to be available in a specific structured format, which in the case of structured originals can be derived from the received e-invoice.

If both parties' business information systems require exactly the same data format (e.g. IDOC), the supplier and buyer could agree to designate that format for the original e-invoice to streamline the process. However, this is not always feasible, and even when it is, the e-invoicing process for a signed document will still often need to be split into two feeds on the receiving end: one feed with the signed original meant for storage and the other used for downstream processing which includes conversion into the format used in the buyer's system. Such a dual feed is a feature of many e-invoicing systems. If a split is performed with the signed original invoice as the basis, it is commonly accepted by tax authorities subject to an audit trail of the split in case any discrepancies arise between the transaction data in the ERP system and the original invoices in the fiscal archive.

16.5 *Error and exception handling*

Every diligent system design includes error handling, but an e-invoicing system must view errors, exceptions and their resolutions from a tax perspective. In particular, the law often includes specific rules about what parties should do when an invoice is inaccurate or incomplete. In case of material errors, the invoice may need to be booked by the buyer anyway while the supplier must send a credit note and/or a corrective invoice with a new unique number. A clear legal design is useful for addressing the complex technical issues that can arise.

16.6 *Long-term storage*

It is important to think through the integrity and authenticity protection throughout the end-to-end e-invoice life cycle, and not just within discrete solution components. When signatures are used, the basic integrity and authenticity of the invoices is guaranteed in the transmission and storage process, but the basic e-signature formats are not particularly suitable for providing such evidence over long periods of time. For example, the validity of the certificate at the time of signing or receipt will often be hard or impossible to establish once the certificate has expired.

Modern standards such as CAdES and XAdES⁴ allow companies to use electronic invoices for applications, like e-invoicing, that require integrity and authenticity verification over very long periods of time. By embedding validation data inside a standardized signature structure during the signing or validation process, long-term auditability can be achieved with a vastly reduced level of dependency on external parties such as Certification Authorities.

³ Automated matching may be based on a purchase order only, or it may also include proof of delivery (i.e., three-way matching).

⁴ See ETSI TS 101 903 and ETSI TS 101 733.

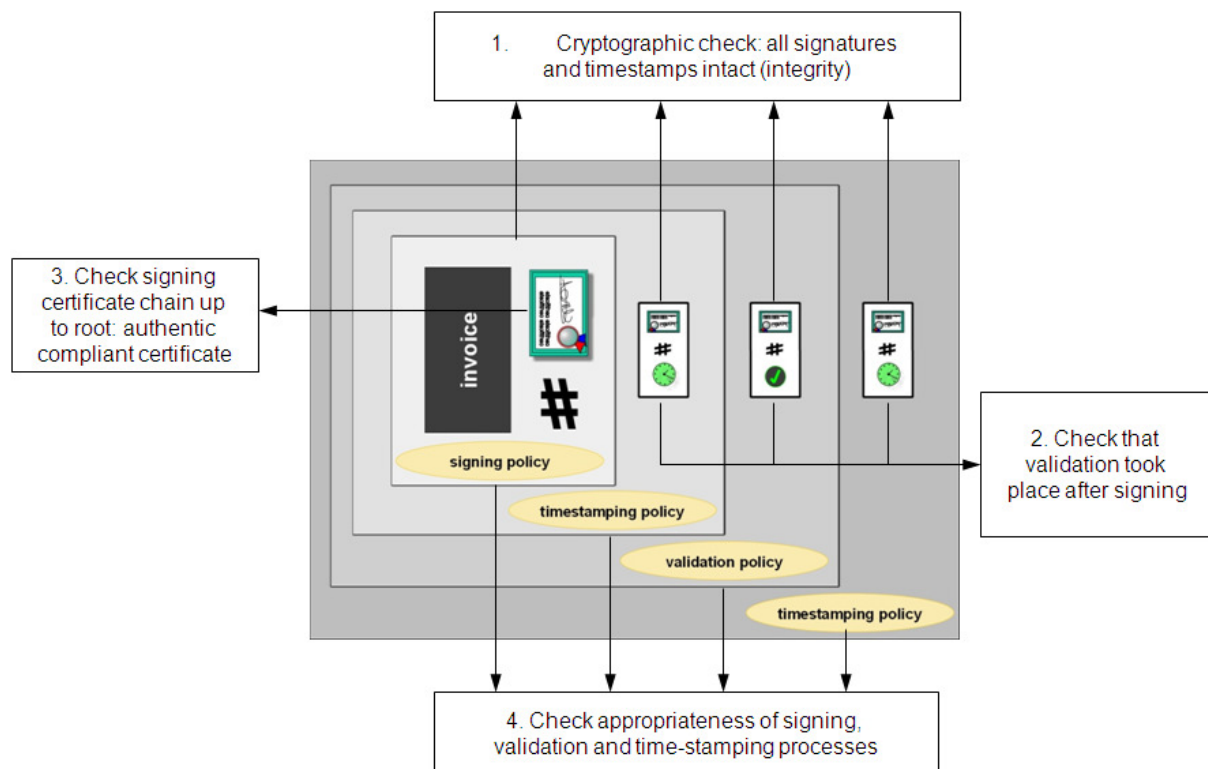


Figure 10: Using the "-A" version of CA/ES or XA/ES signatures, the invoice data are stored together with the signatures and certificate validity proof obtained from the issuing Certification Authority. These components are also securely time-stamped, which creates strong self-contained evidence of the signature being valid at the time of signing or validation upon receipt.

16.7 Notices in invoices

A good e-invoicing system must take into account the need for certain notices to be printed inside e-invoices or related documents. For example, the outsourced issuer of an e-invoice is sometimes required to include a notice within the invoice to the effect of "issuance by X on behalf of Y". Furthermore, copies and duplicates of invoices and credit notes may need to contain specific notices under different countries' laws.

16.8 Managing the paper-electronic transition

Tax authorities increasingly work from the assumption that invoicing processes are either electronic or paper-based – but never both.

This means, for example, that when two parties invoice electronically for one type of transaction between them, tax authorities might expect there to be no more paper invoices between these parties. The situation, which is still widespread, whereby parties use paper invoices for compliance purposes but electronic invoices for business processes, will in future not always be tolerated.

In addition to parallel paper/electronic flows, many companies today use hybrid processes where, for example, the supplier treats invoices as paper-paper while the buyer treats them as electronic. Hybrid invoicing processes – examples of which are often found in web-EDI systems – are often already today unacceptable to many tax authorities.

While general tax rules can often help analyze challenges that arise in an e-invoicing context, it is important to note that paper and electronic invoicing are different in many ways. Analogies with traditional paper-based rules must be used with caution. For example, in paper-based invoicing there are few specific requirements on the recipient in

relation to the receipt process (although some countries require manual sequential numbering of incoming paper invoices), while in electronic invoicing the recipient may need to take specific technical measures to ensure compliance.

Finally, it should be noted that companies that use paper invoices with some trading partners and electronic invoices with others should ensure that a tax inspector can easily distinguish between these forms in the accounting system, so that a request to view the “original” can be treated through reference to the right storage system.

Annex: country status overview

E-Invoicing in the European Union



The 2001/2004 and 2010/2013 EU Invoicing Directives

In December 2001 the European Union Council adopted the Invoicing Directive⁵, which introduced important new rules on invoicing generally and e-invoicing in particular. Issues addressed include the content of invoices, outsourcing of invoice issuance, self-billing and electronic invoicing. The Directive entered into effect on 1 January 2004.





In July 2010, the Council adopted a modification of the 2001 invoicing rules as part of the VAT Directive. The transposition date for this new Directive is 1 January 2013.

There is no such thing as meaningful business compliance with an EU Directive. What matters are the local requirements applied by local tax authorities. These requirements are based on local VAT laws and are influenced by adjacent legal areas, jurisprudence, law enforcement practices, and industry self-regulation.

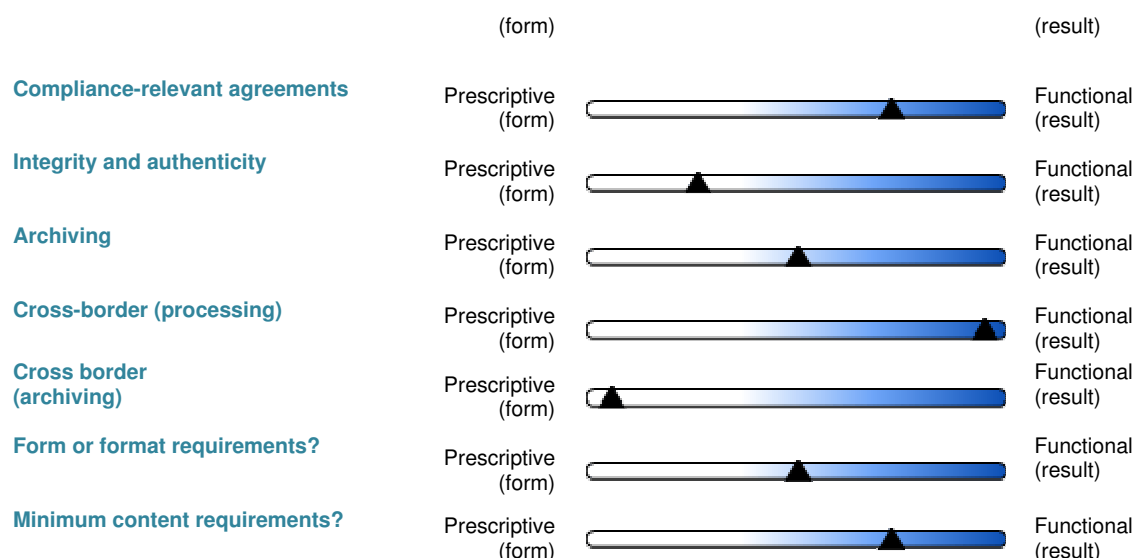
Legal definitions and requirements, for example the concepts 'EDI' and 'electronic signatures' (see descriptions below), differ among countries and largely consist of rules that existed long before the 2001 introduction of e-invoicing. Importantly, the legal and business definitions of these concepts are often not the same.

2001/2004 VAT Directive (current) regime

General evaluation

Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive		Functional

⁵ Now merged into the VAT Directive (2006/112/EC).



Scope of application: all invoices?

In principle, the Invoicing Directive applies to all business-to-business invoices issued in the European Union, including VAT-exempted transactions. Within the EU there are two types of VAT exemptions: (1) zero-rated transactions, formally called transactions exempt with the right to deduct input VAT and (2) fully-exempted transactions applicable to certain charities, as well as postal and other services. In both cases, an invoice must, in principle, be issued, usually with a reference to the legal basis for the exemption applied. However, member states have a right to release taxable persons from the obligation of issuing an invoice, in which case there are no invoice-specific requirements⁶.

VAT-exempted transactions for which parties are released from the obligation of issuing an invoice are very rare in mainstream business as are exemptions for VAT-able invoices⁷. Since issuing an invoice is not prohibited in either case, most companies would rather not create a system exception for these cases. Only organizations that fall under such releases for a large proportion of their invoices might consider taking a system exception into account to avoid creating an invoice altogether.

