

International Air Cargo in Time of Crisis: Global Challenges and Modal Shift Provide Transformational Opportunity in Commerce and Law

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1. Introduction and Perspective

In what is considered to have been the world's first air cargo flight,¹ on 7 November, 1910, Philip Parmalee, piloting for the Wright Company, flew 65 miles from Dayton, Ohio to Columbus, Ohio in a Wright Model B aircraft carrying 200lbs of silk to be delivered to a Columbus department store.² Thus, began fulfilment of the Marquis d'Argenson's prophecy over 150 years previously: "And they shall yet transport merchandise upon great flying vessels".³

The onset of the current pandemic⁴ has brought the essential role and significance of air cargo as an integral component of a multimodal global supply chain to the forefront of industry dialogue and into sharp perspective. It has mandated intense focus on the ability of all modal participants not only to survive economically, but to deliver in an operational sense. Ensuring immediate, continuing availability of a dependable, resilient global intermodal supply chain has become a crucial challenge. The air cargo component of that supply chain must sustain dramatically increased demand in some commodities such as pharmaceuticals, medical equipment, supplies, and perishables, while accommodating an equally dramatic reduction in demand for other

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¹ See, Dr Richard Stimson, "World's First Cargo Flight Creates New Paradigm of Transportation", <https://wrightstories.com/worlds-first-cargo-flight-creates-new-paradigm-of-transportation/> and Scott Mall, "Flashback Friday: the History of Air Freight", 24 May 2019, <https://www.freightwaves.com/news/flashback-friday-the-history-of-air-freight>.

² See, "The Fashion & Morehouse-Martens", <https://fashion2fiber.osu.edu/exhibits/show/columbus-fashion-story/specialty-boutiques/the-fashion>.

³ Camille Allaz, *The History of Air Cargo and Airmail From the 18th Century* (Christopher Foyle Publishing in association with The International Air Cargo Association, 2004), at 9.

⁴ See, World Health Organisation (WHO), "Director-General's opening remarks at the media briefing on COVID-19", 11 March 2020, <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19--11-march-2020>; Severe Acute Respiratory Syndrome Coronavirus 2 ("SARS-CoV-2" or "COVID-19").

commodities as commercial enterprises worldwide have been curtailed. Assuring the integrity of the air cargo supply chain in the face of diminished capacity due to grounding of a significant number of passenger aircraft and corresponding belly cargo capacity has virtually eclipsed all other cargo related issues.

From a commercial perspective, with the substantial decrease in passenger demand and capacity, and with the substantial increase in demand for air cargo capacity,⁵ air cargo has become an essential source of revenue for airlines. From a global humanitarian perspective, the carriage by air of medical equipment, supplies, and food in a timely manner has always been considered to be an indispensable logistic in times of war, famine, natural disaster, or medical emergency. The current pandemic magnifies this imperative. From a logistical perspective, the ability of air cargo to transit global geography in a fraction of the time of marine, road, or rail transport, makes it indispensable to the global supply chain and the world's ability to combat the pandemic. It is, therefore, not an overstatement to consider that air cargo is a lifeline keeping both the world and the aviation industry alive in the most literal sense of that word. To illustrate its elevated importance, just as airlines have perfected the concept of cabin and seating upgrades for commercially important passengers, the new 'value' of air cargo has been recognized as it has been upgraded from the cargo hold to premium carriage in the passenger cabin!

The extraordinary importance of air cargo has been recognised by regulators worldwide as they have quickly modified extant regulations to facilitate air cargo in the face of mounting global restrictions on movement of people and goods. The EU Commission recently highlighted this importance:

*“Continued...uninterrupted air cargo services are of essential... importance for the EU. They play a vital role in the quick delivery of essential goods, medicines, medical equipment and supplies...[Air] cargo is keeping global supply chains functioning for many of the most time-sensitive and high value materials and is a critical complement to the transport of freight by land and sea”.*⁶

But this pandemic is not the first crisis that air cargo has faced. Indeed, numerous crises of global belligerence, economic instability, public health, international welfare, and geologic or meteorological activity have affected the global supply chain in the past 110 years and it cannot be doubted that the risk and occurrence of crisis is an engrained aspect of global enterprise. The nature of crisis exposes weaknesses and shortcomings in the infrastructure which supports and facilitates lifestyle and commerce. But crisis also produces speedy ameliorative, restorative, and reinventive actions which often result in dramatic changes in lifestyle, commerce, and supporting infrastructure.

⁵ Will Horton, “Cargo Aircraft Roar To Life, Reaching Record Utilization As Coronavirus Creates Urgent Demand For Air Freight”, Forbes, March 2020, <https://www.forbes.com/sites/willhorton1/2020/03/31/cargo-aircraft-roar-to-life-reaching-record-utilization-as-coronavirus-creates-urgent-demand-for-air-freight/#4b29161fbd7>.

⁶ See, Communication from the Commission, European Commission Guidelines: Facilitating Air Cargo Operations during COVID-19 Outbreak, 26 March 2020), C(2020) 2010.

With and without crisis, the global multimodal supply chain has evolved and transformed itself for as long as it has existed even with intense inter-modal competition. This includes new roles for established participants, new operational models, new market entrants, new technological mechanisms for performance and service delivery all of which increase dramatically in breadth and depth in successive generations.

With evolutionary and transformational changes over time, the concept and operational reality of air cargo as a unimodal transport mechanism has rapidly diminished as a stand-alone concept or logistical option. It may even be said that air cargo has never been a purely unimodal concept. Illustrative of this point is that Mr Parmalee's flight has also been characterised as the first 'multimodal' flight since, following the aircraft's arrival at Columbus, the cargo is said to have been carried to the department store by road.⁷ Whether that characterisation is correct is discussed below and depends principally on the relationships and agreements between the parties responsible for transporting the cargo to and from the aircraft. Depending on those responsibilities, the carriage might also be characterised in contemporary terminology as door to door carriage since the cargo was ultimately carried by road from the seller's warehouse in Dayton to the airport of departure and, on arrival in Columbus, by road to the department store.

Throughout the past 110 years, modal competition has been increasingly intense as global commerce has evolved and changed in relational, structural, operational, logistical, and technological aspects. Concomitantly, air cargo has developed essential operational and logistical relationships with its competitive modes. The symbiotic relationship between air and road carriage is a key example as airlines and freight forwarders increasingly issue air waybills for air cargo that will be carried entirely from origin to destination by road rather than air.

Traditional airline-customer relationships have also changed. Freight forwarders have diversified their roles from that of agent to direct airline customer. In so doing, traditional shippers have fewer direct relationships with airlines but increased relationships with forwarders. More importantly, the past 50 years have seen the development of at least two types of global enterprise that have contributed significantly to both modal and commercial transition. The first is the genre of express operators such as UPS, DHL, and Federal Express which have developed into global multimodal door to door integrated logistics providers that employ their own multimodal transport fleets. The second is the genre of Amazon which, in addition to incorporating multimodal fleets and door to door transport logistics, has expanded their roles by integrating direct relationships with producers and consumers of the goods which they transport. In essence, Amazon has created its own global multimodal supply chain and logistics model which allows for increased control over production, procurement, transport, and delivery, while directly controlling seller and retail purchaser relationships including marketing, advertising, sales, and service.

The traditional unimodal concept of air cargo and its associated logistics has transcended pure unimodality and must be recast to reflect the global multimodal paradigm in which it exists. Even though carriage may be recorded on an air waybill, that carriage may or may not actually include carriage by air and will increasingly integrate alternative modes of carriage. Consideration must, therefore, be given to reviewing the role, relationship, and integration of air cargo, its carriage, and its applicable law in a contemporary global multimodal supply chain.

⁷ Allaz, *supra* no. 3, at 24.

One significant consideration in dealing with such conceptual shift is the plethora of legal issues and mechanisms for resolution that have historically been dealt with in the international unimodal transport conventions which govern their respective modes of transport. Those conventions are anachronistic. They have not progressed at the pace of the modes of carriage they govern and have not been modernised to reflect the commercial realities of contemporary carriage of cargo and supply chain relationships whether on the ground or in the air.

The Warsaw Convention regime and the Montreal Convention 1999 (MC) are obvious examples.⁸ Apart from simplifying the mandatory particulars to be included on an air waybill in 1955⁹ and instituting an unbreakable limit of liability for loss, damage, destruction, or delay in 1975,¹⁰ the underlying fundamentals as relate to cargo have remained mostly static since their introduction in 1929.¹¹ At the same time, efforts to combine existing unimodal conventions into a single, multimodal convention have thus far failed and are unlikely to succeed with that convention in its current form.¹²

While considering the appropriateness of unimodal transport regimes to govern an increasingly multimodal global cargo transport paradigm, consideration must be equally focused on the current and future commercial, relational, structural, logistical, operational, and technological state of the art of air cargo. Such consideration will assure that any proposals for change in legal regime

⁸ The Warsaw Convention regime comprises of the Convention for the Unification of Certain Rules Relating to International Carriage by Air, opened for signature 12 October 1929 (WC29); Protocol to Amend the Convention for the Unification of Certain Rules Relating to International Carriage by Air, Signed at Warsaw on 12 October 1929, opened for signature 28 September 1955(HP); Convention Supplementary to the Warsaw Convention Relating to Unification of Certain Rules in International Carriage by Air Performed by a Non-Contractual Carrier, signed at Guadalajara on 18 September 1961 (GC); Protocol to Amend the Convention for the Unification of Certain Rules Relating to International Carriage by Air, signed at Warsaw on 12 October 1929, as Amended by the Protocol done at The Hague on 28 Sept. 1955, Signed at Guatemala City on 8 March 1971 (GCP); Additional Protocol No. 1 to Amend the Convention for the Unification of Certain Rules Relating to International Carriage by Air, Signed at Warsaw on 12 October 1929 opened for signature 25 September 1975(MP1); Additional Protocol No. 2 to Amend the Convention for the Unification of Certain Rules Relating to International Carriage by Air, Signed at Warsaw on 12 October 1929, as Amended by the Protocol done at The Hague on 28 September 1955, opened for signature 25 September 1975(MP2); Additional Protocol No. 3 to Amend the Convention for the Unification of Certain Rules Relating to International Carriage by Air, Signed at Warsaw on 12 October 1929, as Amended by the Protocol done at The Hague on 28 September 1955 and at Guatemala City on 8 March 1971, opened for signature 25 September 1975(MP3); Additional Protocol No. 4 to Amend the Convention for the Unification of Certain Rules Relating to International Carriage by Air, Signed at Warsaw on 12 October 1929, as amended by the Protocol done at The Hague on 28 September 1955, opened for signature 25 Sept. 25, 1975 (MP4) The Convention for the Unification of Certain Rules for International Carriage by Air, opened for signature 28 May 1999 (MC) aims to replace the Warsaw Convention regime.

⁹ Compare Article 8 of the WC29, which requires 16 particulars to be included in the air waybill with Article 8 of the HP that requires 3 particulars.

¹⁰ See, Articles IV and VII of MP4.

¹¹ See, *infra* section 2.

¹² See, *infra* where the The United Nations (UN) Convention on International Multimodal Transport of Goods of 24 May 1980 (UNCIMTG) is addressed.

adequately and accurately addresses the contemporary realities of air cargo transport and the issues that will arise as the industry continues to evolve.

A foundational element of this evolution is digitalization and integration of new technology. Although virtually all transport modes are increasingly attempting to incorporate digital capability into mainstream operations, it is widely accepted that the air cargo industry and its supporting logistical infrastructure remains heavily paper reliant. But digitalisation is only one point on the technological spectrum. Availability of increasingly sophisticated cargo management tools and capability across all modes of carriage provides for correspondingly efficient product management and carriage of cargo throughout the supply chain.

In concert with technology, operational and logistical developments in modal penetration and combination increase geographical connectivity. For example, the rapidly developing Silk Road rail service from China to Europe adds a modal alternative to air and sea carriage, as all modes continually explore new iterations. As this change occurs, it is imperative that legal modernization maintain pace and accommodate with clarity and efficiency continued modal evolution. There is much to be addressed and clarified in the unimodal Warsaw Convention regime and the MC which, more than ever, must relate with other modal systems and conventions.

Against this background and perspective, we consider:

- Section 2:** The historic treatment of cargo in the Warsaw Convention regime and the MC, as well as its relationship with other unimodal legal instruments
- Section 3:** Air cargo's changing role in an increasingly multimodal global cargo industry
- Section 4:** Crisis as a catalyst for change
- Section 5:** Air cargo legal liability issues as catalyst for change
- Section 6:** The need to progress from a unimodal to a multimodal legal regime
- Section 7:** Transformational opportunities for air cargo in commerce
- Section 8:** Transformational opportunities for air cargo in law

2. The Historic Treatment of Air Cargo in Unimodal International Convention

2.1 Air Cargo in the Warsaw Convention regime and the Montreal Convention 1999

For over 90 years, with the introduction of the Warsaw Convention in 1929 (WC29),¹³ contentious issues related to the international carriage by air of cargo have been considered and addressed through a succession of conventions, amendments, and protocols which focus primarily on air carrier liabilities to passengers and their baggage. From the perspectives of commercial importance, litigation, and general legal interest, issues concerning cargo have historically been less significant than issues concerning passengers and their baggage. Not surprisingly, amendments to the WC29 have focused primarily on carriage of passengers and baggage. Essential defences, such as “all necessary measures”,¹⁴ were predominantly discussed in the context of passenger claims and it was only in 1955 with the Hague Protocol (HP), that a cargo-specific

¹³ WC29, *supra* no. 8.

