Electronic Commerce Provisions in the UNCITRAL Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea†

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SUMMARY

† The editors of the Texas International Law Journal are responsible for several errors that were published in another version of this article. The errors have been corrected in this version and are enumerated in an errata page found in the first issue of volume 45.

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The new UNCITRAL Convention on International Carriage of Goods Wholly or Partly by Sea (commonly referred to as the "Rotterdam Rules") was recently concluded and will soon open for signature.[1] In many ways, it aims to provide a modern and updated legal framework for contracts for the international maritime carriage and the "door-to-door" carriage of goods with at least one international maritime leg. Many of its provisions are expected to represent significant breakthroughs in an area formerly defined by a certain polarization between the Hague-Visby Rules and the Hamburg Rules.[2] With that ambition in mind, the Convention touches upon matters that have never been dealt with before in an international transport convention or, if so, to a much lesser extent. Some of its provisions purport to provide a suitable compromise for certain points that have traditionally drawn greater attention in a world where the "shippers-carriers" strain has been common ground for most of the analyses and discussions. However, beyond such provisions it is crucial to note that a significant part of the added value of the new convention (perhaps the most important part) is in the rules that expand the traditional scope of previous carriage conventions to embrace newly regulated questions. Among these new rules stand the provisions relating to the use of electronic means of communication, which will certainly play a leading role in the near future should the Convention come into force. As opposed to other parts of the Convention, these provisions should not be approached as reflecting the strain of the "shippers-carriers," but as trying to cover their shared interests.

I. THE NEED FOR LEGAL RECOGNITION OF ELECTRONIC MEANS AND ELECTRONIC DOCUMENTS IN INTERNATIONAL TRADE: THE PARTICULAR CASE FOR THE INTERNATIONAL CARRIAGE OF GOODS

E-commerce and rules on e-commerce are starting to lose their aura of novelty.[3] The use of electronic means with contractual purposes in the trade has developed rapidly over the last fifteen years. Consequently, provisions targeted at providing legal recognition to electronic documents and to acts performed through electronic

1. G.A. Res. 63/122, U.N. Doc. A/RES/63/122 (Dec. 11, 2008) [hereinafter Rotterdam Rules].

2. *See generally* U.N. Convention on the Carriage of Goods by Sea, Mar. 31, 1978, 1695 U.N.T.S. 3, 17 I.L.M. 608 (setting forth the Hamburg Rules); Protocol to Amend the International Convention for the Unification of Certain Rules of Law Relating to Bills of Lading, Feb. 23, 1968, 2 U.S.T. 430, 1412 U.N.T.S. 128 (setting forth the Visby amendments to the Hague Rules); International Convention for the Unification of Certain Rules Regarding Bills of Lading, Aug. 25, 1924, 51 Stat. 233, 120 L.N.T.S. 155 (setting forth the Hague Rules).

3. The meaning of the expression "e-commerce" in this context is the one usually attributed thereto, which refers in broad terms to the employment of electronic means of communication within the course of commercial dealings. It therefore comprises "the use of alternatives to paper-based methods of communication and storage of information," including the use of Electronic Data Interchange and any other electronic, optical, or digital means for storing information in digital format or transmitting information through telecommunication networks. U.N. Comm'n on Int'l Trade Law [UNCITRAL] Model Law on Electronic Commerce, G.A. Res. 51/162, arts. 1, 3, U.N. GAOR, 51st Sess., U.N. Doc. A/51/49 (Dec. 16, 1996) [hereinafter MLEC]; *see also* Amelia H. Boss & Jane Kaufman Winn, *The Emerging Law of Electronic Commerce*, 52 BUS. LAW. 1469, 1474–76 (1996–1997) (discussing the U.C.C.'s adoption of broad definitions of electronic communications). *See generally* U.N. COMM'N ON INT'L LAW [UNCITRAL], UNCITRAL MODEL LAW ON ELECTRONIC COMMERCE WITH GUIDE TO ENACTMENT 1996 WITH ADDITIONAL ARTICLE 5 BIS AS ADOPTED IN 1998, U.N. Sales No. E.99V.4 (1999), *available at* http://www.uncitral.org/pdf/english/texts/electcom/05-89450_Ebook.pdf [hereinafter MLEC GUIDE TO ENACTMENT] (containing a guide to enactment of MLEC as published by UNCITRAL).

communication have emerged in many countries.[4] A certain number of international instruments also focus on this specific topic. When compared to other areas of law, one could think that the "catch-up" in this field has been fairly and satisfactorily quick. Despite this sensation, legislators still face several issues and problems with respect to the use of electronic means with commercial purposes, both at the national and the international levels. Some of those needs are particularly present in the rules dealing with contracts for the carriage of goods.

A. Electronic Commerce and Carriage of Goods

One of the well-known features of e-commerce law is that, during its infancy, it was focused mainly upon form requirements.[5] Since the beginning of the use of electronic means of communication in trade, efforts of all kinds began to promote the need to build a body of law properly regulating the use of such communications. Historically, the main objective has been to achieve a certain degree of media neutrality in law so that electronic messages and files could be deemed to satisfy the rules requiring the production of "writings" and electronic signatures could be considered as "signatures" in a legal sense.[6] It is universally accepted that private law, and specifically commercial law as the area in which parties most frequently rely on writings and signatures, is paper-minded.[7] Even if in some cases it could be argued that electronic writings and signatures could peacefully fit into the existing rules without further adjustments, the truth is that on many occasions the interpretation and application of the relevant rules revealed that the implicit assumption whenever a written document was required was that a piece of paper had come into existence.[8]

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4. *See, e.g.*, Stephen E. Blythe, *On Top of the World and Wired: A Critique of Nepal's E-Commerce Law*, 8 J. HIGH TECH. L. 1 (2008) (discussing Nepal's Electronic Transactions Ordinance and how Nepal can improve by looking to other countries for guidance); Stephen E. Blythe, *Hong Kong Electronic Signature Law and Certification Authority Regulations: Promoting E-commerce in the World's "Most Wired" City*, 7 N.C. J. L. & TECH. 1 (2005) (arguing that Hong Kong's Electronic Transactions Ordinance of 2000 ought to be amended to enhance consumer protections); Susanna Frederick Fischer, *Saving Rosencrantz and Guildenstern in a Virtual World? A Comparative Look at Recent Global Electronic Signature Legislation*, 7 B.U. J. SCI. & TECH. L. 229, 234–37 (2001) (discussing trends in recent global legislative initiatives to establish legal frameworks supporting electronic signatures, specifically mentioning legislation in Germany, Italy, Malaysia, Russia, India, Hong Kong, Estonia, Peru, Australia, Gibraltar, Japan, Austria, Finland, France, Ireland, Luxembourg, Slovenia, and Sweden); Minyan Wang, *The Impact of Information Technology Development on the Legal Concept—A Particular Examination on the Legal Concept of Signatures*, 15 INT'L J.L. & INFO. TECH. 253 (2007) (examining electronic signature legislation in the United States, the United Kingdom, Germany and China).

5. *See* Amelia H. Boss, *The Uniform Electronic Transactions Act in a Global Environment*, 37 IDAHO L. REV. 275, 289–90 (2001) (discussing the minimalist nature of the Uniform Electronic Transactions Act); Henry D. Gabriel, *The Fear of the Unknown: The Need to Provide Special Procedural Protections in International Electronic Commerce*, 50 LOY. L. REV. 307, 310, 316 (2004) (noting that the purpose of various e-commerce statutes—to gain recognition for electronic records—was achieved by overriding old form requirements).

6. *See* Boss, *supra* note 5, at 292 (using laws shaped by the Statute of Frauds as an example).

7. In all legal systems where any efforts aimed at assessing the validity and implementation of electronic means from a legal point of view have been undertaken. Laws shaped by the Statute of Frauds (which requires the production of a writing as a condition for the validity of certain contracts or for the evidence thereof) have consequently been pointed to as the main obstacles to the validity and effect of contracts concluded through electronic means.

8. *See* John D. Gregory, *The UETA and the UECA: Canadian Reflections*, 37 IDAHO L. REV. 441,

The reactions to the former situation can be summarized as follows. First, and as usual when we talk about merchants, the trade refused to wait for the arrival of the necessary changes in the law and began to pursue the legal recognition of electronic writings and signatures through contractual arrangements.[9] In order to support such endeavors and their objectives, some international bodies began to produce instruments supplying models and guidelines for the implementation of contractual rules on the use of electronic means.[10] Shortly thereafter, legislators began to care about the need for removing legal obstacles to the use of such means, expressly providing for the legal validity of the writings and signatures in electronic form.[11]

In the context of international trade, one area of law where e-commerce rules were most needed was that affecting the carriage of goods.[12] Several reasons exist for

442 (2001) (noting the presumption of paper documents in Canadian law).

9. When trading-partner agreements and the Electronic Data Interchange ("EDI") began to emerge in the trade, such recognition was contract-based, only binding on parties entering the contract, and introduced on the basis of several measures. Their common target is to allow the creation of enforceable obligations by the exchange of EDI messages. *See, e.g.*, U.N. Econ. Comm'n for Europe [UNECE], Comm. on the Dev. of Trade, Working Party on Facilitation of Int'l Trade Procedures, *Recommendation No. 26: The Commercial Use of Interchange Agreements for Electronic Data Interchange*, § 4.1, U.N. Doc. TRADE/WP.4/R.1133/Rev.1 (June 23, 1995) [hereinafter WP.4 Model Agreement] (providing for valid and enforceable obligations when parties exchange messages in compliance with the Model Agreement). Among them stands also the "as if" clause, which was drafted with equal purposes. A usual example would state that, when a certain communication or declaration was made through an EDI message or record created and sent according to the rules, conditions, standards, and procedures provided for in the contract, such communication or declaration would have the validity and effect "as if" it had been made in a paper document. *See* Comité Mar. Int'l, *Rules on Electronic Bills of Lading*, R. 4(d), 7(d) (1990) [hereinafter CMI Rules] (providing the text of the "as if" clause), http://www.comitemaritime.org/cmidocs/rulesebla.html (last visited Mar. 9, 2009); Bolero Ass'n Int'l, *Bolero Rulebook*, cl. 3.1.3 (Sept. 1999), http://www.boleroassociation.org/downloads/rulebook1.pdf (last visited Mar. 9, 2009). In addition, parties to the agreement would undertake not to challenge the validity and effect of any declaration or communication on the sole grounds that it has been made by electronic communication. WP.4 Model Agreement, § 4.1.

10. Some of the instruments have already been mentioned in the preceding note, such as the Model Agreement and the CMI Rules. Other instruments, which were previously produced and were influential on subsequent models, were created by the WP.4 and the International Chamber of Commerce, and, within the United States but with an international repercussion, by the American Bar Association. U.N. Econ. Comm'n for Europe [UNECE], *Uniform Rules of Conduct for Interchange of Trade Data by Teletransmission (UNCID)* (1988), http://www.unece.org/trade/untdid/texts/d210_d.htm (last visited Mar. 9, 2009); *The Commercial Use of Electronic Data Interchange Agreements: A Report and Model Trading Partner Agreement*, 45 BUS. LAW. 1645 (1990); *see* Amelia H. Boss, *Electronic Commerce and the Symbiotic Relationship Between International and Domestic Law Reform*, 72 TUL. L. REV. 1931, 1948–50 (1998) (explaining the development of these initiatives and instruments).

11. Early initiatives took place on both sides of the Atlantic. On the European side, regulation of such issues and harmonization in this area were initially fostered by the two directives on e-commerce and electronic signatures. *See* Parliament and Council Directive 2000/31/EC, 2000 O.J. (L 178) 1–16 (involving the regulation of certain legal aspects of information society services and e-commerce); Parliament and Council Directive 1999/93/EC, 2000 O.J. (L 013) 12–20 (creating a community framework for electronic signatures). Probably the most prominent national instrument in this area, though, is the Uniform Electronic Transactions Act of 1999. *See* NAT'L CONFERENCE OF COMM'RS ON UNIF. STATE LAWS, UNIF. LAW COMM'N, UNIFORM ELECTRONIC TRANSACTIONS ACT (1999) [hereinafter UETA], *available at* http://www.law.upenn.edu/bll/archives/ulc/fnact99/1990s/ueta99.pdf. One of the basic assumptions implied in the policy principles that underlie these and other instruments is that, although paper-oriented, existing rules are generally amenable to e-commerce with no changes in their substance, and therefore that the legal implementation of the use of electronic means should not entail any substantive changes. Boss, *supra* note 5, at 295–96.

