



Prepared for the DG Enterprise & Industry

Technology for innovation / ICT industries and E-business

European Commission

ELDOC

*LEGAL STUDY ON
LEGAL AND ADMINISTRATIVE PRACTICES
REGARDING
THE VALIDITY AND MUTUAL RECOGNITION
OF ELECTRONIC DOCUMENTS, WITH A
VIEW TO IDENTIFYING THE EXISTING
LEGAL BARRIERS FOR ENTERPRISES*

D3.6 – Final Report

November 2006



**ENTERPRISE
DIRECTORATE-GENERAL**

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ELDOC Final Report	5
Introduction – The ELDOC Study	5
The Final Report.....	7
Overview.....	7
Report contents.....	7
Chapter I: The international regulatory framework.....	10
1.1. European regulations and initiatives	10
1.1.1. European Directives	11
1.1.2. European standardisation initiatives	18
1.1.3. European projects	23
1.2. International regulations and initiatives	25
1.2.1. International Model laws and regulations.....	26
1.2.2. International Model Contract Clauses	34
1.3. Impact Assessment	38
Chapter II: European National Approaches	41
to Electronic Documents	41
2.1. Introduction – the National Reports.....	41
2.1.1. Scope and contents.....	41
2.1.2. National trends and typologies.....	43
2.2. Validity of eDocuments	46
2.2.1. Autonomy of Will	46
2.2.2. Essential Elements and Offer/Acceptance	47
2.2.3. Formalities and Qualified documents.....	49
2.3. Evidentiary value of documents	52
2.3.1. Enforceability of documents	52
2.3.2. Electronic Signatures and evidentiary value	54
2.3.3. Formalities and Qualified documents.....	55
2.4. Technological Neutrality and Standardisation.....	59
2.4.1. Technological Neutrality as a Market Enabler	59

2.4.2.	Practical examples of Technological Neutrality in Electronic Documents	60
2.4.3.	General assessment	61
Chapter III:	Interoperability of European e-Business processes.....	63
3.1.	Introduction	63
3.2.	Credit arrangements	63
3.2.1.	Conventional arrangements	64
3.2.2.	Regulated credit arrangements.....	66
3.2.3.	Mixed systems	69
3.3.	Transportation and Storage of Goods	70
3.3.1.	Generic storage and transportation contracts.....	71
3.3.2.	Formalistic storage contracts.....	72
3.3.3.	The cross-border context.....	74
3.4.	Customs declarations.....	75
3.4.1.	European customs regulations.....	75
3.4.2.	National regulations.....	76
3.5.	Fiscal and financial management.....	78
3.5.1.	Introduction	78
3.5.2.	e-Invoicing	79
3.5.3.	eAccounting.....	83
3.5.4.	eDepositing of annual accounts	84
3.5.5.	Conclusion.....	84
Chapter IV:	Identified Legal and Administrative Barriers	85
4.1.	Incompleteness of the EEA-wide e-Business legal framework that does not cover the entire lifecycle of electronic documents	85
4.2.	Lack of an unambiguous and universal positive principle on how legal validity requirements can be met by e-documents on an EEA-wide basis	89
4.3.	Insufficient harmonisation at least EEA-wide of the various legal spheres (including binding absolute provisions, e.g. consumer protection) that may apply to e-contracts, denying enterprises absolute certainty for many contract types.....	90
4.3.	Incomplete perception of functional equivalence resulting in a tendency to re-form (rather than remove) traditional formalistic requirements....	92
4.4.	Insufficient harmonisation at least EEA-wide of national legislations on intermediary service providers leading notably to legal uncertainty regarding their legal responsibility (e.g providers of services for e-registered mail and e-archiving).	94
4.5.	Complexity of the multi-jurisdictional legal situation in the EEA due notably to an insufficient harmonisation of national legislations, compounded with a	

general lack of awareness of the legal framework and its possibilities and perceived lack of infrastructure.	97
4.6. Perceived lack of accessible service providers in a cross-border context at least EEA-wide, as well as insufficient public sector e-Readiness.....	99
Chapter V: Conclusions and Recommendations.....	103
5.1. Improving legal certainty through the the dissemination of information about good practices (notably on e-archiving and e-document exchange)	103
5.2. Facilitating access to technical means, infrastructure and technical and legal know-how regarding the use of e-Business	105
5.3. Supporting the creation of a self-regulatory framework for trusted service providers in electronic cross-border transactions, at least EEA-wide (e.g. certification authorities, notary, archival and registered mail services): codes of conduct and standards.	108
5.4. Supporting the re-engineering of automated business processes (e.g. VAT collection and inventory management data contained in invoices; data on ownership of goods contained in bills of lading, transport or storage contracts, etc.)	110

ELDOC Final Report

Introduction – The ELDOC Study

The ELDOC Study Team, consisting of K.U.Leuven-ICRI (Interdisciplinary Centre for Law & ICT)¹, and the Belgian Law Firm Lawfort², have been contracted by the European Commission – DG Enterprise and Industry to perform the Legal Study N° ENTR/04/67 on the national legal and administrative practices regarding the validity and mutual recognition of electronic documents, with a view to identifying the existing legal barriers for enterprises (“the ELDOC Study”).

The purpose of this Study would thus be twofold:

- To create an overview of the existing legal and administrative practices in the Member States, EEA countries and Candidate Countries, with regard to the treatment of electronic documents in e-Commerce transactions.
- To examine and assess these practices, thus identifying any remaining legal barriers to the use of such electronic documents in e-Commerce transactions, and to identify potential solutions to any such barriers, particularly on a cross-border level, where the validity and acceptability of electronic documents generally poses the greatest difficulties.

To realise the first step in this Study, the Terms of Reference required the ELDOC Study Team to identify “*the different national legal and administrative practices in the various Member States, Candidate Countries and EEA EFTA States, with regards to the validity and mutual recognition of electronic documents, as specified in the chapter below, on a predefined set of business processes.*” The resulting input would constitute the main working base for the second phase of the study, the examination and assessment of these legal and administrative practices.

The Study Team has proposed a model Questionnaire and a model National Report to the Commission, based on the findings of a brief preliminary study of three European countries, which were subsequently accepted. The questionnaire and report were then submitted to a European network of national legal experts in the field of e-Commerce, who have assisted the Study Team in drafting a national report for their State.

¹ <http://www.law.kuleuven.ac.be/icri/>

² <http://www.lawfort.eu>

The resulting collection of National Reports has been the main working basis for the second phase of the Study, consisting of the examination and assessment of the national information.

The Final Report

Overview

The Terms of Reference require that the ELDOC Study Team produces as one of its deliverables “the final study, where the national legal and administrative practices will be described, analysed and assessed. In addition, the relevant conclusions will be drawn, the remaining legal barriers will be identified and areas for future actions will be proposed.”

Following the completion of the First Assessment Report containing all locally validated national reports, the gathered information has been analysed by the Study Team. The outcome of this analysis work will be summarised in the present document. Differences and similarities between the national approaches will be extensively commented, paying particular attention to possible or existing solutions on a cross-border (trans-European or international) scale.

Report contents

The Final Report is structured in a manner that will provide the reader with an intuitive overview of the subject matter investigated in the course of the ELDOC Study. It entails the following key sections:

An overview of the applicable international regulatory framework.

This overview includes both European and international initiatives, insofar as they are aimed at encouraging the use of electronic documents in business processes, as examined in the course of the ELDOC Study. The main purpose of this section is to provide the reader with a background regarding the international measures that have thus far been considered as appropriate tools to allow business partners to modernise their activities in a cross-border context.

This section of the report will cover both regulations in the strictest sense (e.g. Directives, treaties and conventions), as well as soft law (e.g. model laws and model contract clauses), standardisation efforts and even projects aimed at encouraging the use of

electronic documents (e.g. the Bolero project).

While extensive, this section is certainly not intended to be an exhaustive overview of all international measures aimed at encouraging e-Business activities. Instead, it focuses only on the most commonly cited international sources of rules or guidelines to contracting parties attempting to engage in the cross-border electronic transactions discussed in this Study. After all, the main purpose is not to examine the applicable international rules in detail, but merely to provide a yardstick against which the national initiatives described in the country reports can be measured, and to give an indication of the influence international measures have had on the use of electronic documents in business transactions.

An overview of the European national approaches to electronic documents

In this second section of the Report, a summary will be provided of the surveyed countries outlook on certain key issues regarding the use, value and acceptability of electronic documents in business transactions. While it is neither possible nor desirable to produce a full overview of each country's national policies and perspectives – this function is served by the full national reports – this section will try to identify general trends in European legal and administrative practice on such issues as the validity and evidentiary value of electronic documents, and the impact that the principle of technological neutrality has had on the development of e-Commerce in countries/subject matter where this principle has been embraced and put into practice.

Interoperability of European e-Business processes

While the national reports serve the function of providing guidance regarding national rules and practices for the acceptability and legal validity of electronic documents within a nation's border, they do not allow the reader to assess to what extent the examined legal and administrative frameworks are compatible with one another, and thus to determine if an electronic document which is valid in one European country can be relied on in another country.

The third section of the report attempts to remedy this problem by providing the reader with an overview of the guiding principles to be taken into account when relying on electronic documents in a cross-border context, and contains an explanatory section per examined business process detailing the specific issues that could cause difficulties in international business relations.

Thus, this section serves more of a practical purpose, and is directed specifically towards legal practitioners looking to gain more insight into the potential pitfalls of the cross-border use of electronic documents.

Identified Legal and Administrative Barriers

One of the major goals of the ELDOC Study is to assess which barriers still remain for the cross-border use of electronic documents in a European or international business environment. In this section, the Study Team will comment on these barriers, as identified through the national reports provided by the expert correspondents, and as identified through the Study Team's own research activities.

The remaining barriers, which will be the most significant input for the final section of the report (Conclusions and Recommendations, see below), may be of a legal nature (e.g. adequacy of the existing e-Commerce framework, the concept of originality in an electronic context, the legal responsibility of intermediary service providers) or have an infrastructural origin (e.g. know-how and awareness of businesses and public administrations, and the availability and adequacy of the national technical infrastructure).

Conclusions and Recommendations

Finally, in this closing section of the Report, the Study Team will formulate a number of conclusions with regard to the adequacy and compatibility of national legal and administrative practices, identifying the main issues that would require further attention in order to create an environment that actively encourages the use of electronic documents. This will include such issues as the impact of the European regulatory framework, the liability of intermediary service providers, and the perspective to be taken when attempting to automate and streamline existing business processes by replacing paper documents with electronic data.

Chapter I: The international regulatory framework

1.1. European regulations and initiatives

For the purposes of the ELDOC Study, which focuses on 32 European countries (specifically the 25 European Union Member States, 2 Acceding countries (Bulgaria and Romania), 2 Candidate Countries (Croatia and Turkey), and 3 EFTA Countries parties to the EEA Agreement (Iceland, Liechtenstein and Norway)), it is important to be aware of the initiatives already taken at a European scale which aim to stimulate the use of electronic documents in common business transactions. The most relevant examples, as described below, include the e-Commerce and e-Invoicing Directives, both of which have the explicit goal to modernise existing business processes by allowing and encouraging the use of electronic documents. It is thus important to be aware of the scope of these Directives and their relevance to the ELDOC Study.

Thus, in order to fully appreciate the context in which the present national frameworks originated and are intended to function, as described in the national reports and as commented in Chapter II of this report, it is important to first take a closer look at the measures taken at a European level.

However, the European Directives cannot be considered the only relevant initiatives on a European scale for the purposes of the ELDOC Study. Indeed, as the ELDOC Study has the explicit objective of examining the legal and administrative framework applicable to the use of electronic documents in a business context, it would certainly be inadequate to limit the scope of the present document to purely regulatory measures such as the Directives.

Specifically, this Report will also examine a standardisation initiative undertaken within the European Union, in the form of the introduction and implementation of the New Computerised Transit System (NCTS³) for electronic customs declarations, and a commercial secured data exchange platform, Bolero, that grew out of a European research project intended to stimulate the use of electronic documents for certain specific security documents that rely on the intervention of a trusted third party.

³ For detailed information regarding the NCTS, see http://ec.europa.eu/taxation_customs/customs/procedural_aspects/transit/common_community/index_en.htm

While it is clear that both the NCTS system and Bolero have a significant regulatory (Commission regulations and Bolero's contractual framework, respectively) and technical component (both relying on strict standards for the formats and methods of data exchange), their approaches are sufficiently different to warrant separate examination. While the NCTS system has been made obligatory to all EU Member States, the Bolero project relies primarily on the market to develop its business case. As both aim to offer a workable solution to the problem of cross-border electronic data exchange in their respective fields (customs and securities, respectively), they constitute interesting test cases to determine the effectiveness of their approaches by assessing which impact, if any, they have had in the European countries' national business practices.

1.1.1. European Directives

1.1.1.1. Introductory note: the e-Signatures Directive

For the purposes of the present Report, the Study Team has decided in consultation with the Commission to avoid focusing too much on the implementation of the e-Signatures Directive in the surveyed states. While it is clear that this subject should receive some attention in the national reports and in the following analysis work, the concern existed that the ELDOC Study would eventually result in an update of the e-Signatures Study of 2003⁴. While such an update would certainly be extremely useful in its own right, the scope of the ELDOC Study as such is much broader, and the use of electronic signatures (and the Directive's role therein) is only a partial, though important consideration in it.

As such, it has been agreed to only focus on the use and legal consequences of electronic signatures insofar as it is relevant to the subject matter dealt with elsewhere. This is most notably the case for the description of the general e-Commerce framework as included in the national reports, where the relevance of electronic signatures under national law for electronic documents in general is typically discussed in detail. For more specific business processes, the role of the electronic signature was commented insofar as the national correspondent judged it to be relevant for assessing the validity and acceptability of electronic documents as a whole.

Thus, the national implementation of the e-Signatures Directive was not specifically inquired after in the questionnaire distributed to the national correspondents. As a result, its provisions will not be separately commented in this Report. The Directive's transposition and the consequences thereof for the legal value and acceptability of electronic documents will only be discussed in this Report insofar as it is relevant for the sections below, specifically with regard to the legal validity and evidentiary value of electronic documents.

4 The European Electronic Signatures Study regarding the legal and market aspects of electronic signatures; see <http://www.law.kuleuven.ac.be/icri/itl/elsig.php?where=>

1.1.1.2. The e-Commerce Directive

Scope and purpose

The e-Commerce Directive⁵ intended to create a common fundamental legal framework for electronic commerce in the European Internal Market. The main objective was to stimulate the development of cross-border (at least on a European scale) online services, by providing legal certainty to businesses and consumers. In order to do so, it formulated a number of guiding principles on such issues as the information requirements for online service providers, (unsolicited) commercial communications, formal requirements for electronic contracting and the liability of intermediary service providers.

Furthermore, the Directive aimed to ensure the proper functioning of the Internal Market in electronic commerce by the Internal Market clause (Article 3 of the Directive), which provides the basic principle that information society services should be subject to the law of the Member State in which the service provider is established; and that a Member State cannot impose restrictions on the freedom to provide information society services offered from another Member State.

The implementation of the Directive has been examined in detail in 2003⁶. Without going into detail in the present Report, the assessment report concluded that “the Internal Market objectives of the Directive have been met and that it has provided a sound legal framework for information society services in the Internal Market. It has also led to modernisation of existing national legislation, for example in contract law, to ensure the full validity of online transactions.” The ELDOC Study will examine to what extent the national transpositions are applicable to e-Business processes in general

5 Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market ('Directive on electronic commerce'), Official Journal L 178 , 17/07/2000, p.1–16.

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32000L0031:EN:HTML>

6 Report from the Commission to the European Parliament, the Council and the European Economic and Social Committee - First Report on the application of Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (Directive on electronic commerce), COM/2003/0702. See <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52003DC0702:EN:NOT>

Main provisions

For the purposes of the ELDOC Study, the main provisions of the Directive are considered to be:

- Article 1, with regard to the scope of the Directive. The Directive eliminates a number of subject fields from its scope (e.g. taxation, data protection, activities of notaries public, ...). However, despite the fact that European countries are therefore not required to include these topics in their transpositions, this does not impede them from voluntarily giving a more extensive scope to their national transpositions⁷. Thus, the exclusion of certain subject matters is certainly relevant to the purposes of the ELDOC Study.
- Article 9, regarding Member States' obligation to allow contracts to be concluded by electronic means, by systematically eliminating any legal requirements imposed to the contracting process that would impede the conclusion of binding electronic contracts or that would deny such contracts legal effectiveness or validity on account of their electronic method of creation⁸. Again, the Article specifies a number of exclusions (e.g. real estate rights, contracts requiring the involvement of public officials, suretyships by non-professionals, etc.). For the purposes of the ELDOC Study, and similar to the above, it will be relevant to see which contract types have been excluded from the scope of this clause.

Correspondents were requested to specifically pay attention to these points when drafting their national reports with regard to the e-Commerce Directive.

⁷ E.g. the aforementioned report on the application of the eCommerce Directive indicated that Spain, Austria, Luxembourg and Liechtenstein excluded gambling from the transposition of the internal market clause, but not from any other part of their national transpositions, which thus apply to on-line gambling services. p. 7 of the First Report on the application of Directive 2000/31/EC

⁸ See also considerations (33) and (34) of the Directive.

Relevance to the ELDOC Study

While the Directive covers both business to business (B2B) and business to consumer (B2C) services, it is none the less clear that its scope does not coincide completely with the ELDOC Study.

Although some of the subject matter examined by the ELDOC Study will certainly fall within the definition of *information society services* (for example the on-line conclusion of certain financing arrangements such as bills of exchange), in many cases the service will not be provided by electronic means.

Instead, the document bearing witness to the transaction is created in an electronic form to ensure that it can be easily transferred or traded from one location to the next. E.g. A bill of lading, describing the terms of transportation of a given set of goods, clearly does not describe a service that is provided by electronic means⁹. nonetheless, an electronic bill of lading can theoretically offer a clear advantage over its paper equivalent, as it would be significantly easier to transfer the electronic document to a recipient at a distance, allowing the recipient to claim the cargo as his own upon presentation to the carrier.

With regard to the transposition of Article 9, several of the document types examined by the ELDOC Study may well fall within the exclusion categories mentioned therein, e.g. as a result of a required intervention of notaries public, courts or public authorities (art.9, 2. b).

Similarly, part of the ELDOC Study focuses on eGovernment services (e.g. Customs declarations, electronic accounting and invoicing). In such cases, it is up to the individual governments to decide if and under what terms it will accept electronic documents. For such business processes, the applicability of the e-Commerce Directive will be limited by the public administrations' willingness to modernise their services and to set feasible terms for such services.

The e-Commerce Directive is a part of the *acquis communautaire*, and is as a result binding to the EEA Countries as well, following their inclusion in the EEA Agreement¹⁰. As a result, the Directive has been transposed in Iceland, Liechtenstein and Norway as well. As *acquis communautaire*, the Candidate Countries (Bulgaria, Croatia, Romania and Turkey) are also ensuring that their regulatory frameworks comply fully with the Directive. The national reports with regard to the e-Commerce Directive are therefore comparable across the 32 surveyed countries.

9 See also consideration (18) to the Directive: "activities such as the delivery of goods as such or the provision of services off-line are not covered;"

10 See http://secretariat.efta.int/Web/InfoKit/Info_Kit/OverviewLegalTexts

1.1.1.3. The e-Invoicing Directive

Scope and purpose

The so-called e-Invoicing Directive¹¹ was adopted on 20 December 2001, with a view of amending the 6th VAT Directive¹². Despite the commonly used designation of "e-Invoicing Directive", electronic invoicing only comprised a minor section of this Directive. Rather, the Directive had a much wider scope, aiming to harmonise the European rules regarding the contents and formal requirements for invoices, for the purposes of facilitating VAT declarations and the resulting VAT deductions. As these requirements differed from Member State, the internal market was disrupted at a time when cross-border transactions were becoming more and more common, and when it should have been advantageous for businesses to centralise their invoicing operations in a single office, without undue concern regarding the differences in national regulatory frameworks.

The Directive's e-Invoicing provisions required Member States to recognise the validity of electronic invoices, provided that certain harmonised requirements were met, and to allow cross-border electronic invoicing and electronic storage. Furthermore, the Directive also presented as a basic principle that storage of electronic invoices outside of the issuer's country of establishment should be allowed, also subject to certain conditions. The desired result was to modernise European business administrations, and to provide them with an economical boost by reducing the administrative costs related to invoice processing. Additionally, the Directive's implementation was expected to facilitate the tax authorities' efforts to fight fraud¹³.

Main provisions

For the purposes of the ELDOC Study, the Directive is mainly relevant because of its modifications to Article 22 of the 6th VAT Directive, as introduced by Article 3.2 of the Directive. These modifications entail specifically:

- That the customer must accept the use of electronic invoices before one can be

11 Council Directive 2001/115/EC of 20 December 2001 amending Directive 77/388/EEC with a view to simplifying, modernising and harmonising the conditions laid down for invoicing in respect of value added tax, OJ L 15, 17.1.2002, p. 24–28

http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&numdoc=32001L0115&model=guichett&lg=en

12 Sixth Council Directive 77/388/EEC of 17 May 1977 on the harmonization of the laws of the Member States relating to turnover taxes - Common system of value added tax: uniform basis of assessment

13 See consideration (3) of the eInvoicing Directive.

- validly issued;
- That the origin and integrity of eInvoices should be guaranteed, either:
 - through EDI¹⁴, provided that the agreement between the trade partners contains guarantees regarding the authenticity of the origin and the integrity of the data; and possibly conditional upon the issuing of an additional summary document on paper;
 - through advanced (or possibly qualified) electronic signatures. It should be noted, however, that the Directive also specifies that Member States shall not require invoices to be signed. This was done at the insistence of several States with a more flexible legal regime that did not (and does not) require signed invoices (e.g. Finland and Estonia¹⁵);
 - through any other means accepted by the Member State(s) concerned (e.g. fax, e-mail, etc.). Note that in cross-border transactions this will require that all legislations involved (i.e. of both the recipient and the sender's countries) accept the validity of such invoices.

Additional requirements can be insisted upon by each Member State¹⁶ for invoices from a country with which no legal instrument regarding mutual assistance exist¹⁷, both with regard to the invoice itself and to its storage in third countries.

- That the place of storage of electronic invoices can be chosen by the issuer, provided that they remain available to the tax authorities without undue delay. Member States may request a prior notification if invoices are stored outside of their national borders, and they may demand that invoices are locally stored (i.e. within the taxable person's country) if the electronic storage does not guarantee full on-line access to the data concerned;
- That the readability of the electronic invoices must be guaranteed throughout the applicable storage period;

14 As defined in Article 2 of 94/820/EC Commission Recommendation of 19 October 1994 relating to the legal aspects of electronic data interchange; this includes, but is not limited to the EDIFACT standard (see below).