¹⁴ *Ibid.*, Art. 20.

defence was permitted.¹⁵ From 1929 to 1975, the issue and determination of “wilful misconduct” or “damage done intentionally or recklessly and with knowledge that damage would probably result” constituted a significant proportion of litigation. Apart from a revision of particulars required to be recorded on air waybills¹⁶ and a change in the standard by which liability limits could be broken, it was not until 1975 with the Montreal Additional Protocol No. 4 (MP4) that convention related cargo provisions were scrutinised and provisions associated with cargo liability were substantially changed.¹⁷

The unbreakable limit of liability introduced in MP4 had a chilling effect on litigation. Issues related to unlimited liability were no longer relevant except in jurisdictions in which WC29 and HP remained applicable. By incorporating the cargo related provisions of MP4 into the Montreal Convention 1999 (MC),¹⁸ litigated issues relating to cargo continued to decline.¹⁹ By way of comparison, no other mode of international carriage of cargo, has accepted the concept of an unbreakable limit of liability.

Although air cargo litigation has diminished considerably, disputes do remain including: whether loss, damage, destruction or delay occurred during the carriage by air;²⁰ what differentiates the causes of action for damage, destruction or delay of cargo;²¹ who is a proper claimant;²² what constitutes valid notice of complaint to the carrier under Art 31, which party must give the notice, whether the notice must be in writing, and whether giving notice to the agent that issued the air waybill on behalf of the carrier constitutes effective notice.²³

The transition from the Warsaw Convention regime to the MC did not change its passenger focus. Although the fourth recital in the Preamble of the MC does refer to “*the desirability of an orderly development of international air transport operations and the smooth flow of...cargo*”,²⁴ the discussion of matters related to cargo remained of secondary importance during its drafting and only minor changes to cargo provisions were effected.

As air cargo is more frequently carried by other modes of transport, the focus of legal inquiry has increasingly shifted to examine the relationship of the MC with other modal conventions. Courts

¹⁵ HP, *supra* no. 8, Art. 23: “inherent defect, quality or vice of the cargo carried”.

¹⁶ *See, supra*, no. 9.

¹⁷ *See, WC29, supra* no. 8, Art. 25: “wilful misconduct or equivalent default” and Article 25 HP: “intent to cause damage or recklessly and with knowledge that damage would probably result”. *See, also, MP4, supra* no. 8.

¹⁸ MC, *supra* no. 8.

¹⁹ It may be argued that MP4 created a separate cargo liability universe to the universe of passenger liability, while, ironically, ensuring that cargo remained shackled within the passenger and baggage framework.

²⁰ *See, Art 18(3) and (4) MC.*

²¹ For example, is a claim for degradation of perishables and their subsequent entry refusal by the relevant national border health agency properly characterized as a claim for delay, damage, destruction or loss.

²² This issue raises the question whether the owner of the goods has a right to sue the airline, although it is not party to the contract of carriage, namely the air waybill, as consignor or consignee. The answer differs from jurisdiction to jurisdiction.

²³ *See, David McClean et al, Shawcross and Beaumont on Air Law, (Lexis Nexis, 2020), Division VII, Chapter 34 for a review of the recent case law on all these issues.*

²⁴ Recital No. 4 to the MC.

are progressively more occupied with questions of what constitutes carriage by air as defined in Art 18(3) of the MC, and how to resolve disputes under Art 18(4) of the MC in which the location of loss, damage, destruction or delay may not be ascertained. In cases in which applicability of competing unimodal conventions must be determined, judgments do not necessarily reflect an unequivocal, universally applied test supported by adequate judicial reasoning.

The shift in judicial focus from unimodal to multimodal analysis has not arrived suddenly. It reflects a parallel transition within the air cargo industry from a unimodal to a multimodal paradigm. The result of industry evolution and associated judicial focus has brought to the forefront of litigated actions the realization that aviation conventions may not be deemed applicable in the event of loss, damage, destruction or delay in the carriage of cargo under an air waybill when performance of the contract of carriage by modes of transport other than or in addition to air carriage are involved.

2.2 Air cargo and its Relationship with Non-aviation Legal Instruments

As a general observation, international carriage of cargo may, of course, be by air, sea, rail, or road, or any modal combination with each mode having its own potentially applicable international convention.²⁵ Since carriage of cargo under an air waybill may incorporate or substitute modes of transport additional to air carriage, the first step in resolution of a claim in those circumstances is to ascertain the applicable law.

Air and road carriage modalities have, over time, become intrinsically linked and engrained components of air cargo logistics, operations, and contracts of carriage.²⁶ For purposes of this discussion, therefore, analysis will focus on the issues arising out of international carriage of cargo by air and road. In the case of combined air and road carriage, applicable law may include the Warsaw Convention regime and the MC,²⁷ the Convention on the Contract for the International Carriage of Goods by Road (CMR),²⁸ laws incorporated into and applicable to the contractual documents of carriage and the law of the of the State in which an action is brought.

²⁵ In the international carriage of goods by sea three international conventions are potentially applicable, namely, the International Convention for the Unification of Certain Rules of Law relating to Bills of Lading, Signed at Brussels on 25 August 1924 (the Hague Rules), the Protocol to Amend the International Convention for the Unification of Certain Rules of Law relating to Bills of Lading Signed at Brussels on 25 August 1924, Done at Brussels on 23 February 1968 (the Hague-Visby Rules) and the United Nations Convention on the Carriage of Goods by Sea, Signed at Hamburg on 31 March 1978 (the Hamburg Rules) In the international carriage of goods by rail one international convention is potentially applicable, namely the Uniform Rules Concerning the Contract of International Carriage of Goods by Rail (CIM) which is set out in Appendix B to The Convention concerning International Carriage by Rail (COTIF) as amended. *See, infra* no 28 for the international carriage of goods by road.

²⁶ This relationship was strengthened during the 1970s oil crises when air routes were downsized and European carriers developed networks of road services to replace flights – *see, infra* section 3.2.

²⁷ *See, supra* no. 8.

²⁸ Convention on the Contract for the International Carriage of Goods by Road, signed at Geneva on 19 May 1956.

By way of brief review,²⁹ CMR, ratified by 56 States predominantly in Europe, is an international treaty governing international carriage of goods by road.³⁰ Its goal is to standardise the conditions of contract of international carriage by road, namely the consignment note, and the liability of road carriers.³¹ CMR governs “every contract for the carriage of goods by road in vehicles for reward” provided the “taking over of the goods and the place designated for delivery, as specified in the contract, are situated in two different countries, of which at least one is a contracting country”.³² Under CMR, the road carrier is *prima facie* liable for any loss of or damage to goods which occurs between the moment of the take-over of the goods and that of their delivery, as well as for any delay in their delivery.³³ The road carrier enjoys two set of defences. From a pandemic point of view, the defences in Article 17(2) are the most important as they include circumstances that the road carrier was unable to prevent, as well as inherent vice of the goods, and contributory negligence or negligent instructions of the claimant.³⁴ The limit of liability for the road carrier is SDR 8.33 per kg,³⁵ but if the claimant can prove, similar to WC29, that the damage was caused by the wilful misconduct of the road carrier, its servants or agents, liability is unlimited.³⁶ The

²⁹ See, Malcolm Clarke, *International Carriage of Goods by Road: CMR*, Sixth Edition, (Informa Law from Routledge, 2014); and Andrew Messent and David Glass, *CMR: Contracts for the International Carriage Of Goods by Road*, Fourth Edition, (Informa Law from Routledge, 2017) for comprehensive consideration of CMR.

³⁰ Two Protocols have amended the original CMR in 1978 and 2008 dealing with SDRs and electronic consignment notes respectively.

³¹ See, CMR, *supra* no. 28, Preamble.

³² *Ibid*, Art. 1.

³³ *Ibid*, Arts 17 and 19.

³⁴ *Ibid.*, Art. 17(2):

“The carrier shall, however, be relieved of liability if the loss, damage or delay was caused by the wrongful act or neglect of the claimant, by the instructions of the claimant given otherwise than as the result of a wrongful act or neglect on the part of the carrier, by inherent vice of the goods or through circumstances which the carrier could not avoid and the consequences of which he was unable to prevent”.

Article 17(4):

“the carrier shall be relieved of liability when the loss or damage arises from the special risks inherent in one more of the following circumstances:

- (a) Use of open unsheeted vehicles, when their use has been expressly agreed and specified in the consignment note;
- (b) The lack of, or defective condition of packing in the case of goods which, by their nature, are liable to wastage or to be damaged when not packed or when not properly packed;
- (c) Handling, loading, stowage or unloading of the goods by the sender, the consignee or person acting on behalf of the sender or the consignee;
- (d) The nature of certain kinds of goods which particularly exposes them to total or partial loss or to damage, especially through breakage, rust, decay, desiccation, leakage, normal wastage, or the action of moth or vermin;
- (e) Insufficiency or inadequacy of marks or numbers on the pack;
- (f) The carriage of livestock.”

³⁵ *Ibid*, Art. 23(3) (as amended by the 1978 Protocol). In contrast to the MC which provides for SDR 22 per kg (as of 28 December 2019).

³⁶ *Ibid*, Art. 29.

Convention provides for a 1-year limitation period unless wilful misconduct is alleged in which case a 3-year limitation period applies.³⁷

European judicial authorities are divided over whether the CMR applies to a multimodal contract of carriage of goods. It is often the case, especially in Europe, that an air waybill records both air and road sectors of the international transport of goods or that an airline substitutes a road sector for an air sector. English courts have held that the CMR is applicable to such road sectors, since the road carrier takes over the goods at the airport of landing.³⁸ English courts reason that carriage incorporating air and road consists of two independent segments each governed by their respective international conventions. In contrast, German and Dutch courts, among others, have held that CMR is not designed for multimodal transport contracts and is not applicable to the road sectors subject of those cases.³⁹ That analysis does not apply to the MC which is deemed applicable to the air segment since the MC contains multimodal provisions, namely Articles 18 and 38.⁴⁰ Both Germany and The Netherlands rely on domestic laws which specifically address multimodal transport contracts and which fill gaps in the CMR.

As mentioned, the modal convention most relevant to the Warsaw Convention regime and the MC is the CMR, yet neither regime adequately addresses the practical, logistical relationship between air and road carriage. Neither is air cargo coordinated with other international modal regimes. To complicate matters, a United Nations effort in 1980 to coordinate the law applicable to multimodal carriage of cargo failed, and it is unlikely that the United Nations (UN) Convention on International Multimodal Transport of Goods (UNCIMTG),⁴¹ which will be discussed below in section 6.1, will ever enter into force in its current form. Thus, coordination of legal issues at the level of international modal regime remains a critical need.

3 The Changing Role and Infrastructure of Air Cargo in the Global Cargo Industry and Multimodal supply chain

3.1 Air Cargo: Unimodal or Multimodal?

Two factors in particular have influenced the evolution of air cargo's role in the global supply chain and merit particular consideration. First has been the integration of alternative, competitive modes of cargo transport into the air cargo logistical model. Second has been the continually changing roles in which modal and logistical supply chain participants have acted. Those roles have significantly affected commercial and economic relationships throughout the chain. The continually changing dynamics in supply chain relationships influence the manner in which contracts of carriage are effected, choice of mode for all or part of the carriage, time and geography of carriage, price, and, hence, the essential economics of cargo transport.

³⁷ *Ibid*, Art. 32.1. In contrast to the Warsaw Convention regime and the MC which provide for a 2-year limitation period.

³⁸ *Quantum Corp. Ltd. v. Plane Trucking Ltd*, [2002] 2 Lloyd's Rep. 25.

³⁹ *See*, BGH 17.7.2008, I ZR 181/05, TranspR 2008 (Germany); and Hoge Raad 1.6.2012, SS 2012, No 95 (Netherlands).

⁴⁰ BGH 22.7.2010 (I ZR 194/08), TranspR 2011, 80.

⁴¹ The United Nations (UN) Convention on International Multimodal Transport of Goods of 24 May 1980 (UNCIMTG).

To illustrate, returning to the first cargo flight, Mr Morehouse, owner of the Columbus department store and actual client of the Wright Company, specifically chose air as the contractual mode of carriage with no substitution. The price of the carriage was negotiated directly between Morehouse and the Wright Company with no middleperson. The Wright Company performed the carriage without substitution of carrier or mode of carriage. What is not clear from historical sources is the identity or role of parties arranging and responsible for the land transportation prior to and after the air carriage.⁴²

In order to determine the true nature of the Mr Parmalee's flight,⁴³ inquiry would be necessary to determine whether the road and air carriage sectors were part and parcel of one contract from the warehouse in Dayton to the department store in Columbus or a series of separate contracts to be independently performed. If the Wright Company's carriage was limited to receiving the cargo at Dayton airport and tendering it to Mr Morehouse at the point of landing, the air carriage could only properly be considered to be unimodal. But if the Wright Company's carriage commenced with procurement of the cargo at the wholesaler's warehouse in Dayton and included road carriage, further inquiry would be required to determine whether the carriage could be considered as multimodal, *inter alia*, whether the parties responsible for the road carriage were independent transporters, or agents of their principals - either Mr Morehouse, the buyer who contracted for the transport, the cargo wholesaler who may have been responsible for delivering the cargo to the Dayton airport in preparation for the air carriage or, the Wright Company which may have agreed to obtain the cargo from the wholesaler at its warehouse as part of its contract with Mr Morehouse.