12. MLEC GUIDE TO ENACTMENT, *supra* note 3, para. 110; Juana Coetzee, *Incoterms, Electronic*

the foregoing contention. First, providing transportation services is a paper-intensive activity. The number of documents that are to be issued in a carriage operation can be high, and in some cases impractically high. Some of those documents are required by customs regulations or other administrative rules,[13] but the most important of them derive directly from the structure and operation of contractual relations in the carriage of goods. Second, and closely linked with this latter idea, the contract for the carriage of goods has attracted great attention among the several contracts upon which uniform commercial law has usually focused. There are many international conventions with either a worldwide or a regional character designed to regulate contracts for the carriage of goods by different modes of transport.[14] Some are among the most ancient international bodies of private uniform law.[15] Although ancillary to them, a contract for the carriage of goods influences in a very essential manner other "principal contracts" to which it is usually attached (e.g., sales contracts, documentary credits) by reason of its risk-allocation principles and its operation and mechanics. The configuration of the parties' obligations and their performance within these contracts allows the contract for the carriage of goods to provide a documentary basis for each stage of the exchange process.[16]

B. Difficulties Encountered in the Complete Regulation of the Use of Electronic Means in Contracts for the Carriage of Goods

All of the foregoing may explain why the initiatives supported by the maritime industry stand among the earlier attempts to eliminate barriers to the use of

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Data Interchange, and the Electronic Communications and Transactions Act, 15 S. AFRICA MERCANTILE L.J. 1, 9 (2003); Boris Kozolchyk, *Evolution and Present State of the Ocean Bill of Lading from a Banking Perspective*, 23 J. MAR. L. & COM. 161, 211–12 (1992).

13. *See* Cynthia Blum, *U.S. Taxation of Shipping: Anchored to a Flawed Policy*, 33 J. MAR. L. & COM. 461, 515–16 ("[T]he current import processing system of the [U.S.] Customs Service is 'paper-intensive' and inadequate . . . .") (citing *U.S. Customs Service: Observations on Selected Operation and Program Issues: Testimony Before the Subcommittee on Trade of the House Committee on Ways and Means*, 107th Cong. 2 (2001), *available at* http://www.gao.gov/new.items/d01968t.pdf); Boris Kozolchyk, *Strict Compliance and the Reasonable Document Checker*, 56 BROOK. L. REV. 45, 49 (1990) (discussing cost- and labor-intensive practice of processing letter of credit documents in the United States and the United Kingdom).

14. *See, e.g.*, United Nations Conference on Trade and Development: Convention on International Multimodal Transport of Goods, *opened for signature* Sept. 1, 1980, 19 I.L.M. 938 (generally regulating carriage of goods); Inter-American Convention on Contracts for the International Carriage of Goods by Road, July 15, 1989, 29 I.L.M. 81 (regulating carriage of goods by road); Convention and Protocol of Signature Thereto, Between the United States of America and Other Powers Respecting Bills of Lading for the Carriage of Goods By Sea, June 23, 1925, 51 Stat 233 (regulating carriage of goods by sea) [hereinafter Bill of Lading Convention]; Geneva Convention on the Contract for the International Carriage of Goods by Road, May 19, 1956, 399 U.N.T.S. 189, *available at* http://www.jus.uio.no/lm/un.cmr.road.carriage.contract.convention.1956/portrait (regulating carriage of goods by road); International Convention for the Unification of Certain Rules of Law relating to Bills of Lading, August 25, 1924, 51 Stat. 233, 120 L.N.T.S. 155, *available at* http://www.admiraltylawguide.com/conven/haguerules1924.html (regulating carriage of goods by sea) [hereinafter Hague Rules].

15. *See, e.g.*, Hague Rules, *supra* note 14 (dating to 1924); Bill of Lading Convention, *supra* note 14 (dating to 1925).

16. Lixin Han, *A Study on the Liability of the Carrier and the Actual Carrier for Delivery of Goods*, 39 J. MAR. L. & COM. 275, 277–78 (citing Enichem Anic S.P.A. v. Ampelos Shipping Co. Ltd, 1 Lloyd's Rep. 252, 268 (1990)) (discussing the functions of a bill of lading used for the carriage of goods, focusing on its function as a document of title).

electronic means within contract relations in international trade. They may also explain why some of the carriage conventions likewise contain the first, rather modest, rules aimed at recognizing the validity of the use of electronic means.[17] For these reasons, e-commerce rules, developed and implemented within the framework of rules dealing with the carriage of goods, were the ones that began most rapidly to encounter new difficulties.[18] Such obstacles diminished the lead in the e-commerce field taken by the contract for the carriage of goods, and obliged legislators and scholars to face more challenging problems.[19]

The legislative strategy on e-commerce, as developed under the auspices of UNCITRAL and other institutions, has been inspired by the need to coordinate national laws and achieve a harmonized picture at the international level, while taking advantage of the fact that it was a newly emerging discipline.[20] The most outstanding result of this policy is the Model Law on Electronic Commerce ("MLEC"). UNCITRAL also drafted an instrument that was uniform in scope, which resulted in the United Nations Convention on the Use of Electronic Communications in International Contracts of November 23, 2005.[21] These two instruments provide examples of the special attention devoted to the carriage of goods, and the difficulties faced in relation thereto. Part Two of the MLEC, entitled "Electronic Commerce in Specific Areas," addresses the use of electronic means within the contract of carriage.[22] In contrast, the drafters of the 2005 Electronic Communications Convention show a certain reluctance to apply it to transport documents and contracts of carriage; besides expressly excluding its application to bills of lading, it allows contracting states to exclude the Convention's application to international contracts of carriage governed by another international convention.[23]

Relatively quickly, it became clear that this stagnation in the evolution of e-commerce rules for contracts of carriage arose from the difficulties surrounding the regulation of the transfer of rights through electronic means, and particularly the transfer of rights through the use of negotiable documents.[24]

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17. *See, e.g.*, Montreal Protocol No. 4 to Amend Convention for the Unification of Certain Rules Relating to International Carriage by Air, Signed at Warsaw on Oct. 12 1929, as Amended by the Protocol Done at the Hague on Sept. 28, 1955, Signed at Montreal on Sept. 25, 1975, May 28, 1999, 2145 U.N.T.S. 36 (allowing "[a]ny other means of which would preserve a record of the carriage to be performed" to be "substituted for the delivery of an air waybill") [hereinafter Montreal Protocol].

18. *See* MLEC GUIDE TO ENACTMENT, *supra* note 3, at 58 ("In preparing the Model Law, the Commission noted that the carriage of goods was the context in which electronic communications were most likely to be used and in which a legal framework facilitating the use of such communications was most urgently needed.").

19. *See, e.g.*, Boss, *supra* note 5, at 277 ("[E]xponential growth in electronic commerce has created a situation where lawmakers cannot ignore the enormous amounts of activity taking place electronically, and are being pressed to exert control over that activity by creating laws governing Internet and other electronic commerce activity.").

20. *See id.* at 1934–36, 1943–44, 1982–83 (discussing the relationship between domestic and international developments in the area of electronic commerce and the impact of the implementation of electronic technologies on business practices and law); A. Brooke Overby, *Will Cyberlaw Be Uniform? An Introduction to UNCITRAL Model Law on Electronic Commerce*, 7 TUL. J. INT'L & COMP. L. 219, 232 (1999) (discussing attempts at harmonization of international e-commerce law).

21. U.N. Convention on the Use of Electronic Communications in International Contracts, G.A. Res. 60/21, U.N. GAOR, 60th Sess., U.N. Doc. A/Res/60/21 (Dec. 9, 2005) [hereinafter UNCEC].

22. *See* MLEC GUIDE TO ENACTMENT, *supra* note 3, at 18–19.

23. UNCEC, *supra* note 21, art. 2, para. 2, art. 20.

24. *See id.* art. 2.2 (indicating what sorts of documents or instruments are excluded by the convention); *see also* UNCITRAL Secretariat, *Explanatory Note by the UNCITRAL Secretariat on the United Nations Convention on the Use of Electronic Communications in International Contracts*, para. 295,

Aside from serving evidentiary purposes (such as evidence of the contract and of the receipt of the goods by the carrier), some of the documents issued under the contract of carriage, as well as the structure of relations within the contract itself, serve the basic goal of permitting the transfer of rights arising from the contract under certain specific conditions.[25] Additionally, a closer look at this interaction between the contract of carriage and other contractual relations reveals the determinative element for its functional insertion within adjacent contracts: it provides a documentary basis that articulates the transfer of rights stemming from the contract (or alternatively the system for the transfer of rights implicit in the contract, perhaps with a shorter dependence on the documents issued).

To completely transition to the electronic exchange of goods, this functional link explains why contracts of carriage must receive a certain priority when regulating the use of e-commerce in international trade, or at least with respect to the international exchange of goods. It also explains why a certain number of the most ambitious projects and instruments developed in the early times of the Electronic Data Interchange ("EDI") were in the transportation sector, which was primarily concerned with the electronic transfer of documents or rights (including among others, the Cargo Key Receipt, the Seadocs Project, BOLERO, and the International Maritime Committee Rules on Electronic Bills of Lading).

II. ELECTRONIC-COMMERCE PROVISIONS IN THE CONVENTION: BACKGROUND, PRINCIPLES AND EXPECTED RESULTS

Although the starting point of the work on the Convention within UNCITRAL dates back only to 2002, its drafting and negotiation took place as a continuation of earlier work carried out by the International Maritime Committee.[26] Since an early stage of the work, and given the ongoing debate, there was a common understanding that any new instrument regulating the carriage of goods by sea should address the use of electronic means of communication under the contract of carriage.[27] Since its

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U.N. Doc. A/CN.9/608 (Mar. 17, 2006) [hereinafter *UNCITRAL Explanatory Note*], *available at* http://www.uncitral.org/pdf/english/texts/electcom/06-57452_Ebook.pdf (giving reasons not to include the Hamburg Rules in the list of art. 20.1, and stating that "UNCITRAL considered that the possible problems related to the use of electronic communications under [that convention], as well as under other international conventions dealing with negotiable instruments or transport documents, might require specific treatment and that it might not be appropriate to attempt to address those problems in the context of the Electronic Communications Convention").

25. *See generally* Hugo Tiberg, *Legal Qualities of Transport Documents*, 23 TUL. MAR. L. J. 1, 2 (1998) (arguing that "the bill of lading is generally said to function as a symbol of a key to the goods covered by it").

26. Such work was also initiated following the request by UNCITRAL addressed to the International Maritime Committee ("CMI") in 1996, and concluded with an initial drafting for a new convention on international transport, the CMI Draft Instrument on Transport Law, by the end of 2001. This draft was then submitted to UNCITRAL for the continuation of its development. The request made by UNCITRAL to the CMI expressly sought to focus the work on issues that needed a higher degree of uniformity. U.N. Comm'n on Int'l Trade Law [UNCITRAL], Secretary-General, *Transport Law: Possible Future Work*, paras. 1–11, U.N. Doc. A/CN.9/476 (Mar. 31, 2000).

27. The work initially addressed substantive issues, including liability-related questions and the regime of documents, and the need for contemplating the use of electronic means and electronic transport documents was soon raised and taken over by the CMI. Comité Mar. Int'l, *The Travaux Preparatoires, Draft Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea*, http://www.comitemaritime.org/draft/draft.html (last visited Feb. 18, 2009).

inception, the Convention has benefitted from the progress achieved in the field of e-commerce. The fundamental lines of the regulation contained in the final proposed text follow e-commerce principles, the basic concern of which is to equalize all formal means or instruments, whether on paper or in electronic form, aimed at providing for the storage and exchange of information in writing.[28] The Convention addresses issues demanded by those in the trade, but goes further and sets out a regulation of transport documents issued in electronic form, which includes electronic negotiable documents.

A. The Foundations of the Electronic-Commerce Provisions

As a set of rules regarding questions only referring to formal issues, the provisions envisaging the use of electronic means of communication are spread throughout the text of the Draft. In trying to better assess the extent and effects, we ought to bear in mind that we are addressing a body of transport law with international scope, wherein e-commerce provisions coexist with, strictly speaking, "non-e-commerce" or "substantive" rules[29] on the contract of carriage. It is important to bear in mind that the development of the Draft has focused both on drafting the "substantive" rules and on simultaneously introducing e-commerce rules in order to facilitate the use of electronic means for any purpose potentially covered by the paper medium.[30] This will sometimes explain the construction of some of the concepts upon which the e-commerce rules are founded, which in a certain way have been influenced by the "substantive" rules. Next, it recommends approaching the contents of the Convention from this dual perspective and in a certain logical sequence (first e-commerce rules, then relevant substantive provisions), to acquire a better understanding of how both sets of rules interact.

