

# CHAPTER 23

## THE ROLE OF UNCITRAL IN CREATING STRONG AND SECURE GLOBAL SUPPLY CHAINS: TRANSPORT AND E-COMMERCE LAWS IN PERSPECTIVE

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### *I INTRODUCTION*

Present-day international trade relies heavily on global supply chains in which companies divide the production of goods and services among many countries in order to reduce overall costs. During the recent financial crisis, the global financial community realised that there exists a two-trillion-dollar credit gap for micro, small, and medium-sized enterprises (MSMEs) in the developing world, a majority of which feed into global supply chains.<sup>1</sup> This revelation has been a concern to policymakers and businesses worldwide as the financial profile of the weakest link in the supply chain impacts the overall nature, robustness and sustainability of the entire supply chain.

It is submitted that this credit gap may offer a unique possibility for the maritime transportation industry to finally embrace electronic means of doing business and participate in strengthening the supply chain. The maritime transportation industry is in possession of a substantial amount of information. This information not only relates to the location of the goods being transported, but also involves information useful in assessing counterparty credit risk as well as other

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1 Peer Stein, Tony Goland, Robert Schiff "Two trillion and counting - Assessing the credit gap for micro, small, and medium-size enterprises in the developing world" McKinsey & Company and IFC, October 2010, available online at <[www.ifc.org/wps/wcm/connect/industry\\_ext\\_content/ifc\\_external\\_corporate\\_site/industries/financial+markets/publications/two+trillion+and+counting](http://www.ifc.org/wps/wcm/connect/industry_ext_content/ifc_external_corporate_site/industries/financial+markets/publications/two+trillion+and+counting)> (accessed on 14 August 2014).

risks unique to cross-border trade transactions. This information, then, can assist financial institutions involved in trade financing to better manage their risks. However, this information can only be assessed quickly and comprehensively through electronic means. Embracing electronic commerce solutions requires eliminating the heavy reliance on paper documents and revisiting the existing framework of international trade.

In a utopia, all physical and financial supply chains would be integrated; all of the supply chain transactions and processes that could be automated would be automated; and every participant in the chain would be able to collaborate electronically – simply and easily – despite being geographically, organisationally and technologically disparate. One of the reasons behind the inability to attain this perfect situation is because the current framework surrounding negotiable transport documents in international trade was developed in the eighteenth century; its replacement is long overdue. In spite of advances in the field of information technology, paper documentation is still used in most international trade transactions. In some cases, large transnational corporations use electronic documentation in order to send shipments to their subsidiaries or to customers with whom they engage in repeated transactions, by using the platform of certain membership based, closed-system, third-party service providers such as Bolero<sup>2</sup> or essDOCS<sup>3</sup>. Most small and medium-sized shippers - who also happen to be small and medium-sized businesses - still depend on paper documentation, since no open-system that is not based on membership in a service provider currently exists.

The current state of affairs suggests that the benefits of electronic documentation are not yet compelling enough by themselves for the maritime transportation industry to widely adopt an open system. The critical question that largely remains unanswered in creating an open-system is - where do the monetary benefits lie? Attracting finance for building new infrastructure to meet the requirements of electronic international trade will only be possible when this question is answered. Although studies indicate that paperless trade may yield

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- 2 Bolero started in the mid-1990s with support from the maritime and banking industries to provide electronic bill of lading services. It has now grown into a cloud-based platform which optimises complex international trade chains. It caters to a broad spectrum of corporate customers, providing multi-bank solution for trade and trade finance processes. Bolero's product offerings include export letters of credit, import letters of credit, guarantees/standby letters of credit, electronic document presentations, bank payment obligations and electronic bills of lading. See <[www.bolero.net/](http://www.bolero.net/)>.
  - 3 essDOCS, incorporated in 2005, currently delivers industry-led electronic shipping and trade document data solutions which improve physical and financial operations, compliance and traceability. See <[www.essdocs.com/](http://www.essdocs.com/)>.

reduced transaction costs compared to current paper documentation,<sup>4</sup> the distributional consequences of these savings are not clear. Identifying the financial winners and losers is critical to understanding what can be done to influence the adoption of electronic documentation in international trade.

It is submitted that the most compelling reason for the international trading community to embrace electronic means of doing business and promote electronic transport records is the possibility of adopting new business models.<sup>5</sup> As a result of using e-commerce, the maritime and logistics industries can participate in the evolving area of supply chain finance (SCF). This will allow them to facilitate the transactions of their customers through better financial risk evaluation techniques, brought about by the availability of more information that is fed through a centralised system. Moreover, better trade financing techniques brought about by harnessing "big data" that is fed through a centralised system will assist MSMEs to participate efficiently in international trade.

The central theme of this paper is bifocal: it discusses two distinct aspects of international trade. One component describes and analyses the legal framework of transport records; the other traces the evolution of trade finance. The two components are discussed in contextual detail to show that updating transport and e-commerce laws will lead to better financing techniques, which will in turn allow MSMEs to participate in international trade more effectively and efficiently.

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- 4 Generally, most discussions on the desirability of replacing paper-based transport documentation with electronic methods emphasise benefits such as the speedy transfer of transport documents, cost-savings, the facilitation of settlement of transactions, enhancement of traditional payment arrangements, and increased security. See N. Gaskell *Bills of Lading: Law and Contracts* (Maritime and Transport Law Library, 2000, LLP) at para 1.54; P. Todd "Dematerialisation of Shipping Documents" Chapter 3 in C. Reed, I. Walden and L. Edgar (eds) *Cross-Border Electronic Banking: Challenges and Opportunities* (Informa Business Publishing, 2000) at 67; "The APEC Initiative on Paperless Trade in the Asia-Pacific Region" in *Paperless Trade in International Supply Chains: Enhancing Efficiency and Security* (United Nations Economic Commission for Europe, ECE/TRADE/351) at 19; R.B. Kelly "The CMI charts a course on the sea of electronic data interchange: Rules for Electronic Bills of Lading" (1991-1992) *Tulane Maritime Law Journal* 349; P. Mallon "The Legal Implications of Electronic Commerce in International Trade" (1997, October/November) *Computers and Law* 24; R. Merges and G. Reynolds "Towards a computerised system for negotiating ocean bills of lading" (1986) 6 *Journal of Law and Commerce* 36; A. N. Yiannopoulos "General Report to the XIV International Congress of Comparative Law" Chapter 1 in A. N. Yiannopoulos (ed.) *Ocean Bills of Lading: Traditional Forms, Substitutes, and EDI Systems* (Kluwer Law International, 1995) at 17-19.
- 5 Embracing electronic means of doing business involves new organizational processes as well as developing new business models. This embrace is more than replacing atoms with bytes. It is a much broader change of organizing logic in multiple industries and marketplaces that become connected through a common digital infrastructure. In other words, extracting value from the electronic environment requires innovation in business practices. A mechanical insertion of information technology without changing practices for exploiting the new capabilities will not aid in value creation.