15 See the respective national reports. Interestingly there is also a category of countries (e.g. Belgium and Poland) where the paper invoice is not required to be signed, but electronic invoices do require EDI or electronic signature. Thus, electronic documents can be regulated in a much more strict manner than their traditional equivalents, with a view of ensuring the full benefits their technologies have to offer and prevent abuses.

16 As a historical note, Member States were allowed to require prior notification to the competent public administrations before a company could engage in eInvoicing until 31 December 2005.

17 This requirement exists e.g. in France and in Luxembourg.

- That Member States may require that the original invoice (either in paper or electronic form) is stored as such, and that the data guaranteeing the authenticity of the origin and integrity of the content is also stored;

Relevance to the ELDOC Study

As one of the closing phases in most e-Business transactions, invoicing is one of the most important components of e-Commerce. Due to their purpose and omnipresence in virtually all commercial procedures, invoices are also the most frequently encountered type of documents, along with general notifications. However, unlike notifications, invoices are typically subject to strict requirements of form, which can vary from country to country. Additionally, traditional paper invoices are issued and processed largely through human intervention, increasing the administrative overhead and the margin for error, thus resulting in a cost which is entirely disproportionate to the relative simplicity of the envisaged goal, i.e. requesting and obtaining payment.

Therefore, it has long been an ambition of businesses across Europe to facilitate and streamline the invoicing processes, thus cutting costs significantly. The e-Invoicing Directive, as described above, was intended to harmonise the European regulatory framework in order to make cross-border electronic invoicing a reality. However, the description above also clearly shows that Member States have been given considerable leeway in implementing the Directive, which could still result in a disjointed or imbalanced market situation impeding the development of e-Business.

The implementation of the e-Invoicing Directive by the Member States is therefore an interesting test case, as an example of a document type for which the European Union has attempted to present more or less specific conditions for its use, while nonetheless embracing technological neutrality, i.e. without imposing specific standards. For the purposes of the ELDOC Study, this presents an interesting overview of the consequences of technological neutrality, and can be considered a limited¹⁸ test of the free market's ability to adapt to such relative regulatory freedom.

It should be noted that the Directive has been transposed by the Member States, and that the Candidate Countries are also finalising the process of aligning their national provisions with the Directive, but that the VAT-system is not applicable to the EEA. However, the national frameworks of the EEA-countries have nonetheless been examined to assess their compatibility with the Directive's provisions, keeping into account that bilateral tax information exchange agreements and VAT-registrations in EU-countries will typically allow businesses in the EEA-countries to use eInvoices on similar terms.

¹⁸ The deadline for transposition of the Directive was set at 1 January 2004. While a certain harmonising effect should therefore be noticeable at the time of writing, it would in all likelihood be unrealistic to expect a fully harmonised eInvoicing market to have developed over a period of less than three years.

1.1.2. European standardisation initiatives

European standardisation

As has been noted above, technological neutrality has been a staple ingredient of most major European initiatives in the field of e-Business, as is most clearly demonstrated in the regulatory triumvirate of the e-Signatures, e-Commerce and e-Invoicing Directives. In all of these cases, the European legislator has made the conscious choice of avoiding to prescribe technologies or standards, but rather to focus on the objectives that any technological solution was to provide. Such a functional¹⁹ approach would serve the dual purpose of being flexible enough to support often unforeseeable future technological developments, and of allowing the market to evolve naturally towards whichever solution is most suited to its target demographic.

However, this should not be taken to read that there are no supporting technical standardisation initiatives on a European scale. One of the actors in the domain of European ICT standardisation has been CEN/ISSS²⁰. One of the business domains of CEN, ISSS's approach is the logical continuation of the principle of technological neutrality outlined above, relying on a combination of formal CEN Technical Committees and CEN/ISSS Workshops to create a series of open and non-binding standards. CEN/ISSS standardised topics include e-Invoicing²¹, data protection and privacy²², e-Commerce in general²³ and e-Signatures²⁴. The outcome of such standardisation initiatives typically consists of CEN Workshop Agreements (CWAs), consensus-based specifications drawn up in an open Workshop environment²⁵.

19 "Functional" in the sense of an approach focusing on the functions to be served by a technology, rather than on the precise means to realise such functions, and without making any statement on the efficiency, pragmatism or outcome of this approach.

20 Comité Européen de Normalisation – Information Society Standardisation System; see <http://www.cenorm.be/cenorm/businessdomains/businessdomains/iss/index.asp?pClose=0>

21 See the eInvoicing Working Group: <http://www.cenorm.be/cenorm/businessdomains/businessdomains/iss/activity/wseinvoice.asp>

22 See the Data Protection and Privacy Workshop: <http://www.cenorm.be/cenorm/businessdomains/businessdomains/iss/activity/wsdpp.asp>

23 See the eCommerce CWA's: <http://www.cenorm.be/cenorm/businessdomains/businessdomains/iss/cwa/regulatory+issues.asp>

24 See the eSignature CWA's: <http://www.cenorm.be/cenorm/businessdomains/businessdomains/iss/cwa/electronic+signatures.asp>

25 Publically accessible ICT related CWA's can be found at: <http://www.cenorm.be/cenorm/businessdomains/businessdomains/iss/cwa/downloadarea.asp>

CEN/ISSSS has also worked with the European Telecommunications Standards Institute (ETSI²⁶), an independent, non-profit organisation charged with the creation and maintenance of European ICT standards in the most general sense, to form the CEN/ISSS Workshop on electronic signatures (WS/E-SIGN), which contributed towards the aforementioned set of generally recognized standards for the use of e-Signatures.

Furthermore, the European Electronic Signature Standardisation Initiative²⁷ (EESSI) was created by the European ICT Standards Board²⁸, which includes CEN and ETSI among its members. While the EESSI Working Group was closed in 2004, its standardisation work in the field of electronic signatures remains of significant importance, and is being continued by ETSI.

Finally, European sector-specific initiatives include the IDA Architecture Guidelines²⁹ and the Interoperability Framework³⁰, which specifically concern interoperability of solutions in the eGovernment sector.

Thus, while the European regulatory initiatives do not impose standards to be observed by the European business actors, efforts are made to ensure that technical standards are made available, in an attempt to ensure interoperability and more specifically, for the purposes of the ELDOC Study, the exchangeability of electronic documents, at least in theory.

26 See <http://www.etsi.org/home.htm>

27 See http://www.ictsb.org/EESSI_home.htm

28 See <http://www.ictsb.org/>

29 See <http://ec.europa.eu/idabc/en/document/2317/5644>

30 See <http://ec.europa.eu/idabc/en/document/2319/5644>

eCustoms as a test case

One of the more interesting example cases of standardisation is the European eCustoms framework. This specific issue is a little different from the standardisation initiatives described above, since there is actually a mandatory European infrastructure that all Member States and EEA countries are expected to adhere to, namely the NCTS framework described below.

On a European level, customs regulation has been incorporated in Council Regulation (EEC) No 2913/92 establishing the Community Customs Code³¹, supplemented by Commission Regulation (EC) No 2787/2000 amending Regulation (EEC) No 2454/93 laying down provisions for the implementation of Council Regulation (EEC) No 2913/92 establishing the Community Customs Code (Text with EEA relevance). In particular, Regulation (EC) No 648/2005 of the European Parliament and of the Council of 13 April 2005 amended Council Regulation (EEC) No 2913/92, allowing the use of data processing techniques and consequently of electronic customs declarations³².

The objective was to harmonise customs regulations in all Member States and the EEA countries, in a fashion that would permit the electronic transmission of harmonised data using common interfaces. The use of electronic documents should therefore be permitted based on a universally accepted standard, keeping into account existing international initiatives³³. In this manner, electronic customs declarations and electronic data exchange should become the norm³⁴, rather than the exception.

The Community Customs Code repeatedly emphasises that certain declarations may be made “using a data-processing technique where provided for by provisions laid down in accordance with the committee procedure or where authorized by the customs authorities”. These data processing techniques have been specified in greater detail by Commission Regulation (EC) No 3665/93³⁵, containing definitions of such terms as “data processing technique”, “EDI” and “standard message”. The regulation stipulates that the handwritten signature may be replaced by another technique, to be chosen by customs authorities.

The text does not contain an emphatic preference for the digital signature, although the text does require the technique to permit “checking the source of data and [...] protecting data against the risk of unauthorized access, loss, alteration or destruction”. Considering

³¹ Council Regulation (EEC) No 2913/92 of 12 October 1992 establishing the Community Customs Code, OJ L 302 , 19 October 1992

³² http://eur-lex.europa.eu/LexUriServ/site/en/oj/2005/l_117/l_11720050504en00130019.pdf

³³ Such as the customs harmonisation initiatives of the WTO and the WCO Customs Data Model.

³⁴ For more detailed information, we refer to the “[Report on the proposal for a European Parliament and Council regulation amending Council Regulation \(EEC\) No 2913/92](#) establishing the Community Customs Code (COM(2003) 452 C5-0345/2003 2003/0167(COD))”

³⁵ Commission Regulation (EC) No [3665/93](#) of 21 December 1993 (Official Journal L 335 of 31 December 1993)

these requirements, the advanced digital signature seems an obvious choice.

For the management of transit procedures, there is a New Computerised Transit System (NCTS³⁶), and an electronic network to which national Customs offices/authorised traders are connected.

Since the introduction of these rules, all Member States customs offices have gradually joined the NCTS-network, which permits the exchange of electronic data with connected offices.

The customs declarations are lodged on standardised SAD (Single Administrative Document) form, with the electronic messages codified and transferred via secured network ((CCN/CSI). As for the pre-arrival and pre-departure declarations, which will have to be lodged electronically under Regulation (EC) 648/2005, the data elements will be fully harmonised in the EU and be again transferred via a secured network.

Furthermore, the transit procedure between the EU Member States, Iceland, Norway and Switzerland is done on the basis of the Convention between the European Economic Community, the Republic of Austria, the Republic of Finland, the Republic of Iceland, the Kingdom of Norway, the Kingdom of Sweden and the Swiss Confederation, on a common transit procedure³⁷.

The customs procedures within the Member States themselves are conducted on the basis of the Community Customs Code and the Code's implementing provisions.

On the other hand, a number of documents are still required to be lodged with the customs declaration (certificates, confirmations, loading lists, etc.). These documents usually fall within the competence of different agencies in the member states and/or third countries and are not harmonised.

³⁶ For detailed information regarding the NCTS, see http://ec.europa.eu/taxation_customs/customs/procedural_aspects/transit/common_community/index_en.htm

³⁷ See [http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=en&numdoc=21987A0813\(01\)&model=guicheti](http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=en&numdoc=21987A0813(01)&model=guicheti)

Relevance to the ELDOC Study

What makes the eCustoms system most interesting as a case to be examined further on the national level is the fact that it entails both a regulatory component (the aforementioned Regulations) and a technical/infrastructural component (the NCTS network and the accompanying standards). It thus goes considerably further than other initiatives aimed towards encouraging the use of electronic documents, by taking a more holistic approach to the problem. The national reports and the sections below indicate the degree to which this approach has been successful.

1.1.3. European projects

European research projects

Apart from the aforementioned regulatory and standardisation initiatives, the use of electronic documents in e-Business transactions can also be encouraged through research projects, aimed at researching market requirements in this field or at developing potential solution packages.

One such project which has since grown into a commercial service is the Bolero platform³⁸.

Bolero as a test case

The Bolero system was initially conceived as a European research project, and has since evolved into a fully developed commercial undertaking that aims to provide "a neutral, secure and legally certain system that allows all parties in the trade chain to exchange trade documents and data electronically", including bills of lading, sea waybills, letters of credit, and documentary credit agreements.

Bolero is essentially a neutral information exchange platform, upon which its users (financial institutions, importers and exporters) can develop products and services that meet their specific trading needs. The platform is operated by Bolero International, which is jointly owned by a number of financial institutions, including S.W.I.F.T. (Society for Worldwide Interbank Financial Telecommunications).

Users of the system must commit to adhering to its Rule Book and its Operating Procedures, which describe their legal and technical obligations in detail. The Bolero system is therefore based on a contractual relationship³⁹, and not on any given legislative initiative. However, the Bolero system does not require the conclusion of a new contract for each new document exchanged through it.

As its centre, Bolero consists of a core messaging platform⁴⁰ through which all messages are routed and through which electronic exchange documents can be traded. It relies on

38 See www.bolero.net

39 While the provisions of the Rule Book are subject to UK law, each individual transaction concluded through the Bolero platform will be subject to whatever jurisdiction may be nominated by the parties.

40 See http://www.bolero.net/solutions/trade_platform/index.html

PKI to ensure the authenticity and integrity of the exchanged documents. Each user is issued with a pair of keys (private and public), which are verified by Bolero in each transaction.

Bolero thus acts as a trusted third party, and maintains a central Title Registry which records the changes in ownership of goods or titles as they are traded. The platform supports a series of structured and unstructured trade documents, including Microsoft, image and text formats. Furthermore, a so-called "boleroXML-standard" has been developed, spanning over 100 associated document types. As an XML-based standard, this will offer the advantage of openness, and thus of improving interoperability of the documents between the users.

Relevance to the ELDOC Study

Research projects such as the Bolero platform are mostly relevant to the ELDOC Study as a yardstick to assess the extent to which the solutions presented in the projects have been able to gain any market traction. As we shall comment further below, several national correspondents indicated that such initiatives were mostly used by professional service providers in the financial sector (which is of course the main purpose of the Bolero platform). However, user awareness in the business sectors of such solutions was limited, as was the uptake in B2B transactions.

1.2. International regulations and initiatives

Despite the fact that the ELDOC Study is a European study, it is important not to lose track of the larger picture in which European e-Business ventures are functioning. The principal lure of most any e-Commerce undertaking is the elimination (or at least reduction of relevance) of geographical boundaries, allowing enterprises easier access to international markets, thus increasing their potential revenue base. It goes without saying that such ambitions are not realised within a strictly European regulatory vacuum, no more than European cross-border commerce can develop naturally when enterprises insist on working within the confines of their own divergent national regulatory frameworks.

For this reason, it is clear that international initiatives (i.e. their scope encompassing but also transcending the surveyed European countries) must equally be considered as a fundamental input for this legal study. Such initiatives can cover technical standardisation projects, as well as international model laws and regulations in the broadest sense, and model contract clauses (i.e. so-called "soft law" initiatives).

This section of the report will examine a selection of international standardisation initiatives that have been undertaken by public and private international organisations and industry fora, including the International Chamber of Commerce⁴¹, the ILPF (Internet Law Policy Forum)⁴², the IETF (Internet Engineering Task Force)⁴³, the W3C (World Wide Web Consortium)⁴⁴, the CMI (Comité Maritime International)⁴⁵, and the UN's UNCITRAL⁴⁶ and EDIFACT programmes⁴⁷.

In the section below, we will comment on a number of these initiatives that the National Reports have shown to have had a significant impact on the development of the European national legal frameworks.

41 See: <http://www.iccwbo.org/>

42 See: <http://www.ilpf.org/>

43 See: <http://www.ietf.org/>

44 See: <http://www.w3.org/>

45 See: <http://www.comitemaritime.org/>

46 United Nations Commission on International Trade Law. See

<http://www.uncitral.org/uncitral/en/index.html>

47 United Nations Directories for Electronic Data Interchange for Administration, Commerce and Transport. See: <http://www.unece.org/trade/untdid/welcome.htm>. The developed standards include e.g. DOCAPP (Documentary Credit Application Message); , DOCINF (Documentary Credit Issuance Information Message) and DOCADV (Documentary Credit Advice)

1.2.1. International Model laws and regulations

UNCITRAL Initiatives

Possibly the most influential initiatives with regard to the subject matter examined in the ELDOC Study originate from the UNCITRAL Commission⁴⁸. The main activities within UNCITRAL have been divided between a number of Working Groups⁴⁹, the fourth of which has focused on electronic data interchange and electronic commerce.

UNCITRAL Recommendation on the Legal Value of Computer Records

As early as 1985, the UNCITRAL Commission examined the issue of the legal value of computer records, and starting from the observation that "*there were fewer problems in the use of data stored in computers as evidence in litigation than might have been expected*", and that "*a more serious legal obstacle to the use of computers and computer-to-computer telecommunications in international trade arose out of requirements that documents had to be signed or be in paper form.*" This observation, which in itself is indicative of the fact that the subject matter of the ELDOC Study is certainly not new, resulted in the UNCITRAL Recommendation on the Legal Value of Computer Records of 1985⁵⁰.

This Recommendation chiefly encouraged national governments to assess their legal frameworks in order to determine to what extent traditional paper-based processes would be susceptible to being modernised by replacing paper documents with electronic data. This assessment should not be limited to matters of evidence in a civil or commercial context, but should also comprise eGovernment services to ensure the full effect of such electronic documents. Furthermore (and more importantly for the purposes of the ELDOC Study), it called upon international organisations to take these recommendations into account when drafting any regulatory texts to encourage the uptake of e-Business

48 While other international regulatory texts have had an equal or even larger influence for the subject matter involved in the surveyed countries, they do not typically concentrate specifically on the use of electronic documents. A good example would be the Geneva Convention Providing a Uniform Law For Bills of Exchange and Promissory Notes. Although it is almost universally mentioned in the national profiles, this relatively old convention (drafted in 1930 under the League of Nations) obviously makes no reference to modern technologies. For a full-text version of the Convention, see: <http://www.jus.uio.no/lm/bills.of.exchange.and.promissory.notes.convention.1930/doc.html>. Since this still leaves the question of the validity and exchangeability of electronic documents entirely open, such initiatives will not be commented upon in this section of the report.

49 See http://www.uncitral.org/uncitral/en/commission/working_groups.html for a full overview of these Working Groups and their fields of specialty.

50 See <http://www.uncitral.org/pdf/english/texts/electcom/computerrecords-e.pdf>

processes.

While a modest start, UNCITRAL activity in the field of e-Commerce regulations continued from this Recommendation, eventually resulting in the well known Model Law on Electronic Commerce, adopted on 12 June 1996⁵¹.

Model Law on Electronic Commerce

The Model Law was drafted in an attempt to avoid an excessive diversification of the national legal frameworks with regard to e-Commerce, which could prove to be a barrier to economic growth, by providing the national governments with a series of example provisions that could serve as a model for local regulatory initiatives. Additionally, the Model Law was expected to be useful as a template for certain contractual clauses in e-Commerce transactions, and for further international initiatives⁵².

The basic premise of the Model Law (quite similar to the equivalent provision of the e-Signatures Directive) is that information shall not be denied legal effect, validity or enforceability solely on the grounds that it is in the form of a data message (Article 5). Thus it installs the principle that judges must as a bare minimum consider the value of an electronic document, without being permitted to reject it simply because of its form.

Much as is the case for the e-Commerce Directive, the Model Law also embraces the concept of functional equivalence. I.e., traditional paper-based concepts such as "writing" (Article 6), "signature" (Article 7) and "original" (Article 8) are redefined in a way that allows electronic versions of these concepts to have the same legal value, provided that these can serve the same basic purposes and offer the same guarantees as in their traditional form. In the words of the Model Law Guide to Enactment⁵³:

"The Model Law thus relies on a new approach, sometimes referred to as the "functional equivalent approach", which is based on an analysis of the purposes and functions of the traditional paper-based requirement with a view to determining how those purposes or functions could be fulfilled through electronic-commerce techniques. For example, among the functions served by a paper document are the following: to provide that a document would be legible by all; to provide that a document would remain unaltered over time; to allow for the reproduction of a document so that each party would hold a copy of the same data; to allow for the authentication of data by means of a signature; and to provide that

51 UNCITRAL Model Law on Electronic Commerce of 12 June 1996, amended with an additional article 5bis as adopted in 1998, and comprising a Guide to Enactment. See:

http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/1996Model.html

52 See the Model Law Guide to Enactment, p.16; http://www.uncitral.org/pdf/english/texts/electcom/05-89450_Ebook.pdf

53 Model Law Guide to Enactment, p.20

a document would be in a form acceptable to public authorities and courts. It should be noted that in respect of all of the above-mentioned functions of paper, electronic records can provide the same level of security as paper and, in most cases, a much higher degree of reliability and speed, especially with respect to the identification of the source and content of the data, provided that a number of technical and legal requirements are met. However, the adoption of the functional-equivalent approach should not result in imposing on users of electronic commerce more stringent standards of security (and the related costs) than in a paper-based environment."

It is interesting to note that, contrary to the e-Signatures Directive, the Model Law does not provide a clear cut criterion for assessing the value of a signature. While the Directive has created the well-known three-tiered system (electronic signatures, advanced electronic signatures and so-called qualified electronic signatures), the Model Law takes a more grassroots approach:

"Article 7 – Signature

1. Where the law requires a signature of a person, that requirement is met in relation to a data message if:

(a) A method is used to identify that person and to indicate that person's approval of the information contained in the data message; and

(b) That method is as reliable as was appropriate for the purpose for which the data message was generated or communicated, in the light of all the circumstances, including any relevant agreement."

While Section 1 (a) of Article 7 can be said to correspond roughly⁵⁴ to the constituent elements of the electronic signature as defined in Article 2.1 and 2.2 of the e-Signatures Directive, the Model Law does not contain any provision that could be considered the equivalent of the Directive's Article 5.1, which ensures the legal equivalency between hand-written and qualified electronic signature.

To the contrary, Section 1 (b) of Article 7 merely states that the method used (i.e. the signature) must be as reliable as appropriate for the purposes at hand. While extremely flexible and useful as a guideline, the provision thus ultimately does not provide specific

⁵⁴ In fact, the correlation is relatively incomplete. The Model Law requires that the signatory be identified, and that the method used shows his "approval" of the message's content, thus defining the signature in terms of identification and acceptance. The eSignatures directive considers the signature to be a set of information (rather than the use of a method) serving to ensure the integrity the signed data, and demonstrating a unique and verifiable link to the signatory, resulting in non-repudiation through the sole-control criterion. Thus, the Directive emphasises identification of the signatory, authentication of the data, and non-repudiation. The legally relevant but relatively vague notion of "approval" is not withheld.

guidance on how a signatory can be certain of the legal validity of a signature, as this question always depends on the subjective notions of "reliability" and "appropriateness". In the words of UNCITRAL:

"[...] under Article 7 of the UNCITRAL Model Law on Electronic Commerce, the determination of what constitutes a reliable method of signature in the light of the circumstances, can be made only by a court or other trier of fact intervening ex post, possibly long after the electronic signature has been used."⁵⁵

A similarly subjective criterion is equally withheld in the provisions regarding originality (art.8.3 (b) of the Model Law) and regarding the admissibility of electronic evidence (Article 9.2).

The Model Law also contains a number of rules for electronic commerce in specific areas, specifically carriage of goods (Article 16 and following)⁵⁶. Their impact will be commented below.

UNCITRAL Model Law on Electronic Signatures

As was already noted above, the ELDOC Study is mostly concerned with the validity and exchangeability of electronic documents as such, and will only examine the legal framework with regard to e-Signatures insofar as this directly related to the central topic. nonetheless, it is useful to evoke the major principles of the UNCITRAL Model Law on Electronic Signatures, as it is so closely linked to the objectives and contents of the e-Signatures Directive.