Regardless of the distinction, which aims at addressing the text in a clearer way, media neutrality is one of the guiding principles of the Convention. In that sense, the Convention purports to reflect the application of the e-commerce principles. Since making a new convention requires new drafting from scratch, the application of principles such as the non-discrimination and non-alteration as to preexisting substantive law principles have had a slightly less perceivable presence. The

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28. The set of legislative policy principles universally accepted as properly guiding the changes to be introduced in the law for achieving media neutrality, and thereby enabling the use of electronic means with legal validity and effect, consist essentially of the non-discrimination principle, the functional-equivalence approach, the technological-neutrality principle, the principle of non-alteration of pre-existing substantive law, as well as the principles of party autonomy and good faith. A brief reference to the meaning of some of them will be made in forthcoming pages; for a full explanation, *see* Gabriel, *supra* note 5, at 311–12 (discussing the functional-equivalent approach); Boss, *supra* note 5, at 291 (discussing the Act's deference to substantive law); RAFAEL ILLESCAS ORTIZ, DERECHO DE LA CONTRATACIÓN ELECTRONICA 40, (2001). Since initial discussion of e-commerce rules, the Rotterdam Rules and other previous drafts have followed these principles. *See* Comité Mar. Int'l, Singapore I, *Report of the E-Commerce Working Group* (2001), *available at* http://www.comitemaritime.org/singapore/issue/issue_eco_rep.html (illustrating the evolution of legislative policy principles).

29. This expression is being used here only to give a clearer sense of the divide between the provisions that we are mainly interested in and the rest of the rules set out in the Convention. These "substantive" rules provisions also include rules regarding jurisdiction and arbitration. *See* Rotterdam Rules, *supra* note 1, chs. 14–15 (containing the Convention's specific provisions on jurisdiction and arbitration).

30. *E.g.*, INDIRA CARR, INTERNATIONAL TRADE LAW 110 (Cavendish Publ'g 2005) (1995).

Convention has been gradually formed and revised on grounds of the substantive policy lines in each case applied. It also takes into account the need to lay down the resulting provisions in a neutral way, in order to build a suitable scheme regardless of the means employed when form requirements become relevant.[31] On the other hand, principles such as functional-equivalence and technological-neutrality,[32] especially the former, become more important, which to a much larger extent has usually defined the orientation of e-commerce rules.[33]

1. "Electronic Communications" and "Electronic Transport Records"

The "core" e-commerce provisions of the Convention provide the legal basis for the use of electronic means with the same effect and equal treatment as those granted to paper documents. The three notions the Convention employs for establishing the foundations of its structure resemble the terminology employed in other laws dealing with e-commerce. However, their meaning varies slightly and not all of them are defined terms, or if they are, it is to a different extent. Although the media neutrality of the structure relied upon is sufficient for providing equivalence in validity and effect between paper and electronic means, perceptions are sometimes dependent on preconceived notions and ideas developed in the "non-e-commerce" area, which is indebted to the paper-based mentality and to the existing law on carriage of goods.

The point of departure for the interpretation of the whole system must be recognized in the "electronic communication" notion. The definition of this term applies the functional equivalence test as follows: "'Electronic communication' means information generated, sent, received or stored by electronic, optical, digital, or similar means with the result that the information communicated is accessible so as to be usable for subsequent reference."[34]

The notion of "electronic communication" should itself be identified with a writing in an electronic medium. It condenses several requirements in other e-

31. Although the two principles have been taken into account, since they are usually logically formulated by reference to preexisting law, they have had a less influence in the drafting process. The non-discrimination principle's concern is to eliminate any prejudice or obstacles that existing requirements of writing and signature might pose to the validity of electronic means. It is aimed at expressly providing for the interpretation of such requirements in order to avoid rendering void or ineffective any declaration, communication, or contract on the sole grounds that it has been made by using electronic means. MLEC, *supra* note 3, art. 9, para. 12; UNCEC, *supra* note 21, art. 8, para. 1; UETA, *supra* note 11, § 7, paras. a–b (giving legal effect to electronic records). As for the nonalteration of preexisting law, it has been reflected in the careful intention not to create substantive differences in the application of the Rotterdam Rules by operation of the e-commerce rules (*i.e.*, for avoiding a "duality of regimes" for the non-electronic and the electronic environments).

32. MLEC GUIDE TO ENACTMENT, *supra* note 3, paras. 15–16 (explaining that the functional-equivalence approach requires that electronic means of communication and media are recognized as having the same effect and granted the same treatment as other media contemplated in the law, as long as they fulfill the same functions that the law attaches to these latter media—notably the paper medium); Boss, *supra* note 5, at 292 (the technological-neutrality principle purports to avoid the possibility that any of the e-commerce rules may create an impediment or obstacle to technological development aimed at improving the functionalities and utility of electronic means, or to its implementation with legal purposes).

33. José Angelo Estrella Faria, *e-Commerce and International Legal Harmonization: Time To Go Beyond Functional Equivalence?*, 16 S. AFRICA MERCANTILE L. J. 529, 530–31 (2004).

34. Rotterdam Rules, *supra* note 1, art. 1 para. 17.

commerce law instruments[35] whose implications require the information, once it has been sent, received, or stored, to be both perceivable and readable at a later stage.[36] The fulfillment of these "memory" and "display" functions determines the paper's legally relevant usefulness, based on the functional equivalence approach[37] and the specific measures that will be analyzed and explained next.

On the basis of several of its rules, particularly the definition of electronic communication, the Convention enables parties to use electronic means for making any declaration or communication required to be in writing.[38] This covers, for instance, the communications or notices to be given by the parties to each other. For example, the shipper must give notice where goods are damaged or lost,[39] communicate information to be included in the transport document,[40] or confirm the receipt of the goods.[41] Notification of transfer of the right of control must also be made in writing by the transferor to the carrier to render such transfer effective.[42] Similarly, notifications given by the carrier, such as notice of the measures to be taken with respect to goods remaining undelivered must be in writing.[43] Written documentation is also required for declarations extending the period for the exercise

35. The term "electronic communication" is also used in the 2005 Electronic Communications Convention but with a different meaning, along with the notion of "data message" that was coined in the Model Law on Electronic Commerce. In these instruments, the construction of a notion of "electronic writing" results from the joint application of different rules. Namely, under the MLEC, such combination consists of article 2(a), which contains the definition of "data message." MLEC, *supra* note 3, art. 2(a) (defining data message as "information generated, sent, received or stored by electronic, optical or similar means including, but not limited to, electronic data interchange (EDI), electronic mail, telegram, telex or telecopy"). On the other hand, article 6(1) states, "where the law requires information to be in writing, that requirement is met by a data message if the information contained therein is accessible so as to be usable for subsequent reference." *Id.* art. 6(1). In the 2005 Electronic Communications Convention, the notion of "electronic communication" is contained within the broader notion of "communication," which generally refers to any declaration or exchange of information made between the parties to a contract prior or after its conclusion. *See id.* art. 4, paras. (a) & (b). *See also UNICTRAL Explanatory Note, supra* note 24, para. 91. The notion of electronic communication is further defined as the "communication that the parties make by means of data messages." UNCEC, *supra* note 21, art. 4, para. (c). This definition mostly replicates the one contained in MLEC (with the addition to a reference to "magnetic" means). *Id.*; MLEC, *supra* note 3, art. 2. The combination of these concepts with the requirement laid down in article 9.2 of the 2005 Electronic Communications Convention equates an electronic communication with a written document provided that "the information contained therein is accessible so as to be usable for subsequent reference." UNCEC, *supra* note 21, art. 9, para. 2.

36. This standard implies that the information must be capable of being subsequently reproduced and objectively "readable and interpretable," and it must be deemed formulated with respect to the human eye, as well as to computers (when it is to apply to situations where the information must be automatically processed with no immediate human intervention). MLEC GUIDE TO ENACTMENT, *supra* note 3, para. 50; *UNCITRAL Explanatory Note, supra* note 24, paras. 145–46.

37. Gregory, *supra* note 8, at 454; Patricia Brumfield Fry, *Introduction to the Uniform Electronic Transactions Act: Principles, Policies and Provisions,* 37 IDAHO L. REV. 237, 243–44 (2001).

38. Article 3 contains a list of various articles in the Convention and requires that communications under those articles "shall be in writing." Rotterdam Rules, *supra* note 1, art. 3. Article 3 continues: "Electronic communications may be used for [written communications in the listed articles], provided that the use of such means is with the consent of the person by which it is communicated and of the person to which it is communicated." *Id.*

39. *Id.* arts. 3, 23.

40. *Id.* arts. 3, 36, paras. 1(b)–(d).

41. *Id.* arts. 3, 44.

42. *Id.* arts. 3, 51.

43. Rotterdam Rules, supra note 1, arts. 3, 48.

of actions made by the person against which a claim is made.[44] Consequently, all agreements that the Convention requires to be in writing can be recorded by means of an electronic communication.[45]

Departing from the definition of electronic communication, the Convention provides for the regulation of "electronic transport records":

> "Electronic transport record" means information in one or more messages issued by electronic communication under a contract of carriage by a carrier, including information logically associated with the electronic transport record by attachments or otherwise linked to the electronic transport record contemporaneously with or subsequent to its issue by the carrier, so as to become part of the electronic transport record, that:
>
> (a) Evidences the carrier's or a performing party's receipt of goods under a contract of carriage; and
>
> (b) Evidences or contains a contract of carriage.[46]

The concept and regime of the electronic transport record are respectively modeled and structured upon those applicable to "transport documents."[47] The regulations on transport documents and transport records have been devised to mirror one another. However, the Convention contains a definition of transport document which presupposes the presence of a written document.[48] Whereas, in the case of the electronic transport records, the key formalistic element for satisfying the definition depends on the expressly stated requirements that previously must be complied with according to the definition of electronic communication.[49] There are other options that show a higher consistency with the media neutrality that relies on a general definition of "document" or "record" including the paper and electronic media.[50] This possibility was also considered in the course of drafting the Convention, but it was discarded as being too inconsistent with assumptions[51] and possibly national principles. Although the Convention's main concern is the contract

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44. *Id.* arts. 3, 63.

45. This includes the agreement entered into by a maritime performing party in order to increase its responsibilities, and exclusive choice of court agreements that the parties may conclude.

46. *Id.* art. 1, para. 18.

47. *Id.* art. 1, para. 14 (defining "transport documents").

48. *See id.* art. 1, para. 14 (defining "transport document" as "a document issued under a contract of carriage by the carrier" that "evidences a contract of carriage").

49. *See id.* art. 1, para. 18.

50. Compare the structure with the one resulting from the UETA. The UETA creates a general definition of "record" ("information that is inscribed on a tangible medium or that is stored in an electronic or other medium and is retrievable in perceivable form," UETA §2, para. 13), as a subcategory of which a definition of "electronic record" is provided ("a record that is created, generated, sent, communicated, received, or stored by electronic means", UETA §2, para. 7). The general category of "record" creates parity between all media as being relevant for the determination of compliance with writing requirements, *see* UETA §7, para. c. A similar strategy shows the National Conference of Commissioners for Uniform States Law and the American Law Institute's Art. 7 (documents of title) of the Uniform Commercial Code ("U.C.C.") after the 2004 amendments. Under the U.C.C., the notion of "document of title" is defined as a specific and qualified type of record, *see* U.C.C §1-201, para. 15, while the term "record" is defined in Sec. 7-102, which reproduces the language used in UETA §2, para. 7.

51. CMI Yearbook 2001: Issues of Transport Law, *CMI Draft Instrument on Transport Law*, at 532, 534, *available at* http://www.comitemaritime.org/singapore2/singafter/issues/cmidraft.pdf.

of carriage, it must take into account that e-commerce rules are meant to avoid or eliminate any uncertainty as to the validity and effect of written documents in electronic format. In this aspect the Convention does not differ from other instruments, including those on e-commerce. There is in every area of commercial law, and to a large extent in the carriage of goods realm, a high degree of uniformity about what constitutes a written document in paper.[52] This is not so clear with electronic documents, and the purpose of the definition of electronic communication is precisely to avoid the uncertainty arising from the lack of uniformity.[53]

The foregoing characteristic has obliged the drafters to create two distinct instruments—the electronic transport record being one of them—and to regulate in a parallel manner both types of documents as if they were separate categories. Consequently, some of the substantive provisions refer separately to cases where the carrier has issued a transport document and to cases where the document that is issued is an electronic transport record.[54] Nonetheless, it is important to note that this sole feature does not hinder the absolute media neutrality that in practical terms the Convention should achieve.