In accordance with this bifocal approach, section II begins with a brief examination of the existing legal framework for negotiable transport documents<sup>6</sup> from an English law perspective.<sup>7</sup> It then explores how a negotiable transport document can be dematerialised, emphasising the need to substitute the concept of possession with that of control. A brief review of the existing electronic registry systems is then presented, along with a scrutiny of some of the relevant provisions of the Rotterdam Rules. Section III then describes the various types of trade finance arrangements prevalent in international trade and also explains the various ways through which trade financing assists exporters and importers to mitigate some of the risks. Then, trade finance patterns around the world are analysed, followed by a brief discussion of SCF, which is an upcoming approach to provide financing solutions for specific goods as they move from the point of origin to destination along the supply chain. Section IV presents the case for opportunities available to the maritime and logistics industries to expand their scope of business through the use of electronic transport records and in the process facilitate the operations of MSMEs. Section V provides a conclusion, with strategic recommendations for both policymakers and industry players in the transportation field to further reforms in order to extract the hidden value in international trade.

## ***II LEGAL FRAMEWORK FOR ELECTRONIC TRANSPORT RECORDS***

For businesses based on globally mobile funds, data and intellectual property, current laws that essentially pre-date the Internet era are inadequate to support new business models. The body of law that governs international trade transactions was not systematically created, but is the result of a long process of tinkering to make late medieval and industrial-era legal forms workable in an electronic society.

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6 The discussion in this paper focuses on a negotiable transport document because it performs three functions while a non-negotiable transport document such as a sea waybill performs only two. It is notable in this context that the sea waybill emerged as an alternative sea-carriage document to a bill of lading by removing the document of title function in an attempt to resolve some of the issues which inconvenienced traders, for instance, the late arrival of documents. Eventually, the sea waybill's increased popularity with traders led to its acceptance by banks for documentary credit transactions provided the shipper waives by endorsement the right to alter the consignee while cargo is en route and the banks are made out as consignees on the sea waybill. Currently the sea waybill is preferred in the liner shipping industry over a bill of lading. The decision to focus the discussion in this paper on negotiable transport documents was made on the basis that when the document is dematerialised to an electronic transport record, then both the convenience of the sea waybill and the essence of the title function is available to traders in digital format, as will be seen below.

7 English law is discussed because it applies to a substantial portion of international sale and carriage contracts.

Indeed, the uneasy fusion of past with present, a phenomenon inherent in any system of law, is exaggerated under a common law system.<sup>8</sup>

The replacement of paper-based transport documentation with electronic records requires the development of criteria defining the conditions under which electronic records can be regarded as equivalent to paper documents for legal purposes. To achieve this goal, the United Nations Commission on International Trade Law (UNCITRAL) adopted, in 1996, the UNCITRAL Model Law on Electronic Commerce (MLEC).<sup>9</sup> This was followed in 2001 by a more specific text, called the UNCITRAL Model Law on Electronic Signatures (MLES).<sup>10</sup> The MLEC received widespread acceptance; several states subsequently used it as a basis for their e-commerce legislation.<sup>11</sup> These two model laws were supplemented in 2005 by the United Nations Convention on the Use of Electronic Communications in International Contracts (ECC), which is aimed at further harmonising domestic laws and addressing form requirements established in international conventions.<sup>12</sup> The basic principles on which the two model laws and the ECC are based, have become widely accepted criteria for the legal recognition

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8 For example, the Bolero and essDOCS initiatives operate mostly under English law and in some instances New York law based on multiparty agreements effectuate the desired transfer of rights through the medieval legal concepts of novation and attornment.

9 United Nations Publication, Sales No. E.99.V.4, available online at <[www.uncitral.org/pdf/english/texts/electcom/05-89450\\_Ebook.pdf](http://www.uncitral.org/pdf/english/texts/electcom/05-89450_Ebook.pdf)> Legislation based on this model law has been adopted in 138 jurisdictions; for a detailed list, see <[www.uncitral.org/uncitral/en/uncitral\\_texts/electronic\\_commerce/1996Model\\_status.html](http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/1996Model_status.html)> (both sites accessed on 23 August 2014).

10 United Nations Publication, Sales No. E.02.V.8, available online at <[www.uncitral.org/pdf/english/texts/electcom/ml-elecsig-e.pdf](http://www.uncitral.org/pdf/english/texts/electcom/ml-elecsig-e.pdf)> (accessed on 23 August 2014).

11 Legislation based on or influenced by this Model Law has been adopted in 29 states; for a detailed list see <[www.uncitral.org/uncitral/en/uncitral\\_texts/electronic\\_commerce/2001Model\\_status.html](http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/2001Model_status.html)> (accessed on 23 August 2014).

12 United Nations Publication, Sales No. E.07.V.2, available online at <[www.uncitral.org/pdf/english/texts/electcom/06-57452\\_Ebook.pdf](http://www.uncitral.org/pdf/english/texts/electcom/06-57452_Ebook.pdf)>. This convention entered into force on 1 March 2013 and so far has 5 parties; for a detailed list see <[www.uncitral.org/uncitral/en/uncitral\\_texts/electronic\\_commerce/2005Convention\\_status.html](http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/2005Convention_status.html)> (both sites accessed on 23 August 2014). For a summary of the preparatory work, see ECC, paras. 21-43.

of electronic records.<sup>13</sup> Documents of title and negotiable instruments were not dealt with in detail in any of the model laws and were expressly excluded from the scope of the ECC.<sup>14</sup> The main aim of the ECC was simply to ensure the equivalence between paper documents and their electronic forms. Issues related to documents of title and negotiable instruments extended far beyond that purpose.<sup>15</sup>

In 2008, the United Nations General Assembly adopted the "United Nations Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea,"<sup>16</sup> otherwise referred to as the "Rotterdam Rules." One of the objectives of the Rotterdam Rules is to facilitate e-commerce by establishing a legal framework