Even if an invoice is issued in relation to VAT-exempted transactions, the Invoicing Directive's requirements formally apply in full⁸. The reason for this broad scope of application is most tax authorities will generally want to be able to assess whether the exemption is justifiably applied and references the correct legal provision.

It is nowadays possible to obtain cross-border VAT refunds on the basis of compliant electronic invoices.

The Directive's maximum requirements rule

⁶ Member states also have the right to impose the obligation to issue invoices for transactions not covered by the scope of application of the Invoicing Directive (e.g. transactions with consumers). In that case, however, the Invoicing Directive also gives them the right not to impose its security requirements.

⁷ A known example of an exemption based on jurisprudence is the Bockemühl case, where the buyer in a cross-border sale of services can deduct VAT even if not in possession of a compliant invoice.

⁸ Some tax authorities have informally stated that they do not consider the requirements for domestic invoices to apply to zero-rated cross-border invoices. Such statements are not enforceable unless they are explicitly stated in a formal tax authority communication.

The VAT Directive states that member states may not impose conditions on the transmission of electronic invoices other than the ones contained in the Directive itself. While this is a useful rule on which companies could base a challenge to certain member states' requirements in the European Court of Justice, in practice its benefits are fairly limited. First of all, the concept 'transmission' excludes rules relating to storage. The second limitation is an inherent constraint in all laws relating to electronic business processes: the law is formulated at such a high level and in such an abstract fashion that many technical requirements can logically be viewed as necessary in order to make the law meaningful in practice. Finally, most member states have hundreds of pre-existing rules about or relating to invoicing processes that have very little to do with the e-invoicing rules of the Directive but which, when rationally translated into e-invoicing requirements, become diverse technical requirements.

Some examples:

1. All EU member states have historically had rules about processes for faulty invoices. It is often hard in electronic invoicing systems to draw the same hard process lines as those that have traditionally determined what taxable parties should do when they discover, at some point after issuance, that the invoice is incorrect. An electronic invoice can be incorrect due to format errors, content errors, errors relating to discrepancies between the physical transaction and the invoice content, routing or transmission errors, and integrity or authenticity flaws. All these categories of errors must be addressable in a good e-invoicing system, and the only way to do this is to re-interpret pre-existing paper-based process rules.
2. It is relatively common for the supplier in an e-invoicing transaction to make the invoice available via a 'pull' method on a web-site. It is very hard to compare this method with the traditional posting of invoices, but it is generally assumed that the supplier is responsible for delivering the e-invoice to the buyer. The question thus arises of how, when using such pull technologies, the supplier can ensure effective delivery. The answer (informally in some countries, and explicit in others) is that the supplier's system must build in auditable controls ensuring that the buyer downloads the e-invoice within a reasonable amount of time. If the buyer does not do this, the supplier may have to pro-actively send the invoice. While this sounds like a perfectly rational transposition of (implicit) paper-based rules, it translates into a long list of technical requirements which the e-invoicing system must meet in order for the supplier to be compliant.
3. In 2010, Portugal has introduced a mandatory certification scheme for e-invoicing systems which create a new set of conditions aimed at the use of e-signatures for guaranteeing integrity and authenticity. The introduction of this scheme has been notified to the European Commission, but appears not to have been challenged even if it can be argued to effectively introduce a prior authorization requirement for e-invoicing.

As a result, e-invoicing processes have to comply with hundreds of requirements that do not emanate from the Invoicing Directive, and yet do not obviously violate the Invoicing Directive's maximum requirements rule.

Guaranteeing integrity and authenticity

In order to facilitate VAT audits, the Invoicing Directive requires invoicing parties to *guarantee* the authenticity and integrity of electronic invoices in transport and in storage, through either⁹:

- Advanced electronic signatures; or
- Electronic data interchange (EDI) where the interchange agreement provides “for the use of procedures guaranteeing the authenticity of the origin and integrity of the data.”

It is difficult to compare these options:

- The terms electronic signature and EDI in EU e-invoicing legislation are formal, legal concepts which differ from their common meanings in industry and the technical community. Therefore, what trading partners call EDI or electronic signatures might not be considered EDI or electronic signatures for e-invoice compliance purposes.
- The dichotomy between EDI and e-signatures is not technically justifiable:
 - Electronic signatures in the context of the Invoicing Directive are digital signatures based on Public Key Infrastructure (PKI), which are a security technique.
 - EDI is never defined as a security technique. In modern industry definitions, security is not a necessary component of EDI at all. Legally in the EU, security requirements for EDI are at best derived from a non-binding Commission Recommendation. To the extent that security is applied to EDI, any security technique can be used; however, the vast majority of EDI security standards work revolves around the use of Public Key Infrastructure (PKI).

The resulting confusion sometimes leads businesses to misjudge their options.

As regards the transmission of the invoice after issuance, this document assumes that compliance under the EDI option requires the use of transport-level (point-to-point) security. In this sense, EDI in most countries' laws can simply be read as automated systems not using electronic signatures. Systems that may be recognized as EDI but that use electronic signatures for issuing and protecting e-invoices throughout their life cycle are, for purposes of to this document, categorized under the electronic signature compliance option.

The Directive uses the word “guarantee” for the authenticity and integrity requirements. As often in tax law, the burden of proof in relation to integrity and authenticity is on the taxable person.

The term integrity is technically well-known and well-defined as the security property allowing verification that data has not changed since it was created. Authenticity, however, is less broadly accepted as a discrete security property; rather, authenticity

⁹ The Invoicing Directive also allows for a third way whereby e-invoices are sent using other methods. Some member states, including Sweden, the Netherlands and Finland have implemented this as the exclusive basis for their e-invoicing regime. Others, such as the UK and Denmark (for domestic invoicing only), have implemented the third option as a way to allow companies to meet authenticity and integrity requirements using means other than e-signatures or EDI. This document will not address the other methods option of the Invoicing Directive, for two reasons: firstly, it has not been widely implemented throughout the EU and, secondly, other than those countries where this option has become the exclusive regime, this option in most cases requires consultations with relevant tax authorities, which creates a high threshold for obtaining compliance certainty.

should be viewed as a property that is derived from sufficient party authentication. An e-invoice sent by an authenticated party can then be considered authentic.

Advanced Electronic Signature option

Advanced and Qualified Electronic Signatures

The Invoicing Directive allows countries to require either Advanced Electronic Signatures or the more strictly-defined Qualified Electronic Signatures for guaranteeing e-invoice integrity and authenticity. These choices refer to national legislation transposing the EU Electronic Signature Directive¹⁰.

The EU definition of Advanced Electronic Signatures is generally interpreted as policy-based digital signatures. A Qualified Electronic Signature is an Advanced Electronic Signature that is based on a qualified certificate and applied with a secure signature creation device (SSCD). A qualified certificate is issued under a specific certificate policy with high security requirements for the Certification Authority. An SSCD is a device approved by an EU member state on which the private and public key is securely generated and which is used to apply the signature without the private key being exposed to compromise. Member states are required to maintain supervisory bodies for Certification Authorities issuing qualified certificates. In practice, additional requirements may apply for both Advanced and Qualified Electronic Signatures due to local legal, industrial and other specifics.

The Electronic Signature Directive gives Qualified Electronic Signatures a specific status: they are always equivalent to handwritten signatures¹¹ and admissible as evidence in legal proceedings.

Both qualified certificates, which are issued under a stringent set of EU-standardized policies and practices, and SSCDs benefit from internal market protection, meaning that if they are recognized by one member state, they have to be accepted by all others. Countries that require Advanced Electronic Signatures for e-invoicing should, *a fortiori*, accept Qualified Electronic Signatures. Based on this, one might conclude that signatures created with a single EU qualified certificate and SSCD should automatically suffice throughout the EU. Under current standards and countries' audit capabilities, this is unfortunately not as pragmatic a solution as it first appears.

Local differences

The EU Electronic Signature Directive has been in force throughout the EU for almost a decade, and each country applies a somewhat different set of rules. Contrary to common perception, these differences are more a matter of variety in approach than of higher or lower security. Definitions of Advanced or Qualified Electronic Signatures in national law reflect local laws, jurisprudence, customs, standards and industry structures. In a national context, the concept of a Qualified Electronic Signature is often greater than the sum of its Brussels-defined parts.

¹⁰ Directive 1999/93/EC of The European Parliament and of the Council of 13 December 1999 on a community framework for electronic signatures. This Directive and a number of member state transpositions remain controversial. However, the European Commission in 2003 decided not to take the opportunity of the Directive's self-imposed review date for change and instead maintained this position. A new process has begun to resolve differences among member states, but because of entrenched positions stemming from diverging public policy positions on, for example, consumer protection and national security, little change is expected.

¹¹ This rule has several limitations. Most importantly, where a legal deed may not be in electronic form, an electronic signature may logically not be applied. Further, exceptions apply for example for real estate transactions or legal deeds under family law.

Electronic signatures can be regulated differently or subject to different expectations in different countries. These differences can include:

- The content of the certificate (i.e., where to put the name of the holder, corporate affiliations, attributes such as signing authority, and what codes or identifiers to use);
- The identification procedures for issuing certificates;
- The restrictions concerning the use of certain types of certificates or signatures for natural or legal persons;
- The technical and contractual measures applied for delegation of identification procedures by Certification Authorities;
- The accreditation and approval criteria of Certification Authorities, of cryptographic software and hardware to be used for creating and validating signatures;

Cross-border recognition of e-signatures

Many people are surprised when they learn that virtually all e-signature laws promote cross-border recognition. Indeed, most governments (including all EU member states) recognize foreign electronic signatures under conditions that may include geographical criteria (e.g., EU qualified certificates should be accepted by all member states), cross-certification with local Certification Authorities, mutual recognition treaties, as well as substantive criteria upon which any signature must be recognized. However, it has proven challenging to turn these legal objectives into reality. Few governments and courts possess the combined legal and technical knowledge and tools to determine the authenticity of a foreign signature and to then decide its acceptability at a cost and speed that align with global business needs.

Some view this as a failure of international law and a problem that disqualifies e-signatures as a significant vector of trust in international electronic transactions. For others, this does not diminish the intrinsic value of e-signatures as a unique technology but merely reflects the unrealistic expectations behind many of the e-commerce laws of the 1990s. The best evidence of the latter is that the use of electronic signatures and PKI has grown significantly despite these regulatory shortcomings. E-signature vendors have developed effective ways to overcome differences between laws: TrustWeaver, for example, uses different countries' locally compliant signature processes and components in a central switch that simply avoids cross-border recognition problems.

- The processes for creating and validating signatures, including what-you-see-is-what-you-sign requirements, cryptographic operations and automation requirements which include time and volume window enforcement;
- Hardware, logical or legal separation for supplier and buyer signature processes;
- The type of revocation checking procedures to be used in signature processes;
- The use and publication of standard policies and practices for issuing certificates and for signature processes; and
- Time-stamping related requirements.