Despite their distinct recognition, what this structure shows is a close interdependence between the two types of documents, arising from the fact that, although having a different medium, both are *transport* documents and records. This is worth mentioning in order to highlight some issues that ought to be taken into account when determining the boundaries of e-commerce provisions and their impact on documentation issued under a contract of carriage falling within the scope of the Convention.

First of all, as already seen, the chosen terminology refers to "transport documents" and "transport records" as their electronic replica.[55] This "modally neutral" expression is in line with the scope of application of the text, which is meant to apply to pure sea carriage contracts, though it also applies to multimodal contracts as long as they include an international maritime leg.[56] The use of this generic expression has become frequent, both in the trade and in literature, due to the growth of door-to-door and multimodal services, as well as the increasing significance

52. Beyond the scope of our discussion, there is also a certain (shorter) degree of uniformity at the international level with the notion of documents of transport. *See* Tiberg, *supra* note 25, at 16 (discussing various treatment of incorporation by reference).

53. The language and structure used by the Rotterdam Rules largely improves the language that can be found in other previous carriage conventions. In these previous versions, if electronic means are mentioned at all, they are introduced as "substitutes" or alternative tools for the carrier to fulfill its documentary duties, providing a lesser degree of certainty for the shipper and in some cases with no other expressly recognized material effects. In the 1999 Montreal Convention on Carriage by Air, for instance, the waybill can be substituted by "any other means which preserve a record of the carriage to be performed." *Montreal Convention*, *supra* note 17, art. III, art. 5. Surprisingly enough, no evidentiary effect is later attached to such means, and for that purpose the consignor needs to request a paper receipt with the information relating to the cargo thereon. *Id.* Said approach, which inherits the one designed in Montreal Protocol No. 4 for the 1929 Warsaw Convention, not only preserves, but expressly supports the privileged position of the paper among all means or media. *See id.* art. III, arts. 5, 11 (the latter referring to "evidentiary value of documentation"); *see also* Andrés Rueda, *The Warsaw Convention and Electronic Ticketing*, 67 J. AIR L. & COM. 401, 446–47 (2002) (discussing the SEC's hesitation to go to completely electronic documentation due to the "digital divide").

54. *See, e.g.*, Rotterdam Rules, *supra* note 1, art. 51 (referencing other articles of the Rotterdam Rules that create a distinction between electronic and non-electronic documents).

55. *Id.* art. 8.

56. *Id.* arts. 1, 5 (indicating that contracts of carriage may include other modes of transport in addition to sea carriage).

of intermediaries in transportation markets.[57] However, in some cases, the expression is used to refer to an involved document for the specific purpose of recognizing that the operation is multimodal.[58] Under the Convention, the terms "transport document" and "electronic transport record" consistently embrace all documents that can feasibly be issued under the contracts covered by the convention, and therefore give it a comprehensive meaning.

The definitions of "transport document" and "electronic transport record" are also limited due to their functions. To qualify as a transport document or record, the document issued must both serve as evidence of the contract and as proof of the receipt of the goods.[59] If we take this into account, and on grounds of the previous ideas, all documents issued under contracts of carriage that satisfy the said conditions can be electronically issued. This covers waybills and bills of lading, whether maritime or multimodal (or combined), as well as new documentary forms that the industry or the trade might develop in the future.

2. Electronic Signatures

The e-commerce provisions of the Convention also refer to electronic signatures.[60] In principle, as a formal element employed by any person signing a document (the signatory) with varying purposes, there is no particular reason to treat a signature differently simply because it is included in documents issued under a contract of carriage.[61] The rules that refer to transport documents have traditionally required, expressly or impliedly, that the carrier or someone on its behalf sign the transport document when it is issued, as a condition for triggering the effects usually attached to the use of such documents.[62] Such a provision is also included in the

57. Jiongjiong Sang, *Transition or Transformation: Emerging Freight Transp. Intermediaries*, INST. OF TRANSP. STUD. 8–10 (2001), *available at* http://www.its.uci.edu/ito/publications/papers/CLIFS/UCI-ITS-LI-WP-01-1.pdf.

58. *See, e.g.*, U.N. Conference on Trade and Dev. [UNCTAD], UNCTAD/ICC Rules on Multimodal Transp. Documents, arts. 2.6, 4, U.N. Doc. E/ECE/TRANS/SEM.8/R.4 (Jan. 24, 1991) (defining multimodal transport documents); U.N. Conference on Trade and Dev. [UNCTAD], U.N. Convention on Int'l Multimodal Transp. of Goods, arts. 5–6, U.N. Doc. TD/MT/CONF/17 (May 24, 1980) (same).

59. Although the application of the Rotterdam Rules is not dependent on the issuance of a certain type of document (as it is in The Hague and The Hague-Visby Rules), or dependent on the issuance of a document at all, the specific characterization of said notions still has a certain role with respect to the scope of application. *See* Michael Sturley, *Solving the Scope-of-Application Puzzle: Contracts, Trades, and Documents in the UNCITRAL Transport Law Project*, 11 J. INT'L MAR. L. 22, 25–26 (2005) (explaining strengths and weaknesses for the abandonment of the documentary approach in the determination of the scope of application as being too narrow and less effective than other criteria adopted by the Convention). As far as contracts for the carriage of goods by sea are concerned, the goal of the Rotterdam Rules is to apply in broad terms to contracts in the liner trade. There are, however, some contracts in the tramp trade that fall also within its scope of application (provided other conditions are met); namely contracts for the so called "on demand carriage," where only a bill of lading or waybill (*i.e.*, a transport document or an electronic transport record) is issued, and to other contracts, such as charterparties, where eventually a consignee or holder, other than the shipper, becomes involved in the contract. Rotterdam Rules, *supra* note 1, arts. 6 para. 2, 7.

60. Rotterdam Rules, *supra* note 1, art. 38, para. 2.

61. *See UNCITRAL Explanatory Note*, *supra* note 24, para. 160 (discussing various countries' laws regarding signatures).

62. *See* Protocol to Amend the International Convention for the Unification of Certain Rules of Law Relating to Bills of Lading art. 3.3, Feb. 23, 1968, 1412 U.N.T.S. 128 (having no express requirement), *available at* http://www.jus.uio.no/lm/sea.carriage.hague.visby.rules.1968/portrait.pdf; U.N. Convention on

Convention.[63] It contains a rather brief regulation on electronic signatures that adapts electronic documents for use as transport documents and provides a certain standard for compliance with signature requirements where an electronic transport record is issued.[64] In keeping with the parallelism between paper and electronic documents, any electronic transport record must include the signature of the carrier or someone acting on its behalf.[65] Because their objectives are very much alike, the Convention's rule setting out this requirement seems very much inspired by the electronic signature provisions of the UNCEC. The subtle difference in scope between this latter signature and other "electronic signatures," is that it is laid down only with respect to electronic transport records, and its effects are limited to such records.[66]

Signatures can perform different functions, and the text of the Convention requires that they "indicate the carrier's authorization of the electronic transport record."[67] At first glance, this requirement looks rather stringent compared to other electronic signature provisions.[68] However, this electronic document requirement is also implied in paper transport documents.[69] When signing the document, the carrier, as the issuer of the document or record, associates itself with its contents—meaning that it assumes a certain number of obligations—and states the reception of a certain amount of goods.[70] The signature mentioned in these provisions is the signature of the carrier as such, whereby the issuer assumes all the effects assigned to the document (or the record), specifically with respect to the carrier.[71]

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the Carriage of Goods by Sea, Mar. 31, 1978, A/Conf.89/13, 1695 U.N.T.S. 3, U.N. Doc. 1978, art. 15 (having an express requirement); CAROL PROCTOR, THE LEGAL ROLE OF THE BILL OF LADING, SEA WAYBILL AND MULTIMODAL TRANSPORT DOCUMENT 24 (1997) (explaining the use of signatures in waybills from the 14th to the 17th centuries).

63. Rotterdam Rules, *supra* note 1, art. 38, para. 1.

64. *Id.* para. 2.

65. *Id*; U.N. Comm'n on Int'l Trade Law [UNCITRAL], Working Group III, *Report of Working Group III (Transport) on the work of its twenty-first session (Vienna, Jan. 14–25, 2008)*, art. 38, U.N. Doc. A/CN.9/645; Rotterdam Rules, *supra* note 1, art. 38, para. 2.

66. *Compare UNCITRAL Explanatory Note, supra* note 24, art. 9, para. 3 (establishing the threshold for meeting the functional equivalence test whenever a signature is required), *with* Rotterdam Rules, *supra* note 1, art. 38 (requiring an electronic signature for electronic transport records).

67. Rotterdam Rules, *supra* note 1, art. 38, para. 2.

68. Article 9 UNCEC states that the method employed must express the signatory's "intention" with respect to the information contained in the electronic communication. *UNCITRAL Explanatory Note*, *supra* note 24, art. 9, para. 3(a). The reference to the "authorization" in the Rotterdam Rules looks to be closer to the language used in paragraph 1 of Article 7 MLEC, which requires the expression of the signatory's approval of the information. Rotterdam Rules, *supra* note 1, art. 38 para. 2; MLEC, *supra* note 3, art. 7, para. 1. The word "approval" has raised controversy over the years because it has been interpreted as emphasizing the functions of valid electronic signatures, thereby overlooking other purposes that a paper-world signature might perform (which do not necessarily entail "approval" of the contents of the information). *See* John D. Gregory, *The Proposed UNCITRAL Convention on Electronic Contracts*, 59 BUS. LAW. 313, 329–30 (2003) (discussing competing interpretations of definitions of "electronic signature" and stating that "acceptance sufficient for a contract is not necessarily a signature.").

69. Rotterdam Rules, *supra* note 1, art. 40, para. 1.

70. *Id.* art. 38; *see id.* art. 11 (stating that the carrier shall deliver the goods to the consignee).

71. In reference to the electronic transport records, this means that the signature is deemed to express not any feasible intent of the carrier as to the content of the document, so much of its intent is to assume such content precisely in its capacity as carrier. Account should be taken of the definition of carrier, *id.* art. 1, para. 5, as well as of the rights attributed to the shipper, *id.* art. 37. It could be argued that even under that assumption the electronic signature requirement is narrower than the one usually inferred from the paper language. In the use of paper bills of lading, there are cases where there is no identification of the carrier, or where an express identification of the carrier is lacking and there is simply a heading of the document with a signature, which may clarify by whom or on whose behalf the document has been signed

The second condition that must be observed for complying with signature requirements referring to an electronic transport record is that the signature must identify the signatory.[72] Such an apparently uncomplicated requirement has been considered to be the most convenient option for providing flexibility in the application of the functional equivalence test.[73] The provision is technology neutral and gives regard to the differing current practices, as well as the ones that the marketplace might develop.[74] As a result, the question that this specific provision leaves open is: what threshold of reliability should be considered necessary to deem the identification function fulfilled. When trying to answer that question, courts should take into account both the prior judicial application of the rules and prior practices and agreements between the parties. On top of that, courts should not deny legal validity to a signature on grounds of insufficient reliability, provided that it has been proven effective in identifying the signatory.[75]

There is one further question that, despite falling beyond the scope of the Convention, is worth addressing in relation to electronic records and signatures—agency. The issuance of the electronic transport record can, as previously stated, be issued by the carrier itself or by another person acting on its behalf.[76] Existing services for the electronic issuance and exchange of transport documents (or substitutes) are based on the creation of closed environments or systems run by

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or not. *See, e.g.*, U.N. Conference on Trade and Dev. [UNCTAD], *UNCTAD Report on Bills of Lading*, U.N. Doc. TD/B/C.4/ISL/6/Rev.1/9 (Feb. 26, 1971). Notwithstanding that such problems relate to the identification of the carrier in the text of the document, one could think that there is no clear indication of the carrier's authorization, and yet case law attributes the condition of carrier and the effects stemming from the document to a certain person (even if in some cases it is not the contracting carrier in the underlying carriage relationship). Setting aside the fact that cases with this profile involve a negotiable bill of lading and that they will hardly arise in a scenario where electronic records are used, it has to be pointed out that their solution is frequently rooted in the inference from the document language of the intent to sign as carrier and the attribution thereof (and therefore of the intent to assume the content of the document) to a certain person, particularly where the bill of lading has been transferred to a third-party holder. *See, e.g.*, SERGIO MARIA CARBONE, CONTRATTO DI TRASPORTO MARITTIMO DI COSE 117–21, 120 (1988) (explaining that although the presumption imputing liability to the carrier may be rebutted through the examination of other documents, the presumption nevertheless strongly favors holding a carrier to the obligations set out in the bill of lading); Hugo Tiberg, *Who Is the Hague Rules Carrier?*, *in* SIX LECTURES ON THE HAGUE RULES, 132 (Kurt Grönfors ed., 1967). Should it ever become necessary, such reasoning, as long as it is based on the text of the document, should also work likewise with respect to electronic transport documents or records.