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- 13 UNCITRAL promotes the "functional equivalence approach" which is based on an analysis of the purposes and functions of the traditional paper-based requirements in order to determine how those purposes or functions could be fulfilled through electronic techniques. This approach "does not attempt to define a computer-based equivalent to any particular kind of paper document." Instead, it singles out the basic functions of the primary paper-based form requirements, and sets out criteria that, if satisfied, enable electronic records to enjoy the same level of legal recognition as corresponding paper documents. See ECC *Explanatory Note* at para. 51. By doing so, it also allows States to enforce electronic transactions in accordance with existing laws "without necessitating the wholesale removal of the paper-based requirements themselves or disturbing the legal concepts and approaches underlying those requirements." See ECC *Explanatory Note* at para. 52. UNCITRAL also promotes the principle of "technology neutrality," which holds that the law should not discriminate between different technologies, i.e., the law should neither require nor assume the adoption of a particular technology. The goal of technology neutrality is important to ensure that development of any technology is not stifled and to avoid unfairly favouring one technology over another. Strictly adhering to the principle of technology neutrality will maximise the ability to accommodate all possible present and future models. This principle has been reflected in the MLEC, MLES and ECC.
- 14 Pursuant to Article 2(2) of the ECC, the Convention does not apply to bills of exchange, promissory notes, consignment notes, bills of lading, warehouse receipts or any transferable document or instrument that entitles the bearer or beneficiary to claim the delivery of goods or the payment of a sum of money.
- 15 See ECC *Explanatory Note* at paras. 80-81.
- 16 United Nations Publication, Sales No. E.09.V.9, available online at <[www.uncitral.org/pdf/english/texts/transport/rotterdam\\_rules/Rotterdam-Rules-E.pdf](http://www.uncitral.org/pdf/english/texts/transport/rotterdam_rules/Rotterdam-Rules-E.pdf)> (accessed on 23 June 2014). The creation of the Rotterdam Rules was initiated by the Comité Maritime International (CMI) and was subsequently passed on to the UNCITRAL Working Group III (Transport Law). The principal goal underlying the development of the Rules is the creation of a modern and uniform law concerning the international carriage of goods by sea, in order to reduce transaction costs, increase predictability and stability, and engender greater commercial confidence in international maritime commerce. The Rotterdam Rules have so far received 25 signatures and 3 ratifications. The signatories are a mix of developing and developed countries, including strong seafaring and trading nations, as well as traditional carrier and shipper nations. Sweden is one of the signatories. See "Status of the Rotterdam Rules" available online at <[www.uncitral.org/uncitral/en/uncitral\\_texts/transport\\_goods/rotterdam\\_status.html](http://www.uncitral.org/uncitral/en/uncitral_texts/transport_goods/rotterdam_status.html)> (accessed on 23 August 2014). Pursuant to article 94, the Convention requires ratification or accession by at least 20 states to enter into force.

for the electronic equivalents of paper transport documents.<sup>17</sup> In October 2011, Working Group IV of UNCITRAL undertook the task of creating harmonized rules for electronic transferable records<sup>18</sup> in order to benefit the promotion of electronic communications in international trade and to address certain specific issues such as assisting in the implementation of the Rotterdam Rules. The Working Group envisages completing its work by the end of 2015.<sup>19</sup>

Before exploring the dematerialisation of the legal concept of a negotiable transport document and analysing some of the consequent legal challenges that must be met, a brief examination of the existing legal framework of negotiable transport documents is presented from an English law perspective.

### ***A Existing Legal Framework for Negotiable Transport Documents Under English Law***

A negotiable transport document performs three functions: it serves as evidence of the contract of carriage, a receipt for the goods, and a document of title. All these three functions must be replicated in electronic form when electronic transport records are substituted for paper documents. The first two functions are easily replicated electronically as they essentially relate to the transfer of information. The challenge lies in replicating the document of title function.

Negotiable transport documents embodied with the title function have served various essential practical purposes in the commercial world for several centuries. Traditionally, negotiable transport documents acquired their powers to transfer

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17 Consistent with the Rotterdam Rules, the author uses the term "negotiable transport documents" to refer to bills of lading, and the term "non-negotiable transport documents" to refer to sea waybills, etc. Similarly, the author uses the term "electronic transport records" to refer to the electronic equivalent of bills of lading.

18 The term "electronic transferable record" is used in this paper as an electronic equivalent of a transferable instrument (negotiable or non-negotiable) or a document of title. Transferable instruments are financial instruments that may contain an unconditional promise to pay a fixed amount of money to the holder of the instrument, or an order to a third party to pay the holder of the instrument. Examples of transferable instruments include promissory notes, bills of exchange, cheques, and certificates of deposit. They may also include chattel paper (e.g. retail instalment sales contracts, promissory notes secured by an interest in personal property, and equipment leases). Documents of title are documents which in the regular course of business or financing are treated as adequately evidencing that the person in possession of such document is entitled to receive, hold, and dispose of the document and the goods indicated therein (subject to any defences to enforcement of the document). Examples of documents of title include certain transport documents, bills of lading, dock warrants, dock receipts, warehouse receipts, or orders for the delivery of goods. See "Legal issues relating to the use of electronic transferable records", Working Group IV (Electronic Commerce), Forty-fifth session (Vienna, 10-14 October 2011), (A/CN.9/WG.IV/WP.115), para 3.

19 The author has been attending the UNCITRAL Working Group IV sessions as an accredited observer representing the Swedish government.

rights represented in them through mercantile usage.<sup>20</sup> This usage transcended national barriers. The use of such documents achieved the same result in different jurisdictions across the world, which was necessary if cross-border trade was to proceed smoothly. The advent of a negotiable transport document responded precisely to the requirements of the business community, and became a tool that the domestic laws of various countries eventually came to recognise to achieve the effects that the *lex mercatoria* attributed to it.<sup>21</sup>

The title function of a negotiable transport document denotes three uses:

First, possession of the document constitutes constructive possession and control over the goods. Transferable paper makes an abstract notion real by representing the obligation of the carrier to deliver goods as written in a document to the rightful possessor, i.e., the holder. The written document itself is tangible, but its value does not lie in its physical characteristics. Rather, its value is in the rights embodied in the paper. Thus, possession of the transferable paper is generally required to enforce the rights.

Second, the document may be used to transfer title to the goods. Because the transferable paper is recognised as the single embodiment of certain rights, the mechanism used to transfer the rights in the transferable paper is physical delivery of the paper to the transferee, usually coupled with the transferor's signed declaration of intent to transfer, written on the document itself. This typically constitutes evidence of the transferee's right to enforce the underlying obligation.

Third, the document is used to provide security in the goods to financial institutions involved in providing credit to international sale transactions. It also provides certainty to carriers who deliver the goods to the holder as legitimated by the document, discharging its obligations under the contract of carriage. This aspect of the document is usually referred to as the "legitimation feature" of the negotiable document. It is the paper itself that identifies the person who is entitled to the rights incorporated in the document. Therefore, the presenter of this paper can only be (i) a person named in the document as shipper or as consignee, (ii) the final endorsee when there is an uninterrupted list of endorsements on the back of

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20 *Bechuanaland Exploration Co v London Trading Bank Ltd* (1898) 2 QB 658 and *Edelstein v Schuler & Co* (1902) 2 KB 144 provided judicial support to this mercantile usage under English law.

21 See W.P. Bennett *The history and present position of the bill of lading as a document of title to goods: being the Yorke Prize essay for the year* (Cambridge University Press 1913, 1914); CB McLaughlin "The Evolution of the Ocean Bill of Lading" (1925-1926) 35 *Yale Law Journal* 548; MD Bools, *The Bill of Lading: A Document of Title to Goods – An Anglo-American Comparison*, (LLP, London, 1997) and W. Twining, "The Lex Maritima" Chapter 4 in T. Carbonneau (ed.) *Lex Mercatoria and Arbitration* (Transnational Juris Publications, 1998).

the document, or (iii) anyone, when the document is a bearer document or is endorsed in blank.<sup>22</sup>

The question that arises is: how can the legal concept of a negotiable transport document be dematerialised? The answer lies in understanding the essential features of the document of title function of a negotiable transport document, which has effects for the purposes of both contract law and property law.