So, even the first commercial air cargo flight raises fundamental questions of modality, the characterisation of carriage, and the roles and relationships of participants in the chain. It would seem that the critical economic, commercial, logistical, and legal issues faced by the contemporary air cargo industry are, in their essence, no different than those issues presented 110 years ago.

3.2 Structural, Relational and Modal Shift in the Global Cargo Industry⁴⁴

The International Air Traffic Association was formed in 1919. It was subsequently renamed as the International Air Transport Association (IATA) in 1945.⁴⁵ Under its auspices, between 1919 and 1945, considerable air cargo infrastructure and relationship development occurred. In 1927, all members of IATA adopted the International Despatch Note, precursor to the contemporary air

⁴² See, Ohio History Collection, "Ohio Aviation Firsts: First Air Cargo Shipment", 10 August 2015, <https://www.ohiohistory.org/learn/collections/history/history-blog/2015/august-2015/first-air-cargo-shipment> for the most complete account of the circumstances under which the cargo was procured in Dayton in advance of air carriage and delivered from the aircraft in Columbus for road carriage to the department store in Columbus.

⁴³ For the legal definition of multimodal transport *see* section 6.1.

⁴⁴ There is no more comprehensive authority on the evolution of air cargo, than Camille Allaz's *History of Air Cargo and Airmail From the 18th Century*, *supra* no.3, which chronicles structural, economic, and modal development from the first cargo flight through the beginning of the 21st century. Allaz devotes particular attention to the manner in which infrastructure was established and supply chain participants emerged and jockeyed for competitive advantage. For illustrative purposes, we include relevant history as presented by Allaz.

⁴⁵ See, IATA, "The Founding of IATA", <https://www.iata.org/en/about/history/>.

waybill, as a uniform document of carriage. Also in 1927, a further significant step was taken towards multimodal carriage with establishment of the first sea-air combined shipping links using mail as cargo.⁴⁶ As early as 1929, the European air cargo industry focused on the challenges of cargo distribution networks and began to establish the symbiotic, entwined relationships between modal and logistical participants in the international air cargo supply chain.⁴⁷ Instructions for the transport of cargo by aircraft, precursor to contemporary air carrier General Conditions of Carriage for Cargo, were introduced in the same year.⁴⁸ By 1938, problems and constraints in air cargo transport were already appearing. Intra-European air cargo traffic experienced limited capacity, high rates, density of surface transport, and economically challenging short transit distances.⁴⁹ Despite these problems, European cargo development continued apace.⁵⁰

The United States air cargo industry developed more slowly than in Europe. Although routine air cargo services were available in 1927, it was not until the 1940s that the large American airlines focused commercial resources on air cargo and in 1950, the aviation industry “*entered definitively into the age of airfreight, the Air Cargo Age*”.⁵¹ During these developmental years the US air cargo industry occupied itself with fundamental issues, namely growth expectations, the relationship between charter and scheduled services, economic management of traffic flow, relationships with airports, customs authorities, and sister airlines, and profitability of air cargo independent of passenger operations.⁵² Similar issues affected European air cargo operations and, ironically, the same issues continue to dominate today’s air cargo industry.

With the establishment of IATA’s Worldwide Distribution System in 1945,⁵³ a system of cargo agency was created formally recognizing the inclusion of cargo agents, a longstanding group of cargo supply chain participants, who interceded between airlines and shippers of cargo as part of the sales function. It was not until 1947 with IATA’s Sales Agency Resolution and Standard IATA Cargo Agency Agreement, that “*the roles of registered cargo agents and general sales agents were codified and standardized for all IATA members including the benefit of a 5% commission on sales*”.⁵⁴

The IATA Cargo Agency Agreement recognised only individual consignments.⁵⁵ But the economics of air cargo had already quickly given rise to the practice of consolidation and, with it, another category of supply chain participant: the consolidator or freight forwarder. IATA defined this new role in 1953 as “... *one who assembles or provides for assembly in single consignments*

⁴⁶ Allaz, *supra* no. 3, at 116.

⁴⁷ See, for example, the instructions of L’Union Suisse pour le transport Aerien provided in Allaz, *supra* no. 3, at 128.

⁴⁸ Les Instructions Pour le Transport des Marchandises par Avion published by L’Union Suisse pour le Transport Aerien marketed air cargo for its “speed, safety...simplicity, rate flexibility, and a first class quality of service”. The General Conditions of Carriage for Cargo are based on IATA’s Recommended Practice 1601 (RP 1601).

⁴⁹ *Ibid.*, at 131.

⁵⁰ *Ibid.*

⁵¹ *Ibid.*, at 131, 135 and 186-188.

⁵² *Ibid.*, at 186-188.

⁵³ *Ibid.*, at 204.

⁵⁴ *Ibid.*

⁵⁵ *Ibid.*, at 205.

*goods delivered to him by the general public; ... assumes responsibility to the general public for the transport of such goods from the point of receipt by him or his agent to point of delivery by him or his agent; and... quotes for this service his own rates which may be different from the rates fixed by the carrier.”*⁵⁶ The emergence of forwarders in the 1950s raised a series of issues which affected the core economics of air cargo, including whether or not to regulate the relation between forwarders and air carriers, whether commissions should be paid to forwarders who already benefitted from selling their services to shippers at rates in excess of the price paid to air carriers for carriage of the consolidation, whether forwarders should be prevented from charging rates to their customers that were lower than the published rates of air carriers⁵⁷ and, of signal importance, whether freight forwarders could act in a concomitant *personae* as registered agents. Seventy years later, this question remains at the structural, economic, and legal forefront of the air cargo paradigm with no resolution on the horizon.⁵⁸

Concurrent with establishment of the various participants and roles in the supply chain, air cargo modal development also flourished. The advent of the container revolution between 1956-58, including introduction of unit load devices, was a significant step forward in logistical efficiency.⁵⁹ It also facilitated expansion, between 1960 and 1980, of road carriage in Europe principally for “*pre- or post-shipment of transit traffic between one airport and another*”.⁶⁰ By 1970, road carriage increasingly replaced air carriage within Europe and, in 1973, IATA liberalised its regulations governing use of road carriage in conjunction with air carriage by formally allowing substitution of road carriage within the European zone.⁶¹

In the United States, although UPS had been carrying cargo by air since at least 1953,⁶² it underwent considerable global expansion in the 1970s which also saw the establishment of DHL⁶³ and Federal Express,⁶⁴ global express package and cargo air enterprises, in new roles as integrators. They “*...shook to the core the traditional division of competencies between... client, ... freight forwarder, and... airline. They provided the client with a complete range of services from his door to that of the recipient, integrating into a single offer services which had been hitherto divided between the freight forwarders and the airlines*”.⁶⁵ As competition between airlines, integrators, and freight forwarders increased during the 1970s, traditional roles were continually challenged and “*the traditional scheme of things in which customers produced, freight forwarders processed ... and airlines transported goods were confronted with change from all*

⁵⁶ *Ibid.*

⁵⁷ *Ibid.*,

⁵⁸ Despite early enthusiasm for and efforts between FIATA and IATA to distinguish and clarify the role of freight forwarders in their contractual relationships with airlines, progress has been difficult with the IATA-FIATA Air Cargo Program currently on hold. See, “IATA-FIATA Air Cargo Programme”, <https://www.iata.org/en/programs/cargo/iata-fiata-air-cargo-program/>

⁵⁹ Allaz, *supra* no. 3, at 219.

⁶⁰ *Ibid.*, at 260.

⁶¹ *Ibid.*, at 260-261.

⁶² See, UPS, “History Timeline”, <https://www.pressroom.ups.com/pressroom/about/HistoryStackList.page>

⁶³ See, James Scurlock, “Larry Hillblom and DHL’s sordid point of origin”, 14 December 2015, <https://www.maxim.com/maxim-man/larry-hillblom-and-dhls-sordid-point-origin>

⁶⁴ See, FedEx, “History”, <http://www.fedex.com/sc/about/company-info/history.html>.

⁶⁵ Allaz, *supra* no. 3, at 246.

sides: the airlines bought freight forwarders, while the freight agents got involved in running cargo airlines on their own account".⁶⁶ Moving forward in time by 30 to 50 years, it is not difficult to imagine the magnified effect that contemporary market entrants such as Amazon, as discussed above, have had on the global cargo industry and supply chain.⁶⁷

As the air cargo industry continued to expand, mature, and explore new markets, modalities, and logistics, it is not surprising that tension would develop between its various supply chain participants. In 1970, the International Federation of Freight Forwarders Associations (FIATA), secured recognition by IATA as the "*sole representative of...freight forwarders worldwide*".⁶⁸ A similar representation for shippers of air cargo was recognized in the International Chamber of Commerce (ICC).⁶⁹ At the conclusion of an ICC air freight conference in 1976, the ICC Commission on Air Transport "*emphasized the need for a dialogue between shippers, airlines and freight agents,*" while lamenting that although "*some progress has been noted in the establishment of a dialogue...the progress has not been significant.*"⁷⁰

The evolution of multimodal carriage of air cargo has, of course, been fully global and not simply confined to Europe or the United States. Crisis has certainly played a role. For example, sparked by the oil crises in the 1970s, multimodal carriage of cargo expanded throughout the Middle East as marine transport shrunk and air-rail and air-road carriage increased⁷¹ with reliance on air-rail continuing today.⁷² As near and far Asian economic growth has progressed, and with increased reliance on aircraft for long haul traffic, the air-sea modal combination of cargo logistic has also increased.⁷³ With the growth and adoption of new technology, it is not surprising that complete modal shift may occur as seen, for example, with the fast growth of and demand for the Silk Road rail link between China and Europe in the face of diminished air and sea capacity resulting from the current pandemic.⁷⁴

⁶⁶ *Ibid.*, at 245.

⁶⁷ See, Alex Lennan, "Amazon Air boosted by 12 more aircraft and new regional air freight hubs", 4 June 2020, <https://theloadstar.com/amazon-air-boosted-by-12-more-aircraft-and-new-regional-air-freight-hubs/>

⁶⁸ Allaz, *supra* no. 3, at 284; See, FIATA, "Who is FIATA", <https://fiata.com/about-fiata.html>.

⁶⁹ Allaz, *ibid.*

⁷⁰ *Ibid.*, at 285.

⁷¹ *Ibid.*, at 306.

⁷² See, Alex Lennane, "Direct China-Europe rail service looking attractive to air shippers in a queue", 20 March 2020, https://theloadstar.com/direct-china-europe-rail-service-looking-attractive-to-air-shippers-in-a-queue/?utm_source=The+Loadstar+daily+email&utm_campaign=9127a15d8c-EMAIL_CAMPAIGN_2020_04_25_03_13&utm_medium=email&utm_term=0_c4570e43d4-9127a15d8c-125882609

⁷³ See, Alex Lennane, "Sea-air services make a comeback, but volatility and uncertainty lurk", 19 May 2020, <https://theloadstar.com/sea-air-services-make-a-comeback-but-volatility-and-uncertainty-lurk/>

⁷⁴ See, Sam Whelan, "Maersk opts for rail freight to compensate for India's 'lost' truck capacity", 4 June 2020, <https://theloadstar.com/maersk-opts-for-rail-freight-to-compensate-for-indias-lost-truck-capacity/> and Alex Lennane, "Rail services between China and Europe building a new head of steam", 5 June 2020, <https://theloadstar.com/rail-services-between-china-and-europe-building-a-new-head-of-steam/>

Against this background, it is no surprise that the UNCIMTG was drafted as and when it was.⁷⁵ Accepting as a political and commercial reality that its failure was due, in large part, to the diverse and highly competitive interests that its modal and supply chain participants sought to secure and protect in the 1980s, the past 40 years have seen considerable evolution, growth, maturity, and refinement in the global supply chain and in the capabilities of its participants. The aviation, rail, marine, and road industries all provide safer, more capable, transport vehicles. Advances in technology allow for refinement in virtually all aspects of infrastructure and transport, including, for example, temperature management, RFID, and global positioning systems which all serve to improve precision in carriage, communications, and the on-board environment of any mode of carriage.

Apart from internal sector motivators such as efficiency, production economics, technology, and market penetration, it is arguable that much modal change over the past 40 years has also been the result of and in response to external forces exemplified by heightened consumerism and end user influence on the cargo industry. It is of more than passing interest that, in today's contemporary supply chain, shipping modality may not even be clear or ascertainable to consignors, consignees or consumers. Supply chain participants, such as Amazon, ordinarily do not advertise or even publish to consumers the range of specific transport modes employed to fulfil purchaser orders.