72. Rotterdam Rules, *supra* note 1, art. 38, para. 2.

73. U.N. Comm'n on Int'l Trade Law [UNCITRAL], *Report of Working Group III (Transport Law) on the Work of its fifteenth session*, para. 203, U.N. Doc. A/CN.9/576, (Apr. 18–28, 2005) (clarifying that it was considered a good policy "to have a functional definition of 'electronic signature', rather than to lock in to a specific definition, and to leave the exact standard to national law or to the commercial parties themselves, as long as the functional requirements [are] met").

74. And we are "sailing waters" whereon there are several practical experiences relating to the operation with electronic transport documents or transfers of rights, each of them with a different structure, but bluntly dependent on different authentication methods and secure signatures that might well be subject to a rather unforeseeable evolution. *See, e.g.*, Susan Beecher, *Can the Electronic Bill of Lading Go Paperless?*, 40 INT'L LAW. 627, 641 (2006) (detailing analyses and proposals).

75. Although, as opposed to Article 9 of the UNCEC, the Rotterdam Rules does not include any express reference to the reliability of the employed method, whether based on the reliability test or not. *See UNCITRAL Explanatory Note*, *supra* note 24, paras. 162–65 (discussing the reliability test); UNCITRAL *Working Group III, on its fifteenth session*, *supra* note 73, para. 203 (discussing the electronic signature).

76. Rotterdam Rules, *supra* note 1, art. 38, para. 2.

third-party service providers that rely heavily on agency relations.[77] The Convention's electronic-signature requirements are not intended to relate to agency problems. Alternatively, agency problems should be resolved by appealing to rules outside the Convention, which might rely on different sources of authority, whether based on contract or law.[78] When determining whether sufficient authority exists, the starting point is to identify the agent by its electronic signature.[79]

3. Consent

Implicit in the principle that electronic commerce rules should simply be concerned with facilitating the employment of electronic means is the prominent and ever present concern to not impose any unintended form obligations or requirements upon the parties involved.[80] Whereas paper was formerly understood as the only available means for complying with writing and signature requirements, now parties may choose to conduct their dealings through electronic means, including the use of electronic communications and documents. In the framework of contractual relationships, the use of electronic means by parties to conduct their dealings entails some sort of agreement between them. The concern not to burden the parties with unintended form obligations or other requirements is also grounded on the inconvenience of imposing the validity of electronic means and forms on any of the

77. *See* George F. Chandler III, *Marine Electronic Commerce for the Twenty First Century*, 22 TUL. MAR. L.J. 463, 472–73 (1998) (discussing the use of "middleman" parties responsible for maintaining document/record registries).

78. It is unclear how maritime law's frequent sources of contractual or apparent authority might work with respect to electronic bills of lading, both in practicality and under practices potentially developed under the Rotterdam Rules. Nonetheless, contractual sources of authority could work for the issuance of electronic transport records where the owner of a vessel (or master thereof), in its capacity of maritime performing party (Rotterdam Rules, *supra* note 1, art. 1, paras. 6–7), issues an electronic bill of lading or sea waybill on behalf of the carrier. *See* Field Line (Cardiff) v. S. Atl. S.S. Line, 201 F. 301, (5th Cir. 1912) (constituting an example of an employment clause of the charterparty). This also applies to the carrier's employees with apparent or ostensible authority, such as the master where the carrier is the owner of the vessel whereon the goods are carried. Services for electronic transport documents or substitutes of bills of lading are based on the intervention of a third party on behalf of the carrier. Such interventions are based upon agreements conferring such third parties authority to issue electronic documents. Chandler III, *supra* note 77, at 472. For example, because the CMI Rules on Electronic Bills of Lading—although not expressly foreseeing such a possibility—were designed under the assumption that the system would operate on an outsourced basis, their use would probably entail resorting to third party secured communications services. *See id.* at 475–76 (discussing the minimum requirements to create an electronic bill of lading under the CMI rules).

79. A different question is at issue where the electronic signature of the carrier or its authorized agent or representative is used by an unauthorized person. These situations where the signature or communication might be challenged or repudiated by the identified signatory are to be addressed under the applicable laws on attribution of declarations made through signed electronic communications. This issue falls outside the Rotterdam Rules' scope and should be solved under the laws applied in each case. Such problems can be solved by reference to the actual proof of the creation or authorization of the message by the person to whom it is allegedly attributed. UETA, *supra* note 11, § 9 cmt. 1. In other cases, it is possible to rely on the regulation of electronic signatures and others and their effects upon the level of security provided, as well as accounting for the agreed practices between the sender and the receiver. *See* MLEC, *supra* note 3, art. 13, paras. 1–2 (discussing the attribution of a data message as between the originator and the addressee); MLEC GUIDE TO ENACTMENT, *supra* note 3, paras. 83–84.

80. Gabriel, *supra* note 5, at 322; *see* UETA, *supra* note 11, prefatory note, at 3 (explaining that the act defers to other areas of law when it comes to the method and manner of displaying, transmitting, and formatting electronic information).

parties in cases where there is a justified reason for either side not to submit to their use.[81]

Thus, the approach of the Convention is to require both parties' consent for the use of electronic transport records[82] as well as when complying with the writing requirements in crossed communications, notices, or declarations laid down in the text.[83] Under the Convention (influenced by the 2005 Electronics Communications Convention),[84] consent can be expressly or impliedly given.[85] Nevertheless, the consent required should be separately given for the use of electronic transport records and for the exchange of notices, communications of declarations.[86] In this latter case, there is a greater risk that a party will be exposed to the valid consent of an electronic communication without being aware of it. In addition, we ought to take into account that the referred communication might take place not only between the carrier and the shipper, but also between one of these parties and a documentary shipper, consignee, controlling party, holder, or a maritime performing party. For that reason, whereas the required consent for the use of electronic transport records is that of the parties to the contract, for communication purposes consent must be given both by the person making the communication and the person receiving it.[87]

B. The Use of Electronic Transport Records

The substantive effects of the employment of electronic transport records, provided they meet the foregoing conditions, are equal to those recognized in the use of paper transport documents.[88] Except for one difference that will be later addressed, the Convention treats both types of documents in a symmetrical and parallel manner. Therefore, references to both types can be found in several parts of the text, most significantly in both the rules specifically devoted to them and in those dealing with the transfer of rights.[89] With this specific regulation of electronic transport records, the Convention intends to provide for the coverage and certainty that the trade has been yearning for during the last decade.[90] As previously stated, in the transportation realm there has been a special impatience for the recognition, not only of electronic means, but specifically for the use of transport documents in

81. Gabriel, *supra* note 5, at 322.

82. Rotterdam Rules, *supra* note 1, art. 8(a).

83. *Id.* art. 3.

84. Para. 2 of art. 8 UNCEC is intended to preserve the parties' autonomy in the acceptance of the use and validity of electronic means, but also to highlight the importance of *facta concludentia* when assessing whether there has been an agreement in that sense or not. *See* UNCEC, *supra* note 24, art. 8, para. 2 (stating that "nothing in this convention requires a party to use or accept electronic communications, but a party's agreement to do so may be inferred from the parties conduct"). Nevertheless, its drafting reads rather aseptic if compared with the one finally used in the Rotterdam Rules. *Compare* UNCITRAL *Explanatory Note, supra* note 24, at paras. 131,132, *with* Rotterdam Rules, *supra* note 1, art. 8.

85. Rotterdam Rules, *supra* note 1, art. 35.

86. *Id.* arts. 3, 8.

87. *Id.*

88. *Id.* art. 8(b).

89. *Id.* arts. 8, 9, 10, 35.

90. *See* MLEC GUIDE TO ENACTMENT, *supra* note 3, para. 2 (referring to the legal obstacles and the uncertainty of the legal effect or validity of electronic commerce).

electronic medium, with a full regulation of their effects and different uses.[91] General e-commerce rules in many cases sufficiently provided the basis for the use of electronic documents under the same conditions as paper ones, including in carriage agreements.[92] However, the area of negotiable transport documents is still conspicuously devoid of regulation.[93]

Turning to the material effects of the issuance and use of electronic transport documents or records, there are some basic points that are worth mentioning. Under certain conditions, the Convention sets out the right of the shipper to request the issuance of a transport document or record from the carrier, whether negotiable or non-negotiable.[94] For the right of the shipper to exist in these terms, however, both parties must have consented to the use of electronic transport records (otherwise, the rights of the shipper would only cover paper documents).[95] Such consent may be expressly or impliedly given.[96] Although implied consent can be manifested in this context in several ways, the operation of electronic means with trading or commercial purposes will probably lead to the conclusion of express agreements thereupon.

The provisions regarding both traditional, paper transport documents and electronic transport records are dealt with concurrently in the Convention.[97] Rules regarding part of the carrier's duties and rights,[98] the shipper's and the documentary shipper's responsibilities,[99] and the evidentiary effect of the information, or any other measure determined upon the contents of the information,[100] apply equally to both. Likewise, all requirements that certain information must be included in the issued transport document are meant to refer to the document or the record issued. Therefore, all information must be electronically recorded in the transport record whenever an electronic record is used.[101]

Finally, and consistent with the overall approach to transport documents and records, the Convention regulates the issuance of electronic transport records in negotiable form, their operation, and, to a certain extent, their effects.[102] The Convention differentiates between negotiable and non-negotiable transport documents and records.[103] The only area in which the Convention does not treat documents and electronic records equally is with respect to "non-negotiable transport document[s] that require[] surrender."[104] This category exists for paper documents but not for electronic transport records. The referred type of document is precisely pointing towards the straight or *recta* bill of lading.[105] The use of the straight

91. *See* WP.4 Model Agreement, *supra* note 9, § 7.6 (recognizing that "many national legal systems fail to recognize electronic communications as 'writing'").

92. American Bar Association, *The Commercial Use of Electronic Data Interchange – A Report and Model Trading Partner Agreement*, 45 BUS. L. 1645, 1649 (1990).

93. Beecher, *supra* note 74, at 635–36.

94. Rotterdam Rules, *supra* note 1, art. 35.

95. *Id.* arts. 8(a), 35.

96. *Id.*, art. 8(a).

97. *Id.* ch. 8.

98. *Id.* arts. 1(5), 36, 40.

99. *Id.* arts. 1(9), 31, 33.

100. *Id.* arts. 37, 39, 41.

101. Rotterdam Rules, *supra* note 1, arts. 41, 54 para. 2.

102. *Id.* arts. 9–10.

103. *Id.* art. 1 paras. 15–16, 19–20.

104. *Id.* art. 46.

105. *Id.*

or nominative bill of lading is usually considered to be decreasing, because it does not provide all the benefits of negotiability and, under legal systems where it is admitted, its use entails many of the inconveniences also attached to the negotiability of the document.[106] It was thought nonetheless that as long as such documents are still in use, and several national laws regulate them, the Convention should explicitly deal with certain aspects of their employment.[107] The introduction of the straight transport document was initially accompanied by the regulation of its electronic twin, but the idea of regulating a nominative electronic transport record was dropped in the last minute.[108] It was considered that such documents probably would not exist, and that the purpose covered with their use in the physical environment would be equally achieved with the alternatives provided for in the Convention.[109]

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106. There is still some testimony to the use of nominative bills of lading. Their issuance reveals that in many occasions their use does not purport to serve to the negotiation of the goods in transit or to the documentary credit requirements. Rather they seek the application of The Hague, The Hague-Rules, or the national laws implementing them. *See generally* U.N. Conference on Trade and Development, Sept. 26–28, 2001, *The Use of Transport Documents in International Trade*, paras. 46, 53–55, U.N. Doc. UNCTAD/SDTE/TLB/2003/3 (Nov. 26, 2003) (mentioning that the application of mandatory transport legislation, like the Hague-Visby rules, is a relevant consideration in using negotiable documents).