The UNICTRAL Model Law on Electronic Signatures⁵⁷ was adopted on 5 July 2001, and intended to extend and clarify the aforementioned Article 7 of the Model Law on Electronic Commerce. Its applicability is strictly limited to a commercial context (art.1 of the Model Law), a natural consequence of UNCITRAL's nature and goals.

Not unlike the e-Signatures Directive which predates the Model Law by roughly one and

55 The Guide to Enactment to the Model Law on Electronic Signatures,. See

http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/2001Model_signatures.html

56 The Model Law Guide to Enactment clarifies that it considers the Model Law to be "open ended", in the sense that other subject matter than carriage of goods could be appended to it. However, thus far this has not occurred. See p.19; http://www.uncitral.org/pdf/english/texts/electcom/05-89450_Ebook.pdf

57 UNCITRAL Model Law on Electronic Signatures, adopted by UNCITRAL on 5 July 2001, with Guide to Enactment. See

http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/2001Model_signatures.html

a half year⁵⁸, the key principle is electronic neutrality, thus ensuring the legal framework's adaptability to any new emerging technologies. Equally similar to the Directive, this ambition has not impeded the Model Law from incorporating such notions as "certificate" or "certification service provider", which are most commonly used in reference to PKI solutions.

The somewhat ambiguous standard of appropriateness of the signature method, as included in Article 7 of the Model Law on Electronic Commerce, is withheld as a basic principle in Article 6.1 of the Model Law:

"Article 6. Compliance with a requirement for a signature

1. Where the law requires a signature of a person, that requirement is met in relation to a data message if an electronic signature is used that is as reliable as was appropriate for the purpose for which the data message was generated or communicated, in the light of all the circumstances, including any relevant agreement.

2. Paragraph 1 applies whether the requirement referred to therein is in the form of an obligation or whether the law simply provides consequences for the absence of a signature.

3. An electronic signature is considered to be reliable for the purpose of satisfying the requirement referred to in paragraph 1 if:

(a) The signature creation data are, within the context in which they are used, linked to the signatory and to no other person;

(b) The signature creation data were, at the time of signing, under the control of the signatory and of no other person;

(c) Any alteration to the electronic signature, made after the time of signing, is detectable; and

(d) Where a purpose of the legal requirement for a signature is to provide assurance as to the integrity of the information to which it relates, any alteration made to that information after the time of signing is detectable.

4. Paragraph 3 does not limit the ability of any person:

58 It should be noted, however, that both regulatory texts were developed in parallel. See p. 11 and following of the Model Law Guide to Enactment.

(a) To establish in any other way, for the purpose of satisfying the requirement referred to in paragraph 1, the reliability of an electronic signature; or

(b) To adduce evidence of the non-reliability of an electronic signature.

[...]"

However, Article 6.3 clarifies the interpretation of the notion of appropriateness in a manner which more or less⁵⁹ corresponds with the requirements of the advanced electronic signature as defined in Article 2.2 of the e-Signatures Directive, thus attempting to provide greater certainty regarding the legal effectiveness of an electronic signature:

"The Model Law adds substantially to the UNCITRAL Model Law on Electronic Commerce by adopting an approach under which the legal effectiveness of a given electronic signature technique may be predetermined (or assessed prior to being actually used). The Model Law is thus intended to foster the understanding of electronic signatures and the confidence that certain electronic signature techniques can be relied upon in legally significant transactions."⁶⁰

Article 6.3 of the Model Law therefore attempts to solve the issue of assessing the signature's reliability (and thus of its legal value) by eliminating the subjective appreciation of the circumstances at hand. Thus, while inherently more similar to the notion of an advanced electronic signature than to the notion of the so-called qualified signature, the Model Law nonetheless attempts to link a certainty of legal value to the electronic signature meeting the requirements of Article 6.3. The Guide to Enactment clarifies that implementing states should indicate themselves whether such legal certainty is to result from a presumption of validity, or from a substantive rule⁶¹.

59 The Model Law requires that alterations to the signature itself are noticeable (article 6, 3, (c)), as well as any alterations to the signed data, if the legal requirement of the signature also aims at preventing assurance of integrity (article 6.3, (d)). The eSignatures Directive makes no such distinction, instead requiring that the advanced signature allows any changes to the signed data to be detected (article 2.2, (d)), moving from the assumption that such a change would also result in changes to the signature itself. This was a conscious choice when drafting the Model Law, and was intended not to confuse two distinct qualities: (i) the suitability of the eSignature method itself (which does not necessarily require that the document to which it is attached is unchanged itself); and (ii) the assurance of the document's integrity (which may only be necessary in certain legal regimes; but not in others where this might exceed the goal of functional equivalence, by assigning to the electronic signatures certain qualities lacking from its paper equivalent). See the Model Law Guide to Enactment, p.55 and following; <http://www.uncitral.org/pdf/english/texts/electcom/ml-elecsig-e.pdf>

60 See the Model Law Guide to Enactment, p.19; <http://www.uncitral.org/pdf/english/texts/electcom/ml-elecsig-e.pdf>

61 See the Model Law Guide to Enactment, p.53 and following.

For clarity's sake, it should be noted that when using the designation "Model Law" in any other section of the Report, this is intended to refer to the Model Law on Electronic Commerce (and not to the Model Law on Electronic Signatures), except where expressly indicated otherwise.

United Nations Convention on the Use of Electronic Communications in International Contracts

The most recent regulatory initiative to emanate from UNCITRAL is the so-called Convention on the Use of Electronic Communications in International Contracts⁶². Adopted by the General Assembly on 23 November 2005, it builds on the principles already outlined in the Model Law on Electronic Commerce regarding the use of electronic communications in commercial transactions⁶³, specifically with a view of facilitating cross-border contracts.

Like the Model Law, the Convention relies on the principles of technological neutrality and functional equivalence to provide certain rules regarding the time and place of dispatch and receipt of electronic communications; the determination of a party's location in an electronic environment; the freedom to use or accept electronic communications; and the criteria to be used for establishing functional equivalence between electronic communications and paper documents -- including "original" paper documents -- as well as between electronic authentication methods and hand-written signatures.

However, undoubtedly due in large part to its relative newness, the number of signatory countries who are a party to the Convention is still too low for it to have had any significant impact on the national European regulatory frameworks⁶⁴. Furthermore, its relevance to the ELDOC Study is limited at best, as the Convention excludes a number of contract types from its scope that lie at the very heart of the Study, including *"bills of exchange, promissory notes, consignment notes, bills of lading, warehouse receipts or any transferable document or instrument that entitles the bearer or beneficiary to claim the delivery of goods or the payment of a sum of money"* (Article 2.2).

Nonetheless, the Convention has received official endorsement⁶⁵ from the International Chamber of Commerce, who assisted in drafting the text, which will certainly prove to be a positive influence on its uptake.

62 United Nations Convention on the Use of Electronic Communications in International Contracts of 23 November 2005,

http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/2005Convention.html

63 See specifically Chapter III of the Model Law, on Communication of Data Messages.

64 At the time of writing, the Convention had been signed by the Central African Republic, China, Lebanon, Senegal, Singapore and Sri Lanka. None of these states had ratified the text yet. An up to date overview of signatures and ratifications can be consulted at

http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/2005Convention_status.html

65 As expressed in a press release of 19 June 2006, published on

<http://www.iccwbo.org/policy/ebitt/icchgdi/index.html>

1.2.2. International Model Contract Clauses

Apart from the aforementioned regulatory soft law initiatives, an alternative but potentially equally effective soft law method is to provide the parties concerned with model clauses suited to their specific situation. Such model clauses are occasionally elaborated and presented by international organisations, either intending to ensure compliance with any given legal framework, or to encourage the use of the contracting reality underpinning the specific clauses.

Model Contract for export of personal data

A well known example of the first category are the model contract clauses drafted up and presented by the Article 29 Working Party⁶⁶ regarding the requirements for the legally valid transfer of personal data to non-EU countries. Briefly summarised, the model contracts⁶⁷ allow an exporter of European personal data who is subject to the European regulatory framework to send such data to a data processor who is located outside of the European Union. In principle, such transfers are forbidden following the application of Article 25 of the Data Protection Directive⁶⁸, unless the country in question ensures an adequate level of protection of the confidentiality of the personal data. When the regulatory framework of the country is inadequate to satisfy the Directive's requirements in this regard, the transfer is in principle not allowed without the data subject's prior unambiguous consent.

However, on the basis of Article 26 (4) of the Data Protection Directive, the Commission is allowed to decide that certain standard contractual clauses offer sufficient safeguards to allow such a transfer by default. In application of this article, a series of standard clauses has been approved by the Commission⁶⁹. Data controllers thus have the option of elaborating a personalised version of such model clauses, notifying the resulting contract to the national data protection commissions across the European Union, and using this contract as a basis for legitimate personal data exchanges towards third countries.

Given the limited relevance of this particular example to the ELDOC Study, it will not be examined further in this Report.

66 See http://ec.europa.eu/justice_home/fsj/privacy/workinggroup/index_en.htm

67 Available here: http://ec.europa.eu/justice_home/fsj/privacy/modelcontracts/index_en.htm

68 Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data; OJ L 281, 23.11.1995, p. 31–50; see http://ec.europa.eu/justice_home/fsj/privacy/law/index_en.htm

69 Initially through Commission Decision 2001/497/EC of 15 June 2001; O.J. L 181/19 of 4 July 2001; and more recent versions of the model clauses in Commission Decision 2004/5271/EC of 7 January 2001; O.J. L 385/74 of 29 December 2004.

The eUCP Model Clauses

An example of the second category above, where the contract clauses are intended to stimulate the prevalence of a certain contractual reality, are the so-called eUCP Model Clauses. These clauses were developed by International Chamber of Commerce, to resolve the difficulties surrounding the electronic presentation of one of the most formalistic document types in modern e-Business transactions, the documentary credit⁷⁰.

Traditionally, the documentary credit has been considered a method of payment, intended mostly to facilitate business relations between trade partners who are unfamiliar with each other, and who wish to minimise their personal risk. In recent times, it is more frequently used as a credit/lending instrument. Regardless of the purpose in the parties' minds, it is a common instrument to ensure the financial reliability of an unknown trade partner.

From a legal perspective, the documentary credit is based largely on convention, without specific laws regulating it as such. It goes without saying that there is therefore no explicit legal framework for electronic documentary credit agreements either, so that both issuers and beneficiaries are required to rely on the guidelines of their general e-Commerce regulations, as interpreted by local doctrine and jurisprudence. As a consequence of the formal nature of documentary credit agreements and the surrounding procedures, this results in large variations in the degree to which modern communications technologies are accepted by the surveyed countries. Furthermore, documentary credit agreements can be somewhat cumbersome and therefore costly. As a result, they are typically reserved as backing for contracts with a significant financial value. This being the case, parties will be even more reluctant to rely on electronic documents, unless they can be entirely sure of the legal validity of such documents.

To counter this specific problem, the International Chamber of Commerce created a conventional framework that has found a certain degree of general acceptance: the new Supplement to the Uniform Customs and Practice for Documentary Credits for Electronic Presentation or "eUCP"⁷¹. This is an extension to the UCC-500, the most recent version of the documentary credit framework which entered into force in 1994. It should be noted that the eUCP applies only to the presentation of the documentary credit, and not to the issuing or advice procedure (which were already concluded electronically, even before the eUCP became a reality).

In order for the eUCP to apply to the electronic presentation of documentary credit

70 Defined as a written undertaking by a bank (issuing bank) given to the seller (beneficiary) at the request, and on the instructions of the buyer (applicant) to pay at sight or at a determinable future date up to a stated sum of money, within a prescribed time limit and against stipulated documents.

71 See <http://www.dcpprofessional.com/content/eucp.asp>

agreements, the parties must express their will to do so, both for paper and for electronic documents⁷². It should be noted however that the eUCP mostly reiterates rules that are generally thought to apply to documentary credit agreements, so that judges will be inclined to apply rules that are similar to the eUCP, even when it is not emphatically declared applicable by the parties to a given documentary credit arrangements. This is of course a simple consequence of its debated classification as codified custom, rather than as an autonomous regulatory initiative. This issue has limited practical relevance, as parties typically voluntarily adhere to the UCP.

The eUCP entered into force on 1 April 2002, and must be considered to be an extension to (rather than a revision of) the UCP. In combination with the UCP, the eUCP intends to provide the necessary regulatory framework for the presentation of the electronic equivalents of paper documents under letters of credit. Comparable to the principle behind the European eDirectives, the eUCP aims towards technological neutrality, in an attempt to remain flexible and adaptive.

Its main function is to redefine certain concepts of the UCP that must by necessity be interpreted differently in an electronic context. As such, and comparable to the Model Law on Electronic Commerce, it redefines such notions as “appears on its face”, “document”, “sign” and “stamped”. It explicitly refers to the use of electronic signatures as an alternative to the classical notion of a signature. As such, the eUCP appears to be entirely compatible with and complementary to other cross-border regulatory initiatives like the e-Commerce Directive and the UNCITRAL Model Laws.

The parties receive a great amount of freedom in the practical organisation of the documentary credit. They may agree between themselves on the format⁷³ of the electronic document and the place of presentation (if they choose to accept the presentation of the document in electronic form). In the case where the bank cannot accept the presentation due to technical difficulties, the bank is considered to be closed, and the expiry date will be extended to the first following banking day on which it is able receive an electronic record. It is clear that the eUCP relies heavily on the concept of functional equivalence for the resolution of practical problems: when technology causes uncertainties, a solution will be sought in analogy with similar situations in a non-electronic context.

From a practical point of view, many preliminary transactions regarding the opening of a documentary credit are frequently concluded electronically (such as the transmission of instructions to the issuing bank, the transfer of credit information between banks, and (to a lesser extent) the issuing of credit advice)⁷⁴.

72 In this context, it is interesting to note that the Bolero.net platform has been eUCP compliant since April 2002. See <http://www.bolero.net/assets/23/Finextra%2028%20March%2020021091551832.pdf>

73 The Microsoft Word and the Adobe PDF-format are common choices, although other more structured format types are equally acceptable.

74 Suitable standards for these types of transactions have been developed within the framework of the UN's

The last phases of the documentary credit – most notably the presentation of the documents to the bank – are still mostly handled through paper documents.

The national reports indicate that the uptake of the electronic documentary credit has been increasing in the financial sector, despite the relative newness of the eUCP (entry into force on April 1st 2002). The increasing support from the banking sector⁷⁵ has been a considerable factor in this.

Nonetheless, instruments such as the documentary credit are based largely on customs and jurisprudence. It is not entirely certain that the same rules that have been consistently applied to paper documentary credits will be readily applied to their electronic equivalents. In other words: it remains to be seen to what extent jurisprudence will stand by its existing interpretations in an electronic context.

As an additional factor, the technical neutrality of the eUCP is a mixed blessing, as it is in most cases. Although it allows for a greater flexibility, it will also take longer to form a “beaten path” (e.g. no standardised file format). Nonetheless, the openness of certain service providers to accepting most major commercial file formats, and the general market trend towards open standards show that this is unlikely to have a significant or lasting impact on the uptake of electronic documentary credit agreements.

[EDIFACT](#) programme. These standards include e.g. [DOCAPP](#) (*Documentary Credit Application Message*), [DOCINF](#) (*Documentary Credit Issuance Information Message*) and [DOCADV](#) (*Documentary Credit Advice*).

⁷⁵ E.g. through the Bolero.net platform and by relying on the SWIFT network for data communications.

1.3. Impact Assessment

While the impact of these international initiatives on the individual national European legal regimes will be more fully assessed in the section below, it is nonetheless worthwhile to collect some general impressions beforehand on the way in which they have influenced the European regulatory framework.

First and foremost, the Model Law on Electronic commerce has had a significant influence on a number of European countries. While most of the surveyed countries refer principally to the European eDirectives as guiding influences, the Model Law is quoted as an influence by countries under strong Common Law influences (including Ireland, Malta, and the British Crown dependencies⁷⁶), as well as Bulgaria⁷⁷, Denmark⁷⁸, France⁷⁹, Lithuania⁸⁰, Norway⁸¹ and Slovenia⁸².

Although it is difficult to discern a common pattern resulting from the influence of the Model Law (often due to the subsequent influences of the European Directives), the general trend appears to be that the aforementioned legislations are generally more flexible, and have experienced a smaller need to adapt to the European Directives. Instead, they are often able to fall back on more generic provisions from the Model Law on Electronic Commerce, e.g. with regard to the Model Law's provisions on the electronic conclusion of contracts, which relies on an offer/acceptance model focusing on the exchange of data messages (Article 11 of the Model Law).

Regarding the specific areas of the Model Law⁸³, no equal impact was found. It was not quoted as a source of legislative inspiration in the national reports, although some

⁷⁶ Including the Bailiwick of Guernsey (2000), the Bailiwick of Jersey (2000) and the Isle of Man (2000), Bermuda (1999), and the Cayman Islands (2000).

⁷⁷ The Bulgarian Electronic Documents and Electronic Signatures Act (EDESA) is specifically characterised as a transposition of the Model Law by the correspondent.

⁷⁸ The Danish correspondent notes explicitly that “*UNCITRAL’s Model Law on electronic commerce and the Convention on the Use of Electronic Communications in International Contracts have been included in the considerations of amendments to the Danish eCommerce regulation.*”

⁷⁹ As the French correspondent noted, “*Regarding the validity of electronic contracts, the French law has opted to follow the UNCITRAL recommendations on electronic commerce, agreed in 1996, based on the functional equivalence between written and electronic documents.*”

⁸⁰ The Model Law is co-credited as an inspiration to the principle of functional equivalence in Lithuanian law.

⁸¹ The Model Law is quoted as one of the basic sources underpinning the Norwegian eRegulation-project by the Norwegian correspondent.

⁸² For a full overview of legislative influences, we refer to http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/1996Model_status.html

⁸³ Presently still limited to the Carriage of Goods, as indicated above.

influence seems to be noticeable with newer legislative frameworks. This is perhaps unsurprising, as the Model Law's main attractiveness lies in the generic and consistent nature of its general provisions, and less in the possibility of copying separate provisions for specific contract types.

The Model Law on Electronic Signatures, by comparison, seems to have had a much smaller influence in the surveyed countries. The timing of the Model Law was likely a significant factor in this regard, since its final version was adopted a year and a half following the e-Signatures Directive. Therefore, most of the surveyed European States had already begun transposing the Directive, significantly decreasing the need for further regulatory guidance. It should also be noted that, even before the e-Signatures Directive, a number of European countries (e.g. Germany and Italy) had already established fairly elaborate regulatory frameworks for e-Signatures, further decreasing the need for additional modifications. Outside Europe, the Model Law's success seems to have been relatively limited as well⁸⁴.

The Convention on Electronic Communication seems to show a large amount of potential, as (contrary to both Model Laws) there is less of an overlap with European Directives, in connection with an issue that is regulated in quite a diverse way. Nonetheless, no influence could be discerned from this initiative yet, due to its very recent (November 2005) adoption. In the absence of influential international guidelines, the national reports indicate that the issue of electronic communications (or rather "notifications" which was the term coined in the ELDOC Questionnaire⁸⁵) is generally resolved by reliance on general principles of evidence law, rather than on the basis of any specific regulation.

The description from the Danish report is fairly typical in this regard:

“As for contracts and other documents, notifications are in general valid under Danish law irrespective of their form (electronic or non-electronic). This applies both in commercial and civil communication. The consensus of the parties is not a precondition to the legal acceptability of an electronic notice. However under Danish law a notification will have legal effect from the time when it is “received” by the receiving party. If the notification is send through a medium not used in prior communication between the parties the notification is not

84 The official overview of influenced legislations is limited to China (2004), Mexico (2003) and Thailand (2001). See

http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/2001Model_status.html

85 The terminological difference is not without importance. For example, the French correspondent noted a strict regime with regard to notifications, i.e. official statements of claims or defaults, stating explicitly that: *“In French law, notifications can only be done by an ordinary and registered letter, and by handing over through a clerk of court or by a bailiff. Notifications can not be sent purely by fax nor by email.”* In contrast, with regard to communications in general she noted that *“Unlike notifications, contractual communications have been largely opened to electronic documents through the transposition law of the E-commerce Directive and the application norms.”*

deemed “received” if the medium does not with a high degree of certainty ensures that the receiver will become aware of the notification. If the notification is sent to an email address which is commonly used by the receiver the notification will be deemed “received” and thereby legally valid. On the other hand if the notification is sent to an email address not commonly used by the receiver the notification will not be deemed “received” unless specific circumstances indicate that the receiver will become aware of the email notification (e.g. because the receiver has used the email address in prior communication with the sender or because the email address is stated in a letterhead or the like). In this more indirect way the medium may make the notification invalid. It is however important to stress that in general, electronic notifications have the same legal validity as paper notifications.”

The typical outcome is a fairly free assessment of the value of an electronic notification, unless it is accompanied by a qualified electronic signature, in which case the provisions of the e-Signature Directive's transpositions kick in. More specific questions (e.g. regarding the exact time of arrival of an electronic notification) are usually handled by doctrine and common interpretations of jurisprudence. This issue shall be further examined below.

With regard to the model clauses/contracts, the main conclusion seems to be that they are obtaining their objective of providing guidance to e-Business actors in the field. The only significant downside would appear to be that model clauses seem to specifically target business transactions at the higher end of the market scale, usually involving professional actors with sufficient resources to examine the model contracts in detail and to ensure their compliance with any applicable framework. Both the eUCP clauses and the Bolero platform are good examples of this phenomenon.

This should however not be taken as a criticism towards these initiatives, as their increasing uptake shows that the use of electronic documents is indeed facilitated and accepted, specifically in the financial sector where cost savings following this process of modernisation can reasonably be expected to be the largest. Furthermore, a non-negligible trickle-down effect can be expected from this trend, as European business will in many cases have to rely on financial institutions for many of the examined documents (documentary credit arrangements being a prime example), so that cost savings here will benefit them both directly (as a result of internal process optimisation) and indirectly (by facilitating document transfers to their business partners).

Nonetheless, it is equally true that international standardisation measures largely seem to overlook the equally important SME segment of the European market. For document types that do not involve the intervention of financial institutions, the boons offered by these measures seem to be rather limited with regard to parties unable to post significant investments.

Chapter II: European National Approaches to Electronic Documents

2.1. Introduction – the National Reports

2.1.1. Scope and contents

The main purpose of the national reports was to obtain a complete, accurate and up-to-date overview of the legal and administrative practices regarding the use of electronic documents in a select number of e-Business processes in the Member States.

The basic consideration underpinning the usefulness of the ELDOC Study as a whole was the simple fact that documents constitute the basis for a great number of legal and administrative processes in the vast majority of European countries. While the national reports have shown that there is a large variety in the European countries surveyed (both with regard to the general principles of (e-)contract law and with regard to the resulting legal value accorded to documents), it is an inescapable fact that many business processes still rely on the use of documents.