Under English contract law, the consequences of issue or transfer of a document of title are linked to contractual performance between issuer and holder and/or between transferor and transferee. The performance is determined by the terms of the relevant agreement. In the event of a dispute, if a question arises as to whether the agreement applies between the parties, possession of the document of title may indicate that the holder is a party to the relevant agreement and has the right to enforce it.<sup>23</sup>

According to English property law, the contract of sale has the power to transfer the property in the goods. However, the transfer of a negotiable transport document transfers to the transferee title in the goods that it represents.<sup>24</sup> If the transfer of the document affects the property rights of third parties which may not be consistent with those of the holder of the document, then the law will determine whose rights take priority. Possession of a negotiable transport document creates a presumption of the right of property in the goods by virtue of the maxim *possession vaut titre*. This principle is applicable in cases where the holder receives the document for valuable consideration, in good faith and without notice of the transferor's defect in title.<sup>25</sup>

The key characteristics of paper-based negotiable transport documents raise several issues that represent obstacles to the creation, use, transfer, and

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22 See Michael F. Sturley, Tomotaka Fujita and Gertjan van der Ziel *The Rotterdam Rules* (Sweet & Maxwell, 2010) at paras 8.008 and 8.009 and pp. 242-243.

23 See Miriam Goldby "Legislating to facilitate the use of electronic transferable records: A case study, Reforming the law to facilitate the use of electronic bills of lading in the UK" Paper presented at the UNCITRAL Colloquium on Electronic Commerce, 2011, New York, p. 3, available online at <[www.uncitral.org/pdf/english/colloquia/EC/Legislating\\_to\\_facilitate\\_the\\_use\\_of\\_electronic\\_transferable\\_records\\_-\\_a\\_case\\_study\\_.pdf](http://www.uncitral.org/pdf/english/colloquia/EC/Legislating_to_facilitate_the_use_of_electronic_transferable_records_-_a_case_study_.pdf)> (accessed on 10 July 2014).

24 It was held in *Enichem Anic SpA v Ampelos Shipping Co Ltd (The Delfini)* [1990] Lloyd's Rep. 252, 268 that "[the bill of lading] is a document which, although not itself capable of directly transferring the property in the goods which it represents, merely by endorsement and delivery, nevertheless is capable of being part of the mechanism by which property is passed."

25 Goldby, above n 23, at 4.

enforcement of electronic transferable records.<sup>26</sup> One of the difficult issues relates to physical possession of the paper document, which is briefly discussed immediately below.

### ***B Possession and the Concept of "Control"***

The concept of "possession" is part of the broader concept of singularity. A key challenge in implementing electronic transport records is to define a functionally equivalent mechanism to address the requirement for possession of the electronic transport record. This requires devising a process whereby a holder who claims due negotiation of an electronic transport record will be assured that there is a unique electronic transport record in existence, and that there is a way to take control of that electronic transport record in a manner that is functionally equivalent in law to physical possession.

Control, when used as a substitute for possession, must have a method for identifying the current party in control of a specific electronic transport record. This may be accomplished by having evidence of the identity of such person integrated into the authoritative copy itself, or by having the authoritative copy logically associated with a method for tracking the identity of such person through a registry, so that a person viewing the authoritative copy has access to the evidence of control. Thus, the concept of control typically focuses on the identity of the person entitled to enforce the rights embodied in the electronic transferable record.

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 delivery of goods. Legal systems using "control" as a replacement for "possession" often specifically recognise that the control requirements may be satisfied through the use of a trusted third-party registry system. Other technological approaches may also be available to achieve the same goal.

In general, the primary approaches that have been advanced to establish the identity of the person to whom the electronic transferable record was issued or transferred, ie, the person in control, include the following:<sup>27</sup>

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26 For a discussion on how the Rotterdam Rules attempt to address the legal challenges for using electronic transport records, see Gertjan van der Ziel "The legal underpinning of e-commerce in maritime transport by the UNCITRAL Draft Instrument on the Carriage of Goods by Sea" (2003) 9(5) JIML 461-469.

27 The text in the remainder of this subsection is gleaned from the note prepared by UNCITRAL, A/CN.9/WG.IV/WP.115, above n 18, at 4-17.

- 1) *Person in control identified in a separate registry (registry model)*: A registry model allows for the creation, issuance and transfer of electronic transferable records based on information transmitted to and recorded in a central registry. Access to the registry might be controlled and subjected to acceptance of contractual provisions. A registry can be used to assist in the designation of the authoritative copy of an electronic transferable record in order to provide a functionally equivalent approach to uniqueness. It can also be used to identify the person that controls an electronic transport record for purposes of providing a functionally equivalent approach to possession.

Registries are a common feature of most recent initiatives involving electronic transport records. Registry systems may be divided into three main categories:

- a) **Governmental registries**: An agency of the State records transfers as public records, and may authenticate or certify such transfers. For public policy reasons, the State agency is usually not liable for any errors, and the cost is borne through user fees. For example, the Korea Trade Net (KTNET), which was designated as the registry operator for the purposes of the South Korean Presidential Decree on the Implementation of the Electronic Bill of Lading Provisions of the Commercial Act of 2008,<sup>28</sup> achieves exclusive control through this title registry.
- b) **Central registries**: Central registries are established where a commercial group conducts its transactions over a private network, accessible only to its members.
- c) **Private registries**: These registries are conducted over open or semi-open networks, where the issuer of the document, i.e., a trusted third party, as in the Bill of Lading Electronic Registry Organisation (Bolero) system, administers the transfer or negotiation process.<sup>29</sup> The

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28 For a discussion of the content and workings of this legislation, see *Present and possible future work on electronic commerce* United Nations Commission on International Trade Law, 15 April 2010, A/CN.9/692, paras. 26-47.

29 Bolero is set up under English Law and is governed by its own private law framework, namely, the Bolero Rulebook. In view of the fact that English law does not at present recognise the equivalence of "possession" and "exclusive control" for the purposes of replacing bills of lading with electronic alternatives, from the legal perspective the transfer of rights is effected through the concepts of novation and attornment which are discussed later in this chapter. For an explanation see R. Caplehorn "Bolero.net – The Global Electronic Commerce Solution for International Trade" (1999) 10 *Butterworths Journal of International Banking and Financial Law* 421.

records are private and costs may be borne by each user. Liability parallels the present practice with paper, in that the administrator is obliged to deliver to the proper party unless excused by another party's error, in which case local law may apply.

- 2) *Person in control identified in the electronic transferable record itself (token model)*: Under the token model, the identity of the person in control of the electronic transferable record is contained in the electronic transferable record itself, and changes in ownership (eg, assignments) are noted by modifications made directly to the electronic transferable record.<sup>30</sup> Under this approach, establishing the owner of the electronic transferable record requires a system to maintain careful control over the electronic record itself, as well as the process for transfer of control. In other words, like transferable paper, there may be a need for technological or security safeguards to ensure the existence of a unique "authoritative copy" that cannot be copied or altered,<sup>31</sup> and that can be referenced to determine the identity of the owner as well as the terms of the electronic transferable record itself.
- 3) *Person in control defined as person with exclusive access*: Where the authoritative copy of an electronic transferable record is stored on a specific secure computer system designed for such purpose and protected by appropriate security and access controls, it may also be possible to define the person in control, ie, the holder as the single person given access to the electronic transferable record in question. In such a case, a transfer of control would require a transfer of the exclusive means of secure access, such as a unique access token.