107. Basically the delivery of the goods against the surrender of the document, and the transfer of the right of control to the named consignee through delivery of the document. *See* Rotterdam Rules, *supra* note 1, arts. 46, 51 para. 2.

108. *See Report of Working Group III (Transport) on the work of its twenty-first session*, *supra* note 65, at para. 157 (explaining that draft article 49 was deleted because "there was no existing practice of using the electronic equivalent of a non-negotiable transport document that required surrender that required support of the text of the [Rotterdam Rules]").

109. There is an example of an equivalent of a straight paper bill of lading in the BOLERO system. The BOLERO bill of lading works on the basis of the information that is recorded in the so called BBL Text and The Title Registry Record. Both elements are to work jointly to reproduce the functions of a traditional paper bill of lading. *Id.* § 4.1.1. The scheme devised therefore aims at reproducing all the consequences attached to the use of a bill of lading, relying on contractual resources that purport to replicate the effects of the law applicable to the bill of lading and to documents of title (to the extent that the bill of lading is considered as such). *Id.* As previously mentioned, the system is strongly built upon the functional equivalence approach and founded on clauses that expressly seek the parity between paper and electronic means (*e.g.*, on an "as if" basis). *See* discussion *supra* part II. A. 1. Strictly speaking, there is no exchange of documents in the BOLERO system, and everything is based on a "role game" whereby participants are attributed rights on the basis of the role they are assigned according to the declarations made by themselves or by other users. BOLERO INT'L LTD., APPENDIX TO BOLERO RULEBOOK: OPERATING PROCEDURES § 4.2 (2d ed. 1999), *available at* http://www.boleroassociation.org/dow-_docs.htm. The transfer of rights under the contract of carriage is structured upon a procedure that entails the novation of the contract each time that the user entitled for such action so declares, which in addition must be correspondingly reflected in the bill of lading (namely in the Title Registry Record). *Id.* §§ 4.4.1, 4.5.2.2. Among other possibilities, the BOLERO bill of lading can be issued as a non-transferable document. *Id* § 4.3.2. In such case the bill of lading will contain a designated consignee who, after "receiving" the document, will not be permitted to make a subsequent "transfer." *Id.* Although this might be understood to contradict the expressed assumption that nominative electronic transport records will not likely be used at all, it should be recalled that the BOLERO system tries to replicate the paper scheme "thinking" of the application of The Hague-Visby rules, *see* Bolero Int'l Ltd., LEGAL ASPECTS OF A BOLERO BILL OF LADING, http://bolero.codecircus.co.uk/assets/31/legal%20aspects%20of%20a%20bill%20of%20lading1092161487.pdf (last visited Feb. 11, 2009) (describing the legal basis for a Bolero Bill of Lading), which (again) only apply to bills of lading and similar documents of title. Besides, it has to be kept in mind that the BOLERO bill of lading is not a bill of lading to a full extent, and that the transfer of rights it enables would work likewise under the Rotterdam Rules on nonnegotiable electronic transport records.

C. *Negotiable Electronic Transport Records*

Without any doubt, the most outstanding feature of the Convention, as far as e-commerce rules are concerned, is the provision of the legal basis for the use and the issuance of negotiable electronic transport records. It must be first clarified that negotiable electronic records are not the only mechanism allowing the transfer of rights by electronic means. For that purpose a clearly useful alternative is also provided by the regulations on the right of control that the Convention contains.[110] Among other faculties, the right of control includes, within certain conditions, the right to replace the existing consignee with another person.[111] In situations where no negotiable document or record has been issued, and in particular in cases where a non-negotiable electronic record has been issued, the person at each point entitled to the exercise of such right must give written notice to the carrier of the transfer in order to render it effective, and may also include the modifications thereby made to the contract in the non-negotiable transport record.[112] The scheme creates room for systems for the transfer of rights, which allow the performance of all necessary steps through electronic communication.

This being said, the inclusion of negotiable electronic transport records is the novelty that will probably arouse heightened expectations and foster the full implementation of electronic negotiation of goods in transit in an absolutely paperless environment.[113]

The movement for regulation of negotiable electronic records has always been surrounded by many challenges. First, there has been much discussion about whether such a regulation is truly needed.[114] In this sense, the instantaneous and multilateral character of electronic communication networks has led to the conclusion that rules developed for negotiable instruments are not needed in the electronic environment, because the structure of relations differ from what we see in the physical environment.[115] Second, with respect to negotiable transport documents in the maritime trade, many of the bill of lading's functions have been traded away in practice.[116] The inconveniences associated with the dependence on the document led to a rise in the popularity of non-negotiable documents.[117] Specifically, the sea waybill provides a sufficient degree of representation of the goods through the so-called control or non-disposal clauses.[118] Moreover, there are contradicting opinions

110. *Id.* ch. 10.

111. *Id.* art. 50, para. 1(c).

112. *Id.* arts. 51–54.

113. Compare this to the preponderant role negotiable documents once had in documentary sales (even if not in transit).

114. *See* Beecher, *supra* note 74, at 636 (stating that early efforts at regulation of electronic means have not been well-received).

115. *See generally* Marek Dubovec, *The Problems and Possibilities for Using Electronic Bills of Lading as Collateral*, 23 ARIZ. J. INT'L & COMP. L. 432 (2006) (discussing the difficulties of utilizing electronic bills of lading within the current legal framework).

116. Kozolchyk, *supra* note 12, at 212.

117. *See* William Tetley, *Waybills: The Modern Contract of Carriage of Goods by Sea – II*, 15 J. MAR. L. & COM. 41, 62–64 (1984) (discussing the decline in the negotiability of bills of lading); Kozolchyk, *supra* note 12, at 162 (providing an overview of the problems associated with the bill of lading).

118. *See* Kozolchyk, *supra* note 12, at 216 (discussing the pros and cons of using seawaybills as an alternative to bills of lading, with specific reference to the use of electronic means for issuing and transmitting seawaybills); Tiberg, *supra* note 25, at 36–43 (explaining the legal features and properties of seawaybills as compared to bills of lading).

about whether goods are actually negotiated during the carriage operation in the average circumstances.[119]

The second source of difficulties is of a technical legal nature. The functional equivalence approach, while aimed at removing barriers to the use of electronic writings and signatures, actually has engendered more complications when applied for legislating upon negotiable electronic documents or records.[120] The attributes of the paper document determine its usefulness, which not only come from its capabilities for storing and preserving information, but also from its tangible nature. Because paper can be subject to possession, its use has determined the protocol followed in practice for the transfer of rights by way of the transfer of a document, as well as the special legal regime that the law developed for dealing with the problems revealed by this practice.[121] What the tangible nature of the paper permits with respect to the latter goal is to apply the principles underlying the law, originally devised for movable goods, to rights embodied in a piece of paper.[122] The identification of an equivalent relationship between the document (in which a right could be embodied or incorporated) and the person claiming to be its holder (the person claiming title to it) turned into a nightmare in the electronic environment because the document acquires an intangible nature.[123] The minimalist spirit and functional equivalence shown by e-commerce rules began to lose credit, and a new, more aggressive technique was advocated for in some cases.[124]

How the Convention tries to overcome such technical legal difficulties we will address later. First, it is worth pointing out that, at the very least, it is sensible to devise regulation for the electronic environment in light of the benefits associated with the use of negotiable instruments. This is especially so with respect to documents of title to goods, such as transport documents. Negotiable instruments law has been the most useful device for using rights as collateral and for providing a reasonable level of protection (*i.e.*, security of their transactions and their rights)[125] to

119. Beecher, *supra* note 74, at 629, 632–33.

120. *See id.* at 638 (discussing the complexity of the UETA).

121. *See* James Steven Rogers, *Negotiability as a System for Title Recognition*, 48 OHIO ST. L. J. 197, 203–04 (1987) (describing the transfer of rights in negotiable instruments and the "implications for disputes among competing claims" for rights).

122. *See generally id.* at 202–03 (describing "a possession based system of transfer and title recognition for negotiable instruments").

123. Beecher, *supra* note 74, at 638.

124. *See* Donald B. Pedersen, *Electronic Data Interchange as Documents of Title for Fungible Agricultural Commodities*, 31 IDAHO L. REV. 719, 731–32 (1995) (concluding that "there is a need for the law to articulate generally applicable rules for the EDI"); Fry, *supra* note 37, at 246–47 (explaining that electronic analogues "require rethinking of the concepts and functions involved in systems based negotiability); *see generally* Cyberspace Committee Working Group on Transferable Records, American Bar Association, *Emulating Documentary Tokens in an Electronic Environment: Practical Models for Control and Priority of Interests in Transferable Records and Electronic Chattel Paper*, 59 BUS. L. 379, 379 (2003) (advocating a more proactive approach to solving the electronic transaction dilemma through the new e-commerce laws).

125. This is one of the still existing needs in documentary sales. *See* Coetzee, *supra* note 12, at 7 (discussing adaptation of electronic bills of lading to e-commerce); *see also* Stasia M. Williams, *Something Old, Something New: The Bill of Lading in the Days of EDI*, 1 TRANSNAT'L L. & CONTEMP. PROBS. 555, 566–67 (1991) (explaining that "the sea waybill is not an adequate substitute for the bill of lading"); *see also* remarks in connection with art. 58 of the United Nations 1980 Convention on International Sales of Goods by Jenny Clift, *Electronic Commerce: The UNCITRAL Model Law and Electronic Equivalents to Traditional Bills of Lading*, 27 INT'L BUS. LAW. 311, 314 (1999) (describing the necessity of a bill of lading

third party acquirers of such rights (including the ones supplying financial services). This law is superior to other systems based in an abstract representation of the right subject to transfer or assignment.[126] The problems experienced with bills of lading due to the need to produce the document to collect the goods will certainly be overcome with the advent of electronic negotiable documents, which can be exchanged and processed more quickly.[127] One could argue whether keeping the protocol based in the use and exchange of documents (which is the approach of the Convention) is the best approach, a matter I will discuss later. In this approach, it is essential to retain all functions of negotiability, specifically those aimed at protecting the holder (the third party creditor) and the issuer of the document (the debtor).[128]

1. Structure of the Rules Establishing the Framework and Effect of the Use of Negotiable Electronic Transport Records

The Convention's framework for the issuance and transfer, for example, of negotiable electronic transport records is modeled on the protocol devised for paper negotiable transport documents.[129] Substantively, both paper and electronic types of documents follow the same principles, which initially require the record to be issued as a negotiable one, either to the orderer or to the bearer.[130]

According to the Convention:

> "Negotiable electronic transport record" means an electronic transport record:
>
> (a) That indicates, by statements such as "to order", or "negotiable", or other appropriate statements recognized as having the same effect by the law applicable to the record, that the goods have been consigned to the order of the shipper or to the order of the consignee, and is not explicitly stated as being "non-negotiable" or "not negotiable"; and
>
> (b) The use of which meets the requirements of article 8, paragraph 1.[131]

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to satisfy the requirement under article 58). *See generally* Emmanuel T. Laryea, *Payment for Paperless Trade: Are There Viable Alternatives to the Documentary Credit?*, 33 LAW & POL'Y INT'L BUS. 3, 10–12 (2001) (providing an example of how documentary credit operates).

126. *See* Laryea, *supra* note 125, at 14–16 (explaining the advantages of documentary credit over other methods of payment).

127. *See id.* at 16 (explaining the disadvantages of documentary credit).

128. *See* James E. Newell & Michael R. Gordon, *Electronic Commerce and Negotiable Instruments (Electronic Promissory Notes)*, 31 IDAHO L. REV. 819, 821–30 (1995) (explaining that electronic notes can properly retain the negotiability of paper documents). It is worth noting that if every transfer of rights regime should, according to the non-discrimination principle, be achievable through the use of electronic means, the regulation aimed at should, under the non-alteration of preexisting law principle, preserve the conditions applicable to negotiable documents and instruments according to present law.

129. *Id.*

130. *See generally* Jane Kaufman Winn, *What is a Transferable Record and Who Cares?*, 7 B. U. J. SCI. & TECH. L. 203, 205 (2001) (discussing the "magic words" needed for the record to qualify as a negotiable one, including the obligor's express consent to be bound under the special conditions that the applicable regime might entail).