In summary, there is no question that the air cargo industry has experienced substantial, foundational, change in recent years. Major contributing factors include, but are certainly not limited to:

1. **rapidly shifting consumer behaviour** and willingness to purchase electronically from an expanded range of products and suppliers, a shift from in-person, "brick and mortar" retail to home delivery, and demand for immediate delivery;
2. **the emergence and maturity of supply chain participants** which occupy the entire supply chain and operate as producer, sourcer, seller, and transporter of goods, while encouraging and engineering shifts in consumer behaviour;
3. **increasing competition between extant modes of carriage and new market entrants**, including for non-traditional carriage sectors such as first and last mile; and continually developing technologies and efficiencies which allow for an expanding range of cargo to be carried by air.

Although the relational structure of the air cargo industry may still exist and operate fundamentally in the century old roles of air carriers, agents, forwarders, consolidators, and integrators, each of those roles have also matured and evolved even as competitiveness between them has increased. Those competitive interests do not diminish the reality that consumer demand on today's global multimodal cargo supply chain could benefit significantly from unification and coordination of the relational, commercial, operational, and logistical issues faced by each mode of carriage, as well

⁷⁵ UNCIMTG, *supra* no. 41.

as the legal issues addressed and contained in extant individual unimodal conventions, most of which predate the UNCIMTG by a considerable time.⁷⁶

3.3 Complexity in Air Cargo Relationships

As discussed above, evolutionary changes in roles and responsibilities of supply chain participants have posed significant challenges to air cargo and its multimodal relationships. The airline-freight forwarder relationship provides an important example and, indeed, is the subject of considerable contemporary debate between these two core supply chain participants.⁷⁷

The cargo liability scheme of WC29 and HP was predicated upon a simple logistical paradigm in which the consignor contracted directly with the airline which assumed responsibility and associated liability for carriage. The traditional role of the forwarder was one of agent. That paradigm has changed with forwarders increasingly acting as principals. Indeed, in their contemporary *personae*, forwarders may act as agents, principals, or both in any contract of carriage with increasingly complex issues of responsibility and liability, especially when they assume the role of carrier for any sector. These roles are briefly described as follows:

1. **As Agent:** In its most traditional role, the forwarder acts as agent for airline, consignor, or both, by issuing an airline's master air waybill to establish a contract of carriage directly between the shipper and the airline. In this agency capacity, the forwarder acts as the Issuing Carrier's Agent for purposes of executing the air waybill in exchange for a commission from the air carrier. Concurrently, the forwarder may or may not act as the shipper's agent for purposes of concluding the same contract of carriage, and for a charge to the shipper. If the forwarder does not act as the shipper's agent, either the shipper will engage its own agent to conclude the contract of carriage, or the shipper will conclude the contract directly with the airline's agent.
2. **As Principal:** In its role as principal, the forwarder may issue its own house air waybill to the shipper and that contract of carriage would be directly between the shipper and the freight forwarder in exchange for freight charges paid to the forwarder by the shipper. In this iteration, the forwarder may take responsibility for the full carriage, including the air carriage, or may specify additional carriers in the appropriate boxes on the house air waybill. Alternatively, a forwarder may independently contract directly with an airline via that airline's air waybill in which case the forwarder also acts as shipper/principal.
3. **As Agent and Principal:** Assuming that the forwarder will not actually perform the air carriage sector set out on a house air waybill, the forwarder will issue and execute a separate master air waybill directly with the airline that will actually perform the air carriage. In this iteration, the forwarder will be acting both as principal *vis à vis* his contracted carriage under the house air waybill (in exchange for receipt of freight charges from the shipper) and *vis à vis* the air carrier under the master air waybill (in exchange for

⁷⁶ See, Zoe McLernon, "Intermodal the key to boosting efficiency and reliability and going greener", 10 June 2020, <https://theloadstar.com/intermodal-the-key-to-boosting-efficiency-and-reliability-and-going-greener/>

⁷⁷ See, *infra* no 58.

payment of freight charges to the carrier as shipper). Concurrently, it will be acting as the air carrier's agent for purposes of concluding the master air waybill. If the full carriage under the house air waybill is airport to airport, both house and master air waybills will likely be identical in details of carriage. If, however, the full carriage under the house air waybill extends beyond the master air waybill's sector(s) of carriage, the house air waybill will reflect that additional carriage.

When both house and master air waybills are used as part of the same carriage of cargo, the house air waybill shipper is likely to pursue the freight forwarder for compensation for the loss, damage, destruction, or delay of the cargo. The freight forwarder, in turn, may or may not look to the airline under its master air waybill for indemnification, a decision that often depends on whether any preferential carriage rates that the forwarder has negotiated with the airline will be affected as a result of the action.

However, the house air waybill shipper may not be precluded from a claim directly against the air carrier and this raises the issue of who can bring a claim against the carrier: the freight forwarder that is named in the master air waybill as consignee, or the "real party in interest" that is the consignee under the house air waybill? This question has become a contentious point due to conflicting legal philosophies as succinctly described by Shawcross:

*"At common law... the proper plaintiff is the owner of the goods or the person who is entitled to an immediate right of possession of the goods; his right to sue depends upon his interest in the goods. In civil law countries, only a party to a contract of carriage (or a principal for whom such a party was acting) is regarded as an appropriate plaintiff"*⁷⁸

The result is that such structure has the potential to bring the freight forwarder into the ambit of the MC as a contracting carrier of the air carriage sector under Articles 39-48 MC.⁷⁹

Interestingly, under the roles described above the CMR consignment note is replaced by the air waybill which has increasingly become a multimodal contract of carriage by trade usage rather than by design. The CMR permits such arrangement as it provides that "the absence of the consignment note shall not affect the validity of the contract of carriage" which remains subject to CMR, including its limitation of liability.⁸⁰

The increasing preference of cargo interests to deal with a single party favours expanded roles for freight forwarders and includes the expectation that, *vis à vis* their shipper clients, they will bear primary responsibility for events which occur at any stage during the entire multimodal carriage. It is then part of their role to evaluate the possibility of recovery by means of indemnity actions against any participant in the chain of carriage.

⁷⁸ See, Shawcross, *supra* no. 23, at [967]. *Western Digital Corp v. British Airways plc* [2001] QB 733, [2001] 1 All ER 109 is the leading English case.

⁷⁹ See, *Re West Caribbean Airways SA* 32 Avi 15,595 (SD Fla, 2007).

⁸⁰ CMR, *supra* no. 28, Art. 4.

Whether as a function of natural modal development, or as a competitive response to changing forwarder roles and emerging last mile delivery services, airlines have increasingly expanded their own scope of transport by providing warehouse-to-warehouse or first and last mile delivery services via their own service partners, especially road carriers that qualify as agents of the airline for purposes of the MC. This structure allows increasing flexibility to substitute road for air sectors. The standard air waybill permits such substitutions by virtue of the notice appearing on the face of the air waybill and clause 9 on the reverse of the air waybill.⁸¹ In support of this proposition it is submitted that a shipper or freight forwarder executing a master or house air waybill based on IATA CSC Resolution 600b would be deemed to have notice of the provisions of the face of the air waybill, as well as the air carrier's General Conditions of Carriage by virtue of its familiarity with applicable law and commercial practice.⁸² IATA and airlines also incorporate the concept of first and last mile into their General Conditions of Carriage for Cargo which contain express provision for pickup and delivery services that would otherwise fall outside the scope of carriage by air, although judicial decisions do not uniformly give the intended effect to such provisions.⁸³

With the progressive and complex changes in the roles of contemporary supply chain participants, and with similar evolution in the logistics, commercial, and operational aspects of today's global supply chain, it becomes increasingly difficult to consider or even discuss air cargo and its related liability issues in the context of air carriage alone. As noted above, the reality is that carriage of air cargo under an air waybill issued by an airline or its agent may cover thousands of kilometres, whether from door to door or from airport to airport, without being carried by air at all.

4. The Challenge of Crisis as Catalyst for Change

The global air cargo industry is no stranger to crisis. Indeed, since its first flight, regional and global crises, whether resulting from war, economic, health, humanitarian, meteorological, or geological events, have manifested routinely throughout the world. Certainly, global crises are no longer aberrations, rather they may be accepted as a norm with the challenge being to identify the potential for onset and respond in a manner that minimizes their deleterious effects.

A mere four years following the first cargo flight, World War I intervened in the development of the air cargo industry and left humanitarian crisis in its wake. Yet, in so doing, it also provided the opportunity for the first air cargo humanitarian effort in which British aircraft flew from Folkestone, England to Ghent, Belgium to provide food, bedding and medicine to those in need.⁸⁴ The Royal Air Force conducted airlifts from England to Holland as World War II ended,⁸⁵ and the Berlin airlift, with its logistical complexities and global participation, remains, from a logistical

⁸¹ The notice provides in capital letters that “[a]ll goods may be carried by any other means including road or any other carrier unless specific contrary instructions are given hereon by the shipper”. Cl 9 provides that “[w]here permitted by applicable laws, tariffs and government regulations, Carrier may use alternative carriers, aircraft or modes of transport without notice but with due regard to the interests of the shipper”.

⁸² In the case of a non-commercial entity executing an air waybill, questions may arise as to the state of knowledge of the consignor. For a relevant case, *see, Durunna v. Air Canada* (2013) ABPC 31.

⁸³ *See, RP 1601 supra* no 48, Art 9; *See, infra* section 5.2 for judicial decisions in the USA which deviate from this intended meaning.

⁸⁴ Dawna Rhoades, *Evolution of International Aviation* (Phoenix Rising, 2008), at 29.

⁸⁵ Allaz, *supra* no. 3, at 166.

perspective, one of the most difficult political and humanitarian crises to which air cargo has responded. Geological crisis triggered the first long haul, transoceanic freight charter for humanitarian purposes as Deutsche Lufthansa carried medical supplies from Warnemunde, Germany to Santiago de Chile for earthquake relief in 1939.⁸⁶ Meteorological crisis spurred the RAF to conduct humanitarian airlifts to Aden for draught relief in 1944.

Economic crises have had as much global impact as crises of war, geology, meteorology and health. The Great Depression, in 1929, caused profound global economic damage. The abandonment of the US dollar to gold conversion in 1971, followed, ultimately, by the decision to allow fully floating currency exchange rates, led to global economic instability, particularly in the air cargo industry.⁸⁷ The accompanying increase in the price of oil between 1973 and 1980, added increased global economic instability, curtailing a period of rapid expansion in aircraft and associated cargo capacity. In the United States, for example, both United Airlines and American Airlines ceased cargo operations in 1984.⁸⁸ In Europe, the ultimate effect of the oil crisis in combination with already difficult operating conditions for short to medium distance intra-European cargo flights, was to accelerate the growth of road carriage throughout Europe as airlines withdrew from intra-European sectors.⁸⁹

It is difficult to avoid the reality that the current pandemic has produced a convergence of health, humanitarian, commercial, and economic events which expose the spectrum of weakness in the global cargo industry.⁹⁰ The global economic interconnectivity, exemplified by the prevalence and ease of virtually unrestricted, accessible international air travel that fostered or at least contributed to the current pandemic, also serves as a crucial strength. The speed and intensity of global commitment and effort, both within and outside the aviation community, including the availability of instantaneous digital communications, facilitates political, social, technological, and medical efforts to address and recover from the current crisis, providing one of the most advantageous moments in time to progress.

The air cargo industry has risen to the challenge in record time. Perhaps the most poignant example has been the speed and efficiency with which airlines have converted passenger aircraft to cargo aircraft by removal of passenger seats, and the equally expeditious efforts to secure regulatory approval to accommodate cargo in passenger cabins without removal of seats.⁹¹ Other modes of

⁸⁶ *Ibid.*, at 126.

⁸⁷ *Ibid.*, at 242.

⁸⁸ *Ibid.*, at 259.

⁸⁹ *Ibid.*, at 260. It must be acknowledged that the economic and logistical changes in the air and on the ground in Europe resulted in a more integrated and sustainable air-road cargo operation.

⁹⁰ See, Gavin van Marle, “[Pandemic exposes logistics weaknesses 'and the need for parallel supply chains'](https://theloadstar.com/pandemic-exposes-logistics-weaknesses-and-the-need-for-parallel-supply-chains/)”, 24 April 2020, https://theloadstar.com/pandemic-exposes-logistics-weaknesses-and-the-need-for-parallel-supply-chains/?utm_source=The+Loadstar+daily+email&utm_campaign=4c217a4279-EMAIL_CAMPAIGN_2020_04_24_11_48&utm_medium=email&utm_term=0_c4570e43d4-4c217a4279-125882609

⁹¹ See, Ian Putzger, “Covid-19 impact on airlines sees interest in freighter conversion take off”, 30 April 2020, https://theloadstar.com/covid-19-impact-on-airlines-sees-interest-in-freighter-conversion-take-off/?utm_source=The+Loadstar+daily+email&utm_campaign=ac35f08648-

cargo transport have followed the airline industry's lead in converting passenger cabin space for use with cargo.⁹²

The negative economic effect of the pandemic is chronicled by a plethora of statistics which pervade all sources of industry news and include those related to significant decreases in cargo volumes, downturns in global manufacturing, disruption in supply chains, company closings, and border restrictions. These factors all contribute to reduction and delay in carriage of cargo.⁹³ Despite current capacity issues and decrease in revenue and profit, there are already signs of economic rebound in air cargo traffic.⁹⁴ It is possible, if not probable, that the air cargo sector will recover at a faster pace than passenger traffic. Accepting that the recovery will take time, there is no reason to think that the air cargo industry will not ultimately emerge in a stronger, more flexible iteration.