Validation

Validation is an important aspect of electronic signatures. Recipients of signed electronic invoices are sometimes explicitly required by law to validate the signature; however, in most cases such validation requirements are implicit since both parties have to guarantee integrity and authenticity. Validation of the certificate corresponding to the private signing key is an indispensable step in verification. Many member states require

Certification Authorities to issue validation information but this is already standard Certification Authority practice. It should be noted, however, that there exists no central location for the verification of certificates from different EU Certification Authorities. Likewise, not all Certification Authorities have the ability to allow historical checks of certificates to ascertain if a certificate was valid at, for example, the moment of signing. By using modern standards that allow packaging of certificate validation data (including time-stamps) with the signed invoice, both parties to the sales transaction can, at any time, prove that the signature was valid when created and received.

Importantly, few countries, in practice, accept the creator of the signature to also be the issuer of the certificate. Such self-certification is generally viewed as jeopardizing the minimum identification controls required to issue a certificate.

EDI option

The Invoicing Directive refers to a definition of Electronic Data Interchange (EDI) from a 1994 Commission Recommendation¹²: *“The electronic transfer, from computer to computer, of commercial and administrative data using an agreed standard to structure an EDI message.”* What trading partners consider as EDI will not necessarily be viewed as EDI by tax authorities.

While the EU definition may be modernized as a result of standardization work in European standards fora, the obvious intent is to describe what may be more plainly called business-to-business (B2B) automation. This being said, some EU member states (e.g. Lithuania) still define EDI strictly as systems using a specific EDIFACT standard only. While the dividing line may be somewhat artificial, it is clear that systems which are not highly automated – including invoices that are not machine-readable – will generally not be viewed as EDI. Based on the first criterion, technologies such as Web EDI (where one transacting partner manually keys in, supplements and/or approves invoice data) and manual procedures used in self-billing setups will not be eligible for the EDI compliance option in many countries, even if the trading partners involved consider the transactions in question to be part of their EDI system.

Whichever definition of EDI is used, the concept of EDI is never defined as a security technology. In modern industry definitions, security is not a necessary component of EDI at all: trading partners may very well have discontinued the Value Added Network (VAN) they originally used for their EDI system and, instead, run the same transactions over the unprotected Internet, while continuing to refer to the system as EDI.

Importantly, the fact that a system can legally qualify as EDI says nothing about the guarantees it provides for e-invoice integrity and authenticity. Nearly all EU member states have additional requirements that systems must comply with under the EDI option; for example:

¹² 94/820/EC: Commission Recommendation of 19 October 1994 relating to the legal aspects of electronic data interchange.

1. Interchange agreement and associated security measures

Once a system is legally qualified as EDI, the EU Invoicing Directive requires the interchange agreement (also called trading partner agreement or EDI agreement) to provide “for the use of procedures guaranteeing the authenticity of the origin and integrity of the data.” What these procedures should be is not well-defined in most member states. However, tax authorities in a number of countries have expressed their intention to use the EU-defined model EDI agreement as the basis for their assessment. Significantly, article 6 of this model EDI agreement states:

6.1 The parties undertake to implement and maintain security procedures and measures in order to ensure the protection of EDI messages against the risks of unauthorized access, alteration, delay, destruction or loss.

6.2. Security procedures and measures include the verification of origin, the verification of integrity, the non-repudiation of origin and receipt and the confidentiality of EDI messages.

Security procedures and measures for the verification of origin and the verification of integrity, in order to identify the sender of any EDI message and to ascertain that any EDI message received is complete and has not been corrupted, are mandatory for any EDI message.

Traditional EDI systems based on an end-to-end VAN are often considered to meet these requirements. However, systems using the Internet need to replicate the extensive security features. If the system owners do not want to use electronic signatures (which would make the system eligible under the Invoicing Directive’s e-signature compliance option) such security will ordinarily be ensured through use of point-to-point security mechanisms.

Due to inherent limitations of point-to-point security (most notably, it does not offer durable auditability), systems under the EDI compliance option will generally need to include additional security procedures such as frequent logs, and audits in order to guarantee integrity and authenticity. In addition, without verifiable security on the data level, the archive and processing system will often need to include additional integrity-enhancing features.

2. Summary statements

Some EU member states (including France, Hungary and Spain) have also chosen to implement the Invoicing Directive option to require a summary document on paper in addition to the electronic invoice¹³. Conditions concerning the method, frequency, content and reporting procedures for such summary statements tend to differ among countries. Conditions normally apply (implicitly or explicitly) for the systems generating and storing summary statements to be directly populated from the e-invoicing system.

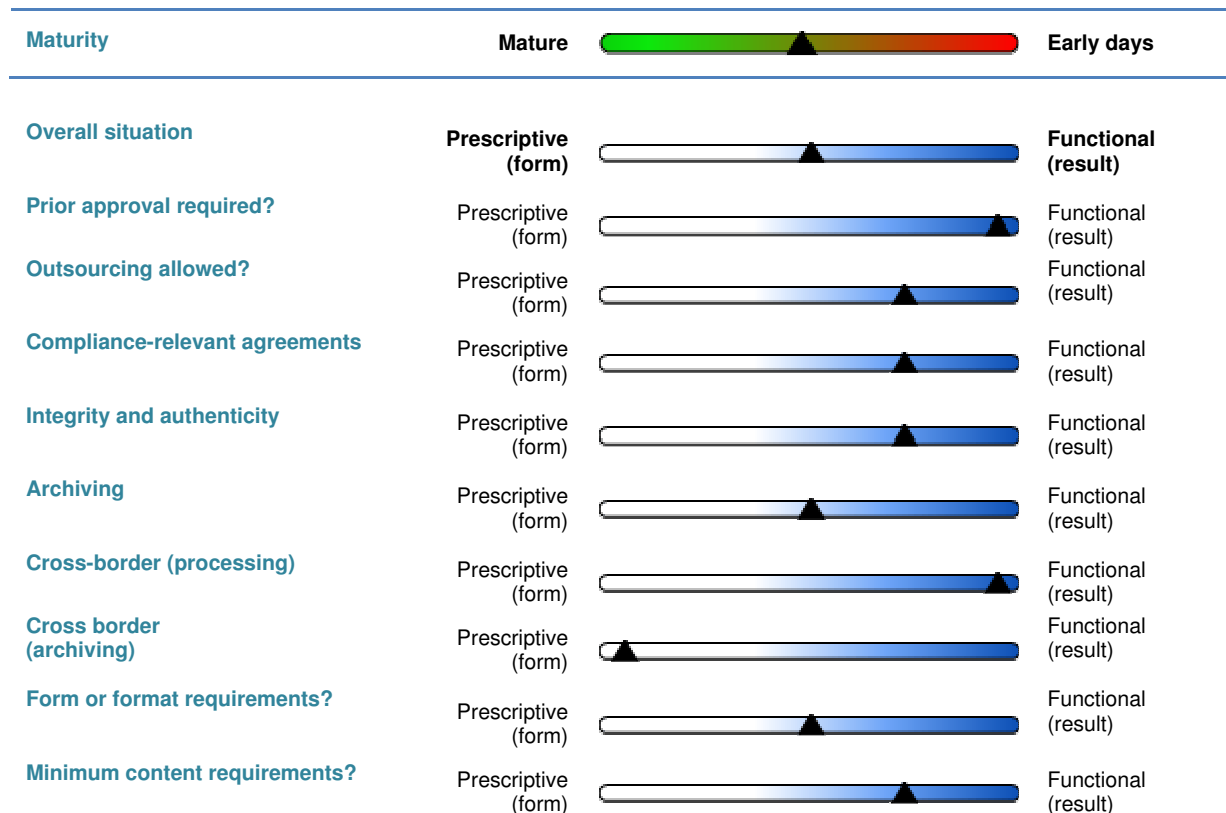
3. Other country-specific requirements

Many countries have additional requirements based on explicit laws, published tax authority guidance or expectations based on pre-existing EDI practices. In France, for example, a partner file must be directly populated from the invoicing system with specific details of each invoicing partner.

¹³ In some of these countries, the summary statement may be in electronic format.

2010/2013 Directive regime: expectations

General evaluation



Changes to integrity and authenticity requirements

As of 1 January 2013, and in some Member States before that date, companies will have more choices as to how they prove the authenticity and integrity of electronic invoices. All options that are set out in section 9 will then be available for companies trading in the EU.

An electronic invoice will be defined as an invoice that is issued and received in electronic format. Proof of integrity and authenticity of an invoice (paper or electronic) must be available from the issuance of the invoice until the end of the archiving period. Invoices must also remain legible during that time. The new Directive makes a clearer distinction, and creates an explicit hierarchy, between (1) the requirements on the invoice as a discrete object and (2) the objective of those requirements (verifying that a supply actually took place). It is now clearly established that an invoice is de facto compliant if a taxable person can prove an actual transaction “through business controls establishing a reliable audit trail between an invoice and a supply”. In addition to giving companies this option, which by definition requires a tax auditor to judge an invoice on the basis of combined historical records about the underlying sales or purchase transaction, the Directive maintains the legal certainty awarded to two technical methods for ensuring integrity and authenticity of electronic invoices: (a) advanced electronic signatures or (b) contract-based secure EDI.

Member States continue to have the ability to require the information used to prove integrity and authenticity of electronic invoices also to be stored electronically; this option takes on more importance now that methods are available to prove the veracity of an invoice on the basis of additional transaction records proving a supply; such additional records would then also have to be electronically stored and accessible for tax audit.

The requirement for a supplier to obtain the buyer's prior acceptance of electronic invoicing remains in the Directive. For the avoidance of doubt, all VAT-able invoices, whether zero rated or not, are governed by the invoicing requirements of the 2010/2013 Directive.

The Commission's original proposal to delete Article 233 (on integrity and authenticity of electronic invoices) in its entirety has not been followed by the Member States. However, the concept of "equal treatment" has found sufficient resonance to be the starting point and one of the key principles of the new Directive. The new Directive maintains explicit requirements for the integrity, authenticity and legibility of invoices to be maintained whether they are on paper or electronic. This extension of explicit integrity and authenticity requirements to include paper invoices means that 'equal treatment' has been introduced as a legal concept. This clearly diverges from the more political concept of equal treatment as a way to play down the importance of integrity and authenticity of e-invoices on the argument that these features are in practice not relevant for paper invoices. The legal equal treatment concept, according to which both types of invoices should be free from mandatory form or method requirements, is now firmly codified: from 2013, businesses can no longer be forced to deploy any specific technology or process in relation to e-invoicing. This rule, which does away with the 'form over substance' mentality introduced with the 2001 Invoicing Directive, is reinforced by another new rule: if a taxable person can prove, through business controls establishing a reliable audit trail between an invoice and a supply, it follows logically that the invoice complies with the integrity, authenticity and legibility requirements. This 'substance over form' principle, which is also one of the principal topics of the associated Recitals of the new Directive, clearly articulates the objective of an invoice: it is there to prove an actual supply and therefore its intrinsic qualities as a document become unimportant if an actual supply is otherwise credibly demonstrated.