131. Rotterdam Rules, *supra* note 1, art. 1, para. 20.

The foregoing definition of a negotiable electronic transport record is partly grounded on the definition of the "electronic communication" as an electronic writing, and its evidentiary value thus stems from such nature. As for the transfer of rights function, as a set of rules "designed to bring negotiable instruments into the world of electronic commerce," the e-commerce provisions of the Convention still require the transfer of the record for fulfilling the transfer of rights.[132] Accordingly, an equivalent to possession has been established which is referred to in the text as "exclusive control."[133]

In the factual sequence that leads to the transfer of the electronic record, the notion of exclusive control performs the same functions as physical possession of paper. Therefore, in order to qualify as a negotiable transport record, the issued record must be capable of being subject to control;[134] and the holder of the record is the person having control.[135] Additionally, in order to transfer the record its holder must transfer control of the record to the transferee and new intended holder.[136] Finally, in order to legitimately exercise the rights incorporated in the record, the holder must show control of the record to the carrier.[137]

2. Extent and Effect of the Rules on Negotiable Transport Records

Under the Convention, the negotiable character of a document or a record has certain limited consequences. In accordance with the strict aim of its rules, the text sets out the conditions for the record or document to qualify as a negotiable one; how to transfer rights; and how the person claiming the rights must prove his entitlement to them.[138] The Convention provides the basis for the recognition and use of electronic negotiable transport records by stating the conditions for parity between such records and paper documents, based on the principles relied on by e-commerce rules—and the application of the functional equivalence approach.[139] In sum, all functions of negotiable electronic transport records are materially provided for to the same extent as for paper transport documents. Accordingly, the text sets the level of desirable uniformity for both paper and electronic documents: 1) the function of the document as evidence of the contract; 2) the function as a receipt of the goods; and 3) the formal or procedural basis for the legitimate transfer of rights.[140]

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132. Winn, *supra* note 130, at 205.

133. Rotterdam Rules, *supra* note 1, art. 8(b).

134. *See id.* (drawing an analogy between the transfer of an electronic transport record and a transport document). See also the definition of "issuance." *Id.* art. 1, para. 21.

135. *Id.* art. 1, paras. 10(b), 22.

136. *Id.* art. I, para. 22; *id.* art. 9; *id.* art. 57 para. 2.

137. *Id.* art. 47 para. 1(a)(ii).

138. *Id.* arts. 1 paras. 15, 22, art. 9.

139. *See id.* art. 8 (equating exclusive control of an electronic transport document to possession of a paper transport document).

140. These are the three functions as to which there is a certain preexisting harmony in international trade. Likely due to their procedural or formal character, they can be deemed to constitute the threshold, not only of desirable, but also of feasible uniformity. Anything beyond that would probably risk worsening the odds of any efforts towards uniformity with regard to transport documents. *See* Clift, *supra* note 125, at 312–13 (establishing that these three functions are those where "unification of the law was urgently needed").

The substantive effects of the transfer of rights through the negotiation of the record must be determined under the applicable law. These effects refer to the conditions in which the transferee of the record acquires the rights therein incorporated, namely the right of control and the right to obtain delivery.[141] Effects of the negotiation of the document or record may also affect the transfer or recognition of title (to such document or record and) to the goods subject to carriage. These effects are to be determined by applicable law as well.[142]

3. Specific Features of Electronic Transport Records and Some Remarks on the Notion of "Exclusive Control"

In sum, a crucial element under the Convention for the use of electronic transport records is "exclusive control." What exclusive control consists of is not expressly clarified in the text of the Convention, and yet it can be inferred from several of the Convention's provisions. Its essential function is to determine the condition of the holder, and therefore his entitlement to the delivery of the goods (as well as to the exercise of other rights).

The terminology employed and the role assigned to "exclusive control" very much resembles equivalent notions in U.S. law that were also created with the specific purpose of developing the legal framework for the use of negotiable instruments and documents of title.[143] Consistent with the idea that it is the functional equivalent to possession, the "control" element is conceived as some sort of factual relationship between the record and a person. It is deemed to confer to the person a degree of control of the document such that said person actually becomes the only one who can dispose of the document for whatever purpose.[144] The rationale behind the idea results from the application of the functional equivalence approach and underlies the recourse to possession of paper documents in the physical world. It

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141. Conditions obviously vary between national systems, but frequently provide the holder with a certain degree of protection through the recognition of the independent character and contents of its rights with respect to the rights held by previous holders as against the carrier. *See* Tiberg, *supra* note 25, at 5 (discussing bills of lading generally); MICHAEL BOOLS, THE BILL OF LADING. A DOCUMENT OF TITLE TO GOODS: AN ANGLO-AMERICAN COMPARISON ix (1997) (comparing U.S. and UK law); NICOLA BALESTRA, LA POLIZZA DI CARICO NEL TRASPORTO DI CARICO E NEL NOLEGGIO A VIAGGIO 64–66 (1968) (regarding Italian law); ANDREA ARENA, LA POLIZZA DI CARICO E GLI ALTRI TITOLI RAPPRESENTATIVI DI TRASPORTO 35 (1951) (same); JOSÉ MARÍA DE EIZAGUIRRE, DERECHO DE LOS TÍTULOS VALORES 402 (2003) (regarding Spanish law). It also provides the holder certain priority or protection with respect to third party claims upon title to the document and the rights incorporated within (according to which the negotiation of the document, and the corresponding transfer of the rights, may fall to a greater or shorter extent beyond the reach of the *nemo dat quod non habet* principle, that you may not give what you do not have, in which case the new holder transferee would acquire the document and the rights "free of third party claims." *See* Rogers, *supra* note 121, at 197–200 (describing the transfer of rights in negotiable instruments).

142. An example is U.C.C. art. 7, whereby bills of lading or warehouse receipts issued in negotiable form qualify as documents of title, and therefore incorporate title to the goods therein described, which can be negotiated under the same rules as the document itself. Other examples are English and Spanish law. Bools, *supra* note 141, at 48.

143. *See* UETA, *supra* note 11, § 16 (pertaining to the conditions necessary to establish control of a transferable record); U.C.C. § 7-106 (2005) (pertaining to the control of electronic documents of title); U.C.C. § 9-105 (2005) (pertaining to the control of electronic chattel paper); 15 U.S.C.A. § 7021, para. c (2000) (pertaining to the control of transferable records with respect to electronic records).

144. *See* Rotterdam Rules, *supra* note 1, arts. 50–51 (conferring on the sole holder of the record the ability to dispose of the document by surrender or transfer).

ensures that, once the rights embodied in the document or incorporated in the record have been disposed of by means of the transfer of the record, no further disposition of such rights is available to the transferor.[145] Because of this premise, possession has inspired a sufficient level of confidence in third parties so as to be accepted in the trade as a reliable sign of entitlement, consequently providing the foundation for the whole system for the transfer of rights under negotiable instruments law.[146]

In the search for an electronic equivalent to possession that could be synthesized in a single notion suitable for electronic records, all the features stemming from the tangible nature of paper were assessed. That challenge was, and still is, to overcome the difficulties attached to the intangible nature of electronic records, as well as the rest of the characteristics that make them different from paper documents in operation and use. For instance, a once implicit condition of paper possession is that there is only one document or record that embodies or incorporates the right or rights to be transferred.[147] A second is that the relevant record, like the paper document, is the original one, and can be easily distinguished from its copies, which in the electronic environment becomes much more difficult than in the paper world.[148] Third, the document must remain unaltered except for the changes made by its holder for the transfer or in agreement with the issuer.[149] Fourth, and finally, the system employed for the transfer of the record must be of such operational qualities so as to reliably establish the person claiming to be the holder as the person to whom the record has been issued or most recently transferred.[150]

A consequence of the revised notion of exclusive control is that the "catch up" phenomenon is in this field has been to a certain extend reversed. In the paper world, the sequence leading to the regulation of negotiable paper documents commenced with the merchant practice of using certain documents drafted in a

145. R. David Whitaker, *Rules under the Uniform Electronic Transactions Act for an Electronic Equivalent to a Negotiable Promissory Note*, 55 BUS. L. 437, 450 (1999).

146. Rogers, *supra* note 121, at 205.

147. In this regard, one of the omnipresent requirements for control established under the previously quoted rules, *supra* note 143, is that the system employed identifies a single unique authoritative copy of the record. *See supra* note 143. The MLEC similarly applies the said idea for the regulation of the use of negotiable transport documents, which requires that the data message or messages used for the transfer of rights be unique ("If a right is to be granted to, or an obligation is to be acquired by, one person and no other person, and if the law requires that, in order to effect this, the right or obligation must be conveyed to that person by the transfer, or use of, a paper document, that requirement is met if the right or obligation is conveyed by using one or more data messages, provided that a reliable method is used to render such data message or messages unique"). MLEC, *supra* note 3, art. 17, para. 3.

148. Also implied in the "single authoritative copy" requirement, the control concept in the U.C.C., UETA, and the USCS requires that copies must be readily identifiable as such. Taking into account that in many cases the exchange of electronic records will itself consist of eliminating a copy of the record and creating a new one (and even creating several of them in different levels), the said rules, rather than distinguishing between original and copies, require that the employed system allows the identification of a legally relevant copy at every time during the life of the record. U.C.C. § 7-106, *supra* note 143, at cmt. 4 (2002); Jane Kaufman Winn, *Electronic Chattel Paper under Revised Article 9: Updating the Concept of Embodied Rights for Electronic Commerce*, 74 CHI.-KENT L. REV. 1055, 1059–61 (1999); Gregory, *supra* note 68, at 315.

149. U.C.C. § 9-105, *supra* note 143, cmt. 4. *See also* American Bar Association Cyberspace Committee Working Group on Transferable Records, *supra* note 124, at 386.

150. U.C.C. § 7-106, *supra* note 143, cmt. 3.

particular way.[151] As an outcome of the spread of this practice, the trade recognized the possession of such a kind of paper as sufficiently reliable, apparent, or an ostensible symbol of title to the rights described on it.[152] The third and final step came with the "catch up": the law proceeded to protect such reliance and started to confer title to the persons acquiring the rights by taking possession of the paper.[153] By the time the regulation of electronic negotiable documents began to be discussed, there was no identifiable, established practice that received analogous support of the marketplace. Had the functional equivalence approach been applied according to its strict terms, the proper thing to do would have been to wait until the consolidation of the suitable and most reliable practice took place. Nevertheless, electronic means of communication are very different from the paper medium, especially because its development and implementation for new and different utilities requires a much higher level of investment in resources. It became apparent that for the proper and reliable technology to develop, a minimum of certainty and legal recognition was needed.[154]

In addition, the few systems for the reproduction of negotiable transport documents—namely bills of lading—that arose in practice seemed to escape from the token or possession-based strategy that is gaining presence in legal texts. All existing systems are based upon the creation of a registry where title to the document or record is inscribed, and the transfer of the right is made upon the alteration of the information recorded in the registry.[155] This casts doubt on whether the token

151. Jane Kaufman Winn, *Couriers Without Luggage: Negotiable Instruments and Digital Signatures*, 49 S. C. L. REV. 739, 745 (1998).

152. *See* Rogers, *supra* note 121, at 204 (noting that possession led to prioritizing interests in the instrument).

153. *See* Winn, *supra* note 151, at 746–47 (discussing the origins of negotiable instruments via law merchants and common law); for the bill of lading *see* Antonio Pavone La Rosa, *Appunti sull'evolizione storica della polizza di carico,* XVI-I RIV. DIR. NAV. 139, 140 (1955).

154. *See* Pedersen, *supra* note 124, at 745 (for a discussion of the interaction between legislation and developing technologies in implementing agricultural electronic receipts); Winn, *supra* note 148, at 1060 (detailing the legal issues surrounding electronic chattel paper under the U.C.C.'s Revised Art. 9).