Fortuitously, the pandemic has, again, focused the world's attention on the critical role and need for air cargo in a time of crisis. Industry organisations including IATA, the International Air Cargo Association (TIACA), FIATA and the Airport Council International (ACI), have all turned their attention to the immediate needs of the air cargo industry in order to ensure continuity of operations.

IATA has historically devoted extensive resources to the development and coordination of air cargo with particular emphasis on supply chain improvement, quality management, cargo handling and operations, digitalisation, safety and security, and carriage of special cargo including perishables, live animals, and pharmaceuticals. Since the outbreak of the pandemic IATA has redoubled its efforts with additional outreach to the industry and with guidance in a number of operations-critical areas, especially including carriage of medical equipment, supplies, pharmaceuticals and perishables. It has advocated actively on behalf of the air cargo sector and has devoted considerable resources to assuring that air cargo supply chain participants have access to real time critical information, education, operational and economic advice.⁹⁵

EMAIL_CAMPAIGN_2020_04_30_11_29&utm_medium=email&utm_term=0_c4570e43d4-ac35f08648-125882609.

⁹² See, Gavin van Marle. "GB Railfreight converts passenger train to carry essential medical cargo", 27 April 2020, https://theloadstar.com/gb-railfreight-converts-passenger-train-to-carry-essential-medical-cargo/?utm_source=The+Loadstar+daily+email&utm_campaign=d35321e28d-EMAIL_CAMPAIGN_2020_04_27_11_29&utm_medium=email&utm_term=0_c4570e43d4-d35321e28d-125882609

⁹³ See, IATA, "Air Cargo Market Analysis", March 2020, <https://www.iata.org/en/iata-repository/publications/economic-reports/air-cargo-market-analysis---march-2020/> and the latest report of June 2020 <https://www.iata.org/en/iata-repository/publications/economic-reports/air-freight-monthly-analysis-june-202022/>

⁹⁴ See, Alex Lennane, "Air Cargo Volumes Looking Less Bad, as the Market has Probably Bottomed", The Loadstar, 6 May 2020, <https://theloadstar.com/air-cargo-volumes-looking-less-bad-as-the-market-has-probably-bottomed/>.

⁹⁵ See, IATA Press Release No. 48, "Air Cargo Capacity Crunch: Demand Plummets but Capacity Disappears Even Faster", 1 June 2020, <https://www.iata.org/en/pressroom/pr/2020-06-02-01/>

ICAO has reiterated its previously published commitment to facilitating, protecting, and further developing air cargo as a key resource and essential service with guidance for its members to accommodate continued carriage of cargo during the pandemic.⁹⁶ It has actively promoted policies to continue flight operations, protect the health of air crew, via its Collaborative Arrangement for the Prevention and Management of Public Health.⁹⁷ The World Customs Organisation, working closely with the World Trade Organization has, similarly, acted quickly to confirm the critical need for Customs administrations to “... *help minimise the overall impact of the COVID-19 outbreak on... economies and societies. Customs administrations are strongly urged to... ensure the integrity and continued facilitation of the global supply chain*”.⁹⁸

From a national government perspective, by way of example only given the large number of global State actions and responses to the pandemic, the European Union issued its Communication focusing on facilitating air cargo operations during the COVID-19 outbreak.⁹⁹ It issued Regulation 2020/696 on common rules for the operation of air services in the Community in view of the COVID-19 Pandemic to assure flexibility in allowing continuation of operating licenses, to allow member states to impose traffic rights and restrictions for public health purposes, to extend benefits for ground handlers, avoid layoffs, and preserve jobs and workers’ rights, all retroactive for actions taken prior to implementation.¹⁰⁰ Progressing from general statements of support for the crucial role that air cargo plays in the global supply chain and associated regulation, to more detailed and specific mechanisms for ensuring continued operation of the supply chain, the European Union Aviation Safety Agency (EASA), for example, issued its guidance on carriage of cargo in passenger compartments.¹⁰¹

5 Legal Liability Issues as Catalyst for Change

In the modern multimodal supply chain, particularly with the interface of air and road carriage of cargo, claims for loss, damage or destruction of cargo are not solely a matter for the MC to determine. With heavy reliance on road carriage as a core aspect of the air cargo supply chain,

⁹⁶ See, ICAO, “Moving Air Cargo Globally. Air Cargo and Mail Secure Supply Chain and Facilitation Guidelines”, Second Edition, https://www.icao.int/Security/aircargo/Moving%20Air%20Cargo%20Globally/ICAO_WCO_Moving_Air_Cargo_en.pdf.

⁹⁷ See, ICAO Electronic Bulletin 2020/30, “Implementing a public health corridor to protect flight crew during the COVID-19 pandemic (Cargo Operations)”, 11 May 2020, <http://www.capsca.org/Documentation/CoronaVirus/eb030e.pdf>

⁹⁸ World Customs Organisation (WCO), COVID-19 – WCO Updates, <http://www.wcoomd.org/en/topics/facilitation/activities-and-programmes/natural-disaster/coronavirus.aspx>.

⁹⁹ See, Commission Air Cargo Guidelines, *supra* no. 6.

¹⁰⁰ See, Regulation (EU) 2020/696 of 25 May 2020 amending Regulation (EC) No 1008/2008 on common rules for the operation of air services in the Community in view of the COVID-19 pandemic, 27.5.2020, L165/1.

¹⁰¹ See, EASA, “Guidelines for the Transport of Cargo in Passenger Compartment – Exemptions Under Article 71(1) of Regulation 2018/1139 (The Basic Regulation)”, <https://www.easa.europa.eu/newsroom-and-events/news/guidelines-transport-cargo-passenger-aircraft>.

those claims often fall to be determined by the CMR or national law. Problematic areas in claims for loss, damage or destruction of cargo under the MC and the CMR merit discussion.

5.1 Is the Concepts of *Force Majeure* Applicable in the Context of Air Cargo Liability?

At the outset, when the pandemic has disrupted or resulted in an inability to complete performance of contractual obligations there is much discussion throughout the global cargo industry on the circumstances in which the concept of *force majeure* may be applicable. Government restrictions on aircraft movement is an example of obstacles to performing contracts of carriage of cargo in a timely manner or at all.

With regard specifically to the carriage of air cargo, it is doubtful that *force majeure* can be a significant issue. Contractual *force majeure* clauses may not supersede or amend the provisions of the MC in any jurisdiction in which it provides the sole and exclusive cause of action and remedy for the loss, damage, destruction or delay of cargo during international carriage by air.¹⁰² This principle has been progressively, although not universally, accepted by national courts.¹⁰³ As such, neither contractual provisions nor principles of domestic law less favourable than the provisions of the MC may supersede the convention.¹⁰⁴ The only available defences for loss, damage, destruction or delay of or to cargo are set out in Articles 18(2) and 19 MC. Neither article contains reference to the concept of *force majeure*, although Article 18(2)(d) does allow a defence similar in concept to *force majeure* for loss, damage, or destruction resulting from the “act of public authority in connection with the entry, exit, or transit of the cargo”. A governmental decision to suspend the import of non-essential cargo which leads to loss, damage, or destruction could fall into its ambit.

Article 19 MC provides more flexibility. The carrier may avoid liability if it proves that it “...took all measures that could reasonably be required to avoid the damage or that it was impossible for it or them to take such measures”. It has been held that this wording is broad enough to include *force majeure* events related not only to acts of governmental customs authorities, but also situations involving the inability to operate aircraft due to crews isolating, governmental restrictions in the movement of people, or airports reducing the number of flight movements.¹⁰⁵

IATA RP 1601 does not contain clauses on *force majeure* or termination/suspension of contracts because of unforeseen circumstances.¹⁰⁶ Reaching agreement on their wording would have been difficult and, as such, it is left to individual air carriers to determine whether they include such clauses in their General Conditions of Contract.¹⁰⁷ Such clauses are usually widely drafted to include the termination, change or postponement of flights or the further transportation of the cargo

¹⁰² MC, *supra* no. 8, Art. 29.

¹⁰³ See, for cases, *Shawcross*, *supra* no. 23, at 406-413.

¹⁰⁴ MC, *supra* no. 8, Art. 26.

¹⁰⁵ See, Elmar Giemulla et al, *Montreal Convention*, (Kluwer Law, 2008), at 19–41.

¹⁰⁶ See, *supra* no. 48.

¹⁰⁷ See, the example of the General Terms and Conditions of Carriage of Cargo of Lufthansa Cargo Aktiengesellschaft, January 2018, <https://lufthansa-cargo.com/documents/20184/30778/General+Terms+and+Conditions+of+Carriage+of+Cargo>, at cl. 6.3 and 12.3

due to events beyond the airline's control or events that could or may not have been anticipated. They would also identify a set of events that can qualify as *force majeure*, which may include acts of God, embargoes, acts of war and terrorism, quarantine, governmental actions, and labour shortages. Although pandemics *per se* have not usually been included in this list, it is possible that the inclusion of terms such as quarantine, embargo and governmental actions could fill this gap.¹⁰⁸ This is more likely when the *force majeure* clause contains a catch-all phrase, such as "any other cause beyond the airline's control". Concurrently, IATA CSC Resolution 600b, Conditions of Contract for air waybills, does not contain a *force majeure* clause although clause 2.2.2 incorporates by reference the air carrier's General Conditions of Carriage for Cargo.¹⁰⁹

Irrespective of the wording of any *force majeure* clause in the Conditions of Contract, Article 26 MC specifically prohibits any contractual provision which may relieve the carrier of liability.¹¹⁰ Moreover, reliance on such a defence in a cargo claim subject to MC is likely to fail given its exclusivity.

Article 17(2) CMR potentially provides greater opportunity to invoke the concept of *force majeure* than the MC if the loss, damage or destruction was caused "through circumstances which the carrier could not avoid and the consequences of which he was unable to prevent".¹¹¹ Although the defence has been routinely, usually unsuccessfully, pleaded by carriers in cases of theft and armed robbery, it might be anticipated to be more successful in pandemic or other crisis-based claims.

English courts require the carrier to demonstrate utmost care, namely a "*standard somewhere between, on the one hand, a requirement to take every conceivable precaution, however extreme, within the limits of the law, and on the other hand a duty to do no more than act reasonably in accordance with prudent current practice*".¹¹² In essence, the carrier must take measures that are "*feasible or practicable or sensible*",¹¹³ considering the likelihood of the loss, as determined by the value of the cargo and the journey, as well as industry knowledge regarding, *inter alia*, available routes. As such, under CMR, it is more likely that the carrier would be able to defend claims for loss, damage or destruction of the goods caused by mandated rerouting in order to avoid quarantined areas, or by the sudden shortage of drivers due to isolation requirements or by the closure of borders. It is doubtful, however, whether closure of borders, alone, will constitute a

¹⁰⁸ Simon Rainey QC and Andrew Leung, "COVID-19: When is a Pandemic Force Majeure? And What Should New Force Majeure Provisions Address?", Quadrant Chambers, 31 March 2020, <https://www.quadrantchambers.com/news/covid-19-when-pandemic-force-majeure-and-what-should-new-force-majeure-provisions-address>.

¹⁰⁹ Lufthansa, *supra* no. 107, at cl.22.2:

"[t]o the extent not in conflict with the foregoing, carriage and other related services performed by each Carrier are subject to: ...provisions contained in the air waybill, Carrier's conditions of carriage and related rules, regulations, and timetables (but not the times of departure and arrival stated therein) and applicable tariffs of such Carrier, which are made part hereof, and which may be inspected at any airports or other cargo sales offices from which it operates regular services..."

¹¹⁰ Article 26 of the MC provides that "[a]ny provision tending to relieve the carrier of liability or to fix a lower limit than that which is laid down in this Convention shall be null and void ...".

¹¹¹ CMR, *supra* no. 28, Art. 17(2).

¹¹² *J. J. Silber Ltd. v. Islander Trucking Ltd.*, [1985] 2 Lloyd's Rep. 243, p. 247.

¹¹³ *Ibid.*

valid defence, if the carrier continued to accept consignments with knowledge that they would not be processed by customs' authorities.

Force majeure clauses may, however, play a role in service agreements with road carriers, freight forwarders or umbrella agreements with industrial consignors. Whether an agreement can be terminated as a result of the effects of the pandemic will depend on the actual clause, the specific facts upon which a party relies to justify *force majeure*, and the law applicable to the agreement. It is important to note that, where these agreements provide for relief from performance (and liability) as a result of *force majeure*, English law requires that “*performance has become physically or legally impossible, and not merely more difficult or unprofitable*”.¹¹⁴ Whether performance may be effected via alternative means, even at additional expense, is a key issue.¹¹⁵ If, for example, border authorities prioritise essential goods, or increase customs duties on non-essential goods, a *force majeure* defence would be unlikely to succeed. Concurrently, given that air cargo routes remain open, it becomes more difficult for consignors using other modes of transport to assert *force majeure* preventatively under sales contracts if an alternative, albeit more expensive, mode of transport is available. For contracts of an ongoing nature such as block space agreements, *force majeure*, if applicable at all, may be said only to be applicable during the period in which performance is not possible.