While this may not be the case for each business process in each examined country, the cross-border nature of modern day business life means that legal and administrative barriers have a clear tendency to escalate, as the most restrictive framework will generally dictate the possibilities available to legal partners from a different country in regulating their commercial undertakings.

It is clear that there have been a large number of initiatives, both on a national, European and international scale, as briefly described above, to alleviate such barriers by modernising the existing administrative and legal frameworks through the introduction and/or encouragement of modern technologies to facilitate cross-border transactions.

However, what is much less clear is how these initiatives have interacted on a national scale, and to what extent that they have resulted in a legal and administrative framework that is open to the use of electronic processes. This is particularly relevant for processes that traditionally rely on the use of electronic documents, as is the focus of the present Study, keeping into account the acute business need to be able to exchange these documents across national borders in a manner which is valid and legally binding to all parties concerned.

To this end, the national reports contain an overview of the manner in which each surveyed country deals with electronic documents, both in a more general sense (e-Commerce regulation as a whole, and generic business processes such as electronic notifications and electronic archiving), and with regard to a number of specific document types in the different phases involved in commercialising a product on the European market (credit arrangements, transportation and storage, customs, fiscal management, ...).

The exact scope of the contents as requested from the national correspondents is further detailed in the introduction to the ELDOC First Interim Report containing the national country reports.

Since the Study examines the legal framework but also its actual impact in day to day e-Business practice, the national correspondents were asked to keep into account the administrative practices in e-Business transactions, and assess whether or not any given legal solution is actually used in practice (and if not, to identify the reason why). The purpose of this was to avoid obtaining an overview of the legal framework surrounding electronic documents, without having any real indications of whether or not a given solution model had any impact in commercial reality. The consultation of national Chambers of Commerce, other representative professional organisations or any other e-Business service providers was therefore recommended, and is mentioned in the reports below whenever applicable. Additionally, if any trusted third parties (TTPs) were commonly involved in the practical realisation, execution or management of an electronic contract or of an electronic document, this is also explicitly mentioned in the reports.

It is important to note that, in compliance with the call to tender requirements, the Study focuses on the general e-Business framework as applicable to common product types, thus excluding sector-specific regulations which have a limited to no practical bearing on e-Business transactions in general (e.g. pharmaceuticals, fire-arms, motor industry,...).

The present chapter of this Report will provide an overview of the main tenets of the surveyed states' legal frameworks with regard to electronic documents, focusing on a number of key issues. Rather than examining each country, each business process or each document type in detail, this chapter will attempt to identify the basic principles underpinning the value of electronic documents in European e-Commerce law, insofar as common policies and principles can be discerned.

For a more in-depth comparison of the treatment of electronic documents in the business processes examined in the surveyed countries, we refer to Chapter III of this Report, Interoperability of European e-Business processes. The individual countries are of course examined in detail in their respective national reports.

2.1.2. National trends and typologies

Before examining a number of specific issues in greater detail, it is worth taking note of the different approaches that can be taken towards the use, validity and recognition of electronic documents. There are a number of techniques that are frequently used in the surveyed states to modernise their legal frameworks to ensure that business processes can be viably modernised to electronic communications techniques. Although far from comprehensive, the following section will provide an overview of such approaches.

Principle-oriented

A first common approach that is quite closely tied to the functional equivalence methodology embraced by the Model Law on Electronic Commerce is what might be referred to as a "principle-oriented" approach. In such an approach, rather than amending the existing legal framework to clarify it as necessary, a more practical attitude is taken, by examining simply to what extent existing rules can be interpreted in a manner that would be conducive to electronic commerce.

In this approach, legislative intervention is typically more limited, and doctrine and jurisprudence have a more profound impact in determining whether or not clarifications or additions to the existing legal framework are required. Unsurprisingly, this is most typical for countries that have based their legislation principally on the Model Laws, and in certain Common law countries where there is already a more significant tradition of doctrine- and jurisprudence influenced legal practice.

Flexibility-oriented

A second approach, closely related yet distinct from the first, exists in countries that are traditionally more flexible when assessing the validity and recognition of legal documents. This includes countries that do not rely on strongly centralised codes (civil codes, commercial codes, maritime codes, etc.), or that do not require written documents for the purposes of judging the validity or evidence of a contractual commitment.

In such countries, there is usually a larger openness towards accepting any form of evidence in a court of law, and granting judges the freedom to assess its evidentiary value. This has the obvious benefit of rarely requiring legislative intervention to amend the legal framework, although as a counterbalance legal certainty can occasionally suffer. Such flexibility-oriented approaches are mostly found in the Scandinavian countries.

Update-oriented

The third (and possibly most common) approach to modernising a country's legal framework is to assess the suitability of the framework as the situation demands (e.g. following perceived difficulties in the marketplace, and/or following international regulatory initiatives which require such a review), and propose the necessary modifications on a case-by-case basis.

While this approach appears to be more reactive than the prior two approaches (which allow conflicts to be resolved even when the existing framework does not seem to apply clearly and directly), this is not always the case. The country reports have shown in several instances that modifications are often the result of a desire to clarify the legal framework and to avoid inconsistencies in its application, rather than from a need to plug a real legislative hole that impedes certain e-Business transactions from taking place.

This approach is most common to countries with a stronger legislation based legal practice, typically involved centralised codes and core legislation, which includes countries with a Napoleonic or Germanic legal tradition.

Technology-oriented

While technological neutrality is a staple ingredient of European e-Commerce regulations, several countries nonetheless play a more technologically pro-active role, by providing technological guidance to their enterprises and citizens.

Typically (and necessarily, to avoid creating market inefficiencies or imbalances), such guidance is either strictly in the form of non-binding recommendations, or it is limited to a specific sector. In that perspective, it is becoming more and more common for European countries to provide rules requiring public administrations to make themselves available for electronic communications, or to take the necessary measures to allow such communications. Specifically in such B2A and A2C communications, it is not uncommon to prescribe standards regarding the communication protocols or file standards to be used.

Such regulations are most typical for countries with active and highly developed eGovernment strategies, including (but not limited to) Italy and Estonia.

Comprehensive

Finally, there are a number of surveyed countries that have taken a comprehensive regulatory approach, by first establishing a holistic e-Commerce policy or vision (or even a broader eSociety policy comprising such issues as eGovernment, eInclusion, eHealth, etc.), which is then gradually implemented throughout the different sectors requiring regulation. This typically results in a single broader legal act encompassing electronic commerce, electronic signatures, and electronic communications in general; or in a series of regulatory initiatives aiming to gradually implement a centralised vision. The main benefit of this is that such initiatives tend to benefit from an increased internal consistency, since the relevant provisions are drafted as a whole. The downside is that later modifications tend to do greater harm, as the coordination between the provisions is disturbed.

Such central plans exist to a lesser extent in most European countries, but are more predominant in e.g. Norway, Italy, or Bulgaria.

Relevance of classifications

It is important to note that the aforementioned classification is interesting from a didactic point of view and as a manner of gaining a quick overview of common approaches, but that its practical relevance to the Study should not be overestimated.

First of all, it should be noted that the categories are not necessarily complete, nor mutually exclusive, in the sense that it is not uncommon for a country's approach to electronic documents to fall into multiple categories (e.g. it is perfectly possible for a country to have a comprehensive technology oriented approach, by drafting a comprehensive regulatory framework which also indicates a number of technical standards). Thus, the use of categories does not allow one to make full abstractions of each individual country's characteristics.

In addition, such categorisation carries the inherent risk of simplification and "pigeonholing", by reducing countries to an abstract stereotype without examining the actual situation. Therefore, the assessment below will attempt to avoid making such generalisations, except in cases when this would help to convey the Study Team's perspectives more clearly.

2.2. Validity of eDocuments

A first issue to be examined in the course of the ELDOC Study was the question of the legal validity of eDocuments, i.e. of whether or not it was legally possible to express a binding will purely through an exchange of electronic information, in cases where the law traditionally requires a more tangible output in the form of a paper document or other material data carrier.

The general expectation of the Study Team was that the surveyed countries would acknowledge the validity of such data exchanges, and that legal issues arising out of their use would mostly result from their uncertain evidentiary value.

In the following two sections of this Chapter, we will take a closer look at the questions of validity and evidentiary value of electronic documents as reported by the national correspondents.

2.2.1. Autonomy of Will

As expected, the survey showed that the legal validity of a will expressed uniquely through an electronic exchange of information is universally accepted in the surveyed countries. In all cases, the correspondents indicated that the basic principle was that contracts could be validly concluded through electronic means, and that notifications could be validly made by relying on such data exchanges, provided that the data exchange could be considered a clear expression of the will of the participating party/parties to be bound by the legal consequences of their action(s).

This emphasis on the expressed will of the parties, rather than on the form that it has taken, is dubbed the principle of autonomy of will in some reports, and as the freedom to contract in others. It is this principle that allows contracts to be concluded verbally in most cases, and which *a fortiori* allows parties to choose the form (if any) in which their will is materialised.

This is an important consideration when examining the legal validity of electronic documents, as this theory implies as a basic principle that the vehicle used for expressing this will (e.g. a paper or electronic document) is of secondary importance, at least for the purposes of assessing its validity. As a consequence, the need for modifications to the national regulations has been limited in most cases, or rather: concerns over legal validity have not been a determining factor in such modifications.

Thus, the possibility and validity of electronic contracting has been accepted in all surveyed countries for a considerable time, predating any European initiatives in this regard.

Both this basic rule and the many exceptions to it will be further commented below.

2.2.2. Essential Elements and Offer/Acceptance

The basic premise of the rule of autonomy of will when applied to contracts is typically formulated according to one of two models: either the essential elements-model, or the offer/acceptance-model.

The first model, which is more common to countries with a continental European legal tradition, basically states that two parties are contractually bound from the moment that they arrive to a consensus regarding the essential components of their mutual commitments. In this consensus-based model, the question of whether or not this consensus has been formalised into a written form (paper, electronic or otherwise) is irrelevant for the purposes of assessing its validity.

E.g. the Croatian report described this approach as follows:

“Generally speaking, for the conclusion of a contract the only mandatory requirement is that parties express their consent about the essentialia negotii prescribed for a particular type of contract they are concluding. Their consent (i.e. their will) they can express either by words, usual signs or any other behaviour that indicates a certain conclusion about the existence of their will, its contents and the identity of a party. There is no obligatory form generally required for the validity of a contract, i.e. the principle of informality of a contract generally applies.”

The offer/acceptance model, mostly but certainly not exclusively predominant in Common Law jurisdictions, arrives at a similar result from a different angle. It focuses on the communication between parties, requiring that one party formulates an offer, which is either accepted or rejected (including by making a counter-offer) by the other party. Upon acceptance of a valid offer, a contract is concluded. Again, the form in which the offer or acceptance is made is largely irrelevant for validity purposes.

This doctrine is described e.g. in the report from Cyprus as follows:

“Within this framework, the Contract Law provides that a contract is formed by the making of an offer by one person and an acceptance of the offer by the other party to the contract, if both of them intend to make a contract. Furthermore, the Law defines a contract as an agreement concluded by the free will of parties that are able to contract, for lawful consideration and for a lawful purpose, and which are not explicitly characterised by the Law as invalid or unlawful. The Contract Law applies to all contracts in general, including electronically concluded contracts.”

As a general rule, a contract may be made in writing, or by word of mouth, or partly in writing and partly by word of mouth, or may be implied from the conduct of the parties.

It is this second model which is also embraced by the UNCITRAL Model Law on Electronic Commerce. Article 11.1 states with regard to the formation and validity of contracts:

"11.1 In the context of contract formation, unless otherwise agreed by the parties, an offer and the acceptance of an offer may be expressed by means of data messages. Where a data message is used in the formation of a contract, that contract shall not be denied validity or enforceability on the sole ground that a data message was used for that purpose."

It goes without saying that the approaches are mutually interchangeable, given that the outcome is quite identical with regard to the issue of validity: it is the consensus between parties that determines a contract's validity, not the manner in which it is expressed.

The situation is somewhat more complicated with regard to notifications, as they – by definition⁸⁶ – constitute a unilateral declaration of will of the party concerned, and the aspect of consensus between sender and recipient is therefore not directly⁸⁷ relevant. In essence, the national reports have indicated that the same basic rule of autonomy of will applies also to electronic notifications: there is no reason to deny the legal validity of electronic notifications because of their non-paper form⁸⁸, although evidentiary problems may certainly arise when attempting to demonstrate receipt. This problem will be further commented below.

Thus, as a basic principle, the validity of electronic documents (either contracts or notifications) is not at stake. It goes without saying that this basic rule has a number of exceptions, as commented in the following section.

86 For the purposes of the ELDOC Study, the notification was defined as "an expression of will or a statement from the sender upon which he wishes to rely against the receiving party of the message, such as the acceptance of an offer to conclude a contract, the termination of a contract or the communication of product information to a consumer ."

87 Except insofar as the consent of the recipient to accept electronic notifications may be concerned; see below.

88 This is in fact the same rule as stated in article 8 of the UN Convention on the Use of Electronic Communications.

2.2.3. Formalities and Qualified documents

Despite the flexibility of this basic rule, stating that no paper document is usually necessary, in each surveyed country a large number of exceptions remain. In the preliminary study carried out by the ELDOC Study Team prior to finalising the survey, the Polish and Bulgarian correspondents both spontaneously introduced the expression "qualified written form" for this phenomenon. This notion – referring to the concept of the qualified signature as deduced from the e-Signatures Directive – should then be taken to refer to document types which require certain additional formalities to be met, either for the purposes of validity or for evidentiary purposes. The national correspondents were therefore asked to identify such "qualified documents" in their own national frameworks.

The most universal examples of qualified documents include family contracts (wills, marriage, guardianship, etc.), contracts of suretyship, and transfers of real property rights (excluding rent). Such contracts typically require extra formalities to be fulfilled, which make electronic contracting difficult, or in some cases impossible. Common requirements include signatures of or in the presence of a notary public, copying in an official register, presence and/or co-signing of witnesses, stamping with fiscal seals or authentication by court decisions.

This list of excluded subject matters corresponds to a large degree with the excluded contract categories of Article 9.2 of the e-Commerce Directive:

“2. Member States may lay down that paragraph 1 shall not apply to all or certain contracts falling into one of the following categories:

(a) contracts that create or transfer rights in real estate, except for rental rights;

(b) contracts requiring by law the involvement of courts, public authorities or professions exercising public authority;

(c) contracts of suretyship granted and on collateral securities furnished by persons acting for purposes outside their trade, business or profession;

(d) contracts governed by family law or by the law of succession.”

However, other barriers may remain that are born from practical considerations rather than legal limitations. Storage contracts are a good example of this: in some surveyed states, the valid conclusion of a storage contract requires goods to be transferred to the storer, either physically or by proxy (e.g. in the Belgian report). In other countries warehousing contracts require the contract to be copied into a warehouse register (e.g. the Bulgarian report). In both cases, the contract does not fall directly under one of the exclusion criteria of the e-Commerce Directive, and nor does the law in any way mandate

the use of paper documents (or indeed in the first case, of any documents). The practical result is nonetheless that electronic documents will typically be quite unsuitable⁸⁹ for such contracts.

While this is only one specific example, the individual country reports have shown that the list of exclusions can be various and complex. A quote from the German report may prove illustrative in this regard:

"Generally said, German law is very flexible regarding the validity of electronic documents in contract law in civil as well as in commercial law.

Exceptions to the principle of absence of formal requirements in German contract law exist for certain contract types. The German Civil Code [...] contains a number of special requirements as to the form. Traditionally, these were the mandatory written form (sec. 126 BGB), the agreed written form (sec. 127 BGB), the notarisation (sec. 128 BGB) and finally the certification by a notary public (sec. 129 BGB). The mandatory written form (and also the agreed written form), requires a document that is personally signed by its issuer. Due to the impossibility of personally signing, electronic documents – with or without an electronic signature – do not fulfil these requirements [...]. Due to the implementation of the e-Commerce Directive (Directive 2000/31/EC) and the e-Signature Directive (Directive 1999/93/EC), the German legislator introduced two new provisions, sec. 126a and 126b BGB to meet the demands of electronic means of communication.

One of the new provisions, sec. 126b BGB, introduces the new so called Textform to the German civil law. Unlike the written form in sec. 126 BGB, the Textform does not require either a physical document or a personal (handwritten) signature, which was the most serious obstacle for electronic commerce. Instead it requires only the issuing of the declaration either on a written document or in any other way. The only requirement is that the addressee is capable of making permanent reproductions of the declaration in a written form. Additionally, the name of the originator has to be mentioned and the end of the declaration has to be marked. [...]

The second new provision, sec. 126a BGB, introduced the new electronic form to German contract law. In many cases where contract law still requires written documents, the written document can be replaced by electronic documents that fulfil the requirements of the electronic form. However, there are still some exceptions for the use of electronic documents, i.e. for contracts about consumer credits, the cancellation of employment contracts and the declaration to put a

89 Though it is not impossible: a transfer of goods by proxy could e.g. be done by transferring an electronic certificate declaring ownership of the good; and an electronic contract could be stored in an electronic warehousing register. However, both cases require the storer to make certain technological adjustments, for which the economical business case may prove to be weak, and for which the compliance with the law is not assured.

guarantee. The electronic form requires an electronic document with a qualified electronic signature, which has to meet the requirements of sec. 2 Nr. 2 ("advanced") and 3 ("qualified") Signaturgesetz (Signature act)."

In an international context, it goes without saying that the diverse and occasionally complicated exceptions can prove to be a burden for the cross-border use of electronic documents, since such transactions do not only require a familiarity with the local legal framework, but possibly also of the contract partner's framework.

However, virtually all correspondents also indicated the possibility for contract partners to conclude prior agreements (framework contracts) that could govern the parameters of their further business relationships. This would e.g. allow business partners to agree that contracts could not only be validly concluded by e-mail, but that the validity of such e-mails as evidence would not be disputed in a court of law, thus increasing legal certainty.

2.3. Evidentiary⁹⁰ value of documents

2.3.1. Enforceability of documents

As indicated above, apart from the question of legal validity of electronic documents (or more accurately: of whether a will can be validly expressed by relying exclusively on electronic data), a more pressing question arises when assessing the evidentiary value of such data. After all, an electronic document used in any business process only has an economic value if it is in any way enforceable – i.e. if it is possible for a judge to accord a certain evidentiary value to it, and if it can thus help to shape his convictions. This is equally true for contracts and for notifications.

Again, the basic principle is that electronic evidence as such is typically admissible in court proceedings. However, the question of its evidentiary value depends largely on the type of procedure. In a civil procedure, some regulations allow a judge free appreciation of any evidence (a phenomenon existing most notably among the countries classified as "flexibility-oriented", above); whereas others only allow evidence that can be considered to be a written document, at least starting from a given financial value of the contract.

As an example of the flexibility-oriented approach we can refer to the Danish report, which stated:

“The Danish evidence rules do not contain formal requirements. All types of evidentiary tools, including electronic documents, may be produced in court and the courts are free to assess the evidentiary value of such tools. The evidentiary assessment of the courts is in other words not bound by rules of law.”

By contrast, e.g. the French report specifies that a written document may be required in certain civil cases:

“Barring certain more formal types of contracts, neither civil nor commercial law require the existence of a written document to form a valid contract, and both focus on consensus between parties regarding the essential elements of a contract. However, civil law limits the evidence which can be produced by the parties relative to contracts with a financial value of € 1,500 or higher to written documents, confessions and sworn declarations. The result of this provision is

⁹⁰ As a small terminological note, both the notions of "evidentiary" and "probative" value of a document are in common use in English language doctrine. In this Report, the notions will be used interchangeably.

that disputes relative to the validity of a contract are generally about the possibility of submitting a proof of its existence. This has led to a monopoly of written documents as a means of proof. Therefore, the principal issue for an effective use of electronic documents will depend on its ability to compete with written documents as a contractual means of proof.”

However, in commercial contracts (which are the focus of the ELDOC Study), the surveyed countries fairly uniformly indicated that electronic evidence could be freely appreciated in a court of law, the final outcome being principally decided by the methods used for creating, transferring and storing the document. It goes without saying that the electronic signature plays a significant role in answering this question, as will be commented below.

As indicated above, there are exceptions to this rule of free assessment, with certain qualified documents requiring further conditions to be met, which may be hard to meet in an electronic context. This too will be discussed below.

2.3.2. Electronic Signatures and evidentiary value

As indicated above, the main unifying influence on the European regulatory framework has clearly been the e-Signatures Directive, with little effects being attributed to the Model Law on Electronic Signatures⁹¹. When enquired about the evidentiary value of an electronic document, most national correspondents refer to the provisions of their national e-Signature law, which has typically recreated the three-tiered division of the basic e-Signature, the advanced e-Signature, and the qualified e-Signature.

The resulting situation is relatively universal in commercial proceedings: an electronic document signed with a qualified signature is equated to a paper based document carrying a traditional handwritten signature, whereas any other document's evidentiary value can be assessed freely, according to the signature method used⁹². The e-Signatures Directive's main effect (and purpose) was thus to facilitate the assessment of electronic evidence, in that it clarified the criteria of certainty.

However, its impact in practice is relatively limited, because qualified signatures are still quite rarely used, so that free assessment of electronic evidence remains the rule, rather than the exception.

It is interesting to note the initiatives that have been reported by the correspondents to attempt to stimulate the use of electronic signatures. Many surveyed countries have introduced eID cards containing e-Signature certificates or similar solutions, which are being (or will be) promoted through government and private sector initiatives, in an attempt to increase the uptake of the e-Signature. This is inter alia the case in Austria, Belgium, Estonia, Finland, and Italy.

Equally interesting is the approach taken in Denmark, where the lacking uptake of qualified signatures – as a result the unavailability of advanced electronic signature certificates being offered by certification providers in Denmark – has led the government to a different solution, namely the introduction of an alternative signature mechanism by the name of OCES⁹³. The OCES signature is described as a “*light version of the qualified electronic signature with the important difference that the holder of an OCES signature does not have to meet up and identify himself in person*”. The OCES signature, which is in effect an advanced signature according to the terms of the e-Signatures Directive, is widely supported by public authorities in their eGovernment solutions.

91 However, the Model Law on Electronic Commerce, whose signature provision was the main inspiration for the eSignature Model Law's solution, is occasionally quoted as a source of inspiration, especially for older regulations predating the eSignatures Directive.

92 This free assessment is of course closely linked to the procedures put into place by the eSignature provision of the Model Law on Electronic Commerce, which also depended on a somewhat subjective appreciation of the reliability of the method used and its appropriateness for the document involved.

93 See www.oces.dk

However, the possibility of using e-Signatures in a commercial context varies widely between the different European countries, which has led to an unfortunate cumulative effect where often only a qualified signature can ensure the signatory of legal certainty without first engaging in an in-depth examination of legal requirements in the countries involved in the transaction. Even then the signatory will first need to assess whether the document he is signing can actually legally be created in an electronic form and signed electronically, which, as will be commented below, is far from certain for most transaction types.