155. Systems based on the creation of a registry provide an alternative to possession, one with which the practice and the law in other fields are familiar. Stock and other financial markets are a prominent example of such a system. *See* U.N. Comm'n on Int'l Trade Law [UNCITRAL] Secretariat, *Possible Future Work On Electronic Commerce—Transfer of Rights in Tangible Goods and Other Rights*, paras. 8–18, U.N. Doc. A/CN.9/WG.IV/WP.9 (Mar. 12–23, 2001) (providing an abstract analysis of alternative methods for the transfer of rights to tangible property). In the realm of securities law, a possession-based system was replaced by registry-based structure at the moment the former system began to create more problems than the advantages it conferred. The existing systems for the issuance of bills of lading have the structure of a registry, and in addition to BOLERO, the Seadocs project also had a registry basis. The system provided by the Seadocs registry was partially dependent upon paper, since the paper bill of lading was nevertheless issued. Like some other measures or features in these systems, the issuance of the paper bill sought to overcome the legal vacuum surrounding the use of electronic communications, and trigger the law applicable to the paper document. The bill of lading was nevertheless immobilized in the hands of the registrar, who acted as a depository of the bill, held it on behalf of each existing holder, and fulfilled the delivery and reception acts in each transfer (with all needed changes in the text) on behalf of the transferor and the transferee. *See* Kozolchyk, *supra* note 12, at 227–28 (describing the transfer process). The CMI Rules are intended to work on a bilateral communications basis, so that, if the transferor and transferee are to trade outside the system, both would have to communicate with the carrier (here acting as registrar) through bilateral communications in order to complete the transfer of rights. *Id.* at 230. Both the CMI Rules and BOLERO consist of a multilateral communications system with a central registry based on a centralized platform for bilateral communications. But only the CMI can work both in this way (where an array of agreements incorporating the rules would exist), and could also be applied to an individual registry held by the carrier or by a third party on its behalf. This difference really arises from

approach, and the strategy based on the identification of a certain situation or factual relation between a person and a record (which can be objectively perceived as a reliable sign of entitlement), can be considered the correct option where electronic communications and intangible documents are at issue.[156]

The notion of control is not only a response to this trend, but has also been intentionally designed to embrace the registry-based systems.[157] It namely allows the negotiable record to be held by the holder or by its "designated custodian," that is, the registrar.[158] Even so, the notion of control in its earliest appearances runs the risk of being too stringent by imposing on the holder the burden of demonstrating satisfaction of every one of its requirements.[159]

On this specific point, although the Convention includes a few rules that adopt the same approach based on the notion of control, these rules entail certain differences. As seen in the previously transcribed definition, for an electronic transport record to qualify as negotiable, the Convention describes an additional requirement other than the one referring to the information revealing such character.[160] Accordingly, the parties to the contract of carriage—the carrier and the shipper—must agree on the procedures to be applied for the issuance and employment of the negotiable record.[161] Such procedures must at least foresee "the method for the issuance and the transfer of [the] record to an intended holder," the "assurance that the negotiable electronic transport record retains its integrity," "the manner in which the holder is able to demonstrate that it is the holder," as well as the manner in which confirmation is to be given of the reception of the goods and the record's loss of effect or validity.[162] In addition, these said agreed procedures and

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the fact that the former provides both the contractual framework and the material structure, and the CMI Rules are simply a contractual instrument. *See* 7 C.F.R. § 735 (2008), for an example of legislation on a registry system for the electronic issuance and transfer of documents of title in the system for the negotiation of electronic warehouse receipts. In such case the warehouse receipts are "held" within a registry where the holder is identified in the recorded information, and is treated for legal purposes as in possession of the receipt. *See* Whitaker, *supra* note 145, at 441 (for a description of a "holder in due course['s]" rights).

156. *See* Rogers, *supra* note 121, at 207–08 ("[A] talented lawyer could devise an argument to the effect that whoever does in fact have possession, in the literal sense, holds the mortgage note . . . and that they can be considered holders").

157. U.C.C. § 7-106, *supra* note 143, cmt. 5.

158. Some of the requirements for control under the rules indeed evoke the idea of electronic possession. *See* U.C.C. §7-106, *supra* note 143 (noting various statutory definitions of control in electronic records systems). They specifically require that the document is "created, stored and assigned in such a manner that [...] the authoritative copy is communicated to and maintained by the person asserting control or by its designated custodian." UETA, *supra* note 11, § 16, para. c. This last reference nonetheless specifically refers to registry systems, which from this perspective are approached as "e-vault" systems, that is, as environments where the negotiable record is held by the registrar on behalf of the holder and remains stored along with other records in the central registry. U.C.C. § 7-106, cmt. 3; UETA, *supra* note 11, § 16, cmt. 3 (for descriptions of acceptable registration systems).

159. Particularly taking into account that it includes some explicit requirements and demonstration, may not be strictly needed for protecting an alleged acquirer of the record and the rights, and to a certain extent might even hinder future innovations. *See* Beecher, supra note 74, at 638; Winn, *supra* note 148, at 1057–58.

160. *See* Rotterdam Rules, *supra* note 1, arts. 8–9 (for rules regarding use and effect of electronic transport records and procedures for their use).

161. *Id.* art. 8(a).

162. *Id.* art. 9.

methods must in addition be included in the contract particulars, and therefore in the transport record itself, and be readily ascertainable at sight.[163]

The existing notions of control also make an agreement necessary between the parties documenting the procedures for meeting the conditions required, in order to feasibly render the satisfaction thereof.[164] The Convention expressly discharges on the parties the said burden, but as a condition for the existence of the negotiable record as such, and leaving undefined the notion of "exclusive control."[165] What this indetermination seeks is to provide greater flexibility for the "reverse catch-up," and for the marketplace to fill the vacuum.[166]

When ascertaining what exclusive control of an electronic record should require, the key point is that only information flows between the parties in an electronic transaction. In the typical electronic transaction, operators will no longer physically possess a piece of paper. People trading electronically will only exchange information that can be read on a screen. In such a context, a functional-equivalent approach must provide the reference for exclusive control. That functional equivalence should be ascertained by the degree of reliability that the employed system achieves in identifying the person entitled to exercise (and hence transfer) the right of control, the right to obtain delivery, and the rights stemming therefrom.[167] In an electronic transaction, the notion of control must also embrace all information that was normally included on a physical document, *i.e.*, the designation of the holder by means of the endorsement or the bearer clause.[168] Even if in some cases the transfer of rights under negotiable electronic records will not entail in fact the transfer of a record, any imaginable system will have a documentary basis. Documents will continue to determine the protocol and structure of future systems for the transfer of rights, but in a different way and on grounds of the information they contain and the access thereto by interested parties.

Registry systems reflect this approach. To transfer rights under a registry system, parties merely exchange information. Parties rely on the registry system because of the presence of a trusted third-party service provider.[169]

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163. *Id.*

164. *See* U.C.C. § 9-105, *supra* note 143, cmt. 4 (describing parties' options regarding new technologies and procedures such as electronic chattel paper).

165. *See* U.C.C. § 7-106, *supra* note 143, cmt. 5 (discussing both open and closed registry systems and their effect on third parties' rights).

166. *Id.*

167. *See* UETA, *supra* note 11, § 16, cmt. 3 ("the key point is that a system, whether involving third party registry or technological safeguards, must be shown to reliably establish the identity of the person entitled to payment"); *see also* U.C.C. § 7-106, *supra* note 143, cmt. 3 ("the key to having a system that satisfies this test is that identity of the person to which the document was issued or transferred must be reliably established").

168. Rotterdam Rules, *supra* note 1, art. 57, para. 2, art. 9; art. 1, para. 22; *see also* UETA, *supra* note 11, § 16, para. d (stating that a person with control of transferable record is considered as the holder and has the same rights as a holder of an equivalent record under the U.C.C. unless agreed otherwise); U.C.C. § 7-501 (2005) para. b(1) (stating that a negotiable electronic document should be negotiated by delivery to another person without the need for an endorsement of the named person if the document's original terms run to the other of the named person); *id.* § 1-201 (2005) para. 15 (defining "delivery"); *id.* § 7-106, *supra* note 143, cmt. 2 (stating that an electronic document of title is delivered when a person voluntarily transfers control); *id.* § 7-501, cmt. 1 (discussing the definition of "due negotiation" and the aspects that need to be considered when deciding there was such "due negotiation" related to the delivery of an electronic document).

169. Beecher, *supra* note 74, at 635–36; Pedersen, *supra* note 124, at 740; Chandler III, *supra* note 77, at 472.

We still do not know how other systems will prove themselves sufficiently reliable to satisfy the "exclusive control" test. The burden is on the marketplace to develop technology for that purpose and on the industry to protect its own interests. Nevertheless, within the contract of carriage relationship, carriers should bear a slightly higher proportion of the risk because they decide what services they will offer to shippers (even if on an outsourced basis). On the other hand, all existing registry systems are based on closed environments joined by parties to a multilateral contract. In these systems, authentication methods are more secure, but most of the problems typically solved by negotiable instruments law have a contract-based solution. However, to reach a full and complete electronic reproduction of the paper-based system, there must be systems capable of securely and properly functioning in open environments. These systems must provide a reasonably simple method for reliably showing title on the virtual spot.[170] In this regard, though, the law and the "exclusive control" element would have the same implications.[171]

But this begs the question, why not create a separate regulatory system from the possessory-oriented system for registries or other information systems? This option does not seem to be the proper one for the Convention for several reasons. First, it is much more complex to create two different systems for the same purpose. Second, the Convention expressly recognizes paper and electronic documents or records equally; thus applicable national law on negotiable documents extends to negotiable electronic transport records with respect to matters not dealt with in the Convention. This extension might not be as clear under two separate systems.[172] Third, the reliability of registry systems is based upon the regulation and control of the registries themselves, including the third-party service providers,[173] which is not a viable option in an international regulation. On the other hand, a correct interpretation and application of the exclusive control element will also cover registry-based systems.

The notion of control in an electronic-based record system, like possession in the paper environment, is the keystone for the recognition of title to the rights incorporated in the document.[174] It will therefore determine, under the rules of the applicable law, to what extent the holder (in good faith, or in due course) acquires rights free of defenses, or the priority against third party claims which it benefits from.

III. FINAL REMARKS

In summary, the leading position once held by the electronic commerce provisions of the transportation field reveal the importance of having an updated and useful uniform regulation under the contract of the carriage of goods including the issuance of negotiable transport documents. The full implementation of electronic means in other international contracts, such as sales contracts and documentary

170. *See* Winn, *supra* note 148, at 1072–73 (noting electronic equivalents of chattel papers require a higher level of security than business information systems provide today).

171. *See id.* at 1060–61 (explaining implications of recognizing electronic chattel paper).

172. *See* Rotterdam Rules, *supra* note 1, arts. 8–10 (chapter on electronic transport records).

173. *See* Winn, *supra* note 148, at 1071–72 (explaining the use of regulated intermediaries to run these systems).

174. Rotterdam Rules, *supra* note 1, arts. 8–10; *see* Winn, *supra* note 130, at 205 (pointing out the most widely-used electronic tracking systems establish "control" as the electronic analog to possession).

credit relations, is significantly dependent on the evolution of transport law on this specific point, given the role of the documentary and substantial contents of the contract of carriage. Thus, the potential benefits of the success of the described rules could reach far beyond the limits of the contract of carriage and the transportation industry.

The importance of electronic commerce provisions is reinforced by the fact that a proper legal framework is indispensable for the development of technology needed for the use of negotiable electronic transport documents. The decrease in the use of these documents, such as the bill of lading, was not due to dissatisfaction with the substantive implications of negotiability.[175] The decrease was attributable to the trade off operators faced between two suddenly incompatible interests: the benefits attached to the negotiable character of the document and the problems arising from the dependence on possession of the documents in a world where the processing of the paper was slower than the movement of goods in transit.[176] As innovation leads to development and increased use of electronic negotiable transport documents, such tradeoffs will no longer be required. The consequences of opening a new era in the law of the bill of lading and other negotiable transport documents are unforeseeable. However, they could even imply changes as to how goods are traded at the international level like containerization once did.[177] For all this to happen, a minimum of certainty as to the legal value of such transport documents and rights is very much needed. Only time will tell whether legislators persist in escaping legal innovations in the transport documents field, or decide to restore creativity to transport and maritime law.

175. *See* Beecher, *supra* note 74, at 633 (detailing the shortcomings of using paper documents).

176. *See id.*; Kozolchyk, *supra* note 12, at 211 (describing how vessels often arrive at the port before the bill of lading).

177. The issuance and use of delivery orders, for instance, would become a much less troubled process, since relations in the electronic environment entail a permanent and simultaneous communication between holders and carriers. As many other experiences, particularly with financial assets have shown, the more liquid an asset, the more dynamic and uncontrollable the different patterns become for its negotiation. *See* Winn, *supra* note 130, at 206–07 (highlighting the regulatory concerns of various negotiable electronic documents such as electronic checks). Liquidity of transport documents will increase with their "electronification," and this will certainly create room for the development of electronic negotiating systems and marketplaces where traders, importers, and exporters (as well as financial entities) may gather, thereby reducing transaction costs. *See* Robert P. Merges & Glenn H. Reynolds, *Towards a Computerized System for Negotiating Ocean Bills of Lading*, 6 J. L. & COM. 23, 31 (1986) (providing an interesting and rather early proposal with respect to commodities sold in transit).