Whether a defence of *force majeure* may be relied upon is fact specific and dependent, *inter alia*, on the nature of the contract, the term over which performance is to be rendered, and possibilities for alternative performance. In the circumstances, and particularly with regard to any claim in which the MC or CMR applies, *force majeure* is unlikely to be a useful defence.

5.2 Liability Issues Remain Unresolved in the Current Air Cargo Legal Regime

At the outset, given that Article 29 MC prevents airlines from defending claims based on non-Convention principles,¹¹⁶ the fault-based liability system in clause 11 of RP 1601 is not applicable to claims for loss, damage or destruction which emanate from circumstances to which the MC applies.

Within the global multimodal supply chain, transport modes and routes of carriage are increasingly flexible and substituted.¹¹⁷ The need for flexibility in substitution in time of crises brings heightened potential for loss, damage or destruction which cannot be traced to a particular mode or sector of transport. In these circumstances, the MC takes precedence over the CMR provided that it is not possible to ascertain where the loss, damage or destruction occurred, an air waybill covers both air and road segments, and the road segment takes place for the purposes of loading,

¹¹⁴ Hugh Beale (ed), *Chitty on Contracts*, Thirty Third Edition, (Sweet & Maxwell, 2019), at 15-156.

¹¹⁵ *Ibid.*, at 15-163.

¹¹⁶ Article 29MC provides that “[i]n the carriage of... cargo, any action for damages, however founded, whether under this Convention or in contract or in tort or otherwise, can only be brought subject to the conditions and such limits of liability as are set out in this Convention without prejudice to the question as to who are the persons who have the right to bring suit and what are their respective rights”.

¹¹⁷ *See*, for substitutions section 3.3.

delivery or transshipment of the cargo.¹¹⁸ Loading, delivery and transshipment has been interpreted by courts in a flexible manner and may apply in situations in which the road carriage segment was exceeded 100 miles.¹¹⁹ In the absence of any of these three requirements, and considering that the CMR does not contain any similar provision, identifying the law applicable to the dispute would require an almost impossible synthesis of the conditions of contract, general conditions of carriage of the carriers involved and applicable domestic laws.

Moreover, in any circumstances involving disruption in the supply chain, there is an increased need for proper understanding of rights of disposition of cargo particularly with regard to instructions to be given to the carrier regarding the treatment of the goods. In the MC, Articles 12¹²⁰ and 13¹²¹ provide that the right of disposition of cargo rests unequivocally with the consignor and the carrier may only receive instructions from the consignor until prompt notice of arrival at destination is given to the consignee at which time rights of disposition vest with the consignee.¹²² If such instructions are not forthcoming or if the consignee refuses to accept the consignment, the right of disposition reverts to the consignor. Courts have held that redirecting the goods on the instructions of the consignee prior to arrival constitutes loss under the MC.¹²³

Rights of disposition under CMR are more flexible in two respects. Firstly, provided the consignee acquires the second copy of the consignment note, it may exercise the right of disposition prior to the arrival of the goods at destination.¹²⁴ This provision facilitates transition of the right of

¹¹⁸ MC, *supra* no 8, Art 18(4).

¹¹⁹ *Commercial Union Insurance Co v. Alitalia Airlines SpA* 347 F 3d 448 (2nd Cir, 2003).

¹²⁰ MC, *supra* no. 8, Art. 12:

“1. ...the consignor has the right to dispose of the cargo by withdrawing it at the airport of departure or destination, or by stopping it in the course of the journey on any landing, or by calling for it to be delivered at the place of destination or in the course of the journey to a person other than the consignee originally designated, or by requiring it to be returned to the airport of departure...

...

4. The right conferred on the consignor ceases at the moment when that of the consignee begins in accordance with Article 13. Nevertheless, if the consignee declines to accept the cargo, or cannot be communicated with, the consignor resumes its right of disposition.”

¹²¹ Article 13 of the MC:

“1. Except when the consignor has exercised its right under Article 12, the consignee is entitled, on arrival of the cargo at the place of destination, to require the carrier to deliver the cargo to it...

2. Unless it is otherwise agreed, it is the duty of the carrier to give notice to the consignee as soon as the cargo arrives...

¹²² Cl. 7.4 of IATA RP 1601 provides that the consignor’s right of disposition ceases at the moment “when, after arrival of the Cargo at the destination, the Consignee takes possession or requests delivery of the Cargo or Air Waybill, or otherwise shows his acceptance of the Cargo”.

¹²³ *Nantong Angang Garments Company Ltd v. Hellmann International Forwarders Ltd* 2011] HKCFI 328, HCCL 117/1994; *affd* [2012] HKCA 329, CACV 106/2011.

¹²⁴ Art 12 (2) of the CMR provides that “[t]his right shall cease to exist when the second copy of the consignment note is handed to the consignee or when the consignee exercises his right under article 13, paragraph 1; from that time onwards the carrier shall obey the orders of the consignee”..

disposition which is useful in situations in which the consignor-seller of the goods has already received full payment under the sale contract and the consignee-buyer is responsible for arranging the transport of the goods. If, however, the consignee obtains access to the second copy of the note without authorisation of the consignor, it is possible that the consignee has acquired the right of disposition improperly. Although it may be argued that Art 12(2) CMR operates only when the consignor has authorised transmission of the second copy,¹²⁵ the carrier is placed in a precarious position as to the party which may properly give instructions. Whether the transfer of the right of disposition under the CMR can be achieved when an electronic air waybill is used and no second copy is transmitted is debatable.

Secondly, the CMR permits either the consignor or the consignee, *inter alia*, to change the destination while the goods are in transit.¹²⁶ The MC does not allow the diversion of cargo to a new destination upon the instruction of the consignor, although it does permit the delivery of the cargo to a person other than the consignee originally designated, provided the new delivery takes place at the original destination or in the course of the journey.¹²⁷

Any discussion of the relationship and issues with unimodal conventions in multimodal carriage must also address the geographical scope of applicability at any point in the transport. This is particularly relevant to the MC which has produced conflicting judicial decisions with ongoing debate over the proper interpretation of carriage by air as defined in Article 18(3) MC.¹²⁸

Ironically, the Warsaw Convention regime does not produce such conflict since the prevailing view under Article 18 is that the geographical limit of its applicability is the perimeter of the airport bounded by the airport fence.¹²⁹ In a strong but minority view, English courts expand the geographical limit to include the entire area over which an airport authority has powers to enact bylaws even if those areas are geographically outside the airport fence.¹³⁰ On either analysis, the result is clear. Loss, damage, or destruction occurring within the airport (or airport area) falls under the Warsaw Convention regime with events occurring outside the perimeter or airport area governed by other legal regimes. Such interpretations do not conflict with the laws applicable to road transport of cargo, in particular, the CMR.

The drafters of the MC eliminated the Warsaw qualification that carriage by air exists when cargo is in the charge of the carrier “whether in an aerodrome or on board an aircraft...”. As a result, the perimeter of the airport no longer serves as the geographical limit of carriage by air, producing conflicts with the CMR or mandatory national laws on road carriage. Although the MC provides that carriage by air “does not extend to any carriage by land [...] performed outside an

¹²⁵ Art 12(2) of the CMR provides that the note is “handed to” the consignee, suggesting an authorized, physical transmission

¹²⁶ Art 12(1) of the CMR provides that “[t]he sender has the right to dispose of the goods, in particular by asking the carrier to stop the goods in transit, to change the place at which delivery is to take place or to deliver the goods to a consignee other than the consignee indicated in the consignment note”.

¹²⁷ Art 12(1) MC, *supra* no. 8.

¹²⁸ Article 18(3) of the MC provides that “[t]he carriage by air [...] comprises the period during which the cargo is in the charge of the carrier”.

¹²⁹ *See*, for a full list of cases, *Shawcross*, *supra* no. 23, at 942.

¹³⁰ *Rolls Royce plc v. Heavylift-Volga DNEPR Ltd* [2000] 1 All ER (Comm) 796.

airport,”¹³¹this does not deter courts from applying the MC outside an airport as the following three predominant judicial views on geographical boundary for MC applicability suggest:

1. **A line of United States (US) cases** has applied the MC to land carriage that followed international air carriage governed by the MC.¹³² These decisions implicitly base their rationale on contractual incorporation of the MC by means of clause 2/2.1 of the standard air waybill that covered both the air and the land sectors in question.¹³³ They consider that the parties contractually agreed to apply the MC to both sectors. Such contractual arrangements may be workable in the US where there is no federal statute or international convention governing the liability of road carriers during interstate transportation,¹³⁴ but they would not necessarily have global application, as, for example, they would not supersede the CMR liability system if interpreted by English courts.
2. **The German and Austrian Supreme Courts** have adopted a literal interpretation of the MC deciding that, while the MC is not applicable to land carriage, it does apply while cargo is in storage during road transportation (for example in a road carrier’s warehouse).¹³⁵ This interpretation respects the text of the MC, but it creates an operational paradox as the application of the MC is suspended while the goods are carried by land but re-established upon the cargo reaching the warehouse. Furthermore, it contradicts the English interpretation of CMR which would govern any loss, damage, or destruction during such storages.
3. **In the recent case of *Underwriters at Lloyds Subscribing to Cover Note B0753PC1308275000 v. Expeditors Korea Ltd***, the US Court of Appeals for the 11th Circuit created a new test whereby road carriage begins from the moment the road carrier takes over the goods from the air carrier.¹³⁶ Any loss, damage or destruction that occurs during the road carrier’s custody would not be governed by the MC. Under this interpretation of Article 18(3)MC, CMR or any other mandatory national law on road transport may be applied but it remains to be seen whether this approach will be followed in future judgments.

¹³¹ MC, *supra* no. 8, Art. 18(4).

¹³² See, for detailed analysis, George Leloudas, “Door-To-Door Application of International Air Law Conventions: Commercially Convenient, but Doctrinally Dubious”, Part 3 August 2005 *LMCLQ* 368, 390-394 (2015).

¹³³ CI 2/2.1 provides that “[c]arriage is subject to the rules relating to liability established by the Warsaw Convention or the Montreal Convention unless such carriage is not international carriage as defined by the applicable Conventions”.

¹³⁴ The Carmack amendment does not apply in cases of land transportation preceding or following domestic or international air transportation - 49 USCS § 13506 (a)(8)(B).

¹³⁵ OGH 19 January 2011, 7 Ob 147/10h, TranspR 2011, 264, 265 (Austria); and BGH 24 February 2011, IZR 91/10, TranspR 2011, 436, 436 (Germany).

¹³⁶ 882 F 3d 1033 (11th Cir, 2018). See, for detailed analysis, George Leloudas, “Is the Commercial Paradox of the Montreal Convention 1999 in the Carriage of Goods by Air Finally Resolved?”, <https://iistl.blog/2018/11/21/is-the-commercial-paradox-of-the-montreal-convention-1999-in-the-carriage-of-goods-by-air-finally-resolved/>.

The expanding views on the geographical scope of application of the MC demonstrate that the limits of applicability of the MC have been questioned to varying degrees and, undoubtedly, will continue to be questioned. It comes as no surprise that the first line of interpretation by US courts (interpretation 1 above) have been receptive to this expansion and have created a trend to apply the MC to the extent of the geographical scope of the AWB. It might be a fallacious interpretation of the MC, but it demonstrates that certain courts are willing to prioritise the needs of the contemporary, multimodal supply chain over the existing unimodal, international conventions.¹³⁷

Such expansion was, until recently, unthinkable in Europe where the CMR has had a well-established and respected presence. European Courts have traditionally accepted the airport geographical limit of the Warsaw Convention regime on the basis of its text, but also in order to avoid an intrusion into the scope of CMR.¹³⁸ Both aspects have acted as deterrents to door to door expansion of the aviation conventions.

The amendment to Art 18(3) of the MC together with the effective undermining of the CMR in a multimodal context advanced by German and Dutch courts may be regarded as sparks which have ignited the geographical expansion of the MC. Although English courts so far remain loyal to the CMR as a result of the judgment of the Court of Appeal in *Quantum*,¹³⁹ German courts have already demonstrated flexibility as to its boundaries (interpretation 2, above) without applying the MC on a door to door basis. While the interpretation in point 3 above is the most reasonable in combining the text of the MC with the realities of the modern, multimodal supply chain, it does not eliminate conflict with CMR applicability. One obvious conflict occurs when the loss, damage or destruction of cargo takes place inside an airport while the cargo is on board a truck at the commencement of an international road stage. This interpretation suggests that CMR would apply since the road carrier has already taken possession of the cargo. Yet, considering both the wording of the MC and the actual airport location of the event, it is unclear that this would be the preferred interpretation.¹⁴⁰

Commercial, logistical, and operational realities of the contemporary multimodal supply chain have resulted in an expanding applicability and artificial interpretation of the MC's unimodal legal framework. With the CMR not having been updated since 1956 to reflect the contemporary air-road transport paradigm, the MC is increasingly misapplied to multimodal transport despite its considerably higher liability limits. If unimodal conventions are to remain applicable in an increasingly multimodal transport paradigm, both MC and CMR require significant modernization in order to address the conflicts discussed above and to allow for a more consistent judicial approach on which all participants in the multimodal transport chain may rely. We discuss possibilities for progress in this regard below.