2.3.3. Formalities and Qualified documents

The same considerations outlined above with regard to the validity of electronic documents ring equally true with regard to their evidentiary value: while the basic rule in commercial transactions is relatively simple (electronic documents carrying a qualified signature are equated to hand-signed documents; others are subject to free assessment), in practice the situation is considerably more complex.

Largely due to the limited scope of the e-Signatures Directive, there are a number of additional formal requirements for specific contract types which can result in electronic documents being inadequate for evidence purposes, whether with or without electronic signatures. After all, Article 1, paragraph two of the e-Signatures Directive clearly stated that:

"[The Directive] does not cover aspects related to the conclusion and validity of contracts or other legal obligations where there are requirements as regards form prescribed by national or Community law nor does it affect rules and limits, contained in national or Community law, governing the use of documents."

As such, it has never been the goal of the e-Signatures Directive to allow electronic documents to replace their paper equivalents in all circumstances, and qualified documents as defined above therefore remain in each surveyed country; with typical requirements being that documents must be copied in an official (paper based) register, stamped with fiscal seals, authenticated by court decisions, ...

Since the document types covered by the ELDOC Study are quite frequently subject to such specific requirements, and since they also often fall under the exclusion clause of Article 9.2 of the e-Commerce Directive (as they will e.g. concern contracts of suretyship or require the involvement of notaries public or public officials), there is often no other way for international business partners to assess whether and how fully electronic contract conclusion is possible than to examine both legal frameworks in detail, which can be time consuming, inefficient and occasionally unreliable.

However, it should be reiterated that virtually all correspondents indicated the possibility for contract partners to conclude framework contracts (interchange agreements). For example, the correspondent from Luxembourg noted that:

"[...] the parties remain free to choose their instruments of expression of consent. The text of the Law avoids interferences with the general principle of autonomy of will expressed under Article 1134 of the Luxembourg Civil Code. Thus, a framework agreement that states that future contracts among parties of that agreement shall be made in electronic form should be considered as valid in Luxembourg."

This is an even more significant factor when assessing the evidentiary value of an electronic document than when determining its validity. After all, in a large number of cases (e.g. when no qualified signature is used) judges will have to freely assess the evidentiary value of an electronic document.

By first concluding a framework contract clarifying the conditions an electronic document should meet before it can be considered legally binding evidence, the free assessment factor can be thoroughly reduced. After all, when a framework contract has been concluded, an acting judge will only have the possibility to verify whether the framework contract itself was concluded validly, and whether the electronic document drafted or used following the conclusion of the framework contract meets the requirements specified therein.

Thus, framework contracts can considerably improve the legal certainty regarding the evidentiary value of electronic documents in a cross border context. This is e.g. also the model used by the Bolero platform, where all users are required to adhere to a central Rule Book, which governs the use, validity and exchangeability of all exchanged electronic documents:

"The Bolero Rule Book is a standard form contract that each user will be required to accept. This multilateral contract does not replace Users' underlying contracts, it simply ensures that those underlying contracts continue to have the same effect in the electronic environment as they do in the current paper environment. Some of the terms relating to the formal requirements of underlying contracts will need to change but these changes will not disturb the commercial balance. The approach, at least initially, will be to provide functional equivalence with the paper environment. The Bolero Rule Book uses the same principle as UCP 500 in that it is a private contract; where it differs is that it applies to a larger and more diverse community - the participants in world trade."⁹⁴

More particularly, the Rule Book states the following:

94 See the legal overview: http://bolero.codecircus.co.uk/solutions/trade_platform/legal.html

"2.2.2. Validity and Enforceability

*(1) **Writing Requirements.** Any applicable requirement of law, contract, custom or practice that any transaction, document or communication shall be made or evidenced in writing, signed or sealed shall be satisfied by a Signed Message.*

*(2) **Signature Requirements.** The contents of a Message Signed by a User, or a portion drawn from a Signed Message, are binding upon that User to the same extent, and shall have the same effect at law, as if the Message or portion thereof had existed in a manually signed form.*

*(3) **Undertaking not to Challenge Validity.** No User shall contest the validity of any transaction, statement or communication made by means of a Signed Message, or a portion drawn from a Signed Message, on the grounds that it was made in electronic form instead of by paper and/or signed or sealed.*

2.2.3. Messages as Evidence

*(1) **Admissibility.** Each User agrees that a Signed Message or a portion drawn from a Signed Message will be admissible before any court or tribunal as evidence of the Message or portion thereof.*

*(2) **Primary Evidence.** In the event that a written record of any Message is required, a copy produced by a User, which Bolero International has authenticated, shall be accepted by that User and any other User as primary evidence of the Message.*

*(3) **Authenticated Copies to Prevail.** Each User agrees that if there is a discrepancy between the record of any User and the copy authenticated by Bolero International, such authenticated copy shall prevail."⁹⁵*

As such, framework agreements allow commercial parties in a cross border undertaking to minimise their legal risk. It should be noted that this is a somewhat inefficient solution, as it requires parties to first conclude a framework agreement, the formalities of which should still be verified beforehand to assess its legal validity and enforceability.

For notifications, there is an equivalent issue to that of the "qualified documents", which is to find an electronic equivalent of registered mail. Registered mail, while occasionally also being required before a notification can be said to be valid, is typically used for evidence purposes. After all, the main benefit of sending out registered mail is that the recipient will either sign for its reception, or that it will be returned undelivered. While e-mails with a read-receipt could theoretically serve the same function, there is the dual problem that a recipient might read the message, but refuse to acknowledge this in any

95 See p. 11 of the Bolero Rule Book: <http://www.boleroassociation.org/downloads/rulebook1.pdf>

way; or that the read-receipt might result from its sending by an unauthorised person (e.g. a secretary or spouse) reading the message without any further legal consequences.

For this reason, the survey also requested the correspondents to indicate whether any regulatory framework existed for sending/receiving electronic mail, in a way that would make such messages acceptable as evidence in court proceedings. The result however was fairly meagre: of the surveyed states, only Italy has implemented a full legal framework for electronic registered mail that targeted the general public:

“Italy has set forth norms for the regulation of electronic registered mail (posta elettronica certificata or PEC). Here the sources are Articles 6, 47, 48 and 54 CDA and d.p.r. 11 February 2005, No. 68. Legislation deals with the requirements of this means of communication either when used for the exchange of documents among public administrations and when it is used by private parties. Not any economic entity can run a service of PEC, but only those meeting high standards of quality (ISO9000 certification among others) and capital (not less than 1 million €, and a proper insurance coverage), provided they enrol into the registry of CNIPA, the governmental agency for informatics in the public administration. As to safety measures, certified e-mail providers (hereinafter CEPs) are obliged to guarantee privacy, security (including from viruses) and preserve the integrity of information contained in the so-called “transportation envelopes” for 30 months.

It is important to note that the transmission and receipt of messages will be certified by both the sender’s and the recipient’s CEPs: the former will send an “acceptance receipt”, and the latter a “delivery receipt”. The sender gets a “receipt” from the recipient if email reaches his/her inbox, whether it has been read or not.

It is important to note that for the system to work both the sender and the recipient must have a CEP.”

Smaller scale initiatives existed in other countries, but despite the clear benefit of verifiable, secure and legally certain electronic communication, this issue seems to command relatively little attention.

2.4. Technological Neutrality and Standardisation

2.4.1. Technological Neutrality as a Market Enabler

As stated above, virtually all e-Commerce related regulation is based on the principle of technological neutrality. The central notion behind this conscious strategy is to provide a basic minimal set of goals and criteria to be met by any solution provider, and then to let solutions evolve naturally in the market. The expected benefits of this approach are the regulation's flexibility (since technology changes in the market will not require the regulatory framework to be amended) and the assurance that the free market does not become imbalanced by imposing technical requirements that every enterprise must meet, or risk being barred from competing.

Of course, the logical downside of this approach is that it can take a long time before common standards can evolve and gain traction in the marketplace (if indeed this happens at all), which can result in the adverse effect of slowing economic development down, as individual actors design and market their own (and not necessarily interoperable) solutions. This problem was noted in a number of reports, including e.g. the Spanish one:

“Another important characteristic of e-Commerce regulations is that they follow a principle of technological neutrality. Its application makes regulations flexible and highly adaptable to the constant changes of technologies, but that may hinder the establishment of wide spread use of common standards.”

Therefore, while technological neutrality can indeed function as a market enabler, it is important to realise that technological neutrality may correlate negatively with interoperability, and that as a result market enablers are no guarantee for market uptake.

To remedy this problem on an international scale, a common approach is for international institutions to issue standards and guidelines which, while not mandatory, are considered to comply with the requirements of the applicable legal framework. Although market actors retain the possibility of rejecting such standards and guidelines and develop their own solutions autonomously, there is a considerable economic incentive in observing them. After all, solutions that adhere to internationally recognised standards will often be considerably more appealing to the users than non-compliant standards. As we have seen in the example above, such standards exist specifically with regard to electronic signatures, electronic invoices, a number of document formats, and of course publicly available communication protocols.

Nonetheless it should also be noted that standards can not always guarantee the development of interoperable solutions which can compete on equal terms. It is not uncommon that standards offer clear guidelines for implementations, but still offer more than sufficient room for personal input, creativity and improvement. The final result is

often a product that can claim standard compliance, and yet be unfathomable to competitors, and thus ultimately non-interoperable.

Thus, even the presentation of standards and guidelines may not be sufficient to ensure the coming into existence of interoperable solutions which the market can embrace.

2.4.2. Practical examples of Technological Neutrality in Electronic Documents

In Chapter I of this Report, we have already referred to a number of international initiatives which embraced the concept of technological neutrality as its guiding principle, including the UNCITRAL Model Law initiatives, and the European eDirectives (e-Signatures, eInvoices, and e-Commerce).

As prescribed by these initiatives, the surveyed states have largely followed this example, with technological regulations prescribing certain file formats or technical standards being the exception, rather than the rule⁹⁶. As a result, most electronic data exchange processes are not linked to specific standards

Only with regard to electronic communications with public administrations is it somewhat common to deviate from this principle, and to proscribe the manner in which citizens can communicate electronically with their governments. This applies not only to communications in general⁹⁷ (e.g. file formats which public administrations will accept⁹⁸), but also to specific services, such as tax declarations, communication with the courts⁹⁹, and electronic invoicing¹⁰⁰.

As a general rule, regulations remain technology neutral with regard to communication between private sector parties, and occasionally abandon this principle in B2A and C2A communications.

96 See also Chapter II, Section A.2. on so-called technology oriented regulatory frameworks.

97 Poland has an extensive ordinance in place on minimal requirements for teleinformatic systems .

98 See e.g. the Slovakian profile, which refers to an eSignature Ordinance, which allows only specific file formats in administrative interactions, including ASCII, Microsoft/Apple Rich Text Format (RTF) version 1.5, Adobe Portable Document Format (PDF) version 1.3 and 1.4, HTML 4.01 as defined in international norms (see www.w3c.org/TR/REC-xml), and S/MIME version 3 as defined in international norm (RFC 2633 S/MIME V3) etc.

99 See e.g. the German profile, which refers to a new Regulation that would allow Adobe PDF (version 1.0 – 1.3), Microsoft Word 97 or 2000, Microsoft RTF version 1.0 - 1.6, HTML (viewable with IE 5.x) and XML (viewable with IE 5.x).

100 Norway has reported initiatives aimed at developing XML-based invoicing.

2.4.3. General assessment

The inherent risk of technological neutrality (i.e. of divergent implementations impeding cross-border functionality) seems to have materialised in virtually every examined field. While harmonisation initiatives continue and certainly appear to be promising, no European interoperability has been achieved in an open system¹⁰¹ relying on electronic signatures or on electronic authentication mechanisms. Thus, whenever contractual parties wish to rely on electronic signatures (either for contractual or notification purposes), they will first have to verify whether there is a common infrastructure that would allow their counterparty to verify the validity of the signature; if such an infrastructure is lacking, the parties will likely refuse to rely on electronic communication methods.

In existing administrative practices, this trend is somewhat tempered due to the fact that each country typically has the possibility to unilaterally impose a given technological solution to its users, so that the question of interoperability becomes pressing when electronic documents need to be exchanged between national administrations (A2A).

From this perspective, the regulatory framework for eCustoms is an interesting example, since it requires electronic customs declarations to be made in compliance with certain agreed European standards, which can then be processed through the NCTS-network (see below, Chapter IV, C, for a more in-depth examination of this mechanism). The surveyed countries that are subject to the European regulatory framework have fairly universally reported high uptake rates, typically quoting between 70 and 85% of declarations to be processed electronically. While the relative success and ease of market penetration cannot be attributed uniquely to the fact that a non-technology neutral solution has been centrally imposed on all participating countries, the availability of common standards and a common infrastructure has undoubtedly been an influence for the better.

It should be noted that several country reports also referred to the increasing demand for open formats in B2A and C2A communications, often XML-based¹⁰². This could undoubtedly also prove to be a positive trend towards the increased uptake of electronic documents, given the relative ease with which service providers could adapt their existing products to embrace such open standards, while avoiding the thorny issues of vendor lock-in and future accessibility. This is also a trend that has been embraced on a European scale, inter alia through the IDABC European Interoperability Framework for pan-European eGovernment Services¹⁰³. The Framework Report defined the following

101 An open system in the present context should be taken to mean any system or service that is not restricted to a tightly defined user group that shares clear and common characteristics, such as a common nationality, a common legal framework or a common contractual understanding.

102 Inter alia the following countries have implemented procedures or prescribed standards based on XML, according to the national profiles: Belgium, Germany, Iceland, Norway, Poland, Portugal, Spain, The Netherlands and Turkey. The actual number is likely to be significantly higher, as the survey is not exhaustive, and certain applications (e.g. NCTS modules) frequently operate using XML-based formats.

103 See <http://ec.europa.eu/idabc/en/document/3761>

conditions for open standards:

"An open standard must:

- *Be adopted and maintained by a not-for-profit organisation, and its ongoing development must occur on the basis of an open decision-making procedure available to all interested parties.*
- *Be published and available either freely or at a nominal charge. It must be permissible to all to copy, distribute and use it for no fee or at a nominal fee.*
- *Make related intellectual property irrevocably available on a royalty-free basis.*
- *Have no constraints on standard re-use.*¹⁰⁴

While practical reasons (most notably the market domination of certain proprietary standards with the general audience) indicate that open standards will not immediately rise to the status of de facto standards, current trends (both on the market and with public administrations) seem to indicate that open standards will continue to become more prevalent. This may prove to have a significant impact on electronic document interoperability.

104 See p. 16 of the Framework Report; <http://ec.europa.eu/idabc/servlets/Doc?id=19528>

Chapter III: Interoperability of European e-Business processes

3.1. Introduction

In this third Chapter of the Report, we will provide the reader with an overview of the guiding principles to be taken into account when relying on electronic documents in a cross-border context. For each examined business process in the national surveys, an explanatory section will be provided detailing the specific issues that could cause difficulties in international business relations.

Thus, this Chapter serves more of a practical purpose, and is directed specifically towards legal practitioners looking to gain more insight into the potential pitfalls of the cross-border use of electronic documents.

3.2. Credit arrangements

In the survey sent out to the national correspondents, the Study Team requested the correspondents to provide information the status of electronic documents when concluding credit arrangements, particularly between the buyer and seller of goods in an international context. The correspondents were specifically suggested to look into the use of electronic documents as bills of exchange and documentary credit arrangements. Both document types tend to be extremely formalistic in nature, typically relying on a more or less extensive list of requirements, both for validity purposes and for evidence purposes.

Credit arrangements form a good test case of overall acceptability of electronic documents in e-Business transactions, as they comprise a volatile cocktail of characteristics that collectively could prove to be a significant obstacle to their acceptability in electronic form. These characteristics include:

- The fact that legislation is occasionally unavailable, so that legal practice relies fully on doctrine, jurisprudence and commercial tradition;
- When legislation does exist, it tends to be decades old, so that references to electronic documents are extremely rare;
- The typically high value of these contracts, which means that contractual partners will be even less likely to accept any kind of risk in using

electronic documents;

- The highly formalistic nature of such agreements, as stated above, which e.g. implies that the documents often embody a right, rather than merely serving as evidence to it. Thus, the integrity (and sometimes uniqueness) of the documents becomes an even larger factor.
- The fact that credit arrangements are most often used in cross-border commercial relations where the contractual parties are not familiar with one another, so that cross-border validity and acceptability of electronic documents constitutes an even larger problem.

Quite logically, the national reports clearly indicated that there was a significant difference between credit arrangements which were specifically legislated (which was often the case for letters of credit or promissory notes), and which were purely based on convention (mostly documentary credit arrangements¹⁰⁵). Both hypotheses will be separately dealt with below.

3.2.1. Conventional arrangements

Principle

When no specific law applies, the business partners typically enjoy a large degree of contractual freedom. The parties' activities are basically subject to their generic e-Commerce contract framework, and as indicated above, none of the surveyed states bans the use of electronic documents per se. Thus, in principle, there is no reason why contracts that are not subject to specific legislation (such as documentary credit arrangements) could not be validly concluded in a purely electronic form.

Practical issues

Nonetheless, and despite the absence of clear legal barriers, there may yet be administrative or practical barriers impeding the use of electronic documents. E.g. for

105 Although exceptions remain, so that contractual partners must remain vigilant. E.g. the documentary credit is regulated under the Bulgarian Commercial Code, albeit in a summary manner which allows electronic documents to be used. None the less, the example indicates that business partners will have to ensure compliance with both legal frameworks, and provide the required legal assurance.

electronic documents, the basic purpose of the undertaking is that the beneficiary can present a document or a series of documents to the bank or financial institution backing the credit arrangement, in order to obtain payment if the conditions of the documentary credit are met. While there is no legal reason to deny legal validity to electronic documents being presented, the parties will still have to verify with their bank – who is after all a party to the contract – whether it will accept the presentation of electronic documents, and under which conditions.

Cross-border context

When the parties are operating from different legal systems, their main concerns should be twofold.

Firstly, as indicated above, they should verify whether either of their legal systems has specific regulations which apply to their contract, either with regard to the contract itself (e.g. an obligation to use traditional signatures) or from an administrative perspective (e.g. an obligation to append fiscal seals to the document). Based on this, the parties can choose the applicable laws¹⁰⁶ to ensure that any discussions are minimised.

Secondly, it should be noted that documentary credit arrangements or other such crediting contracts are typically extensive, and that parties will typically have the opportunity of expressly indicating which type of electronic documents they will deem acceptable, and accept an obligation not to dispute their validity or evidentiary value provided that certain conditions are met¹⁰⁷.

Provided that these basic precautions are taken, conventional credit arrangements typically present few difficulties.

106 Insofar as this is not determined by the intervening financial institution.

107 See also the extract from the Bolero Rule Book above, in Chapter II, C., which takes exactly this approach.

3.2.2. Regulated credit arrangements

Principle

The situation changes somewhat when there is specific regulation regarding a credit arrangement contract. This is quite often the case for letters of credit and promissory notes, with the Geneva Convention Providing a Uniform Law For Bills of Exchange and Promissory Notes¹⁰⁸ inspiring legislation in several of the surveyed countries¹⁰⁹. Dating back to a 1930 initiative from the League of Nations, the Convention has an extensive section on the formal requirements of a bill of exchange¹¹⁰, which obviously does not mention the use of electronic documents.

As the surveyed countries have typically not strayed far from the original text, it is interesting to note how the formal requirements of the Convention have been interpreted in a different manner. All countries note that the Convention does not strictly speaking mandate the use of paper text and a handwritten signature, and furthermore that the e-Commerce Directive and its transposition would appear to make the use of electronic documents and electronic signatures a possibility.

Nonetheless, virtually all surveyed countries argue against this, with the reasons for this reluctance to accept electronic documents varying. For example, the Austrian correspondent argued that the law clearly required a single original document, signed by the issuer, which is a requirement that an electronic signature could not readily meet¹¹¹ without further assurances¹¹². The Hungarian report indicated that the presence of a handwritten signature was a formal requirement for the existence of a bill of exchange that could not be easily replaced by an electronic equivalent. The Romanian doctrine affirmed that the signature had to be handmade, and that Romanian banks did not presently accept electronic versions.

In all cases, the general pattern was that the law in this matter clearly referred exclusively to paper documents and hand-written signatures, and that electronic versions might be possible, provided that the parties show a little legal creativity. The Icelandic report was particularly insightful in this regard. It noted – as many others had – that the only real

108 For a full-text version of the Convention, see:

<http://www.jus.uio.no/lm/bills.of.exchange.and.promissory.notes.convention.1930/doc.html>.

109 The Convention was referred to in many profiles as a source of regulatory inspiration, including Austria, Germany, Hungary, Iceland, Romania, and several others.

110 See Title 1 Chapter I of the Convention, spanning articles 1 through 10.

111 After all, an electronically signed document can be easily copied, creating a multitude of "original documents", which would run contrary to the law.

112 E.g. the intervention of a TTP that could keep track of the "original" electronic document.

legal issue was the necessity of presenting an original document, and that this function would require the intervention of a TTP.

However, the correspondent also noted quite correctly that an electronic "bill of exchange" could easily and legally be created, provided that the parties draw up a suitable framework themselves, involving a party to act as a TTP. The result would be an entirely dematerialised contract, perfectly¹¹³ equivalent to a bill of exchange in its validity and legal effect. However, the end result would likely not be subject anymore to the provisions of the legal acts governing a traditional bill of exchange, as the legal relations between the parties involved (which may indeed involve an extra party in the role of a TTP) may simply no longer fit the mould of a bill of exchange in the traditional sense of the word.

The most significant conclusion that can be drawn in such cases is that e-Business partners, as well as doctrine and jurisprudence should be aware of the teleological context of existing contract types: what is the purpose of the contract, and how can this be recreated in an electronic environment? In certain cases where doctrine is hesitant to accept electronic documents as such, workarounds can be found by business partners willing to show a minimal amount of creativity¹¹⁴, thus essentially replacing a regulated environment by an entirely conventional one¹¹⁵.

Practical issues

As indicated above, the legal issues as such are not the reason why it is difficult to conclude electronic letters of credit or similar contract types. Virtually no correspondent found that their legal framework as such was incompatible with electronic documents or electronic signatures. Rather, the underlying argument against electronic bills of exchange seemed rather more focused on the fact that its structure itself required an

113 At least between the parties. It goes without saying that the parties would no longer be able to call upon the provisions of any legal texts regarding the bill of exchange with regard to any third parties, as the new contract would likely no longer be governed by such texts.

114 This view of course only paints a partial picture, as only cursory attention is given to the essential role of intermediary service providers. This issue will be examined in detail below.