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30 essDOCS uses a token system to limit access for granting exclusive control. The essDOCS Exchange replaces ownership of a paper-based title document with a right to access and legally transact an original eDoc. Like Bolero, this system operates under a private law framework called the essDOCS Services and Users Agreement (DSUA). All essDOCS electronic bill of lading users are required to sign the DSUA prior to using live eDocs for the first time. The DSUA is a multi-partite agreement, which binds all essDOCS eB/L users to each other and to essDOCS. The DSUA is governed by English law but where the contract of carriage in question is governed by U.S. law, transfer of title to the goods under the DSUA is governed by the law of the State of New York including the New York Uniform Commercial Code and the United States Uniform Electronic Transactions Act 1999.

31 This might be accomplished by the technology used to create the record (which may not yet exist), or by keeping the record under such security that no one can copy or modify it. See A/CN.9/WG.IV/WP.115, above n 18, at 13, footnote 23.

### *C New Maritime Law to Facilitate Use of Electronic Transport Records*

The role of international conventions is important in order to harmonize maritime law and to encourage the development of appropriate national legal regimes in the field of shipping and e-commerce. For maritime e-commerce, such an international convention already exists, namely, the Rotterdam Rules. At present, whether or not the Rules will be successful is a matter of calculated optimism at best and speculative pessimism at worst.

A discussion on the legal aspects of electronic transport records necessitates an examination of some of the relevant provisions of the Rotterdam Rules. It is submitted that chapters 9-11 of the Rules dealing with delivery of the goods, rights of the controlling party, and transfer of rights, are key to solving the problem of how to provide for negotiable electronic transport records. The relevant provisions on rights of the controlling party fill a gap in the law of many jurisdictions, thereby aiming at harmonizing and modernizing the international law in this field. Because these provisions are most important when the carrier does not issue a physical piece of paper qualifying as a negotiable bill of lading, which is exactly the situation in an e-commerce transaction, this chapter constitutes an important part of the Rules' indirect facilitation of e-commerce.

As discussed earlier, the Bolero and essDOCS initiatives in most cases operate under English law based on multiparty agreements that effectuate the desired transfer of rights through the concepts of novation<sup>32</sup> and attornment.<sup>33</sup> The concept of novation is part of one of several existing doctrines that describe the legal position of the consignee in the event that no negotiable transport document has been issued. The Rotterdam Rules do not refer to any specific doctrine when addressing the position of the consignee. Rather, the Rules set out the actual legal provisions on this subject. The notion of attornment is important because it provides the basis for transfer of property that is in the hands of another person other than the transferor or transferee.<sup>34</sup> The ability of a transport document to

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32 At common law, novation terminates an old contract between two contracting parties and substitutes a new contract involving one of the original contracting parties and a new contracting party. It therefore creates not only a transfer of rights but also of obligations from the original contracting party to the new contracting party. In other words, novation is a process whereby the old contract between the carrier and the previous holder is terminated and a new one, on the same terms, comes into existence between the carrier and the new holder.

33 Attornment consists of an undertaking by the bailee of the goods, ie, the carrier, to the new holder that he will deliver the goods to him, thus giving the latter constructive possession of the goods.

34 Under Roman law, this property transfer was referred to as *traditio longa manu*, and in many jurisdictions, it is still known under this name. The essence of this method of transferring property is the requirement that the holder (also referred to as the keeper, custodian, bailee, trustee, or any other legal label this third party may have) of the goods receives notice from the

represent the goods as a token had to be invented for the purpose of transfer of property. In the old days, a merchant wishing to transfer ownership of goods in transit had no practical way to send a notice to a carrier, who often was the captain of the sailing ship. Now, with instant communication possible all over the world, the use of a negotiable transport document for transferring property is no longer needed and a simple notice of such transfer to the carrier would suffice if such a practice is developed. This notice is manifested in the notice to transfer the right of control provided under the Rotterdam Rules.

It is submitted that the creation of international standards and practices is the best way to eliminate uncertainties regarding the ability of electronic systems to perform the functions of negotiable transport documents. By laying down clear requirements and conditions for the recognition of functional equivalence, the Rotterdam Rules have the potential to facilitate innovation by carriers and service providers, which can increase confidence in prospective users and thereby allow them to trade electronically.

### ***III INTERNATIONAL TRADE FINANCE AND SUPPLY CHAIN FINANCE***

Global supply chains rely heavily on MSMEs to provide parts and components to larger firms.<sup>35</sup> However, one particular challenge for MSME participation comes from the pressures of lead firms to push inventory costs down on the suppliers. For larger firms or those with secure financing, the costs of holding inventory might be manageable. For MSMEs, these costs can be prohibitive. Imagine a small company being asked to hold an inventory worth USD 1 million. This has to be held for a month, in addition to the time it takes for the order to be delivered. It could also take another 60–90 days to be paid for this delivery. This leaves the company with no cash flow for several months and a million USD tied up in inventory. Solving this problem requires some creative thinking on the part of governments and financial institutions with respect to trade finance and SCF.

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transferor or transferee that property has passed, and that he should hold the goods for the transferee. Upon receipt of this notice, the third party undertakes to hold the goods for the new owner.

35 Deborah K. Elms "Views of GVC operators" Chapter 6 in Deborah K. Elms, Patrick Low (eds.) *Global Value Chains in a Changing World* (World Trade Organization with the Temasek Foundation and the Fung Global Institute, 2013) at 168.

## A *Trade Finance and Various Instruments*

Trade finance is defined as the method and instruments specifically designed to support importers and exporters throughout the trade cycle.<sup>36</sup> According to one commentator, "[s]ince more than ninety per cent of trade transactions involve some form of credit, insurance or guarantee one can reasonably say that trade finance is the lifeline of trade. Producers and traders in developing or least developed countries need to have access to affordable flows of trade financing and insurance to be able to import and export, and hence integrate in world trade. From that perspective, an efficient financial system is one indispensable infrastructure to allow trade to happen."<sup>37</sup> Therefore, trade finance is vital for countries with limited access to finance.<sup>38</sup>

International transactions generally include two types of financial arrangements between importers and the exporters, namely, inter-firm trade finance and intermediated trade finance. In inter-firm trade finance, the funds flow between two trading firms, ie, exporters and importers. Inter-firm trade finance can be in the form of prepayment, in which an importer pays for goods ordered before the shipment of goods by exporter. The other form of trade finance is "open account," where the exporter delivers goods before any payment is received and the importer typically has 30–90 days after delivery to make a payment. Intermediated trade finance involves participation of financial intermediaries that support the trade by providing funds to the exporter or the importer or to both. The most common intermediated trade finance instrument is a letter of credit, which involves an importer, the local issuing bank, the advising or confirming bank, and the exporter.<sup>39</sup> Documentary collection is another form of intermediated trade finance

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36 See Anna Maria C. Menichini "Inter-Firm Trade Finance in Times of Crisis" (November 2009) The World Bank Policy Research Working Paper No. 5112, p. 2 (available online at <<http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-5112>> (accessed on 24 August 2014).