The two methods (advanced or qualified electronic signatures and secure, contract-based EDI) that since 2004 have benefited from a presumption of guaranteeing integrity and authenticity of an electronic invoice continue to do so. To avoid any misunderstanding as to the level at which these control methods intervene, the Recitals to the new Directive clarify that they cannot by themselves prove that an actual supply took place. In other words, an invoice that is exchanged using such controls can be presumed to be intact and come from an identified issuer, but it can never by itself prove an actual supply. This, naturally, is the case with all invoices when viewed as standalone documents and the reason why tax administrations can audit businesses.

We will not know for some time how Member States will transpose the novelties introduced with the new Directive. By their very nature, because they were introduced in response to calls for greater flexibility, the new ways to prove integrity and authenticity of an invoice ("any means chosen by the trading parties" or "business controls establishing a reliable audit trail") are open-ended; whether or not they are fulfilled depends on a business's individual circumstances. This means that the tax auditor will, for businesses that choose to avail themselves of these options, become a more central figure in confirming the day-to-day trust that is needed in the triangular relationship between trading partners and tax administrations for the ongoing process of VAT to function smoothly. Naturally, such broad tax verifications of a business's records and processes could always and can continue to be performed to establish the veracity of historical supplies under all compliance options; not even the most secure invoice in the world can conclusively prove an actual supply – the big difference is that under the "reliable audit trail" option such audits become the principal platform for ascertaining the validity of invoices without any reliance on proof stemming from intrinsic qualities of the invoice as an object. This greater openness of the law also means that the divergences among

Member States in their audit legislation and practices becomes a greater challenge for companies seeking to build a single approach to compliant e-invoicing across the EU.

It is possible that the Commission Regulation or individual Member States will provide more specific guidance on what documents or audit trail information businesses must retain to use the “reliable audit trail” option. Such definitions would however risk creating another category of specific technical control definitions, which, while enhancing predictability, would reduce the flexibility and freedom of evidence that proponents of these options have sought.

The Directive also contains clearer rules on an issue that has long been controversial in relation to intra-Community e-invoicing: is the validity of the invoice governed by the country of the supplier or the buyer? The main rule is that invoicing is governed by the rules applying in the Member State in which the supply of goods or services is deemed to be made (country of supply according to Section V of the 2006 VAT Directive). A number of exceptions to this rule apply. Does this mean that only the supplier in an intra-Community supply of goods needs to worry about the validity of an invoice according to its own local standards, and the buyer can stop worrying about compliance under its VAT law? Legally speaking, the tax administration in the receiving Member State may not apply its own rules to determine that the invoice meets the integrity and authenticity requirements; however, since the right of VAT deduction is in the country of receipt, the tax administration will have a natural interest in ascertaining that the invoice is real. This means that the tax administration will need to establish whether the invoice met the integrity and authenticity requirements in the country of the supply. This has been a challenge for the pre-existing compliance methods; one can only speculate about the practicalities involved in establishing country-of-supply compliance for the less defined and standardized “reliable audit trail” option.

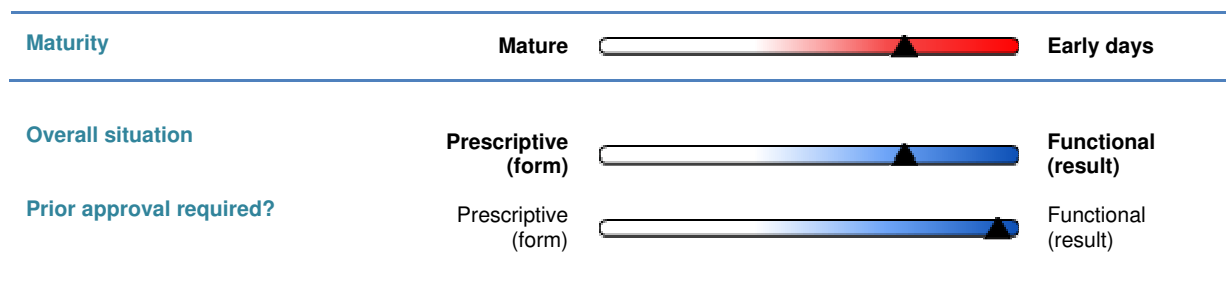
Good practice definitions in the EU

The European standards organization CEN has since 2001 worked on a variety of technical and self-regulatory standards for e-invoicing. This work has in recent years increasingly attracted participation from tax administrations.









One significant output of the Phase II of the CEN e-invoicing workshop is the CEN e-Invoicing Compliance Guidelines¹⁴. These guidelines (which thanks to overlapping membership of tax administrations on both project groups have been synchronized with Fiscalis guidance materials on the subject of audit of electronic invoices) are based on a common end-to-end e-invoicing process model, whereby each step is further analyzed in terms of principal risks, requirements and control options. The guidelines can be used by users and services providers as a basis for self-assessment of the control framework in place to ensure tax compliance of their e-invoicing process.

The CEN Guidelines contain references to many other (EU and global) technical and process standards of relevance to e-invoicing implementers.

Austria














¹⁴ <http://www.e-invoice-gateway.net/knowledgebase/eInvoiceBestPractice/>

Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- Austria accepts advanced electronic signatures and “proper EDI” with an interchange agreement based on the European Commission 1994 Recommendation.
- Signatures can be automated and created by a legal person.

Belgium

Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)












Highlights:

- The law has been changed as of 1 January 2010 so that it requires guarantees of the integrity and the authenticity of the e-invoice, but without any specification of

technical means. The tax administration has stated that, in the absence of verifiable invoices, it will audit additional records such as purchase orders and delivery notes to check supplies.

- A number of specific requirements apply for archiving.

Germany











Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- Germany accepts qualified electronic signatures and “proper EDI” with an interchange agreement based on the European Commission 1994 Recommendation (the mandatory use of summary statements was dropped from the German legislation in 2009). Germany has a reputation to be highly formalistic in its approach to VAT compliance; on the other hand, rules are clear and comprehensive which makes compliance relatively straightforward.
- Signatures can be automated under specific conditions (e.g. implementation of an explicit time- or volume window for re-entering PIN codes to activate private keys), in which case what-you-see-is-what-you-sign requirements are waived, and qualified certificates may only be issued to natural persons.
- Specific rules apply for logging the validation of electronic signatures by recipients.
- Extensive archiving rules are in force. Interpretations of corporate income tax/accounting law exist under which original invoices must in principle be stored in Germany.

France









Maturity	Mature		Early days
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Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- France accepts advanced electronic signatures and “proper EDI” with an interchange agreement based on the European Commission 1994 Recommendation as well as summary statements and “partner file” requirements.
- Signatures can be automated and created by a legal person.
- The “mandate” for outsourcing issuance of an invoice is subject to content requirements.
- Under specific conditions (WORM device or electronic signature) a supplier can archive an electronic copy of paper invoices issued to customers.
- Outsourcing issuance of an e-invoice to a service provider not established in the EU is subject to specific constraints.

Netherlands












Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)

Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- Removed the need for consultation with the tax administration prior to implementing means of ensuring integrity and authenticity other than secure EDI and e-signatures.
- Integrity and authenticity remain as a precondition for e-invoicing.


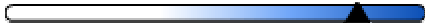
Finland










Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
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Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- Finland in practice accepts any e-invoicing process that meets reasonable business requirements. The Finnish tax authorities use means extraneous to the processes of taxable persons to monitor transaction flows.
- Requirements for storage exist, and the use of WORM devices has often been recommended to ensure robustness.

Sweden











Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)

Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- The Invoicing Directive did not trigger any inclusion in Swedish law of specific integrity and authenticity requirements for electronic invoicing. Existing rules concerning accounting material were deemed sufficient and applied equally to electronic invoices. Under these pre-existing rules, accounting material must be correct and unchanged so that it can be verified for accounting purposes.
- For storage a clarification was made in the law, stating that the information of invoices that are stored electronically must be unchanged and legible during the storage period.

Denmark

Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)

Minimum content requirements?

Prescriptive
(form)



Functional
(result)

Highlights:

- As of 1 January 2010 the Danish VAT law has been changed to liberalize the e-invoicing requirements for domestic invoices.
- Requirements for integrity and authenticity, to be achieved by advanced e-signatures, EDI-process or other secure means (if receiving country agrees), from now on only apply to invoices to other countries.
- The storage requirements remain the same for all invoices: the invoice must be stored in its original form and format, with integrity and authenticity protection as well protection against loss or destruction, and Danish accounting law requires the accounting material to be stored in Denmark or another Nordic country.

United Kingdom

Maturity	Mature	Early days
Overall situation	Prescriptive (form)	Functional (result)
Prior approval required?	Prescriptive (form)	Functional (result)
Outsourcing allowed?	Prescriptive (form)	Functional (result)
Compliance-relevant agreements	Prescriptive (form)	Functional (result)
Integrity and authenticity	Prescriptive (form)	Functional (result)
Archiving	Prescriptive (form)	Functional (result)
Cross-border (processing)	Prescriptive (form)	Functional (result)
Cross border (archiving)	Prescriptive (form)	Functional (result)
Form or format requirements?	Prescriptive (form)	Functional (result)
Minimum content requirements?	Prescriptive (form)	Functional (result)

Highlights:

- The UK accept advanced electronic signatures, “proper EDI” with an interchange agreement based on the European Commission 1994 Recommendation, as well as “other means”.
- Signatures can be automated and created by a legal person.
- Privacy-specific requirements in relation to archiving must be separately considered.
- Parallel electronic and paper flows are only allowed for a defined testing period.

Ireland

Maturity	Mature	Early days
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Overall situation	Prescriptive (form)	Functional (result)
Prior approval required?	Prescriptive (form)	Functional (result)
Outsourcing allowed?	Prescriptive (form)	Functional (result)
Compliance-relevant agreements	Prescriptive (form)	Functional (result)
Integrity and authenticity	Prescriptive (form)	Functional (result)
Archiving	Prescriptive (form)	Functional (result)
Cross-border (processing)	Prescriptive (form)	Functional (result)
Cross border (archiving)	Prescriptive (form)	Functional (result)
Form or format requirements?	Prescriptive (form)	Functional (result)
Minimum content requirements?	Prescriptive (form)	Functional (result)

Highlights:

- Ireland accepts advanced electronic signatures, “proper EDI” with an interchange agreement based on the European Commission 1994 Recommendation, as well as “other means”.
- Signatures can be automated and created by a legal person.












Spain

Maturity	Mature	Early days
Overall situation	Prescriptive (form)	Functional (result)
Prior approval required?	Prescriptive (form)	Functional (result)
Outsourcing allowed?	Prescriptive (form)	Functional (result)
Compliance-relevant agreements	Prescriptive (form)	Functional (result)
Integrity and authenticity	Prescriptive (form)	Functional (result)
Archiving	Prescriptive (form)	Functional (result)
Cross-border (processing)	Prescriptive (form)	Functional (result)
Cross border (archiving)	Prescriptive (form)	Functional (result)
Form or format requirements?	Prescriptive (form)	Functional (result)
Minimum content requirements?	Prescriptive (form)	Functional (result)

Highlights:

- Spain formally accepts “proper EDI” with an interchange agreement based on the European Commission 1994 Recommendation, but in practice most e-invoices are signed with a “recognized signature” which in practice is a qualified electronic signature (but a Secure Signature Creation Device may be implemented in software only). The signing certificate must be issued by a recognized CA and must contain the holder’s VAT number.
- Signatures can be automated but must be created by a natural person.