115 At least to the extent that this is legally possible, keeping into account the problem that judges may sometimes requalify an unnamed convention to one that is subject to the regulatory framework, when the contract's essential provisions show that the parties had clearly intended to conclude a contract of a named type. This could lead to difficulties in practice. E.g. it is not inconceivable (following the example of the main text) that parties note that their laws are not fully amenable to electronic bills of exchange, and therefore decide to draft a contract that would recreate the desired effects of a bill of exchange. In case of dispute, it would be possible for a judge to rule that the contract none the less constitutes a bill of exchange; that it should therefore meet the law's requirements; and subsequently to rule the contract null and void for failing to meet these legal requirements, such as the use of paper or a handwritten signature. Although this scenario is considerably less likely after the transpositions of the eCommerce Directive, this possibility cannot be excluded altogether.

original document to exist, and that this structure can not be readily replicated in an electronic context without the intervention of a TTP. Thus, rather than arguing against electronic documents recreating the function of bills of exchange, most correspondents argued against replacing the contract itself by a pure electronic version without any further supporting measures. The nuance is not without importance, as we shall see below¹¹⁶.

Also, it should be noted that several correspondents indicated that their interactions with their national banking institutions showed that no practice existed regarding the use of electronic bills of exchange, and that banks did not feel it to be legally possible, even when this was not entirely clear from the legal framework itself¹¹⁷. e-Business partners should thus also be aware of a possible reticence with their administrative partners (in this case financial institutions) to employ electronic documents. While not strictly speaking a legal concern, this is still a barrier to the uptake of electronic documents.

Cross-border context

As the section above already notes, in a cross-border context the main issue for e-Business partners will still be to find a manner in which to recreate the functions of the desired credit arrangement in a legally binding way. From this perspective, it is worth noting that most reports indicate that they see no real reason (notably following the transposition of the e-Commerce Directive) why any given credit arrangement could not be concluded electronically, apart from the practical issue of requiring the intervention of a TTP to verify the originality of an electronic document. However, if this issue can be resolved, legal issues with regard to the validity or cross-border acceptability of an electronic credit arrangement will typically not be more complicated than that of any other contract.

116 See Chapter V, Section D – eDocuments or eBusiness.

117 See e.g. the Romanian report.

3.2.3. Mixed systems

Finally, the possibility also exists that for any given credit arrangement, one party's legal framework will have explicit regulation (i.e. a specific law regarding the formal requirements) whereas the other party does not. In this relatively rare circumstance¹¹⁸, the main concern for the parties will be to choose the applicable law and the competent court in the arena that is most amenable to the envisaged transaction. However, the national reports indicate that the legal frameworks tend to diverge to only a small extent, so that this will not lead to problems as often as one might expect.

118 The reports indicate that regulatory customs tend to be relatively uniform across Europe: traditionally conventional constructions such as the documentary credit tend to be unregulated in virtually all surveyed countries, whereas traditionally regulated constructions such as the bill of exchange show the inverse (i.e. tend to have specific laws).

3.3. Transportation and Storage of Goods

While the document types commented in this section are among the most common – indeed, it is scarcely conceivable to monetise a good without transportation and storage agreements – the use of electronic documents in such processes is certainly not evident.

In fact, a broad distinction can be made between two common types of regulatory frameworks in this category, which do not necessarily exist in all European countries:

- on the one hand relatively generic and form-free storage and transportation regulations, where the applicable law specifies little to no formal requirements for the validity and proof of a contract.
- on the other hand, certain contract types will be more tightly regulated in certain countries, requiring e.g. the registration of a storage contract in a storage register, the issuing of a storage receipt, or the physical hand-over of the goods before a contract can be considered concluded.

Both varieties of regulatory frameworks will be extensively commented below, along with a discussion of the principal consequences for the validity and exchangeability of electronic documents.

It should be noted that it is fairly common for European countries to distinguish between several types of transportation or storage contracts, some of which may be informal, and some of which may be highly formalistic. For example, several countries have reported separate legal frameworks for (less formal) storage contracts in general, as opposed to (more formalistic) warehousing contracts. This is inter alia the case for Lithuania:

“Storage contracts are regulated by Chapter XLII of the Civil Code. Pursuant to the Civil Code there are several kinds of storage contracts (for instance, warehouse contract (Articles 6.851-6.862), deposit of articles in a hotel (Article 6.865), deposit of items with a bank (Article 6.866), deposit of items in left luggage offices of transport companies (Article 6.868), deposit of items in the cloak-room (Article 6.869), etc.).

[...]

Storage of goods as a separate type of contract of storage is regulated in Section 2 of Chapter XLII of the Civil Code. On the basis of a contract on storage of goods (or warehouse contract) the warehouse (the warehouse-keeper) undertakes to safeguard for consideration the goods deposited with it by the owner/depositor of the goods and to restore them to the specified person after safekeeping.

According to the Civil Code the warehouse contract must be executed by issuing a

warehouse certificate. Conclusion of the warehouse contract may be certified by one of the following documents: (1) double warehouse certificate; (2) ordinary warehouse certificate; or (3) warehouse receipt. A double warehouse certificate and an ordinary warehouse certificate are securities. A double warehouse certificate is a document of title granting the right to dispose of the goods. The Civil Code provides for the mandatory requisites that must be included in the double warehouse certificate. In case at least one of the requisite items is missing, a document is not to be deemed a double warehouse certificate.”

Similarly, transportation contracts can take many forms, depending on the circumstances of the service to be provided. This is inter alia demonstrated by the Italian report, which refers to *lettera di vettura* (consignment note), *polizza di carico* (bill of lading), *fede di deposito* (dock warrant), *lettera di vettura* (in terrestrial transportation) and *polizza di carico* (in maritime transportation).

Thus, it is possible (and indeed common) for a surveyed country to have both generic and formalistic contract types¹¹⁹, so that the categories below should not be considered to be mutually exclusive.

3.3.1. Generic storage and transportation contracts

Basic principles

In the most basic hypothesis, a regulatory framework will not proscribe specific regulations with regard to the form of a given type of storage contract. This is fairly common in principle-oriented and flexibility-oriented legal frameworks¹²⁰, which often provide for only the most rudimentary provisions regarding storage and transportation contracts, or even for none at all¹²¹.

Use of electronic documents

In such cases, the question of the acceptability of electronic documents is generally speaking an application of the general principles of e-Commerce legislation. Therefore, the national transpositions of Article 9 of the e-Commerce Directive will typically apply,

119 See e.g. the multitude of transportation documents under Austrian law, including the rather informal *Frachtbrief* and the various more formalistic *Ladescheins*.

120 See Chapter II, Section A for an explanation of these notions.

121 E.g. Ireland has no specific legal provisions that apply to storage contracts.

and the legal framework will generally be fairly flexible towards the use of electronic documents. In most instances, national correspondents have not reported real legal barriers to the use of electronic documents.

3.3.2. Formalistic storage contracts

Basic principles

On the other hand, most countries have also put in place more formalistic regulations for certain transportation or storage agreements, such as bills of lading (or equivalent contracts with a lesser focus on maritime transport) or warehousing agreements (defined as contracts of storage in which a professional service provider agrees to safekeep certain goods, usually in exchange for a certain remuneration, and with a certain set of guarantees towards the safety of the goods). The formal requirements for such agreements can take many forms, some of which cannot be directly fulfilled by electronic documents. Mostly these requirements are the practical result of the intended purposes of the documents, and work-arounds can be found in an electronic context. The following problems can be considered more or less common:

- *the notion of originality*: a number of transportation or storage documents are required to be issued in an original form. This is e.g. the case when storage receipts or warrants¹²² are issued by warehouse stockists, and when bills of lading are issued by the carrier of a maritime cargo. In both cases, the original document constitutes a title to the goods, i.e. it is a legally binding proof of a claim to the stored or transported goods, and the bearer of the document has the right to claim them¹²³. This complicates matters somewhat: the document is no longer simply proof of a contractual reality; it also embodies the claims resulting from that reality. Legal rights are then inextricably connected to a document, and for this reason, no duplicates of the document can be allowed to exist.

This situation is of course analogous to the regulated credit arrangements as outlined above¹²⁴: while it is possible to engage in such undertakings by relying only

122 See e.g. the Austrian profile, which refers to the stockist's possibility to issue a warehouse warrant (*Lagerschein*, §§ 424 et seq. Code of Commerce), which confirms 1) the receipt of the storage goods and 2) the restitution of the goods on presentation of the warrant. This warrant exists in three varieties, called *Rektalagerschein*, *Inhaberlagerschein* and *Orderlagerschein*.

123 Except in the rare circumstance of non-negotiable title documents, where the bearer must be the person indicated *nominatim* in the document. In this case, the bearer is only entitled to the goods if he is the person indicated in the title document. This is relatively rare, since it greatly restricts the utility of such documents.

124 Section B.2. of this Chapter.

electronic documents, this will require the intervention of a TTP to keep track of the original document. As indicated above, it is possible for the parties to agree to this contractually, provided that the applicable legal framework is amenable to this and that a suitable TTP can be identified.

- *practical administrative issues*: furthermore, certain storage or transportation contract types can be subject to additional formalities in certain countries, requiring e.g. the registration of a storage contract in a (paper based) storage register, the issuing of a storage receipt of which only paper models are commonly available, the application of fiscal seals or the physical hand-over of the goods before a contract can be considered concluded. In all of these cases, the functions of the formal requirements could be easily recreated (and often improved upon) in an electronic context, but legal or administrative requirements may stand in the way. Such requirements can prove to discourage the use of electronic documents, or even make it impossible.

Use of electronic documents

For formalistic transportation and storage document types, parties wishing to rely on electronic documents will first have to assess whether the applicable law imposes any formal requirements which cannot be met in an electronic context. If this is not the case, they will have to determine how the functions of the desired contract type can be recreated in an electronic context. From this perspective, standardised communication platforms such as the aforementioned Bolero network can certainly provide assistance to parties attempting to assess their possibilities.

3.3.3. The cross-border context

As the reader will have noticed, the legal situation for both generic and formalistic contract types is rather similar to the situation for credit arrangements. In a cross-border context, the parties' main concerns should be the identification and choice of the legal framework and legal arena most amenable to the envisaged transaction, and their willingness to draft a contractual basis for their legal relationship that corresponds to their needs, rather than to any pre-conceived notions of how such a relationship would be formed in a paper context.

Again, there are very few hard and clear legal barriers to the use of electronic documents in cross-border transportation and storage agreements that cannot be sidestepped by examining the purpose of a contract and creating a suitable technological solution. The only real barriers tend to be of a practical and administrative nature; most notably the identification of service providers (storer or shippers) who are willing to adapt or who have adapted their business processes to an electronic context; and requirements that can only be fulfilled in a paper context, or which would be disproportionately difficult to recreate in an electronic context.

3.4. Customs declarations

One of the main problems in the introduction of electronic documents in business transactions is that customs often do not accept them as legally valid. Therefore, even when trade partners agree that electronic documents are acceptable, they will often decide against using them to avoid legal arguments with customs services or other public authorities.

3.4.1. European customs regulations

On a European level, customs regulation has been incorporated in Council Regulation (EEC) No 2913/92 establishing the Community Customs Code¹²⁵, supplemented by Commission Regulation (EC) No 2787/2000 amending Regulation (EEC) No 2454/93 laying down provisions for the implementation of Council Regulation (EEC) No 2913/92 establishing the Community Customs Code (Text with EEA relevance). In addition, Regulation (EC) No 648/2005 of the European Parliament and of the Council of 13 April 2005 amended Council Regulation (EEC) No 2913/92, allowing the use of data processing techniques and consequently of electronic customs declarations¹²⁶.

The objective was to harmonise customs regulations in all Member States and the EEA countries, in a fashion that would permit the electronic transmission of harmonised data using common interfaces. The use of electronic documents should therefore be permitted based on a universally accepted standard, keeping into account existing international initiatives¹²⁷. In this manner, electronic customs declarations and electronic data exchange should become the norm¹²⁸, rather than the exception.

The Community Customs Code repeatedly emphasises that certain declarations may be made “using a data-processing technique where provided for by provisions laid down in accordance with the committee procedure or where authorized by the customs authorities”. These data processing techniques have been specified in greater detail by Commission Regulation (EC) No 3665/93¹²⁹, containing definitions of such terms as “data processing technique”, “EDI” and “standard message”. The regulation stipulates that the handwritten signature may be replaced by another technique, to be chosen by customs authorities.

125 Council Regulation (EEC) No 2913/92 of 12 October 1992 establishing the Community Customs Code, OJ L 302, 19 October 1992

126 See: http://eur-lex.europa.eu/LexUriServ/site/en/oj/2005/l_117/l_11720050504en00130019.pdf

127 Such as the customs harmonisation initiatives of the WTO and the WCO Customs Data Model.

128 For more detailed information, we refer to the “[Report on the proposal for a European Parliament and Council regulation amending Council Regulation \(EEC\) No 2913/92](#) establishing the Community Customs Code (COM(2003) 452 C5-0345/2003 2003/0167(COD))”

129 Commission Regulation (EC) No [3665/93](#) of 21 December 1993 (Official Journal L 335 of 31 December 1993)

The text does not contain an emphatic preference for the digital signature, although the text does require the technique to permit “checking the source of data and [...] protecting data against the risk of unauthorized access, loss, alteration or destruction”. Considering these requirements, the advanced digital signature seems an obvious choice.

For the management of transit procedures, there is a New Computerised Transit System (NCTS¹³⁰), and an electronic network to which national Customs offices/authorised traders are connected.

3.4.2. National regulations

Since the introduction of these rules, all EU Member States customs offices have gradually joined the NCTS-network, which permits the exchange of electronic data with connected offices.

The customs declarations are lodged on standardised SAD (Single Administrative Document) form (largely harmonised), with the electronic messages codified and transferred via secured network ((CCN/CSI). As for the pre-arrival and pre-departure declarations, which will have to be lodged electronically under Regulation (EC) 648/2005, the data elements will be fully harmonised in the EU and be again transferred via a secured network.

Furthermore, the transit procedure between the EU Member States, Iceland, Norway and Switzerland is done on the basis of the Convention between the European Economic Community, the Republic of Austria, the Republic of Finland, the Republic of Iceland, the Kingdom of Norway, the Kingdom of Sweden and the Swiss Confederation, on a common transit procedure¹³¹.

The customs procedures within the Member States themselves are done on the basis of the Community Customs Code and the Code's implementing provisions.

On the other hand, a number of documents are still required to be lodged with the customs declaration (certificates, confirmations, loading lists, etc.). These documents usually fall within the competence of different agencies in the member states and/or third countries and are not harmonised.

130 For detailed information regarding the NCTS, see http://ec.europa.eu/taxation_customs/customs/procedural_aspects/transit/common_community/index_en.htm

131 See [http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=en&numdoc=21987A0813\(01\)&model=guicheti](http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=en&numdoc=21987A0813(01)&model=guicheti)

Both EU Member States and the non-EU surveyed countries generally indicate a large uptake of electronic documents in customs declarations, typically quoting around 70-85% of declarations being concluded electronically.

Exceptions to this rule exist in certain candidate countries, with e.g. the Croatian correspondent noting that electronic declarations are presently only possible after obtaining the consent of the Croatian Main Customs Office. Such regulations are of course detrimental to the use of electronic declarations, especially since the correspondent also indicated that there are no clear criteria to be met for candidates applying for such consent, and that the Main Customs Office can exercise its decision making power discretionally. Inversely, the Romanian report indicated a high uptake of electronic declarations, and the Turkish and Bulgarian reports indicated that their legal and administrative frameworks were entering the final stages to make electronic declarations commonplace, so that there is no clear demarcation between EU countries, EEA countries and candidate countries in this respect.

3.5. Fiscal and financial management

3.5.1. Introduction

Finally, in order to complete the set of e-Business process phases, it is important that European enterprises are allowed to keep their financial and fiscal documents in an electronic form. After all, if every other step of an e-Commerce activity can be handled electronically, an unnecessary and inefficient overhead is created if the enterprises engaged in the e-Commerce activity are still required to print out their invoices, cost statements, or any other document that might be required for taxation purposes.

Principally, the ELDOC Study focused on three separate issues regarding the status of electronic documents in fiscal and financial business processes according to their national legal framework:

- First of all, the status of electronic invoices: can invoices be issued electronically, and if so, under what conditions? How and where should electronic invoices be stored, and for what period of time?
- Secondly, the openness of the national legal frameworks to electronic accounting, where no cross-border harmonisation initiatives have been identified¹³².
- Finally, a number of European countries require all or some of the enterprises incorporated within their national borders to annually deposit certain fiscal documents with the competent authorities. It is thus also important to determine if this deposit can be done electronically, or whether companies would be required to provide printed paper versions of these fiscal documents only.

The importance of this particular section of the national reports lies not only in the assessment of the completeness of the national e-Commerce frameworks by verifying to what extent companies can meet their administrative obligations in an electronic manner, but also and perhaps more importantly in determining the e-Readiness of each given country's public administrations. After all, more than any other business phase examined in the national reports, the fiscal/financial management aspects of e-Business are also focused on fulfilling requirements imposed by public administrations, rather than purely on achieving a company's internal economical goals.

Thus, the flexibility of this particular aspect of a country's legal and administrative

132 Apart from general standards from professional organisations, such as the GAAP standards.

framework is a clear indication of the importance which that country has placed on modernising their own internal processes in an effort to increase efficiency and reduce costs, to the mutual benefit of the public sector and the enterprises with which it interacts.

For this reason too, the acceptability of electronic documents in fiscal and financial business processes is a key element for the assessment of a country's legal and administrative e-Business framework.

Below, we will provide an overview of the main findings of the three sections.

3.5.2. e-Invoicing

The ELDOC Study has mostly focused on the impact of the aforementioned e-Invoicing Directive, which the EU Member States have all transposed with relative faithfulness to the original text, and with which the candidate countries are aligning their national regulations. Generally speaking, the EEA countries' regulations were also found to correspond largely to the Directive's provisions.

Validity requirements

As stated above¹³³, the e-Invoicing Directive requires:

- That the recipient must accept the use of electronic invoices before one can be validly issued;
- That the origin and integrity of eInvoices should be guaranteed, either:
 - through EDI, provided that the agreement between the trade partners contains guarantees regarding the authenticity of the origin and the integrity of the data; and possibly conditional upon the issuing of an additional summary document on paper;
 - through advanced (or possibly qualified) electronic signatures;
 - Through any other means accepted by the Member State(s) concerned (e.g. fax, e-mail, etc.). Note that in cross-border transactions this will require that all legislations involved (i.e. of both the recipient and the sender's countries) accept the validity of such invoices.

While the surveyed countries have not strayed far from these provisions, a certain diversity does exist (as allowed and intended by the Directive) with regard to the

133 See Chapter I, Section A.1.

possibility of using electronic invoices. While certain countries (e.g. Ireland) require an advanced electronic signature, others (e.g. Germany) require a qualified signature. Others (e.g. Finland and Estonia) require no signatures for eInvoices. There are even a number of countries (e.g. Belgium and Poland) which do not require signatures on paper invoices in order to be valid, but which have introduced this requirement for electronic invoices. The Polish analysis is particularly instructive in this regard:

“Due to all the considerations, according to the very common practice prior to the enactment of the Ordinance [introducing a legal framework for e-Invoicing], parties used to send invoices to each other by a plain e-mail, after concluding a preliminary consent agreement.

This is no longer legal, as the Ordinance on e-invoices recognises only secure electronic signatures verified with the use of a qualified certificate and, under some conditions, EDI as legitimate options of guaranteeing authenticity and integrity of the contents (§ 4).

The change has been heavily criticized since the moment the Ordinance on e-invoices was issued, particularly when one considers that its issuance took place only 1,5 month after the much more liberal general Ordinance mentioned earlier in this point.

The latest experiences show that the new e-invoices have not been accepted by the market, especially SMPs, due to the costs of the technical infrastructure in the event of using advanced signatures. In the majority of cases enterprises still send invoices by plain e-mails, printing them afterwards for fiscal control purposes. This practice is illegal, but cheaper and undetectable in practice. ”

This explanation is illustrative of a common problem in the technological neutrality approach taken by both the e-Invoicing Directive and the e-Signatures Directive. The traditional regulatory frameworks applicable to common business documents (including invoices) are drafted from a purely functional perspective: which are the formal requirements to be met in order to ensure that the functions of the document can be met? For invoices, many European countries (including the aforementioned examples of Belgium, Estonia, Finland, Poland, and various others) had concluded in a paper-based context that no signature was required.

However, when converting this function to an electronic context, this purely functional approach takes on a smaller significance, and the attention shifts to the added value that electronic processes can offer when compared to the paper based procedures. This occasionally (as was e.g. the case in Belgium and Poland) results in a desire to ensure a maximum amount of security, thus maximising this added value, while much more restricted guarantees were deemed acceptable in a paper environment. In short, the regulation of traditional processes was often functionality-oriented, whereas their modernised versions attempt to maximise utility. As a result, complications may occur,

where an unsigned paper document must be replaced by an electronic document signed with a qualified signature, often perceived as the only “full” equivalent of the traditional signature, as the only technology that can guarantee legal validity.

Given this penchant for overkill in signature requirements for electronic invoices, which the Polish example shows can actually prove to be a deterrent to market uptake, it should come as little surprise that EDI-based solutions tend to dominate in the market, since it is more flexible from a legal point of view.

From a cross-border perspective, it should be noted that the necessity of an invoice being legally valid in both the sender's and the recipient's countries means that the strictest legal regime will determine the requirements to be met. Thus, a European e-Invoicing service provider under these conditions would be confronted with the arduous task of offering a solution that meets the most rigid European requirements (at least when the solution relies on electronic signatures), as any other solution would risk being invalid in stricter countries.

Furthermore, the Directive allows the Member States to impose additional requirements for invoices from a country with which no legal instrument regarding mutual assistance exists, both with regard to the invoice itself and to its storage in third countries. This requirement has been implemented e.g. in France and in Luxembourg, thus further complicating the picture.

Storage

In order to ensure the proper functioning of the internal market, the e-Invoicing Directive specifies that the place of storage of electronic invoices can be chosen by the issuer, provided that they remain available to the tax authorities without undue delay. Furthermore, Member States may request a prior notification to the national tax authorities if invoices are stored outside of their national borders, and they may demand that invoices are locally stored (i.e. within the taxable person's country) if the electronic storage does not guarantee full on-line access to the data concerned. Finally, the fixation of the period and terms of storage can also be set freely by the national law makers.

The national reports show that this has resulted in quite a diverse picture with regard to the storage of electronic invoices. All countries permit storage outside of their national borders to some extent, but subject to noticeably different conditions. Some countries allow an almost complete freedom with regard to the storage location (e.g. Estonia), while others are quite strict. For example, Germany allows storage only in the EU Member States. Cyprus' law states that storage is allowed everywhere, but only after notification to the fiscal authorities. France on the other hand only allows storage outside its national borders in countries that have signed mutual assistance agreements.

Storage terms too can vary quite extensively, from 3 (e.g. France) to 10 years (e.g.

Germany).

Finally, in the candidate countries, an inadequate legal framework for e-Invoicing was occasionally reported (e.g. in Romania and Turkey), although this can be expected to be remedied as the *acquis communautaire* is transposed into national law.