¹³⁷ See, for a detailed analysis, George Leloudas, *supra* no 132, at 368- 405.

¹³⁸ See, *supra* nos. 129 and 130.

¹³⁹ See, *supra* section 2.2.

¹⁴⁰ See, George Leloudas, "Multimodal Transport under the Warsaw and Montreal Convention Regimes: A Velvet Revolution?" in Baris Soyer and, Andrew Tettenborn (eds.), *Carriage of Goods by Sea, Land and Air: Unimodal and Multimodal Transport in 21st Century* (Informa Law from Routledge, 2013), at 95-97.

6. The Need to Progress from Unimodal to Multimodal Legal Regime

6.1 Once Upon a Time, There Was UNCIMTG...

The UNCIMTG¹⁴¹ was drafted to reflect the multimodal paradigm of the supply chain that was already well formed and widely operating in the 1970s. It has never entered into force. Given the pace at which multimodal transport continues to develop, particularly with regard to technology and modal combinations, it would be expected that all modes and participants in the global multimodal cargo industry and supply chain will eventually reconsider the appropriateness of a single legal regime that reflects the actual structure and operation of contemporary multimodal carriage. Against that background, it is important to examine the reasons that led to failure of the UNCIMTG and to consider opportunity for adoption of a multimodal legal regime.

The UNCIMTG created a liability regime for Multimodal Transport Operators (MTOs) who conclude multimodal transport contracts.¹⁴² That includes freight forwarders who act as principals but “not as an agent or on behalf of the consignor or of the carriers participating in the multimodal transport operations”.¹⁴³ This is in contrast to the agency system established by IATA which only applied to cargo agents.¹⁴⁴ An MTO would assume responsibility for the loss, damage or delay of the goods “from the time he takes [them] in his charge to the time of their delivery”¹⁴⁵ based on a liability system of presumed negligence with a reversed burden of proof on the MTO to establish defences, namely that “he, his servants or agents...took all measures that could reasonably be required to avoid the occurrence and its consequences”.¹⁴⁶

To identify MTO limits of liability, a complex system was implemented: If loss or damage to cargo could be localized to one of the stages of the multimodal transport which was governed by a unimodal convention or a mandatory national law, those respective limits of liability would extend to the MTO.¹⁴⁷ If the loss or damage of the goods could not be attributed to a particular mode of transport or if it fell outside the scope of any convention and/or mandatory national law, MTO limits of liability were as follows:

1. If the multimodal transport included carriage by sea or by inland waterway, limitation was the higher of 920 SDR per package or other shipping unit, or 2.75 SDR per kg of gross weight of the affected goods;¹⁴⁸

¹⁴¹ UNCIMTG, *supra* no 41.

¹⁴² *See*, for a comprehensive analysis of the UNCIMTG, David Glass, *Freight Forwarding and Multimodal Transport Contracts* (Informa Law from Routledge, 2012), at Chapter 3D. For international multimodal transport to take place the following elements are required under Art 1(1) of the UNCIMTG: 1. the carriage of goods between two countries, at least one of which is a Contracting State; 2. by two or more modes of transport; 3. under one contract; 4. and under one responsible party (MTO) for the entire carriage. The MTO might subcontract the performance of some, or all modes, of the carriage to other carriers.

¹⁴³ Art 1 (2)

¹⁴⁴ *See, supra* section 3.2.

¹⁴⁵ Art 14(1)

¹⁴⁶ Art 16(1)

¹⁴⁷ Art 19

¹⁴⁸ Art 18(1)

2. If the multimodal transport did not include carriage by sea or by inland waterway, limitation was set at 8.33 SDRs (identical to CMR) per kg of gross weight of the affected goods without alternative package limitation.¹⁴⁹

Neither cargo-interests, nor carriers and freight forwarders who were competing to secure controlling market positions, were satisfied with the provisions of the UNCIMTG. Cargo-interests did not receive legal and operational simplicity in the form of “one multimodal contract – one law” with one predictable liability and limitation regime applicable to the entire multimodal transport that would not require identifying the modal stage during which loss, damage or destruction occurred.

Freight forwarders were concerned that claims would rest with the MTO and that the wider defences available to subcontracting carriers under their unimodal conventions would impair any recourse actions they may have against those carriers. Forwarders expressed additional concern about liability limits which exceeded those of Hague Visby and exposed them to the likelihood that their liability to cargo interests would exceed any recoverable indemnity from the responsible carrier.¹⁵⁰

Most importantly, carriers and forwarders were concerned that mandatory liability limits were introduced in relation to transport otherwise not subject to mandatory law (e.g. road transport not covered by the CMR). Such instances were regulated, prior to the UNCIMTG, by conditions of contract, which were more carrier-friendly than unimodal conventions. As such, the UNCIMTG curtailed their freedom to contract on beneficial terms.

Air carriers, in particular, were not supportive of the UNCIMTG despite the concessions achieved in Art 1.1. They were concerned that they may qualify as MTOs when contracting for door to door transportation. That would add a layer of regulation to aviation conventions and would also affect their freedom of contract. To ensure that the UNCIMTG would cause “no disruption of established patterns of contracting built around the Warsaw Regimes”,¹⁵¹ Art 1.1 of the UNCIMTG provides that operations of “pick-up and delivery of goods carried out in the performance of a unimodal transport contract... shall not be considered as international multimodal transport”.

Airlines were also concerned with the UNCIMTG’s provision for a multimodal document that would require amendments to the air waybill when airlines were acting in a multimodal capacity.¹⁵² The preference for the air waybill as an *ad hoc* multimodal document is confirmed by the resistance of airlines to using the UNCTAD/ICC Rules for Multimodal Transport Documents 1992, a set of standard contractual terms that have been incorporated in widely used shipping multimodal transport documents such as the MULTIDOC 95/2016 and the FIATA bill of lading 1992.¹⁵³ With no international convention in force governing multimodal transport,¹⁵⁴ the aviation

¹⁴⁹ Art 18(3)

¹⁵⁰ Hague Visby rules, *supra* no. 25.

¹⁵¹ *Glass*, *supra* no 142, at 3.101.

¹⁵² Arts 5-12.

¹⁵³ *See*, *Glass*, *supra* no 142, at Chapter 3E for a comprehensive analysis of the UNCTAD/ICC rules.

¹⁵⁴ The United Nations Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea signed at New York on 11 December 2008 (Rotterdam Rules) has not come into force yet and is

industry's historical approach has been one of self-regulation through use of the unimodal AWB and efforts to expand the boundaries of applicability of the MC.

6.2 Unimodal Regime Conflict in Multimodal Operations

As noted above, it is arguable that, from its inception, air cargo has always been a multimodal rather than unimodal form of cargo transport. During the 90 years that the Warsaw Convention regime and the MC have slowly been amended, both the air and global cargo industry have experienced much faster change in multimodal concept. Commercial relationships, cargo carried, logistics, operations, and legal issues have transformed throughout the global cargo industry and associated supply chain. This transformation has been the result of foundational shifts in the roles of participating industry *dramatis personae* concomitant with a restructuring of logistical, operational, and contractual relationships between consignors, cargo agents, freight forwarders and air carriers. Of particular importance in the air cargo domain is the ability of airlines to carry an ever increasing range of cargo, expansion of the geographic scope of contracted carriage of cargo beyond the traditional airport to airport points of departure and destination, the substitution of alternative modes of carriage for air carriage, and the performance of those modes of carriage by both aviation and non-aviation entities.

Since alternative modes of carriage have traditionally been subject to differing modal liability regimes, this has increasingly triggered new questions about the relevance and applicability of the air carriage conventions to non-aviation sectors, as well to non-aviation entities that participate in and/or perform the carriage of air cargo.¹⁵⁵ As noted above, these issues were exacerbated when the drafters of the MC amended the definition of carriage by air in Article 18(3) without recording the reasons for such change.¹⁵⁶ That change has given rise to lively judicial debate over the geographical scope and applicability of the MC that currently applies outside the confines of airports.¹⁵⁷ The issue is of increased relevance and importance because of its potential to bring the liability provisions of air carriage conventions into conflict with other international conventions and States' laws governing different modes of transport as well as widely-used contractual documents.¹⁵⁸ In addition, tensions have already arisen between the participants in the chain of carriage as they seek to establish and distinguish their roles in the carriage, characterise the nature of their claims so as to avoid Convention applicability and liability, and compete in contractual relationships to secure the least liability for the sector of carriage they performed.¹⁵⁹

In the circumstances, and with the diverse ways in which air cargo is carried and routed through the multimodal global supply chain, it cannot be inappropriate to consider that governance, issues, and disputes arising out of the carriage of air cargo should be addressed from a multimodal rather

unlikely that will ever come into force. The Rotterdam Rules govern international carriage on a door to door basis provided that one mode of transport is by sea.

¹⁵⁵ See, for conflicting judicial decisions and national laws on indemnity claims from air carriers against other carriers and transport-related entities, *Shawcross*, *supra* no. 23, at 446 and 446.1.

¹⁵⁶ Article 18(3) MC, *supra* no 8.

¹⁵⁷ See, *supra* section 5.2.

¹⁵⁸ Contractual documents such as the conditions of the standard air waybill or the standard Conditions of Carriage.

¹⁵⁹ See, for examples, *Shawcross*, *supra* no. 23, at Division VII, [446.1].

than unimodal perspective and legal framework. The current global health crisis only brings consideration of this possibility into sharper focus and more rigorous debate. Below, we consider opportunities to advance the further evolution of air cargo as a multimodal rather than unimodal supply chain participant from both commercial and legal perspectives. In particular, it is argued in section 8 that it is appropriate to revisit the issues that the UNCIMTG attempted to address and renew efforts to shift from a unimodal to multimodal concept via international legal regime.

7. Transformational Opportunities for Air Cargo in Commerce

Technological innovation promotes unification, certainty, and transparency throughout all modes of carriage and sectors of the supply chain. It has driven changes in structure, logistics, operations, and commercial relationships throughout the cargo industry. Ironically, as noted above, the air cargo component of the global supply chain has been comparatively slow to adopt new technology.

The still incomplete universal implementation of electronic air waybills is a poignant example. Despite the provision for electronic documents of carriage as early as 1975 with MP4 and again in 1999 with MC,¹⁶⁰ integration of electronic air waybills within the air cargo industry has, over the past 45 years, only been between 60-70% in jurisdictions in which use of electronic air waybills is possible.¹⁶¹ In contrast, electronic passenger tickets were embraced with 100% implementation by the entirety of the airline passenger industry within 14 years.¹⁶² The air waybill represents only one of a large number of paper documents which remain embedded in an air cargo logistical structure that, anachronistically, relies much more on paper than on electronic documentation.¹⁶³

The pandemic provides compelling rationale for adopting electronic air waybills and digitalising all other paper associated with the carriage of cargo. Conduct of the entire shipping transaction via electronic means also becomes a function of biosecurity and is a biosafety necessity in order to avoid the potential for delay of cargo at any point in the chain of carriage on the basis that one of the supply chain participants declines to touch paper. Remote processing and teleworking have become the new normal with the goal of touchless cargo on the horizon.¹⁶⁴ The current global health crisis provides opportunity to revisit this and other equally important issues which will lead to a more streamlined, electronic, and transparent supply chain.

The importance of and critical need for air cargo, as well as for more versatile multimodal relationships throughout the supply chain has already been discussed in detail. The crisis has intensified debate over the current condition of the cargo industry both in its internal structure as

¹⁶⁰ Articles 5(2)MP4 and 4(2)MC provide that “[a]ny other means which preserves a record of the carriage to be performed may be substituted for the delivery of an air waybill”.

¹⁶¹ IATA, “eAir Waybill Monthly Report”, March 2020, <https://www.iata.org/contentassets/6c6b8373246b4b2db532ff9c89bee5a7/e-awb-monthly-report-r17.pdf>. Note that jurisdictions that do not incorporate MP4 or MC must continue to issue documents as provided in Article 8 of the WC29 and HP.

¹⁶² See IATA, “E-ticketing”, <https://www.iata.org/en/programs/stb/e-ticketing/>.

¹⁶³ IATA estimates that over 7,800 tons of paper are used and processed each year in global cargo operations.