Portugal










Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- Portugal accepts advanced electronic signatures and “proper EDI” with an interchange agreement based on the European Commission 1994 Recommendation.
- Signatures can be automated and created by a legal person.
- Electronic invoices must be capable of being presented in the Portuguese SAF-T format.
- From 2011 e-billing software used for invoicing individuals and that is not developed in-house will need to be certified by Portuguese authorities.

Italy











Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)

Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- Italy accepts qualified electronic signatures and “proper EDI” with an interchange agreement based on the European Commission 1994 Recommendation.
- The EDI option is not widely practiced in Italy.
- Signatures can be automated but must be created by a natural person.
- An additional pre-archival process must be implemented whereby invoices are time-stamped in accordance with Italian law and re-signed with a qualified electronic signature within 15 days upon issuance or receipt.
- Using a service provider not established in the EU is prohibited for suppliers that do not have a clean VAT record for at least five years.

Romania

Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)












Minimum content requirements?



Highlights:

- The Romanian transposition of the VAT Directive accepts only qualified electronic signatures. Legal changes are under review but not yet adopted.
- Specific system approval requirements apply (for processing and archiving) and users are entered into a national register.
- Signatures can be automated but must be created by a natural person.
- Formally recipients must acknowledge receipt of an invoice with a signed message.






Bulgaria







Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- Bulgaria accepts only qualified electronic signatures.
- Signatures can be automated but must be created by a natural person.
- Formally recipients must acknowledge receipt of an invoice.

Poland











Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive		Functional

	(form)	(result)
Integrity and authenticity	Prescriptive (form) 	Functional (result)
Archiving	Prescriptive (form) 	Functional (result)
Cross-border (processing)	Prescriptive (form) 	Functional (result)
Cross border (archiving)	Prescriptive (form) 	Functional (result)
Form or format requirements?	Prescriptive (form) 	Functional (result)
Minimum content requirements?	Prescriptive (form) 	Functional (result)

Highlights:

- Poland accepts qualified electronic signatures and “proper EDI” with an interchange agreement based on the European Commission 1994 Recommendation.
- Signatures can be automated, subject to certain conditions being fulfilled (in which case what-you-see-is-what-you-sign requirements are waived), but must be created by a natural person.
- Jurisprudence and tax authority rulings on individual requests play an important role in day-to-day interpretation of requirements.

Lithuania





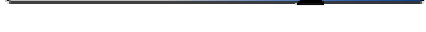






Maturity	Mature	Early days
Overall situation	Prescriptive (form) 	Functional (result)
Prior approval required?	Prescriptive (form) 	Functional (result)
Outsourcing allowed?	Prescriptive (form) 	Functional (result)
Compliance-relevant agreements	Prescriptive (form) 	Functional (result)
Integrity and authenticity	Prescriptive (form) 	Functional (result)
Archiving	Prescriptive (form) 	Functional (result)
Cross-border (processing)	Prescriptive (form) 	Functional (result)
Cross border (archiving)	Prescriptive (form) 	Functional (result)
Form or format requirements?	Prescriptive (form) 	Functional (result)
Minimum content requirements?	Prescriptive (form) 	Functional (result)

Highlights:

- Lithuania accepts qualified electronic signatures and “proper EDI” with an interchange agreement based on the European Commission 1994 Recommendation as long as the invoice format is EDIFACT.

- Signatures can be automated but must be created by a natural person.
- Service providers not established in an EU Member State must comply with additional requirements to be used by Lithuanian taxable persons.
- Time-stamping is required.







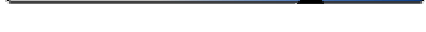

Latvia




Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- Latvia accepts qualified electronic signatures or, subject to prior agreement between the parties, advanced electronic signatures. “Proper EDI” with an interchange agreement based on the European Commission 1994 Recommendation is also accepted.
- Signatures can be automated but must be created by a natural person.

Estonia











Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive		Functional

	(form)	(result)
Cross border (archiving)	Prescriptive (form) 	Functional (result)
Form or format requirements?	Prescriptive (form) 	Functional (result)
Minimum content requirements?	Prescriptive (form) 	Functional (result)

Highlights:

- Estonia accepts any electronic invoice that is processed and stored in accordance with good business practice.












Czech Republic

Maturity	Mature	Early days
Overall situation	Prescriptive (form) 	Functional (result)
Prior approval required?	Prescriptive (form) 	Functional (result)
Outsourcing allowed?	Prescriptive (form) 	Functional (result)
Compliance-relevant agreements	Prescriptive (form) 	Functional (result)
Integrity and authenticity	Prescriptive (form) 	Functional (result)
Archiving	Prescriptive (form) 	Functional (result)
Cross-border (processing)	Prescriptive (form) 	Functional (result)
Cross border (archiving)	Prescriptive (form) 	Functional (result)
Form or format requirements?	Prescriptive (form) 	Functional (result)
Minimum content requirements?	Prescriptive (form) 	Functional (result)

Highlights:

- The Czech Republic accepts qualified electronic signatures (certificate issued to a natural person; signing cannot be automated) or qualified electronic “stamps” (certificate issued to a legal person; signature automation allowed). “Proper EDI” with an interchange agreement based on the European Commission 1994 Recommendation is also allowed as long as the invoice format is EDIFACT.
- There has been a change in the regulatory requirement on algorithms for encrypting electronic signatures. From 1 January 2010 onwards certificates must support SHA-2 algorithms. The minimum length of the cryptographic key for RSA algorithm is required to be 2048 bits. *NB: Certificates issued before 1 January 2010 remain valid until expiry.*
- Time-stamping is viewed as quasi-mandatory.










Slovak Republic



Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- Slovakia only accepts qualified electronic signatures.
- Signatures can be automated but must be created by a natural person.
- Time-stamping required.

Luxembourg












Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)

Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- Luxembourg accepts advanced electronic signatures and “proper EDI” with an interchange agreement based on the European Commission 1994 Recommendation.
- Signatures can be automated and can be created by legal persons.

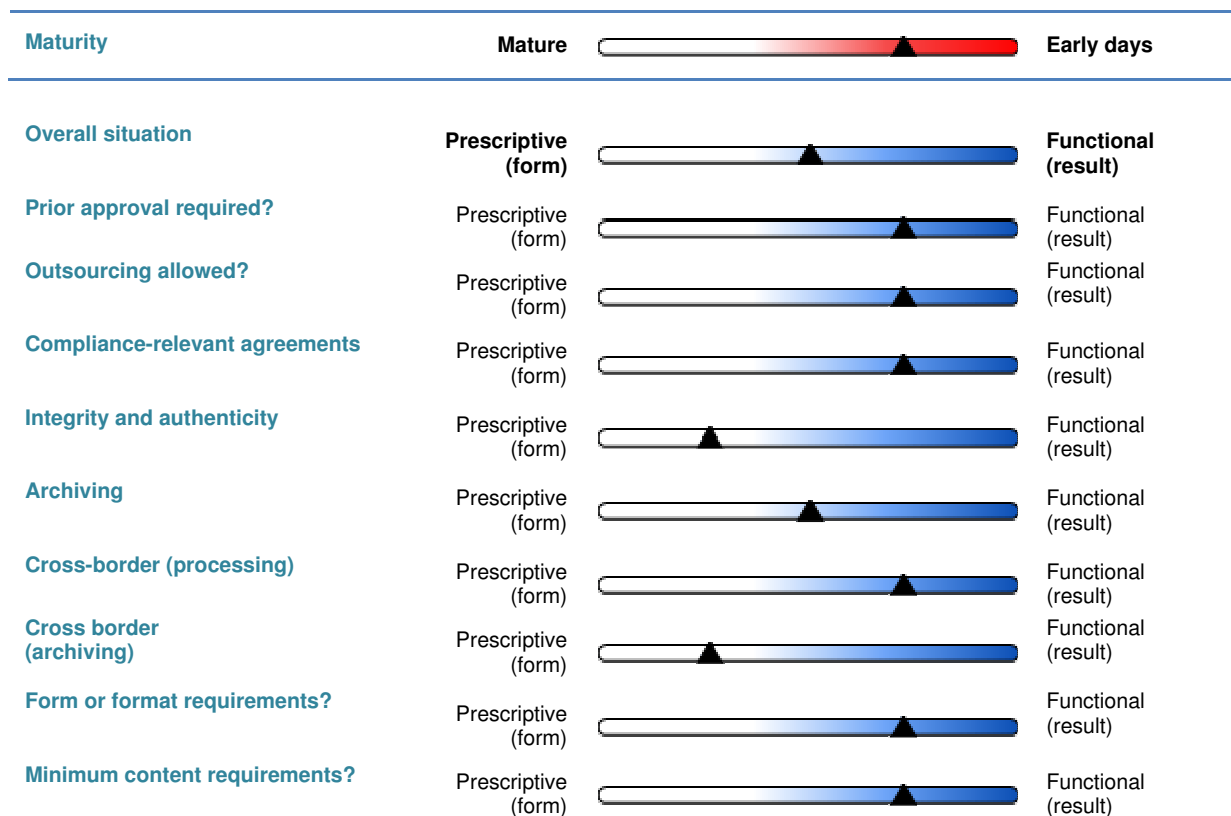
Greece

Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- As of 2010 profound amendments to Greek tax system have been introduced. However, the new rules have not amended the regulation providing for e-invoicing as per the requirements of EU secondary legislation; a qualified electronic signature is accepted.
- The new provisions include numerous provisions related to the use of electronic means, while satisfying local tax obligations, for example
 - Certain tax records data shall be electronically forwarded to a special database Greek Ministry of Finance (MoF);
 - all tax returns of entrepreneurs shall be filed electronically;
 - all entrepreneurs are entitled to maintain their tax records in an accepted electronic form; and
 - each accountant shall obtain from the MoF a digital signature, which is obligatorily used in his/her electronic communications with tax authorities.