Signature holder

One additional problem which has occasionally been mentioned¹³⁴ is that national e-Invoicing legislation allows the use of electronic signatures, but that the national e-Signature legislation only accords legal value to electronic signatures held by natural persons. This creates an inconvenient interim step, where the recipient cannot receive an invoice signed directly by an enterprise (or rather: where the electronic signature of an enterprise has a dubious legal value), so that the recipient would strictly speaking be required to verify whether the signature was placed by a natural person, and whether this natural person would be authorised to represent the issuing enterprise in this regard.

While this issue has not lead to substantial difficulties in practice – no report has indicated any dispute regarding this matter – it is nonetheless an inconvenience that could be clarified with relative ease.

Conclusion

While extensive actions are being undertaken on a national level to promote the use of electronic invoices, the question can be raised if the legal framework for electronic invoices has been sufficiently harmonised. Specifically with regard to the use of electronic signatures as a means to ensure the validity and integrity of the document, national requirements can differ quite widely, essentially making the strictest national standards the legal norm for European service providers. For this reason, EDI solutions seem to offer the greater appeal in the marketplace, and this situation is unlikely to change in the short term.

134 See e.g. the Danish profile.

3.5.3. eAccounting

Enterprises around the world are required to maintain a more or less extensive set of documents for accounting and tax auditing purposes. While accounting software is relatively commonplace on the European market, this need not necessarily be an indication of the openness of European regulations to electronic accounting documents as evidence. It is equally plausible that national tax administrations allow accounting software for assisting in the preparation of fiscal documents, but that they still only consider the printed paper versions as authentic and acceptable. As this can constitute an additional barrier to the use of electronic documents (since e.g. certain electronic documents might be perfectly valid and have sufficient evidentiary value on their own, yet still be required to be incorporated in a paper accountancy system), the national reports also indicate to what extent the national systems are open to eAccounting, i.e. keeping the required books, tables, registers etc. in a purely electronic form.

Considering the lack of any regulatory harmonisation initiatives, it comes as little surprise that there is considerable diversity in the regulatory openness to electronic accounting, ranging from a virtual exclusion of electronic accounting (often due to a lack of explicit provisions¹³⁵ or due to the imposing of standards which are uniquely paper based¹³⁶) to full acceptance of electronic documents¹³⁷, occasionally based on teleological interpretation of the existing regulations¹³⁸.

Perhaps more surprising is the observation that there is little correlation between flexibility towards eInvoices and flexibility towards eAccounting. For example, Finnish regulations are quite flexible towards eInvoices, but require paper-based accounting.

Since accounting documents are kept nationally and since their cross-border validity and exchangeability is rarely an issue, this shall not be examined in detail in this Report.

135 See e.g. the Finnish profile, which does not explicitly refer to paper books, but where the provisions clearly refer uniquely to paper documents.

136 E.g. the Belgian regulations require companies to keep three books which can only be held on paper.

137 See e.g. the Polish, Portuguese or Estonian profiles, which indicate that national laws allow accounting books to be kept with the use of a computer.

138 See e.g. the Spanish profile, which indicates that the traditional regulations are simply interpreted in a manner that allows accounting books to be kept, despite a traditional requirement of legalisation and stamping of the books by a registrar.

3.5.4. eDepositing of annual accounts

Finally, many countries require (certain) enterprises to annually deposit certain fiscal accounts with the tax authorities. Obviously, this is a requirement that can entail unnecessary costs when enterprises are allowed to keep electronic books, but they are not allowed to deposit the corresponding annual accounts in electronic form.

It is therefore even more surprising to see that there is again little correlation between openness to electronic accounting and to electronic deposits. Some of the more striking examples include the Netherlands, which allows electronic bookkeeping but still requires paper deposits¹³⁹; and Belgium, which does not allow fully electronic bookkeeping but which allows and financially encourages¹⁴⁰ electronic deposits. Other countries have a more harmonious approach. This is e.g. the case in Spain, where both electronic bookkeeping and electronic deposits are allowed.

As with accounting documents, the issue of deposits of annual accounts has limited relevance to the ELDOC Study, and will not be examined in detail in this Report.

3.5.5. Conclusion

Apart from the comments for each of the three separate processes indicated above, the main conclusion with regards to the validity and cross-border exchangeability of electronic documents in the fields of fiscal and financial management is ultimately that there is little consistency in national policies. Any given country may be very flexible with regard to electronic invoices, and yet disallow electronic accounting and/or electronic deposits. This is of course harmful to the development of electronic business processes in these countries, as it discourages or even impedes enterprises from setting up coherent and efficient fiscal/financial workflows.

139 Although this is changing rapidly, the correspondent indicated that the technical and administrative framework for electronic deposits is presently being finalised.

140 The deposit of electronic annual accounts has been made cheaper in Belgium than the deposit of their paper equivalents.

Chapter IV: Identified Legal and Administrative Barriers

4.1. Incompleteness of the EEA-wide e-Business legal framework that does not cover the entire lifecycle of electronic documents

The main body of the generic¹⁴¹ European regulatory framework is made up of the e-Signatures Directive and the e-Commerce Directive. These legislative instruments have confirmed the legal validity of electronic contracts and electronic signatures on a Community level.

The analysis above has shown that there may not be a legal requirement to rely on paper documents for a given contractual relationship, but that it is simply more complicated to replicate such a relationship in an electronic context. This can, as an example, occur because of the necessity of introducing an additional party (e.g. the inclusion of a Trusted Third Party, TTP, to determine the unique holder of the "original" of a bill of lading). In some cases, the use of electronic documents moreover requires a certain willingness and cooperation of all involved parties to accept such documents (such as the supporting documents which must be accepted by a bank in documentary credit arrangements).

In such cases, the acceptability of electronic documents in business transactions is a matter that depends on all parties concerned: the national legislation's openness to such documents; the parties' willingness and creativity in drafting a suitable contractual framework able to meet their requirements and legal standards; and the availability of service providers who offer the required services for such a contractual relationship.

One of the reasons for the reluctance to radically move to the use of electronic documents is the incompleteness of the national legal and administrative frameworks with regard to electronic contracts. It should be noted in this regard that e-Business is not made up of a single stage in which an electronic document can be validly produced and exchanged, after which all legal requirements are satisfied. Rather, from a legal perspective e-Business can be said to be a chain of processes, all of which need to be internally attuned

141 Generic in the sense that its scope is not limited to one specific legal domain, e.g. excluding the eInvoicing Directive and the Customs regulations.

and open to the use of electronic documents. The key notion to understanding this particular legal barrier is “*document lifecycle management*”, in its broadest sense.

Two key domains have repeatedly been shown in the interim reports to have been noticeably underregulated (not in the sense that no rules apply, but rather in the sense that the application of these rules is unclear): electronic archiving and electronic communications. Electronic archiving has not been subject to any specific regulatory initiative (except insofar as other initiatives such as the e-Signatures Directive apply obliquely); and while there is a limited European legal framework in the e-Commerce Directive for electronic data exchange, this applies only to information society services, but has no general legal validity. The UN's Convention on the Use of Electronic Communications in International Contracts¹⁴² does regulate this matter more extensively, but this text has thus far (undoubtedly mainly due to its relative newness) had no significant impact on the European national regulatory frameworks, as described in the national reports.

For example, with regard to electronic archiving the French correspondent noted that:

“The more important [hindrances for the widespread use of e-Business] consists of the lack of legal precision regarding conditions of electronic document archiving, made even more pressing when various provisions require electronic filing (e.g. electronic contracts concluded with a consumer with a value of €120 or more). Moreover, considering the significance of the modalities of archiving for the legal validity of an electronic document through time, this can compromise the effective use in commercial relations of such documents, which requires legal certainty. It will depend on the position of jurisprudence when evaluating the validity of such documents through time (notably their integrity). This issue can play a key role in the short term prevalence of electronic documents if legal requirements of archiving are not clearly established.”

The Norwegian correspondent formulated similar concerns with regard to electronic communications:

“There are also some white spots in the Norwegian legal system concerning electronic commerce. Either it is unclear whether the regulation hampers electronic communication, or one is waiting for a revision of the regulation that will eliminate any barriers for electronic communication. However, the perceived legal uncertainty among companies is probably larger than the actual legal uncertainty concerning electronic communication. This can be a barrier for the use of new technology or at least delay the use of it. This perceived uncertainty is most likely based on lack of knowledge of what the legal system really means when it comes to electronic communication, and trust in new technologies.”

142 See above, Chapter I, Section B.I.

The impact of such regulatory potholes in the road of any e-Business process should not be underestimated. The benefit of electronic documents is damaged or even lost entirely when even one link in the chain of a document's lifespan requires it to be produced in paper.

For example, with regard to recent Danish regulatory modernisation initiatives, the Danish correspondent stated:

“Lastly the way the above mentioned law modernising project has coped with the existing form requirements is not without weaknesses. Not all provisions containing form requirements have been reconsidered under the project. Two examples of this are the above mentioned Bill of Exchange Act and the CMR Act. As a result some legal uncertainty as to the legal validity of electronic documents remains. It could furthermore be an advantage if a general provision would be adopted in Danish law stating which general principles would decide whether an electronic document or electronic signature could fulfil a writing or signature requirement.”

To resume the example above, electronic communications are not merely a useful tool for information exchange, but can (or rather: should) also be used as a means to impose certain legal obligations on another party: to invoke the application of certain clauses, to request payments, to notify the opposing party of a contractual default,... And yet, while no Member State denies the validity of such electronic notifications altogether, the criteria for their validity are often unclear.

Similarly, long term storage is of course of the utmost importance for long term contracts: an electronic contract which is legally valid at the time of signing is utterly useless if it cannot be shown to be valid when a dispute arises. Despite this fact, clear standards for the long term storage of electronic documents are all but non-existent, thus leaving the parties involved no choice but to reproduce key documents on paper.

An insufficient administrative framework can equally wreak havoc on the electronic document lifecycle. If accounting regulations require a legal entity to present its tax authorities with paper deposits (despite the fact that electronic documents are accepted as legally valid, as is the case in certain Member States), the legal entity may be required to print out copies of its valid electronic documents. In this manner, an illogical additional administrative step is imposed, causing additional expenses, reducing efficiency, and removing the incentive for using electronic documents altogether.

When considering the business case for the use of electronic documents, the entire process of document lifecycle management is taken into account. The regulatory framework thus far seems to mostly take an ad hoc approach, targeting specific document types, rather than focusing on the entire lifecycle. This is specifically true with regard to cross-border transactions on a European level, where, even if sufficient regulation does exist, its application to each stage of e-Business transactions is often unclear.

Thus, there appears to be insufficient legal guidance for the use of electronic document exchange on a European level, both in a general sense (i.e. with regard to specific document types) and with regards to the use of such documents in generic business processes with an added legal value, e.g. electronic registered mail or electronic archiving, especially when a TTP's intervention is involved. As the Lithuanian correspondent observed:

“Finally, the lack of standards and use of electronic means in practice, as well as the distrust which is still prevailing slows down the development of e-Business relationships. Thus, from a practical viewpoint one must agree that many of the more serious e-Commerce solutions are likely to require the intervention of trusted third parties (TTP). Lithuanian law contains no any rules as to the obligations and responsibilities of such TTPs, and this also may be regarded as an impeding legal factor.”

4.2. Lack of an unambiguous and universal positive principle on how legal validity requirements can be met by e-documents on an EEA-wide basis

As commented above, the question of the validity of electronic documents in the examined contexts is not always clear. While the law will rarely present specific criteria that electronic documents cannot meet by proxy, even on a national level the question of validity can often only be answered by stating that there appears to be no reason to deny legal effectiveness to an electronic document. While this should in principle be sufficient in most cases, especially keeping into account the generic rule of Article 9 of the e-Commerce Directive and its national transpositions, this still results in a certain unease due to the lack of an unequivocal answer.

For example, there is, in many European countries, no clear and unequivocal answer to the question of the legal value of an electronic employment contract. Even where such an answer exists, as it is the case for electronic invoices, it is very unclear how the electronic document should be processed, secured and exchanged in practice in order to guarantee full legal validity.

This can be a serious impediment to the usability of electronic documents in cross-border transactions, which typically have a larger financial value. When legal experts on both sides of the fence cannot give any guarantees beyond stating that they see no reason why an electronic contract should be denied legal validity, while the contract represents a stake of thousands or even millions of Euros, the parties will be naturally inclined towards conservativeness.

As a result, even when an electronic document can be said with absolute certainty to be legally valid in one specific European country, and despite the fact that the e-Directives should be transposed and applicable in an equal manner, in a pan-European context absolute legal certainty is much harder to obtain for electronic documents than for their paper equivalents.

4.3. Insufficient harmonisation at least EEA-wide of the various legal spheres (including binding absolute provisions, e.g. consumer protection) that may apply to e-contracts, denying enterprises absolute certainty for many contract types.

Even in a purely European context, existing regulations can be interpreted or transposed differently, with each country's courts and administrations accepting only electronic documents that meet their own national standards. This gives the users of electronic documents few options other than “upwards harmonisation”, i.e. adhering to the strictest standards in the hopes that this would meet all requirements, or to engage in forum shopping, i.e. choosing the most flexible legal framework and legal arena to apply to their contracts in case of disputes.

The problem is of course exacerbated in an international context (i.e. transcending the European sphere), where a common regulatory base may be completely missing. In an age where services are increasingly being offered on a global scale, this is a serious barrier to any user of electronic documents, as it requires awareness of the legal framework in each nation that its services cover. In such cases, the importance of inter-party agreements regarding the use, validity and exchangeability is ever further augmented.

Finally, even in the rather rare circumstance that the parties to an e-Business transaction are certain that an electronic document meets the requirements of whatever law they have declared applicable to their relationship (or which might be declared applicable in accordance with the principles of private international law), other sources of legal authority may in the end prove to be insurmountable. Many areas of law (particularly such fields as consumer protection law, labour law, and financial law) prescribe particular absolute obligations which overrule any conflicting provision.

An example might be that a given state's consumer protection regulation requires a service provider using electronic contracts to provide a durable copy of this contract to the consumer, where the law does not explicitly acknowledge which electronic documents (if any) are to be considered sufficiently durable. Regardless of whether the parties have agreed that an electronic document suffices between them, and regardless of whether or not the electronic document complies with all other formal requirements for that specific contract type, a judge might very well decide that the agreement should be considered null and void if he or she feels that consumer protection regulation is not sufficiently observed.

Among others, the Finnish correspondent commented that:

“Too strict consumer protection legislation may also be one possible legal barrier to e-business according to many of the persons interviewed for the purposes of this study”.

Similarly, but regarding the obligatory liability regime for French intermediary service providers, the French correspondent noted that:

“The second [hindrance to the growth of e-Business] regards the new full responsibility regime established by the e-Commerce law in electronic transactions concluded on-line. The worsening of the situation of the service provider contracting on-line in comparison with the one who contracts off-line, could become a restraint to on-line contracting.”

Another example could be national labour law, which might only allow certain employment contracts to be terminated by registered mail. If no legal framework for electronic registered mail exists, only paper terminations would be possible. Thus, binding national provisions can always pre-empt the (full) validity or effect of electronic documents, if these provisions insist on formal requirements which have not been eliminated yet.

Even leaving out of consideration the possible intervention of additional and more stringent binding legal provisions, other risks exist as well, such as the possibility of U.S. magistrates deciding to apply long arm statutes, which allow them under certain circumstances to hear cases and try them under their local legal framework, even going so far as to overrule explicit choices of law made by the contract parties.

In summary, the validity of a given electronic document under a specific national legal regime is often uncertain. In cross-border relationships, this question becomes even harder to judge. Finally, even when an electronic document is certain to be valid under all parties' legal regimes, other provisions might prevent their full application or effect. While the latter barrier is not unique to electronic documents (paper documents have to deal equally with absolute national provisions), it is nonetheless an additional burden to consider when relying on electronic documents.

4.3. Incomplete perception of functional equivalence resulting in a tendency to re-form (rather than remove) traditional formalistic requirements

The theory of functional equivalence has been a staple ingredient of the legal approach to e-Business since the inception of the theory. Its appeal is obvious, relying on the application of formal criteria by analogy in an electronic context. Despite the inherent potential risk of subjectiveness and the resulting legal uncertainty, the clear benefits presented by this theory explain its rising popularity in resolving various issues of formality. However, the theory is often applied too narrowly, by focusing on form rather than function.

For example, and as indicated above, certain contract types or transactions require an original document to be presented. Typically, the criterion for identifying such original documents is the presence of one or more signatures, or a seal or stamp. It would thus seem reasonable at first sight to choose the electronic signature as a suitable means for identifying an original document. However, in this case the functionality of a handwritten signature is not replicated as such by an electronic signature. Once a document has been electronically signed, it can be copied without any restriction and all copies will have the same value as the original.

This presents a problem, since this means that there is essentially no difference between original documents and copies thereof, so that e.g. the bearer of an "original" electronic bill of lading could not be distinguished from the bearer of a "copy" of this bill. Thus, to ensure that an electronic original document can be identified as such, and that no indistinguishable "pirated originals" can be presented as legally valid, other solutions have to be put in place, e.g. by issuing credentials which are uniquely linked to an authenticated person. While the architecture required to fulfil this role is not exceedingly difficult to create from a technical perspective, the legal framework is still missing.

More significant however is the erroneous reasoning underpinning this solution model. In order to conclude that an electronic document must be created which is then managed by a TTP to emulate the bill of lading in an electronic context, one must first implicitly assume that the legal relationship should be modelled based on an exchange of documents. Functional equivalence in this perception becomes nothing more than the quest to replace paper documents with electronic documents, and ensuring that there is as little difference as possible between the traditional procedure and the electronic one.

This is a misrepresentation of the theory of functional equivalence, which could potentially offer much more flexible, all encompassing and efficient solutions. In the specific example of the bill of lading above, the only function of the document in the first place was to designate the person allowed to claim a certain cargo, and to allow that person to transfer his rights to the cargo. To recreate this function in an electronic context

it is not necessary to create an electronic document, register it with a TTP, and require all transfers of the document to be registered with the TTP.

An alternative approach would be to e.g. register entitlement of the cargo in a TTP's database, and allow this claimant to log into the database and update this information to a different person. No transfer of documents is then necessary. Other alternative models are equally conceivable, depending on the complexity of the infrastructure involved.

Thus, a problem in the current application of the theory of functional equivalence is the frequently made conceptual mistake of perceiving this theory as a tool to replace paper documents by electronic ones, rather than as a way to revise the entire underlying processes.

A broader interpretation of the theory could also potentially resolve other legal difficulties. For example, a country's legal framework might bar parties from using electronic bills of lading. However, if the underlying processes are altered sufficiently, it could be argued with some merit that the electronic transaction no longer constitutes a bill of lading; after all, depending on the implementation, it is perfectly thinkable that it no longer involves a "bill" of any kind. Thus, the stringent legal framework could essentially be off-sided through legal creativity and correct application of functional equivalence by the parties, eliminating certain formal barriers.

4.4. Insufficient harmonisation at least EEA-wide of national legislations on intermediary service providers leading notably to legal uncertainty regarding their legal responsibility (e.g providers of services for e-registered mail and e-archiving).

Closely connected to the aforementioned issue of tracking original electronic documents is the question of the legal responsibility (or perhaps more accurately: the legal liability) of intermediary service providers. Again, the e-Signatures Directive provides a solution which is specifically targeted towards e-Signature certification service providers, but this is insufficient as a solution towards intermediary service providers in general.

Apart from the certification of original electronic documents, electronic archiving is another example of this lack of an adequate legal framework regarding intermediary third parties. On a national level, generic frameworks (i.e. which are not limited to a specific sector¹⁴³) regarding electronic archiving are exceedingly rare, with only the Italian report indicating the existence of such a framework¹⁴⁴:

"Finally, as to electronic archiving, general norms have been issued by the Italian lawmaker. Art. 39 CDA states that all mandatory books, digests, account books, notary archives, including those required by notary law, can be made and kept on memory devices, according to the norms set forth in the code itself and in technical reference legislation. Moreover Art. 43 CDA declares that documents of archives, account books, correspondence, and any act, data or document to be kept by law or decree are legally valid when transferred into a memory device if they have been saved therein in a form suitable to guarantee their conformity to originals and their durability, following technical reference legislation.

As to the technical rules, we refer to the d.p.c.m. of 13 January 2004, providing technical rules for the formation, transmission, conservation, duplication, reproduction and validation, temporary too, of electronic documents and to the circolare CNIPA of 19 February 2004, introducing technical rules for the reproduction and conservation of documents on optical devices suitable to guarantee the conformity to originals."

143 As indicated above, archiving of eInvoices is subject to a specific legal framework in all countries allowing eInvoices, and eAccounting obviously also implies a legal framework for the electronic archiving of electronic accounting documents.

144 It should be noted that certain other profiles, including Croatia and Ireland, have installed regulations entailing general legal standards for electronic archiving, but these regulations cannot be considered to be equally comprehensive.

This lack of regulatory attention is somewhat disconcerting, given that the ability to retrieve documented evidence of any given communication, transaction or contract is one of the most fundamental functions of a paper based system. This basic consideration seems to be widely disregarded in e-Business regulations, both on a national and on a European level, in the sense that piecemeal regulations may exist (most notably in the financial and fiscal management sectors, as outlined above), but that a coherent central vision is typically missing.

This same barrier also constitutes an impeding factor to the introduction of electronic registered mail services, which also require the intervention of TTPs that can guarantee and warrant the successful send-out and receipt of electronic communications, as well as the integrity and authenticity of its contents. Again, Italy appears to be the lone exception, having put into place a legal framework for electronic registered mail, relying on a network of TTPs:

"Italy has set forth norms for the regulation of the electronic registered mail (posta elettronica certificata or PEC). Here the sources are Articles 6, 47, 48 and 54 CDA and d.p.r. 11 February 2005, No. 68. Legislation deals with the requirements of this means of communication either when used for the exchange of documents among public administrations and when it is used by private parties. Not any economic entity can run a service of PEC, but only those meeting high standards of quality (ISO9000 certification among others) and capital (not less than 1 million €, and a proper insurance coverage), provided they enrol into the registry of CNIPA, the governmental agency for informatics in the public administration. As to safety measures, certified e-mail providers (hereinafter CEPs) are obliged to guarantee privacy, security (including from viruses) and preserve the integrity of information contained in the so-called "transportation envelopes" for 30 months.

It is important to note that the transmission and receipt of messages will be certified by both the sender's and the recipient's CEPs: the former will send an "acceptance receipt", and the latter a "delivery receipt". The sender gets a "receipt" from the recipient if email reaches his/her inbox, whether it has been read or not."

Apart from the Italian example, it would appear that the development of electronic services requiring the intervention of intermediary services providers on the European market (such as archiving, registered mail, and certification of originals) has been stunted. The lack of a suitable framework regarding their responsibility and liability should certainly be considered partly responsible for this problem.