37 See M. Auboin "Boosting Trade Finance in Developing Countries: What Link with the WTO?" (November 2007) WTO, Staff Working Paper ERSD-2007-04, p. 1 available online at <[www.wto.org/english/res\\_e/reser\\_e/ersd200704\\_e.pdf](http://www.wto.org/english/res_e/reser_e/ersd200704_e.pdf)>.

38 See in general Himmat Kalsi *Trade Finance for Emerging Markets* International Finance Briefing Note: #29, World Bank, August 2003, available online at <[www-wds.worldbank.org/external/default/WDSCContentServer/WDSP/IB/2008/04/18/000333037\\_20080418023508/Rendered/PDF/433400BRI0Box31blic10BriefingNote29.pdf](http://www-wds.worldbank.org/external/default/WDSCContentServer/WDSP/IB/2008/04/18/000333037_20080418023508/Rendered/PDF/433400BRI0Box31blic10BriefingNote29.pdf)>.

39 The typical letter of credit is a sophisticated mechanism designed to mitigate the risks borne by exporters and importers. For example, a typical international sale transaction using a letter of credit may involve a Nigerian importer (the applicant) and a Chinese exporter of a complex machine (the beneficiary). The importer procures the opening of a documentary letter of credit by a Nigerian bank (the Issuing Bank). This credit will be notified to the Chinese exporter by a Chinese bank (the Advising Bank). It is usual for the Advising Bank to add its own confirmation so that it becomes bound. It then becomes the Confirming Bank. Sometimes the documents will be for convenience sake presented to a different bank (the Nominated Bank) but it is usually the

that reduces the risk of non-payment by allowing the exporter's bank to collect the payments. Unlike letters of credit, documentary collection does not guarantee payment from the importer's bank.

Two other common trade finance instruments are export credit insurance and export credit guarantees, which are often used in combination with open-account types of arrangements. Export credit insurance is a financial instrument used by exporters to insure themselves directly against the risk of buyers' default. An export credit guarantee provides a guarantee to financial institutions that are willing to lend to either the exporter or the importer whereby the guarantor takes the responsibility if the primary borrower fails to fulfil its financial obligation. The issuance of export credit insurance and guarantees is an important part of trade finance as they can reduce credit risks and allow exporters to offer open-account terms in competitive markets.<sup>40</sup>

### ***B Mitigation of Risks***

One of the main roles of trade finance is to mitigate the risks borne by exporters and importers. The exporter's main risk is that the importer will fail to pay after it receives the goods. The importer's main risk is that the exporter will fail to ship the goods after prepayment, or that the goods will not be as specified in terms of quality or time of delivery.

The sharing of risks between importers and exporters differs with various trade finance arrangements. In case of prepayment all of the risks lie with the importer, whereas in open account all of the risks lie with the exporter. Although prepayment is the most secure form of finance for exporters, it is the least competitive. On the opposite end of the spectrum is open account, in which all the risk is borne by the exporter as the importer receives the goods before payment. As mentioned above, exporters can use export insurance to mitigate some of this risk. In the middle of the spectrum lie the various forms of intermediated trade finance which carry low

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case that the Confirming Bank is also the Nominated Bank. So, the Chinese exporter will present the documents to the Confirming Bank, which will then make payment, to be reimbursed in turn by the Issuing Bank (for whom it acts in an agency capacity). The documents will then be passed on to the Issuing Bank, which will then release them to the applicant so that the latter can collect the goods from the carrier. The shipping documents will often be held by banks involved in this process as security for advances. For example, the Issuing Bank makes an advance to the importer in the shape of payment made to the exporter and eventually releases the documents to the importer under a so-called "trust receipt", which is a deemed continuing pledge of the documents that gives the bank security over the goods themselves and their proceeds.

40 Jean-Pierre Chauffour, Christian Saborowski and Ahmet I. Soylemezoglu "Trade Finance in Crisis: Should Developing Countries Establish Export Credit Agencies?" World Bank Policy Research Working Paper No. 5166, available at <[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1533684](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1533684)>.

risk to both exporters and importers, since they assure that importers pay for goods before they are received and that exporters ship the goods before they are paid. However, there is a continuing decline in the use of intermediated trade finance and a rise in open account, which exposes the traders to several other sources of risk unique to international transactions,<sup>41</sup> such as macroeconomic,<sup>42</sup> counterparty,<sup>43</sup> strategic default,<sup>44</sup> information,<sup>45</sup> systemic,<sup>46</sup> intermediary<sup>47</sup> and liquidity<sup>48</sup> risks. To round out the study it is instructive to notice briefly the changing trade finance patterns around the world which have been coming into favour over the past two decades or so.

### ***C Trade Finance Patterns Around the World***

A statistical analysis of trade finance usage around the world shows that on average, the three main trade finance mechanisms, namely, prepayment, intermediated finance, and open-account is about 23%, 19%, and 55% respectively.<sup>49</sup> However, if the aforesaid analysis is made in accordance with income level of countries, then open-account terms are popularly used when traders are dealing with high-income countries, whereas they are seldom used while dealing with low-income countries. The reverse happens for payment in advance. Intermediated finance is used in both low and middle-income countries, as traders

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41 For a detailed discussion see Menichini, above n 36.

42 Changes that can affect the value of return, such as exchange rate fluctuations, changes to policy, and the likelihood of default, for eg, conflict and political upheaval.

43 Greater difficulty of enforcement across borders that are exacerbated in many developing countries by poorly functioning institutions, particularly legal systems lead to higher counterparty risk.

44 Risk that a trading partner will default strategically and therefore trust is an important determinant of international trade.

45 Data on which to assess counterparty credit risk are often limited or non-existent in international transactions, for eg, where there is limited public credit registry coverage or public access to accounts or court proceedings.

46 Supply chains face the risk that a shock to one of the links along the chain may propagate across the chain.

47 In intermediated trade finance, the banks or other intermediaries present a source of risk, for eg, a risk that the issuing bank will honour the letter of credit it issued, or that the export insurer will pay on the claim.

48 As discussed earlier, the larger the time gap between expenses and revenues, the greater the liquidity risk in international trade. If the buyers prepay, they have working capital needs until the goods arrive and are sold. Sellers that offer open-account terms need credit to tie them over until the buyer's funds arrive.

49 See I. Love "Role of Trade Finance" Chapter 13 in Gerard Caprio (ed) *The Evidence and Impact of Financial Globalization* (1<sup>st</sup> ed, Academic Press, 2012) at 203.

rely on the credibility of intermediaries rather than the credibility of trading partners. Since intermediated finance comes at a cost, its use has been declining in financially developed countries and being replaced by open-account, simply because better enforcement mechanisms are generally available in such jurisdictions.