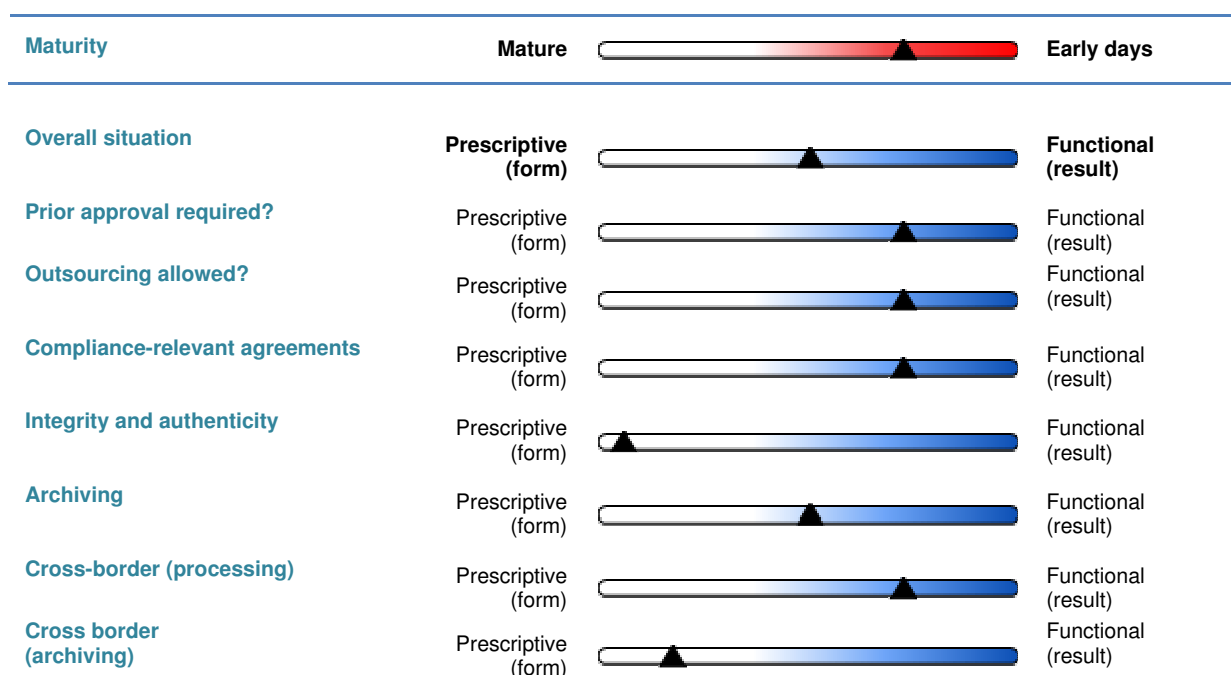
Cyprus



Highlights:

- Cyprus accepts advanced electronic signatures and “proper EDI” with an interchange agreement based on the European Commission 1994 Recommendation. “Other means” are accepted for domestic transactions subject to prior approval by the Commissioner of VAT.
- Signatures can be automated and can be created by legal persons.

Hungary



Form or format requirements?

Prescriptive
(form)



Functional
(result)

Minimum content requirements?

Prescriptive
(form)













Functional
(result)

Highlights:

- Hungary accepts qualified electronic signatures and “proper EDI” with an interchange agreement based on the European Commission 1994 Recommendation (with mandatory summary statement).
- ETSI-compliant time-stamping is required.
- There are requirements for e-invoices to be capable of being presented in one of a number of prescribed formats.
- Signatures can be automated and can be created by legal persons.

Slovenia


Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- Slovenia accepts only digitally signed electronic invoices. A “certified certificate” is mandatory.

E-invoicing in other European countries












Russian Federation

Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)	As yet unknown, awaiting implementing legislation	Functional (result)

Outsourcing allowed?	Prescriptive (form)	As yet unknown, awaiting implementing legislation	Functional (result)
Compliance-relevant agreements	Prescriptive (form)	As yet unknown, awaiting implementing legislation	Functional (result)
Integrity and authenticity	Prescriptive (form)	As yet unknown, awaiting implementing legislation	Functional (result)
Archiving	Prescriptive (form)	As yet unknown, awaiting implementing legislation	Functional (result)
Cross-border (processing)	Prescriptive (form)	As yet unknown, awaiting implementing legislation	Functional (result)
Cross border (archiving)	Prescriptive (form)	As yet unknown, awaiting implementing legislation	Functional (result)
Form or format requirements?	Prescriptive (form)	As yet unknown, awaiting implementing legislation	Functional (result)
Minimum content requirements?	Prescriptive (form)	As yet unknown, awaiting implementing legislation	Functional (result)

- Companies may keep accounting and other commercial documents in electronic form, but for counterparties and local authorities the documents must be provided in documentary form.
- Certain amendments were adopted in July 2010, further opening up for electronic invoicing. Follow-up guidance is still required for proper implementation and a number of government acts are expected to be issued during the remaining part of 2010.

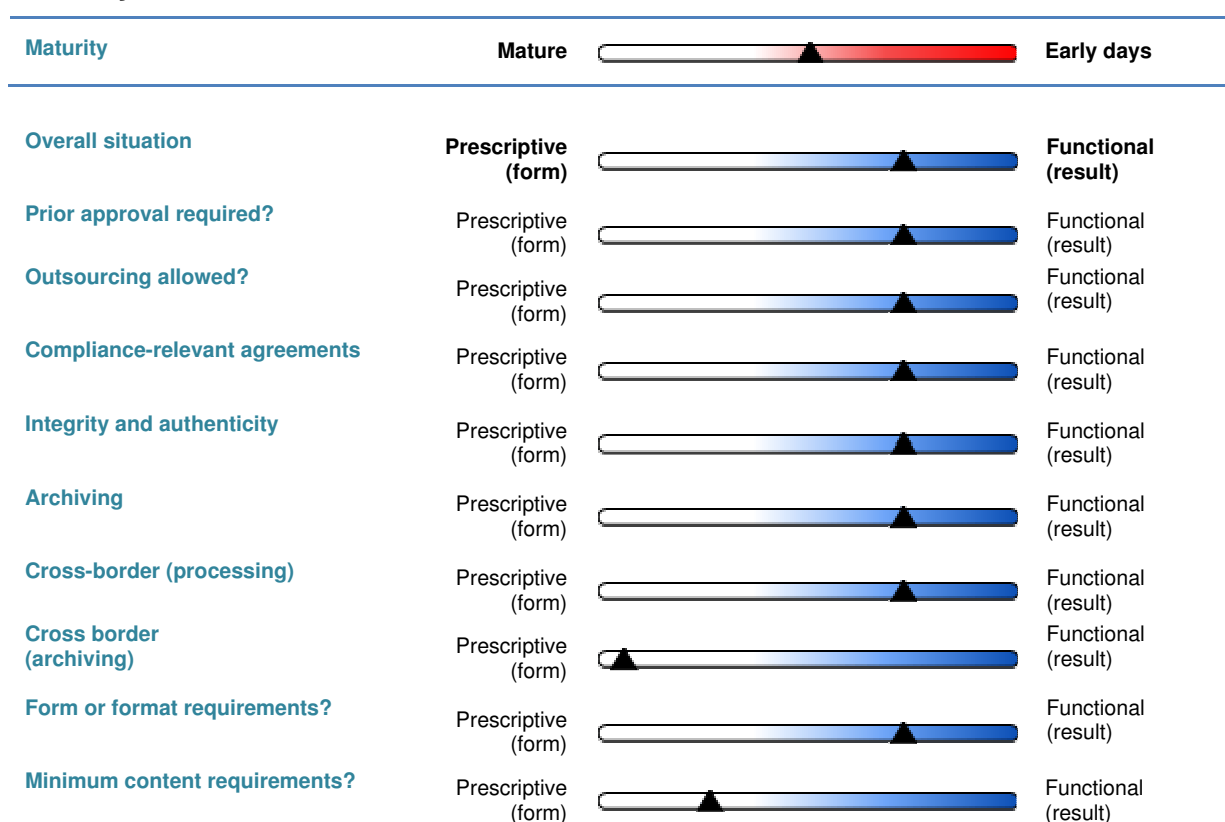
Switzerland

Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- Switzerland accepts only advanced electronic signatures (in Switzerland this is commonly viewed as nevertheless requiring a hardware signature creation device, usually a smart card). Certificates may only be issued by approved Certification Authorities.
- Any third party issuer must be registered in the company registry in Switzerland.
- Since 2010, PDF invoices are also formally accepted.
- Since 2010, the validation of signatures by the recipient no longer needs to be logged.
- Both outsourcing of invoice issuance and of certain receipt functions – in particular signature validation – are subject to an explicit agreement.
- When converting received data into another format on the receiving side (the customer is moving the signed invoice data to in-house format in its EAI/ERP systems), both the signed invoice data and the ERP version of the data must be stored and recorded with the same index.

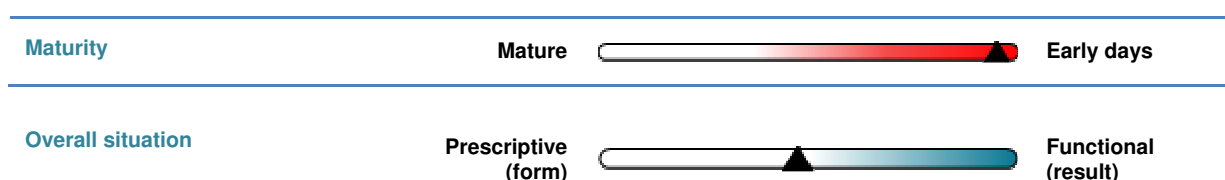
Norway












Highlights:

- Accounting material, including invoices, should be kept in a way that protects against unlawful change or loss. Storage of accounting material should be ensured against destruction, loss or change. It is further required that the material can be presented to a state authority during the full storage period in a form that allows for subsequent control, and that it can be printed.
- It is not allowed to store invoices abroad; derogations can however be requested.

Serbia














Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- Serbia has no explicit regulatory framework allowing e-invoicing for VAT purposes, but the law on accounting and audit in conjunction with the law on electronic documents makes it possible to issue valid electronic invoices with qualified electronic signatures.
- A foreign CA may be used if registered with the relevant Serbian authorities.
- A service provider may be used upon notification of certain detailed by the taxable person to the tax administration.


Montenegro

Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:







- Montenegro has no explicit regulatory framework allowing e-invoicing for VAT purposes, but it is also not prohibited.
- By application of various other laws, a qualified electronic signature is required for legal recognition of electronic documents.

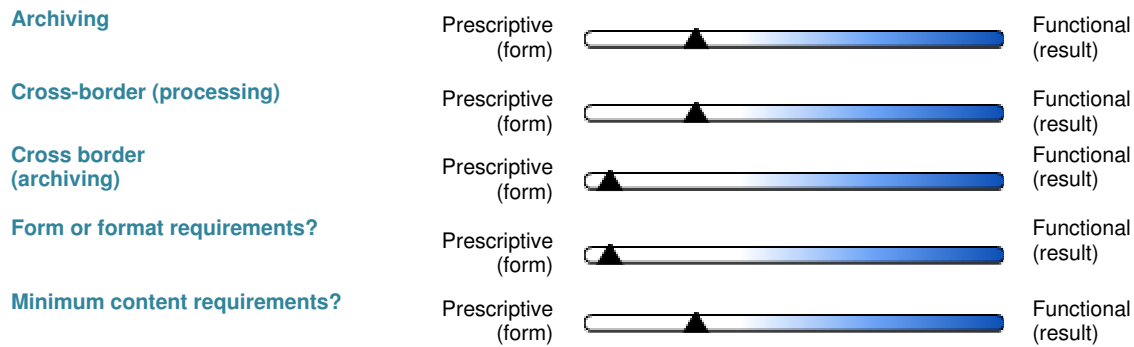
Ukraine

Maturity	Mature		Early days
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Legal electronic invoicing is currently not possible in Ukraine.