For completeness' sake, it should be noted that closed private initiatives exist, which operate in an (almost) purely contract based environment (such as the Bolero platform, or the Society for Worldwide Interbank Financial Telecommunication, SWIFT¹⁴⁵, network

¹⁴⁵ See <http://www.swift.com/>

in general). In such circumstances, the need for additional regulatory measures is much smaller, at least when the customer base is sufficiently advanced (i.e. possesses the required technical know-how) and has the required resources and transaction base (i.e. is capable of bearing the initial investment costs, possibly due to a larger number of anticipated transactions). Fulfilling these preconditions will be less obvious for SMEs.

On a similar note, suitable intermediary services (such as electronic archiving) occasionally arise on the market, typically through young start-up companies. However, the reliability of these services is difficult to assess, given that the terms and conditions of these services are difficult to decipher for the average business user, and that the interests of the service provider run entirely contrary to those of its customer. In the absence of a mandatory regime of guarantees and/or warranties, the terms and conditions of such service providers will typically disclaim legal responsibility to the maximum extent allowed under applicable law (insofar as an applicable law can be clearly and unequivocally defined). Thus, the end result often tends to be a legal framework that is incomprehensible to many, and/or inadequate for others.

4.5. Complexity of the multi-jurisdictional legal situation in the EEA due notably to an insufficient harmonisation of national legislations, compounded with a general lack of awareness of the legal framework and its possibilities and perceived lack of infrastructure.

In addition to the legal barriers above, several correspondents have also outlined concerns regarding the adequacy of know-how and awareness regarding the possibilities offered by the legal framework for electronic documents. Obviously, a sufficient familiarity with this legal framework can present a barrier on a variety of levels:

- first of all, parties wishing to rely on electronic documents need to be aware of whether or not their local frameworks are amenable to the use of electronic documents for the envisaged transaction. Depending on the contract type and the type of formalities that are imposed this can prove to be difficult task in its own right. This is also witnessed by the fact that the consulted national correspondents on several occasions could only reply that they saw no reason in principle that a particular contract could not be closed electronically. However, clear and unambiguous replies were much less common.

Given the status of the correspondents as legal experts in this field, which is unlikely to be matched by e.g. SMEs, any uncertainty in these replies should be considered as extremely worrisome.

- secondly, professional service providers (e.g. TTPs, banking institutions, transportation and storage service providers) need to be equally aware of these possibilities and the potential benefits to themselves and their customers. While access to legal expertise is likely to be significantly higher for this category of stakeholders, this will also reveal additional levels of complexity. Solutions offered must typically be valid across several countries, resulting in the aforementioned potential conflict of laws, including the difficulty of taking into account binding legal provisions (e.g. consumer protection, labour law,...) which may overrule local law in case of dispute.
- thirdly, public service providers (including local administrations and magistrates) need to be familiar with this legal framework, and must have both the knowledge and know-how to assess the techniques used in the creation, manipulation and storage of electronic documents. Furthermore, they need to have access to sufficient technological means to perform their functions. Failure to provide either know-how or sufficient tools invalidates to a large extent the use of electronic

documents.

E.g. if an electronic tax declaration is legally valid, but the tax administrations are unable to accept them, then electronic bookkeeping as a whole loses some of its appeal. In the same sense, the lack of clear jurisprudence was also occasionally mentioned as a legal barrier. After all, clear decisions on specific ways to meet formal criteria can be an invaluable guideline to the potential users of electronic signatures (even without binding force of precedent, as the case may be).

For example, the Bulgarian report noted as a common problem that *“most people believe that the judicial system is not ready to deal with the electronic world due to lack of knowledge of the magistrates, and thus, when it comes to civil proceedings the court would not recognize and acknowledge the validity of duly executed electronic contracts or statements.”*

Similarly, the correspondent from Cyprus reported that: *“The Evidence Law as it stands now is neither very clear nor practical and the Government and the House of Representatives are currently under discussions for the purpose of amending the evidence rules applicable in Cyprus in order to make matters more practical. In addition, case law is outdated and it is questionable whether it can be used in procedures involving the acceptability of presentment of electronic documents.”*

Many correspondents, while being optimistic about the adequacy of their legal framework, instead indicated that they felt that the knowledge gap in their countries for all parties concerned constituted the largest barrier to the use of electronic documents. As stated by the German correspondent:

“In the administration as well as in private companies a main barrier to electronic business is the lack of technical capacities on the one and the lack of personal acceptance of electronic communication (especially by older people) on the other hand.”

4.6. Perceived lack of accessible service providers in a cross-border context at least EEA-wide, as well as insufficient public sector e-Readiness

Finally, and apart from the knowledge gap indicated above, several correspondents have also indicated the existence of what might be referred to as an perceived infrastructure gap. This entails that a given solution involving electronic documents, which is perfectly viable and reliable from a legal perspective, nonetheless remains largely unused because the available technical or infrastructural framework is simply seen as inadequate to live up to the legal standards.

For example, considering the significant weight that many regulations place on qualified certification services, the lack of adequate certification service providers is a serious barrier to the use of electronic documents. Despite this clear fact, e.g. the Latvian report indicated that no national qualified certification service providers presently exist, so that any regulation's reference to qualified signatures essentially becomes disproportionately difficult to meet:

“However, the most important barrier is that so far these legal acts have not been implemented in practice, as the possibility to create a secure electronic signature has not been ensured. There is no system for issuing qualified certificates and there are no certification service providers.

Consequently, electronic commerce and business cannot be carried out in practice, as according to Electronic Documents Law the document is deemed to be individually signed only if it has a secure electronic signature. As lots of documents involved in commercial transactions need to be individually signed (e.g., documents to be submitted to public institutions), the lack of secure electronic signature forces the use of the traditional paper form. Moreover, the general regulations for the legal validity of any documents require the signature as a necessary precondition for legal enforceability.”

Similarly, the Czech report noted that *“Even if Czech law provides for an electronic signature and considers it sufficient for forming written contracts and engaging in official communication with public administration bodies, few individuals and business organizations possess an electronic signature certificate. This barrier exists not because of law but simply because only a limited number of e-Commerce participants are properly equipped.”*

Other examples of this infrastructural inadequacy relate to the inability of public service providers to keep up with legal requirements. For example, the Estonian report indicated that the law seems to permit the electronic deposit of annual accounts with the national commercial register, but that this solution remains dead in practice because the national

authorities are simply technically unable to process non-paper based documentation. Thus, infrastructural barriers can also result from an insufficient public sector e-Readiness.

It goes without saying that these problems become even more significant in a cross-border context, where electronic documents must meet the legal requirements of all countries in which they have to be legally relied upon, and in which this compliance must also be technically verifiable. This means e.g. that for electronic signatures there must be an uninterrupted validation chain, allowing the final recipient to verify the validity and quality of any certificate used for appending an electronic signature to an electronic document. While solutions to these problems are developing in the market, European interoperability would appear to remain a long term process.

Finally, it should be noted that the national correspondents generally look favourably upon their own legal framework, considering it to be flexible and open in general to the use of most electronic documents, but that they often have more serious doubts as to the frameworks of other countries.

As the Finnish correspondent observed: *“Interoperability is a key concern, as development in many other countries may not be as advanced as in Finland. A good example of this is the aforementioned documentary credit operations, where the bottleneck to use of electronic trade documents is not in Finland. This together with the fact that Finland is a small country with a substantial amount of trade with foreign countries, very evidently means that Finnish companies are not able to fully exploit the existing legal and technical infrastructure to the full extent.”*

This lack of trust in other legal frameworks (which is somewhat difficult to reconcile logically with the sometimes disproportionate trust in the own legal framework), would also appear to be a barrier to the uptake of electronic documents.

It is also difficult to reconcile with the internal logic of the e-Directives, which indicate cross-border validity of any given solution model as a top priority; e.g., a significant part of the e-Signatures Directive (particularly articles 3 and 4) is dedicated to free market access and internal market principles. As a result, the unavailability of a national qualified certificate provider should not be a legal barrier to the availability of e-Signature services, since certification service providers in other Member States should be equally capable of meeting the requirements of the Directive, and thus of national transpositions.

Similarly, Article 3 of the e-Commerce Directive contains an internal market clause, stating specifically in Article 3 (2) that *“Member States may not, for reasons falling within the coordinated field, restrict the freedom to provide information society services from another Member State.”* The provision has its restrictions, not only through the fact that it only applies to information society services, but also because Article 3 (3) emphatically allows Member States to deviate from this principle in a number of fields.

Nonetheless, even when such exceptions do not specifically apply and when the intervention of foreign service providers is legally valid, the example above demonstrates that such foreign service providers are not always perceived as a full and equal alternative to local service providers in practice.

However, the perceived unavailability of service providers cannot be attributed strictly to the misapplication of internal market harmonisation principles. To at least an equal extent, existing service providers are also often considered to be untrustworthy. While incorporation in a different Member State may be a factor in this lack of trust, other issues are likely to be an equally large influence. Specifically, such service providers are often relatively small start-up corporations with a small user base and an even smaller trust base to work on, which are at this time largely reliant on building a critical mass of users to improve their appeal to the public at large.

The impact of small user bases was also tangentially cited by the Slovene correspondent:

“Together with prevailing assumptions on formality, resulting from a certain ignorance of e-Commerce legislation and reluctance for acceptance of novelties, there is also a rather slow implementation of new business models which primarily slows down the evolution of e-Commerce. However the latter could be also based on the limited Slovene market volume. Firms are often destimulated to invest in new e-Business solutions which are country specific as they bear the risk of being overrun by other more universal solutions on the EU or even global level, whereby their return on investment ratio is logically lower. So, common practice is the adaptation of already effected solutions, which however also implies remaining behind the frontrunners.”

I.e., regardless of how trustworthy a service provider may be, and regardless of how robust the applicable legal framework may be, without a sufficient user base it will not be perceived as trustworthy, and it will not be taken up in the market. It might be worth examining how this threshold can be overcome by increasing the backing to such service providers from certain trusted authorities (e.g. governments, financial institutions, TTPs, ...).

The Bulgarian report illustrated this problem by commenting:

“Last but not least, the current market situation of the banking system and the services the banks are ready to provide in respect to securing electronic payments, especially when it refers to usage of credit cards for payments through Internet, deprives the merchants of any incentive to invest money in the development of e-shops and web tools for selling products and services on-line. There is still no bank institution in Bulgaria that offers a service for opening merchant accounts to businesses that are willing to receive payments from credit cards through Internet. Such a market situation does not seem to be caused by any legal restrictions stemming from banking or other laws. However, it practically restricts the most common way for electronic payments on the

Internet, which definitely could be considered a barrier.”

The Italian correspondent too emphasised the importance of such public/private sector dialogue, stating that the “*autonomy accorded to the operators by the Italian legislation needs to be declined through guidelines and best practises, in order to become really effective and be more largely used.*”

Chapter V: Conclusions and Recommendations

5.1. Improving legal certainty through the dissemination of information about good practices (notably on e-archiving and e-document exchange)

A first conclusion of this study is that the introduction of a European regulatory framework for electronic signatures and electronic contracts was a necessary but ultimately insufficient step to take away the legal uncertainty in the field of electronic documents.

The e-Signatures Directive has stopped the proliferation of national legislative initiatives and licensing schemes in the field of electronic signatures and certification services. It has therefore been very important from an Internal Market perspective. The e-Commerce Directive has stimulated Member States to eliminate some of the remaining legal obstacles in the field of electronic contracting. The European provisions in the field of electronic invoicing have introduced the principle that electronic invoices should be accepted in every Member State in Europe. Together, these three initiatives have provided a certain degree of harmonisation in certain key phases of most e-Business processes.

However, notwithstanding these regulatory initiatives, businesses are still hesitant about the use of electronic documents. The European regulatory framework for electronic signatures introduced the concept of the “qualified” electronic signature as an equivalent for handwritten signatures. In practice however market players in all the Member States have taken to using other types of electronic signatures, for example for online banking or in the framework of B2B platforms. The validity of the signature and, more generally, of the data exchange as a whole is practically always based on a priori interchange agreements.

In the absence of such a priori framework there remains a lot of uncertainty. What is the legal value of a non-qualified electronic signature? Which type of electronic invoice will be accepted by the VAT authorities? How can I prove that my order has been transmitted online? It is not surprising that business representatives are constantly asking for concrete case law about these questions.

The uncertainty grows exponentially for cross-border business transactions. What type of signature should I use for my transactions with my German and British customers? How can I organise electronic invoicing when doing business in more than 20 European countries? Will the Lithuanian courts accept my e-mail messages as sufficient evidence for a commercial transaction?

Apparently these questions have not been solved by the introduction of a European regulatory framework. The current legal solutions (validity of electronic signatures and removal of obstacles for electronic contracting) are only affecting certain fragments of the document life cycle. There are no clear rules on electronic archiving or on electronic document exchange.

How can we provide more certainty to businesses with regard to the use of electronic documents?

Recommendation:

Efforts should be made to clarify the legal rules in the area of electronic signatures, electronic messaging and electronic invoicing from a practical point of view. This can be done in the form of “Frequently Asked Questions”, concrete scenarios and solutions, examples of good practices or recommendations. Specific initiatives are needed in the field of electronic archiving and electronic document exchange.

Before taking such initiatives an overview of the currently available rules, standards and practices in these two areas, is necessary. Such a study on regulatory, market and technical aspects should lead to more concrete recommendations for further steps on a Community level in these fields.

5.2. Facilitating access to technical means, infrastructure and technical and legal know-how regarding the use of e-Business

A second conclusion which can be drawn from this study relates to the insufficient availability of ready-to-use (“off the shelf”) solutions. In many cases the use of electronic documents is not hindered by legal obstacles as such. This is clearly demonstrated by the dichotomy observed in the National Reports: legal experts typically qualify their national frameworks as adequate and relatively barrier-free, all the while noting that uptake in practice is very limited. It would therefore appear that the reluctance to move towards doing business electronically often results more from the absence of products and services which can easily be plugged in into the common platforms currently used in the commercial environment and which guarantee a legally suitable outcome.

Important efforts have been made to promote the development of standards, e.g. for electronic document formats, electronic signatures or electronic invoices. Our study did not show a direct need for new standards in the field of electronic business and, more particularly, for electronic documents. The standards need to be implemented into solutions which are ready to be integrated in the current electronic environment (internet mail, web browser, office applications, ERP applications, etc.).

Although there is a need for practical solutions in this area, some of the products and services currently on the market – to a large extent fulfilling the above-mentioned requirements – are not successful because of an insufficient user-base. There is also a lack of affordable products and services for SMEs in this domain. Thus, the European e-Business market is in a sense trapped in a critical mass-cycle: low market uptake is both the cause and consequence of the lack of viable (i.e. legally certain) solutions being offered.

The question is how the development and use of such solutions can be stimulated and promoted. Various types of public support are possible. One possibility is the publication by the public authorities of open source implementations of e-Signature and e-Invoice standards that are valid at least EEA-wide. On a regional scale this has been already successfully done by a number of Regions in the Member States. For example, Extremadura (Spain), with funding from the European Regional Development Fund, has disseminated an e-Business suite for SMEs including functionality for e-invoicing and accountancy, soon to include personnel management

software.¹⁴⁶

In a more general sense, it is clear that the public sector is a key player in facilitating and encouraging the use of e-Business solutions, including e-Invoices and e-Signatures. As a result, government acceptance – or even requirement - of such e-solutions can provide a clear incentive for take up, and could be used as an indirect method of good practice dissemination. A number of countries have taken important initiatives in this regard, e.g. by requiring public sector service providers to accept electronic communications as valid, but in many Member States there is a need for increased e-Government implementations.

Other publicly supported schemes may be found in the European e-Business Support Network portal¹⁴⁷, supported by DG Enterprise and Industry, which has recently published the Report "eBSN 2003-2006: Achievements and the way forward"¹⁴⁸.

Another way is to grant solutions which fulfill certain conditions a quality label which states that the solution complies with regulatory requirements and technical standards, e.g. through an extension of programmes such as Euro-Label¹⁴⁹.

Another possibility is to set up European-wide platforms, on which SMEs can do business electronically or at least exchange practical experiences with regard to the use of electronic documents. This leads us to a second recommendation.

Recommendation:

- 1) Promoting the development of conformity assessment schemes for products and services supporting the use of electronic documents, such as for electronic signature or archiving solutions on at least an EEA-wide basis. It would be advisable to start the promotion at the level of specific domains (e.g. accounting).
- 2) Facilitating the adoption of widely used implementations of e-Signature and e-Invoice standards that are cross-border interoperable on at least an EEA-wide basis, and that are inexpensive and offer multilingual support.
- 3) Promoting the development of European-wide electronic platforms, e.g. for electronic contracting or the dissemination of best practices in particular sectors. These platforms should be primarily addressed to SMEs.

¹⁴⁶ Gestión LinEx (GPL license): <http://www.gnulinex.net/> and <http://www.vivernet.com>

¹⁴⁷ <http://www.e-bsn.org>

¹⁴⁸ <http://www.e-bsn.org/portal/content.do?page=newsItem35>

¹⁴⁹ See <http://www.euro-label.com>

Initiatives in this domain should be initiated by the stakeholders themselves, e.g. via professional associations or other representative bodies. The current initiatives in this direction have to be detected (see for example initiatives such as <http://www.e-accounting.org>) and can consequently be promoted (for example assistance to increase visibility, etc.).

4) Promoting an at least EEA-wide portal for making available multilingual information aimed at SMEs and consumers about their rights and obligations regarding Internet transactions, in particular cross-border transactions (both intra-community, export and import). This could include information about e-signature and e-invoicing standards, as well as on their implementations. This could, e.g., be done by means of a European e-Business Portal, similar to the one funded by DG Enterprise and Industry in 2003 and 2004 (ebusinesslex.net), that would also include links to similar national portals.

5.3. Supporting the creation of a self-regulatory framework for trusted service providers in electronic cross-border transactions, at least EEA-wide (e.g. certification authorities, notary, archival and registered mail services): codes of conduct and standards.

A third conclusion of the study relates to the role of intermediaries. Doing business electronically is to a large extent a matter of critical mass. For the introduction of electronic invoicing in a commercial enterprise, for example, it is necessary to first agree with suppliers and customers. Are they ready to send or to accept electronic invoices. In which format? Which procedures? What kind of security requirements?

Similar questions will arise when introducing solutions for registered messaging and, more generally, for all processes involving more than one business partner. The need to bring business partners together in order to adopt common solutions has led to new opportunities for intermediary service providers.

Opportunities for new business initiatives result also from the complex nature of e-Business or, at least, of some of its aspects. Long-term preservation of electronic data, for example, requires a high degree of expertise and extremely reliable technical and human infrastructure. For this reason, such aspects of e-business are naturally destined to be outsourced to specialized service providers.

Several initiatives in this sector have been launched in the late nineties and the first years of this century, but many failed due to insufficient demand, and these services often gradually disappeared from the market. Certification authorities, electronic notary services, archival service providers, registered mail services, etc. have been considered as very promising business sectors but did, in the end, not always meet the initial expectations.

One of the reasons for the slow take-off and partial failure has certainly been the lack of trust. In the paper-based environment businesses trust public notaries, postal services, etc. because they are established, regulated or recognized by the State. In the electronic environment there is clearly more need for open competition, but this openness doesn't eliminate the need for intermediary service providers to be trusted by the public, which will generally remain the key concern of (potential) users.

The question is how these intermediaries can obtain the same degree of trust accorded to their traditional (paper based) forebears. This leads us to a third recommendation.

Recommendation:

Efforts should be made to create a regulatory framework for trusted service providers, e.g. by promoting the establishment of model practice statements or codes of conduct or the promotion of voluntary accreditation schemes. These efforts should give service or solution providers more possibilities to obtain “trust” if they fulfill a series of generally accepted rules.

Again such initiatives should preferably originate from the market players and the relevant stakeholders themselves but they can be promoted and supported through a series of Community actions (e.g. via the European standardization organisations).

5.4. Supporting the re-engineering of automated business processes (e.g. VAT collection and inventory management data contained in invoices; data on ownership of goods contained in bills of lading, transport or storage contracts, etc.)

Focusing too much on legal and practical obstacles for the use of electronic documents can be misleading. e-Business is not a matter of simply replacing paper documents by electronic documents. In many cases paper documents and handwritten signatures fulfill a role which is inherently linked to the fact that the underlying business process is based on information processing by means of paper. The move towards electronic information processing often makes the exchange of these documents inefficient, or even obsolete. This approach requires however a re-design of the entire business process.

One of the conclusions of our study is that in many cases electronic documents are inserted into business processes where the internal logic continues to be based on information processing in paper form. Electronic documents replace paper documents by emulating them, but the underlying business process remains essentially the same as before.

One clear example is electronic invoicing. An invoice is a document which provides evidence of a commercial transaction, e.g. for correctly establishing the value added tax. Through the invoices, the tax authorities have a means to verify if VAT regulations are correctly implemented and to detect possible mistakes or fraud.

In a electronic environment there are many other possibilities for tax authorities to be informed about commercial transactions. One possibility could be that the commercial partners directly enter the required information about their transaction in an online information system managed by the tax authorities. In such a scenario invoices are no longer necessary, at least for VAT purposes. Of course such a procedure would require an entire re-drafting of the VAT regulatory framework and a complete re-organisation of existing VAT administrations. Given the expected drastic improvements in efficiency and fraud control, this is probably what will happen in the long run.

For the time being however, electronic invoices are introduced in a procedure which is still essentially based on the existing rules, processes and habits. The paper invoice is replaced by an electronic invoice, but most of the other parts of the process remain exactly as before. This evolution is not necessarily wrong or inefficient, on the condition however that it is recognised as just one step in a longer process of deeper and more global re-engineering of the entire process.

We can give many other similar examples, for instance with regard to bills of lading, transport or storage contracts. In a paper-based environment, documents are often used as an instrument to establish a right. The rightholder is the person who holds the document. Naturally, in such a context, the document should remain unique, without any possibility for reproduction. If two persons would bear the same document, it would be impossible to establish correctly the rightholder.

One way to solve this is to introduce strict requirements for electronic documents that are meant to be used as a proof for a certain right. But there are many other possibilities if we take the whole process into consideration. Rightholders can perhaps be identified much easier by means of other procedures, platforms or devices.

This recommendation should not be misconstrued as a plea to introduce radical changes all at once, without taking into account other factors such as user acceptance, the availability of the necessary infrastructure, etc. Changes have to be introduced gradually, step-by-step, but always within the framework of a longer-term perspective. This applies also to the introduction of regulatory changes to the validity and use of electronic documents.

Recommendation:

Any measure to promote the use of electronic documents has to take into account the entire business process, including its function and internal logic. e-Business should not be limited to the replacement of paper documents by electronic documents but requires a deeper and entire re-engineering of the underlying process.

As a first step in this direction studies can be launched with regard to specific document types covered by this Study (bill of lading, documentary credit, ...) and the underlying business processes. These studies can lead to concrete recommendations on how these processes can be re-organised by making use of modern information and communication technologies in an efficient manner.