### ***D Supply Chain Finance***

Before the recent economic and financial crisis of 2008-09, importers, exporters and banks had relatively easy access to trade finance driven by high liquidity. During this period, the international trading community did not tend to follow the usual risk mitigation techniques of intermediated trade finance and frequently used open-account terms, since the focus was more on prompt payment and data flows. However, the financial crisis made the international trading community across the world rethink its optimization efforts especially with regard to financials. This crisis clearly underscored the concern that a supply chain is only as financially strong as its weakest link. In this context, the concept of SCF has been seen by companies as way to reduce counterparty risk and to sustainably stabilise the different links in the supply chain, to prevent the disruption of whole production lines resulting from financial problems of one important party, as well as to optimise total costs within the supply chain. In a broader sense, SCF is a combination of technology solutions and services that link suppliers, buyers, financial institutions and service providers, thus optimizing visibility, financing costs, availability, delivery of cash and improved working capital on the occurrence of one or several supply chain events.<sup>50</sup>

Currently, the business of trade finance is in a state of flux that provides scope for innovation. At the same time there are regulatory pressures that are an obvious impact of the recent financial meltdown:<sup>51</sup>

The existing situation provide a unique opportunity for transformational evolution in the proposition, processes and value of trade and SCF, and those who perceive this opportunity, and can shift from incremental refinements of long-established

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50 For a detailed discussion on SCF see, Erik Hofmann "Research on Supply Chain Finance - A Review, A Framework and Suggestions for the Future", in *In Past and Future in Logistics Research* (Conference Proceedings of the 25<sup>th</sup> Annual NOFOMA Conference 2013, Chalmers University of Technology, Gothenburg).

51 See Alexander R. Malaket and André Casterman "Observations on the Evolution of Trade Finance and Introduction to the BPO" (2013) OPUS Advisory White Paper, p. 14, available online at <[www.swift.com/assets/corporates/documents/business\\_areas/trade\\_opus\\_swift\\_observations\\_2013.pdf](http://www.swift.com/assets/corporates/documents/business_areas/trade_opus_swift_observations_2013.pdf)> (accessed on 23 August 2014).

processes to truly innovate in support of global commerce, will benefit from this temporary set of circumstances.

#### ***IV OPPORTUNITIES FOR THE MARITIME AND LOGISTICS INDUSTRIES***

The evolving landscape of e-commerce poses new challenges for the maritime and logistics industries. The transportation industry wonders what to do: should we just stand by and watch, or should we respond more pro-actively? I believe that there are strategic areas of opportunity for maritime carriers and cargo consolidators to use electronic transport records to forge closer relationships with their customers. The use of electronic transport records can fundamentally change the maritime transportation and logistics industries and strengthen carrier-shipper relationships.<sup>52</sup>

The emerging trend of SCF goes hand in hand with supply chain management, since they are two sides of the same coin. In early 2013, the banking industry released a unique set of legal and technological standards to unlock the potential of the SCF market.<sup>53</sup> The transportation industry, which has the best view of the location of goods being transported, is not accustomed to sharing this information. The transportation industry has developed its own practices involving the tracking of goods, but the transportation industry has not thought about turning this knowledge into an opportunity to develop related financial services. This is a huge missed opportunity for both carriers and consolidators involved in international trade as well as the banks that finance international trade transactions. In addition, if more information is available on the fluctuating value of goods while they are being transported, banks and transportation companies will also have the possibility to offset collateral against capital, thus turning the entire supply chain into a financial asset. While there is an opportunity for banks to work with transportation companies using global information systems like the Global Positioning System, the development of SCF services by carriers and consolidators would mean that those companies would have to change their business practices.

The positive aspect for carriers and cargo consolidators is that they can adapt to the evolving market conditions and develop an electronic transport record system

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52 The following text is submitted with a good deal of hesitation. The proposals made are broad and vague; the details are lacking. The author's thinking has not gone beyond general conclusions; after-acquired knowledge, so to speak, will no doubt bring many modifications. Since the conclusions are implicit in the earlier parts of this paper, it seems proper to formulate them in some detail to facilitate criticism.

53 See, André Casterman "A New Start for Supply Chain Finance" SWIFT White Paper, available online at <[www.swift.com/assets/swift\\_com/documents/about\\_swift/SWIFT\\_Whitepaper\\_Supply\\_Chain\\_Finance\\_201304.pdf](http://www.swift.com/assets/swift_com/documents/about_swift/SWIFT_Whitepaper_Supply_Chain_Finance_201304.pdf)> (accessed on 12 July 2014).

that acts as a channel to access information that is owned by and run by the carrier or cargo consolidator, which can then be shared with banks.<sup>54</sup> Therefore, carriers and cargo consolidators should actively seek to expand their electronic transport record capability. A unique value proposition can turn electronic transport records into a cost-saving and revenue-generating channel through increased loyalty of shippers towards carriers and cargo consolidators. This means carriers and cargo consolidators should invest more in resources.

This is also a collaborative opportunity for the transportation industry. Many smaller and medium-sized carriers and cargo consolidators will be looking to deploy an electronic transport record channel to connect with their customers. Carriers and cargo consolidators should consider making a bold move to develop electronic transport record solutions in partnership with banks. They should consider developing a global service for an electronic transport records solution in which each company can participate.

Such a service should be transparent and compelling: it should not be built on a platform that utilises a patchwork of multiple bilateral systems, but should be a single and consistent offering. It should be based on an Application Programming Interface (API), which allows carriers and cargo consolidators to insert their electronic transport record services, and should be open to other providers as well. The service should also be simple to use and brand-neutral, allowing for differentiation while providing a common infrastructure in which each carrier or consolidator can brand and differentiate its service for its customers. Carriers and cargo consolidators may decide to buy an existing platform instead of building a new one. Adoption of a pragmatic approach is extremely important. Although the transportation companies might own the system, the service could be run as a commercial company to have the necessary execution and deployment agility.

E-commerce in maritime transport must be developed industry-wide. For example, INTTRA, which is promoted by the leading liner carriers have recently introduced an e-shipping service.<sup>55</sup> However, BIMCO, one of the oldest maritime carrier-based organizations, has not shown much activity in this field yet.<sup>56</sup> Since

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54 It is notable in this context that trust plays a central role in the dynamics of modern supply chains. It determines what can be done with information, ie, observe, capture, analyse and use it to create value.

55 INTTRA is the world's largest, multi-carrier network for the ocean shipping industry. Their e-commerce platform offers a comprehensive range of e-commerce tools including: ocean schedules, booking, shipping instructions, bill of lading, tracking and tracing, electronic invoicing, and reports. See <[www.intra.com/](http://www.intra.com/)>.