Turkey

Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)

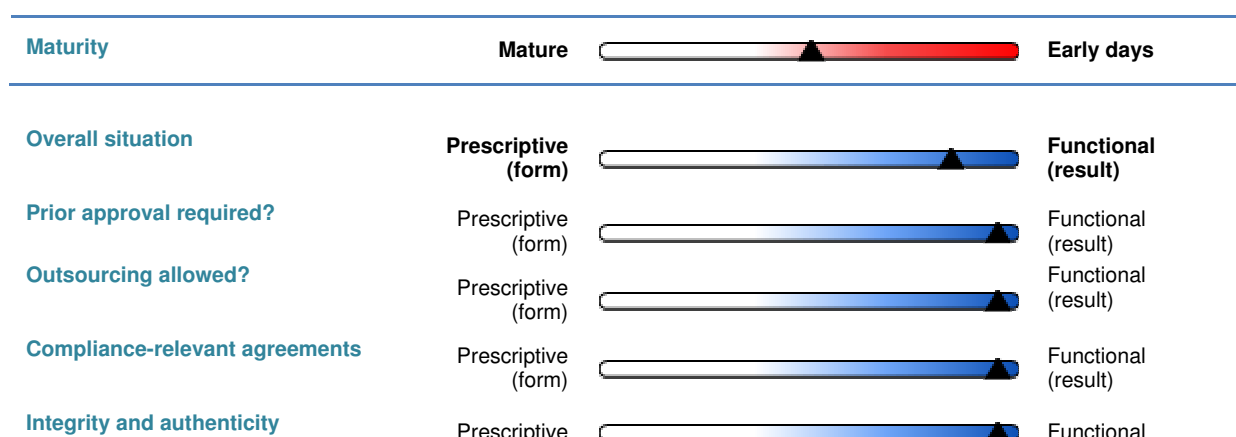


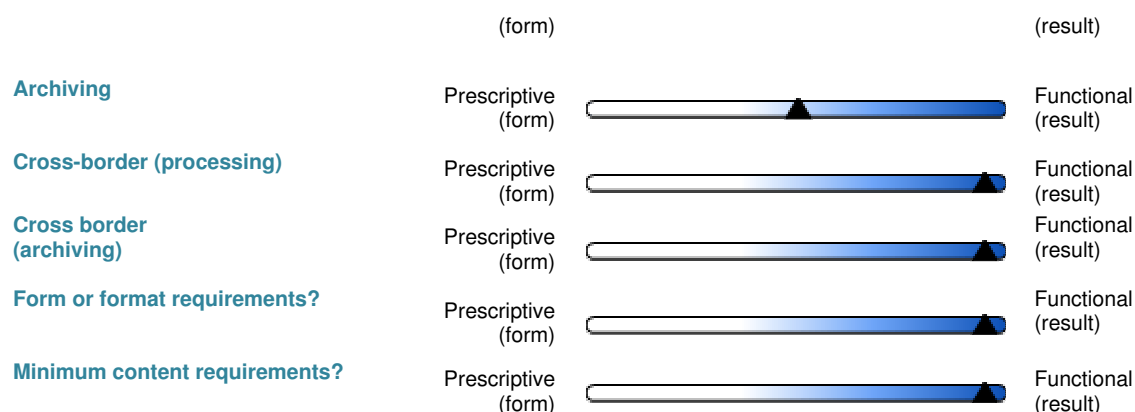
- E-invoicing is permitted for certain categories of companies provided they are registered with the e-Invoice Recording System (EFKS) of the Directorate of Revenue Administration of the Ministry of Finance.
- E-invoices must be signed with an “e-seal”, which is digital certificate issued by a state-approved CA.
- The company can either use the official website for sending and storing the e-invoices or establish a qualified and compatible software system on the company’s own servers, integrated with the EFKS.
- The framework in Turkey does not yet allow outsourcing to service providers, which means that third parties cannot sign or store invoices on behalf of the companies. The regulations are however still under development and changes can be expected.

E-invoicing in North America



USA

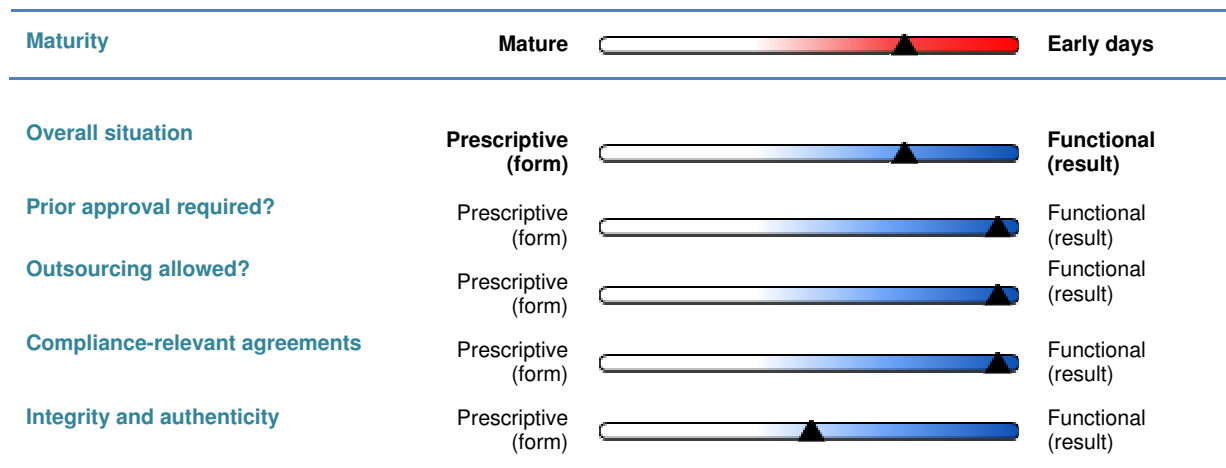









Highlights:

- The sales tax levied in the US operates differently from VAT in that invoices between businesses are not taxed. Instead, the end of the production chain – the final transaction with the consumer – is subject to a tax rate that is often composed of percentages imposed by state, city, county and other administrative bodies. Enforcement of this tax does not revolve around B2B invoices, which explains why the level of e-invoicing requirements for e-invoicing between companies in the US is lower than that in countries with VAT.
- The US approach to tax recognition of electronic business documents places less emphasis on the transaction and more on record retention. The Internal Revenue Service (IRS) has published very explicit federal requirements for taxpayers that only keep records in electronic format¹⁵. In addition to requirements for companies to define an inspection and quality assurance program evidenced by regular evaluations, specific requirements apply for the archive.
- Another area of US regulation that affects e-invoicing is the Sarbanes-Oxley Act, which, in general, requires companies to ensure high levels of control. The security of important business information is a key enabler of such controls, and electronic signatures are among the techniques that can be used to facilitate SOX audits.
- The basic electronic commerce and electronic signature rules in the US to a large extent follow from the E-Sign Act (Electronic Signatures in Global and National Commerce Act, 2000) and UETA (the Uniform Electronic Transactions Act, 1999). Neither of these instruments is technology specific.

Canada



¹⁵ Revenue Procedure 97-22, 1997-1 CB 652, March 13, 1997






Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

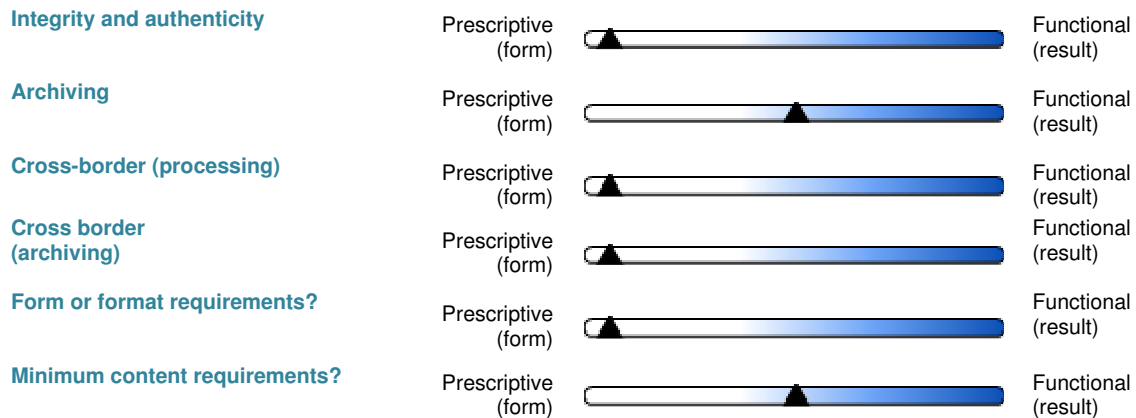
Highlights:

The Canada Revenue Agency (CRA) has issued a series of circulars on electronic transactions and records for income tax purposes. These rules also apply to e-invoices.

- The relevant processes prior to storage must ensure adequate controls to safeguard the accuracy, security and integrity of the data processed and kept in the system. These include access controls, input and output controls, processing controls and controls to log specific details of changes to records.
- Documentation must be available that describes the relevant operating and business systems, including how transactions are processed and records kept and managed.
- Audit trails must be available during the storage period including electronic signatures and results from other security measures for the end-to-end process. Such audit trails should include relevant references to front-end systems, inventories, receipts and payments.
- Records should be kept in a manner that ensures accessibility, security, accuracy, integrity, authenticity and reliability. Conversion of electronically kept records is permitted as long as these objectives are met.
- Records should be based on non-proprietary, commonly used data interchange standards and readable with CRA audit software.
- Back-up records are to be maintained at all times. It is considered good practice to keep back-ups at a location other than the business location for security and precautionary purpose. When the back-ups are used as a method of record retention, specific procedures must be put in place to ensure compliance with CRA record retention rules.
- Storage abroad is prohibited without derogation from the CRA.

Mexico

Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)



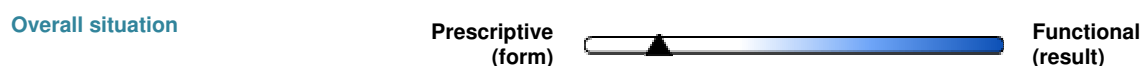
Highlights:










- E-signature required; the certificate used for signing must be obtained by a government-accredited Certification Authority.
- Currently applicable requirements (CFDv2) include a mandatory XML format, signature format and “folio” verification based on detailed rules. This regime will be phased out starting 1 January 2011 and be replaced by “CFD-L”, which will place emphasis on real-time reporting of electronic invoices.
- In case of outsourcing, the service provider has to be a Mexican legal entity, the processing activities have to take place in Mexico and the data center must be physically located in Mexico
-

E-invoicing in South America



Brazil







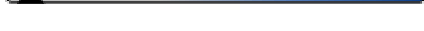






Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- E-signature required; the certificate used for signing must be obtained by a government accredited Certification Authority.
- NF-e (Nota Fatura-e) must be in government-specified XML format.
- Ministry of Finance makes a pre-validation of the file and return a receipt protocol.
- No specific regulation on outsourcing, but it is possible to use a service provider.
- Invoices must be processed and archived in Brazil.