56 Baltic and International Maritime Council (BIMCO), which is the largest of the international shipping associations representing ship-owners, have traditionally provided standard

industry associations have to follow the views of their members/stakeholders, it can take a long time to convince the conservative and operationally-minded members within the organisation to adapt to new business conditions. Some maritime carriers may look at the concept of right of control as set forth in the Rotterdam Rules primarily from an operational point of view. Their concern may be that, if a controlling party would exercise its right of control, this may interfere with their operations. It is certainly true that smooth operations are extremely important to liner carriers for reasons of cost control and competitiveness, and that smooth operations are difficult to achieve. However, these operational considerations should not impede maritime carriers' long-term interest in developing e-commerce systems. This is particularly so because container liner shipping is a mature industry. Given this situation, the pressures on the carriers to develop e-commerce systems may well come from their shipper customers.

Developing an electronic system that circumvents the need for negotiable documents in both paper and electronic form will be the way forward, because control of the goods during carriage, which is needed to facilitate the exercise of rights in the goods, may be effected through the possession and transfer of the right of control as provided under the Rotterdam Rules. Scrutiny of the provisions to make variations in the contracts of carriage, for example, in the COSCON Bill of Lading Rulebook or the OOCL Change of Destination Request Form, reveal that the shipper does not sufficiently control its own cargo.<sup>57</sup> It is submitted that the shipper should in fact be in control of the goods for legal reasons.

The advantages of the right of control concept as formulated under the Rotterdam Rules will address some of the problems associated with prevailing industry practices. Under the Rotterdam Rules, the usual payment term under a sales contract, which is currently executed through payment against documents, will be replaced by payment against transfer of control.<sup>58</sup> Carriers can put the documentary data in an electronic record and keep this record in an electronic

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documentation for almost all types of maritime transportation and related activity. BIMCO has recently designed an Electronic Bills of Lading Clause to provide a contractual agreement to permit the use by charterers of the essDOCS and Bolero systems for bills of lading, waybills and delivery orders. The clause effectively confers on e-Bills the same status as paper bills of lading under the terms of the charter party. Normal P&I liabilities are covered by the clubs to the same extent when using e-Bills as their paper equivalent. See <[www.bimco.org/~media/Chartering/Special\\_Circulars/SC2014\\_03.ashx](http://www.bimco.org/~media/Chartering/Special_Circulars/SC2014_03.ashx)> (accessed on 29 September 2014).

57 See Liang Zhao "Control of goods carried by sea and practice in e-commerce" *Journal of Business Law* (2013) 6 J.B.L. 585-597 at 588.

58 See G J van der Ziel "Delivery of the goods, rights of the controlling party and transfer of rights" (2008) 14 *JIML* 606.

system, while granting the controlling party exclusive electronic access to the record as well as the option to have this access transferred to another person.

The electronic notification of any transfer of the right of control to the carrier, made by the old controlling party upon acceptance of the transfer by the new controlling party, should trigger the carrier's transfer of exclusive access to the cargo data record to the new controlling party. This would not be difficult to achieve since most carriers currently give their customers access to their electronic systems for tracing and tracking purposes. In fact, a few carriers go further and allow their customers to draw up transport documents in their systems. Moreover, the shipper is in better control of the cargo during the voyage; this will provide the banks financing the transaction with better security. An additional advantage of such an electronic system is that, at any point in time during the carriage as well as after arrival at destination, the identity of the controlling party is known to the carrier. As a result, communication between the carrier and the controlling party could be established where the consignee fails to turn up at the port of destination to receive the cargo and the carrier needs further instructions on what to do with the cargo.<sup>59</sup> The proposed arrangement will allow the international trading community to replace the out-dated and expensive bill of lading system, which will lead to a decrease in costs for both carriers and shippers. In such a way a secured non-membership based open system can replace the expensive membership based closed systems such as Bolero and essDOCS.

Since international trade involves various actors, questions will arise as to the suitability of carriers taking centre stage in the information game. In addressing such concerns it could be questioned whether, for example, the International Organization for Standardization (ISO), which has a global, cross-industry representation, can take the role that the carriers are asked to perform. It is doubtful whether ISO would be successful in this case, since it is chiefly concerned with standardisation and thus perhaps not best situated to initiate commercial adoption. The role of a third party platform vendor may also be excluded, as they can perhaps not be inclusive enough. Therefore, there is a strong case for carriers to get together to work on creating an electronic system for using electronic transport records at a global level. The suggested approach has been seen in other industries, such as the mobile network operator community, which cooperates through the *Groupe Speciale* Mobile Association (GSMA). It has global coverage and actively represents the interests of mobile operators. Similarly, in the interbank world, the Society for Worldwide Interbank Financial Telecommunication (SWIFT) supplies

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59 Ibid.

secure messaging services and interface software to wholesale financial entities. It operates globally and has a track record of cooperation.

In conclusion, electronic transport records will provide strong growth potential to the maritime and logistics industries. Many maritime carriers and logistics service providers have developed their electronic tracking services. Many non-carriers have also developed innovative e-commerce solutions.<sup>60</sup> The carriers and consolidators need to take stock of all the various services existing in the market and create an electronic system that can take centre-stage and feed information into the systems of various players, thereby adding value to the entire international trade framework.

## V CONCLUDING REMARKS

A revision of domestic maritime and e-commerce laws along the lines roughly drawn in the preceding sections would aid both the shipper and carrier interests as well as financiers of international trade. Moreover, at a time when the importance of MSMEs to economic development and job creation is being increasingly recognised, the transportation industry can play the role of a trusted intermediary to support enterprises in their endeavour to access trade and working capital finance. This will promote sustainable growth in international trade and secure global supply chains.

The recent developments in trade and its financing brought about by increased use of information technology have created a new wave of business opportunities for the maritime and logistics industries. The situation can be compared to containerisation and the implementation of the associated hub and spoke model during the 1970s.<sup>61</sup> Most jurisdictions currently lack legislation to help businesses to fully capture the benefits of e-commerce in international trade. However, a legal framework is already available at an international level under the Rotterdam Rules that would cover typical e-commerce issues for maritime transport. Moreover, the current initiative of UNCITRAL to create new e-commerce law for the promotion of electronic communications in international trade will further aid and simplify trade transactions. It is submitted that to benefit businesses, national legislators have to implement domestically the existing international rules and participate proactively in the preparation of rules that are currently under development.

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60 For example, GT Nexus, which is a cloud supply chain platform provider, runs an on-demand global supply chain management platform that is used by organizations to manage global logistics and trade processes. See <[www.gtnexus.com/](http://www.gtnexus.com/)>.

61 For a detailed discussion on containerization, see Marc Levinson *The Box: How the Shipping Container Made the World Smaller and the World Economy Bigger* (Princeton University Press, 2008).

The slow progress of e-commerce in maritime trade stems from the state of inertia of some of the commercial parties involved. The development of e-commerce systems requires investment and changes in practices. When the demand for these changes and investments do not come from the commercial parties directly involved, third parties that offer these services, such as Bolero and essDOCS, will have limited effect. The use of electronic transport records as a channel to access information has a promising future and the efforts that are already underway to meet the intended aims and objectives must be relentlessly continued and sustained until success is achieved.