Chile

Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- A “closed system” for e-invoicing has been set up by the Chilean tax authorities (SII) which allows no exception.
- Use of electronic signatures based on certificates issued by Certification Authorities under a nationally controlled root.
- Tax authority issue invoice numbering blocks that must be used and verified online by the buyer upon receipt.
- Small companies can use software developed by SII; other solutions developed in cooperation with the SII are available.
- Processing and storage must be on Chilean soil.

E-invoicing in Asia










Japan

Maturity **Mature**  **Early days**

Japan is a notable exception among economically strong Asian countries in that paperless invoicing is not permitted without explicit approval from the tax authorities.

Malaysia

Maturity **Mature**  **Early days**

Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)

Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- E-invoicing is allowed provided a permission from the tax authorities is obtained.
- There are no technical requirements on the e-invoicing system, security etc.
- Outsourcing of e-invoice issuing to a third party service provider is not permitted.

Singapore

<div>Maturity</div> <div> <div>Mature</div> <div></div> <div>Early days</div> </div>			
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- The rules published by the Inland Revenue Authority of Singapore in “Keeping Machine-Sensible Records And Electronic Invoicing” mainly focus on the storage aspects and general controls within companies.
- Electronic signatures are mentioned as a possible (but not mandatory) mechanism for ensuring adequate controls.

South Korea

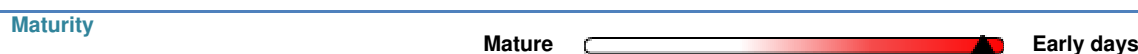
<div>Maturity</div> <div> <div>Mature</div> <div></div> <div>Early days</div> </div>			
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Overall situation	Prescriptive (form)	Functional (result)
Prior approval required?	Prescriptive (form)	Functional (result)
Outsourcing allowed?	Prescriptive (form)	Functional (result)
Compliance-relevant agreements	Prescriptive (form)	Functional (result)
Integrity and authenticity	Prescriptive (form)	Functional (result)
Archiving	Prescriptive (form)	Functional (result)
Cross-border (processing)	Prescriptive (form)	Functional (result)
Cross border (archiving)	Prescriptive (form)	Functional (result)
Form or format requirements?	Prescriptive (form)	Functional (result)
Minimum content requirements?	Prescriptive (form)	Functional (result)

Highlights:

- E-invoicing allowed and mandatory from Jan 2010.
- “Standard authentication” from the National IT Industry Promotion Agency (the "NIPA") is needed “for the facilities and system to issue and deliver e-invoices”.
- Registration with the National Tax Services (NTS) is also needed.
- For electronic signatures required in e-invoicing, either (i) a certificate issued by the Public CA or (ii) an e-tax certificate issued by NTS may be used.
- Outsourcing is allowed to a third party who is qualified (approved by the tax authorities) to provide such service under the VAT Act. No restrictions on establishment or nationality apply.

Thailand



Highlight:

- E-invoicing not permitted.
- Preparation and keeping of the tax invoice in electronic form is permitted; however the taxpayer must print, issue and deliver the original tax invoice in paper form or hardcopy to the purchaser.

China



Electronic invoicing in the sense of a private system that creates electronic tax originals of invoices is not permitted in China. The issue and storage of paper invoices remains compulsory (see next section).

Nonetheless, parties are free to exchange invoice data between them without any imposition of specific standards or processes.

While the Chinese government has not yet allowed electronic invoicing for combined business and tax purposes, it has acknowledged the benefits of using information technologies for tax control. This has led to the creation of the Golden Taxation Project (“Golden Tax System”) in 1994. This system is being rolled out gradually. Where the system is in place, its use is mandatory for all VAT-able invoices under Chinese law.

The Golden Tax system is an on-line invoice checking network based on paper invoices. It now links some 4000 tax authorities at and above the county level. It is viewed as a major success since it has significantly decreased tax fraud. Currently the system is in its third rollout phase.

Milestones and Status of Golden Taxation Project

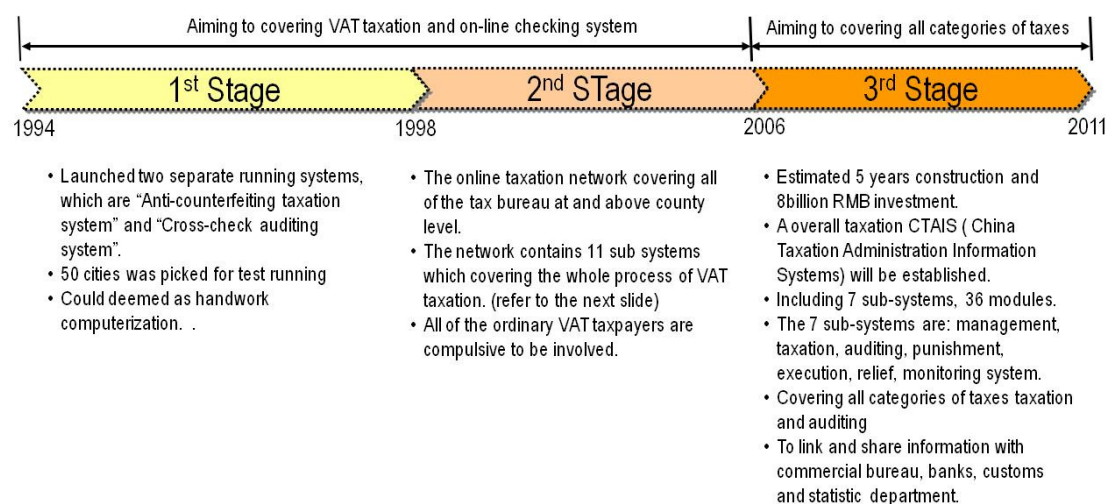


Figure 11: rollout of the Chinese Golden Tax System

The Golden Tax system includes the concept of a controlled printing system such as a tax-control cash register. There are published standards for such hardware, for instance GB18240.1-2003 for the tax-control cash register.

Hong Kong Special Administrative Region

Maturity	Mature	Early days
Overall situation	Prescriptive (form)	Functional (result)
Prior approval required?	Prescriptive (form)	Functional (result)
Outsourcing allowed?	Prescriptive (form)	Functional (result)
Compliance-relevant agreements	Prescriptive (form)	Functional (result)
Integrity and authenticity	Prescriptive (form)	Functional (result)

Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- The rules published by the Inland Revenue Department in “Admissibility of Business Records Kept in Electronic Form for Tax Purposes” (2002) mainly focus on the storage aspects and general controls within companies.
- Integrity and authenticity of the electronic record must be maintained.

Taiwan

Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- E-signature requirements: local certificate required.
- Mandatory formats: the government uniform invoices (GUIs) and the serial numbers for the invoices can only be allocated by the tax office.
- An e-invoicing system must contain controls to ensure that no invoice can have its serial numbers duplicated and that the serial numbers of the GUIs belong to a current VAT return period.
- Outsourcing of issuance to a third party is not prohibited.
- Providers of e-invoice services must be registered with local tax office and have certain qualifications.

United Arab Emirates

Maturity

Mature



Early days

As currently there is no VAT or comparable tax in the UAE, there are no specific requirements for invoices.











Pakistan

Maturity

Mature



Early days

Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- Prior approval of the Collector of Sales Tax is required for e-invoicing.
- Electronic signatures based on certificate from Certification Authority approved by the Certification Council (ECAC) is needed.
- Prior approval from the Federal Board of Revenue is recommended before outsourcing issuance of e-invoices to a foreign service provider.
- In principle, storage must be at the business premises or registered office of the taxable person.




Australia








Maturity

Mature



Early days












Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)

Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- The Australian Taxation Office (ATO) has chosen for a light-touch regulatory approach to electronic invoicing.
- By operation of the general provisions of the Australian 2003 Electronic Transaction Act it is possible for an electronic invoice to be in electronic format subject to the integrity and authenticity of that document being safeguarded.
- The tax authorities require good up-to-date documentation of the e-invoicing system, and, in particular, of the archival system.
- Self-billing is restricted to specific classes of businesses.


New Zealand

Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- Inland Revenue allows electronic invoicing subject to appropriate business processes and systems being used. Integrity and authenticity of e-invoices must be preserved.
- The Electronic Transactions Act contains a presumption of reliability for what would be called advanced electronic signatures in the EU, but there are no hard requirements for electronic signatures or any other specific type of technology or process to be used.
- Self-billing is restricted to specific classes of businesses.











India

Maturity	Mature		Early days
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Electronic invoicing is currently prohibited in India.

Israel

Maturity	Mature		Early days
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Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
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Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- It must be written prominently on the computerized invoice that it is a 'computerized document'.
- The supplier must enter an invoice in its accounting system prior to issuing it to a customer.
- Outsourced issuing by a third party is not known or permitted as a concept, but exemptions to this rule may be provided by the tax administration.

- If the supplier's income is derived in Israel, then the storage of the accounting system including invoices must be in Israel. Idem for the mandatory backups (first week of each quarter of a tax year).

Philippines











Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
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Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

- E-invoicing is permitted.
- There are no requirements on the transaction but rather focus on tax administration authorization to use a Computerized Accounting System (CAS), and this system being accredited and closely monitored by the tax authorities.
- Outsourcing of the CAS is possible; the service provider needs to be accredited by the tax administration.

E-invoicing in Africa














South Africa

Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- Electronic tax invoices must be sent “in encrypted format, over a secure line or contain an electronic signature”.










Morocco

Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)
Form or format requirements?	Prescriptive (form)		Functional (result)
Minimum content requirements?	Prescriptive (form)		Functional (result)

Highlights:

- The general permissiveness is less a reflection of a conscious facilitation strategy than one of lack of maturity of the general situation as regards the use of electronic business.

Tunisia

Maturity	Mature		Early days
Overall situation	Prescriptive (form)		Functional (result)
Prior approval required?	Prescriptive (form)		Functional (result)
Outsourcing allowed?	Prescriptive (form)		Functional (result)
Compliance-relevant agreements	Prescriptive (form)		Functional (result)
Integrity and authenticity	Prescriptive (form)		Functional (result)
Archiving	Prescriptive (form)		Functional (result)
Cross-border (processing)	Prescriptive (form)		Functional (result)
Cross border (archiving)	Prescriptive (form)		Functional (result)

Form or format requirements?

Prescriptive
(form)



Functional
(result)

Minimum content requirements?

Prescriptive
(form)



Functional
(result)

Highlights:

- There is no specific legal framework for e-invoicing but qualified electronic signatures can be accepted as providing equivalence with paper records.
- Foreign service providers may in principle not be used.

Egypt

Maturity

Mature



Early days

Electronic invoicing is currently prohibited in Egypt.

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