¹⁶⁴ See, Henk Mulder, “IATA ONE Record: One Step Away from Fully Digital Cargo” IATA Webinar, 23 June 2020.

well as its relationship with the wider logistics industry and supply chain¹⁶⁵ and the need for a new air cargo business model.¹⁶⁶ As discussed in section 4, it has highlighted crucial operational questions of global importance that urgently require solution.¹⁶⁷

Unity and collaboration among all supply chain stakeholders is a common theme.¹⁶⁸ The difficulty in securing cooperation and collaboration between supply chain participants is particularly evident in the thus far failed attempts to clarify and coordinate forwarder and airline roles, whether owing to competitive efforts for market share, or control over the carriage or its associated data.¹⁶⁹ With certainty that current transformational demands on air cargo will increase over time at a pace which potentially exceeds that of structural evolution within the sector, and with a correspondingly heightened need to coordinate between all modes and associated logistics of carriage, there is an unprecedented opportunity to re-assess the global supply chain. By incorporating pandemic experience as the quintessential example of a relevant case study, global multimodal cargo industry efforts to strengthen, unify, and streamline all modes will almost certainly include the following:

- 1. Revitalising roles and relationships between supply chain participants:** There is opportunity to revisit roles and relationships between airlines, other modal carriers, cargo agents, freight forwarders, and ground handlers with a shared goal of unifying and strengthening the supply chain. The pandemic reinforces the concept and vision of one unified supply chain rather than a series of individual links. A significant aspect of such reorientation will involve review and reconsideration of roles, responsibilities, and liabilities and indemnities between all participants. It will also involve redrafting of applicable relational agreements, with a goal of establishing clear roles and lines of responsibility and obligation in each mode of carriage and its relationship with other modes.
- 2. Reinforcing and improving global cargo transactions, handling, procedures, and operations throughout the supply chain, while establishing a clear, unified and transparent framework for operational responsibility, risk assessment, and**

¹⁶⁵ See, Hemisphere Freight, “An Introduction to Air Cargo – SWOT and Overview”, 20 September 2019, <https://www.hemisphere-freight.com/an-introduction-to-air-cargo-swot-and-overview/>.

¹⁶⁶ See, Stan Wraight, [The airline industry more than ever needs a new business model](https://theloadstar.com/the-airline-industry-more-than-ever-needs-a-new-business-model/), 9 June 2020, <https://theloadstar.com/the-airline-industry-more-than-ever-needs-a-new-business-model/>; Alex Lannane, “Airlines Must Become the Disruptors to Survive a Post COVID Era”, 9 June 2020, <https://theloadstar.com/airlines-must-become-the-disruptors-to-survive-a-post-covid-era/>; Stan Wraight, “What Airlines and Airports Must Now Realise About Air Cargo Professionals”, 1 May 2020, https://theloadstar.com/what-airlines-and-airports-must-now-realise-about-air-cargo-professionals/?utm_source=The+Loadstar+daily+email&utm_campaign=57d0fa460b-EMAIL_CAMPAIGN_2020_05_01_11_35&utm_medium=email&utm_term=0_c4570e43d4-57d0fa460b-125882609; Mark Diamond, “Airlines Must See Cargo as a Core Business from Now On”, 26 May 2020, <https://theloadstar.com/airlines-must-see-cargo-as-a-core-business-from-now-on/>.

¹⁶⁷ See, IATA, “Transporting Vaccines by Air”, 3 June 2020, <https://airlines.iata.org/analysis/transporting-vaccines-by-air#prclt=my4oWM8f>

¹⁶⁸ See, TIACA, “Unity: a key factor in the aviation industry’s recovery from COVID-19 crisis”, 10 April 2020, <https://tiaca.org/news/covid-19-tiacas-weekly-update-unity-a-key-factor-in-the-aviation-industrys-recovery-from-covid-19-crisis/>

¹⁶⁹ See, IATA-FIATA Air Cargo programme, *supra* no. 58.

reporting, including claims handling: Consignors, consignees, and supply chain participants will benefit from clarity and transparency in all aspects of cargo transactions, operations, carriage and, where required, claims handling. Inherently linked with and facilitated by adoption and application of new technology, this will include assessment and recording of cargo condition, including receipt of claims from consignors or consignees, coordinated communications with claimants throughout the claims handling process, payment of compensation and recovery of indemnity, and effective follow-up communications throughout the chain. This unification will bolster resilience throughout the chain and enable supply chain participants to better assess operational risks while improving handling practices, relationships, and customer experience throughout the chain of carriage.

- 3. Increased development and employment of technology for infrastructure, operations and logistics including new carriage and handling techniques, digitalisation, data sharing and availability throughout the entire chain of carriage from door to door:** As discussed, the air cargo sector lags behind its modal competitors in technological progress. The slow adoption of electronic air waybills is just one example that has drawn criticism during the pandemic.¹⁷⁰ Future growth and evolution will be even more technologically oriented and dependent. For example, employment of drone technology is changing both cargo logistics and operations.¹⁷¹ Digitalization is an absolutely critical component of tomorrow's global supply chain. It is now imperative that, as a part of the rapid progress of overall technological change, the air cargo sector digitalises its operations and contributes to digitalisation of the wider multimodal supply chain to the greatest extent possible.

A discussion of transformation in commerce must include discussion of digitalization. It has become a *sine qua non* of industry progress. Although airlines have attempted to implement transparent digital communications for over 60 years, other participants in the air cargo supply chain have progressed at a faster rate with greater success.¹⁷² Other modes in the global cargo industry still struggle with implementation and unification of a digitally transparent supply chain and communications with varying progress.

On a macro level, virtually all modes of transport and supply chain participants are moving, whether competitively or collegially, to comprehensive operational digitalisation.¹⁷³ This includes

¹⁷⁰ See, Prasad Badgujar, "Air Cargo Needs to Survive the Wave of Digitalisation", 6 June 2020, <https://www-stattimes-com.cdn.ampproject.org/c/s/www.stattimes.com/news/air-cargo-needs-to-survive-the-wave-of-digitalisation/amp/>

¹⁷¹ See, Stephan Baur and Manfred Hader, "Cargo Drones: The Future of Cargo Delivery", 19 February 2020, <https://www.rolandberger.com/en/Point-of-View/Cargo-drones-The-future-of-parcel-delivery.html#:~:text=in%20North%20Carolina.-,Transportation%20of%20air%20freight,more%20often%20with%20more%20flexibility.> See also,

"IATA Drones for Tomorrow's Air Cargo", <https://www.iata.org/en/programs/cargo/cargo-drones/>

¹⁷² Allaz, *supra* no 3, at 288.

¹⁷³ See, Eytan Buchman, "Don't Write Off Digital Freight Forwarders, Look and Learn from Them", 9 June 2020, <https://theloadstar.com/dont-write-off-digital-freight-forwarders-look-and-learn-from-them/>; Alex Lennane, [Beacon Will Disrupt Slow and Inefficient Forwarding Market With Bezos Cash](https://theloadstar.com/beacon-will-disrupt-slow-and-inefficient-forwarding-market-with-bezos-cash/), 1 June 2020, <https://theloadstar.com/beacon-will-disrupt-slow-and-inefficient-forwarding-market-with-bezos-cash/>

marine,¹⁷⁴ rail,¹⁷⁵ road,¹⁷⁶ and customs and borders.¹⁷⁷ Digitalisation introduces uniformity in language, enhances communications, transparency, coordination, monitoring, and control throughout the supply chain, while providing real time information at each point in the chain.¹⁷⁸ This is particularly important as the volume of special cargo including pharmaceuticals, perishables, other time and temperature sensitive goods, live animals, and dangerous goods carried by air increases. Issues of platform, data ownership, access, use, privacy, regulation, and security must all be addressed, but there is considerable opportunity, if not imperative, for the air cargo operation to lead in this area of technological development.

An example of what may be achievable in this regard is the European Union's FEDeRATED project for digital cooperation in cargo transport and logistics.¹⁷⁹ The FEDeRATED project addresses supply chain information technology infrastructure and modality including rail, maritime, inland waterway, road, air and pipelines. It will incorporate all supply chain participants including shippers, forwarders, carriers, agents in all capacities, and government agencies. With regard to actual logistics, the FEDeRATED project will incorporate a wide range of data sources and resources including all transport documents and government requirements.

On a micro level, as discussed above, with the rapidly increasing availability of new cargo tracking and management technology, including, for example, more refined temperature management capability,¹⁸⁰ it becomes easier, to monitor and manage in real time the actual status and carriage

[cash/ ; Alex Lennane, "BIFA Bites Back at Rubbish Prophecies of Forwarders' Death by Tech", 2 June 2020, https://theloadstar.com/bifa-bites-back-at-rubbish-prophecies-of-forwarders-death-by-tech/](https://theloadstar.com/bifa-bites-back-at-rubbish-prophecies-of-forwarders-death-by-tech/), DHL, "The Digital Revolution of Freight Forwarding: Not a Matter of If, But When", 19 May, 2020, <https://lot-dhl-com.cdn.ampproject.org/c/s/lot.dhl.com/the-digital-revolution-of-freight-forwarding-not-a-matter-of-if-but-when/amp/>

¹⁷⁴ See, BIMCO, "Maritime Digitalisation" and "Associations Call for Accelerating Digitalisation of Maritime Trade and Logistics" June 2020, <https://www.bimco.org/news-and-trends/maritime-digitalisation> and Maritime and Port Authority of Singapore, "Maritime Digitalisation Playbook", <https://www.mpa.gov.sg/web/portal/home/maritime-companies/research-development/maritime-digitalisation-playbook>

¹⁷⁵ See, for example, UNECE's white paper on "Railways role in intermodality and the digitalization of transport documents", 2018, https://www.unece.org/fileadmin/DAM/trans/main/wp24/ECE_TRANS_262_E_Web_Optimized.pdf

¹⁷⁶ See, UNECE, "Standards on Digitalization to Enhance Efficiency in International Transportation of Goods by Road, 26 February 2018, <https://www.unece.org/?id=48152>

¹⁷⁷ See, UNECE on the "eTIR Project" that aims to "ensure the secure exchange of data between national Customs systems related to the international transit of goods, vehicles or containers according to the provisions of the TIR Convention", <https://www.unece.org/trans/bcf/etir/background.html>

¹⁷⁸ Examples of such information include, but are not limited to, real time shipping and product conditions with sensors, end to end track and trace, end to end global positioning, and proactive alerts and notifications.

¹⁷⁹ See, in particular its first milestone report of 17 December 2019 proposing to deliver a validated Masterplan for an EU federated network of platforms concept and a prototype of a data sharing environment for business and public sector use, FEDeRATED, "Welcome to FEDeRATED - EU Project for Digital Co-Operation", <http://www.federatedplatforms.eu/index.php>.

¹⁸⁰ See, World Health Organisation, "Temperature-controlled transport operations by road and by air", May 2015,

https://www.who.int/medicines/areas/quality_safety/quality_assurance/supplement_12.pdf?ua=1; and Adam Muspratt, "What is Temperature Controlled Logistics?", 23 August 2018,

of cargo. Such monitoring, ultimately, increases quality, efficiency, certainty, and transparency in transport throughout the supply chain. The Amazons of the world, acting in their dual capacities as key customers and participants in the supply chain, will demand this as they allow their own customers direct access to an ever increasing array of specific information about the actual cargo at any point in its carriage.

It is indisputable that digitalization is a matter of when, not if, and tomorrow's global supply chain and digital generation will depend on digital systems. That generation will be unwilling to revert to working in the manner of the paper generation that exists today. Even if complete digitalisation of the global multimodal supply chain from first to last mile is not immediately achievable, digitalisation of air cargo and its supply chain remains an air cargo industry imperative. A key example of efforts in this regard is IATA's ONE Record standard for data sharing¹⁸¹ with a vision of an “[e]nd to end digital logistics and transport supply chain in which data is easily and transparently exchanged in a digital ecosystem of air cargo stakeholders, communities and data platforms”.¹⁸²

But digitalisation is, in a sense, only the beginning, and if digitalisation is the appetiser, Artificial Intelligence (AI) is the main course as it offers, at least in concept, potentially limitless possibilities for application and use.¹⁸³ Integration of AI into all aspects of the global supply chain will produce even greater transformational change. Through machine learning, natural language processing, vision, speech, planning, robotics and other capabilities,¹⁸⁴ AI opens the door to predictive analysis which, for example, may assess and determine need, market transactions, suitability for carriage, mode of carriage, route, timing, supply chain participants, and cargo conditions during transport, all on a door to door basis and driven ultimately by consumer preference.

In addition to its technological benefits, digitalization and AI have tremendous potential to simplify or even eliminate legal issues. A secure, unified, transparent chain, which records and stores information and data on and from every aspect of the carriage from reservation to delivery, will allow for a new dimension of factual certainty with potential to resolve issues which

<https://www.pharmalogisticsiq.com/packaging-shipping-systems/articles/guide-to-temperature-controlled-logistics>.

¹⁸¹ See, for an example of progress in air cargo data sharing and digital integration, IATA, “ONE Record”, <https://www.iata.org/en/programs/cargo/e/one-record/>. The objective of ONE Record is “to address the main challenges of e-freight and unlock the possibilities of a full digital air cargo industry and create opportunities for new value-added services and business models”.

¹⁸² See, IATA, “Fact Sheet, ONE Record”, <https://www.iata.org/en/iata-repository/pressroom/fact-sheets/fact-sheet--one-record/#:~:text=The%20vision%20for%20ONE%20Record,stakeholders%2C%20communities%20and%20data%20platforms>.

¹⁸³ See, IATA White Paper. “AI in Aviation. Exploring the Fundamentals, Threats and Opportunities of Artificial Intelligence (Ai) in the Aviation Industry”, June 2018, <https://www.iata.org/contentassets/b90753e0f52e48a58b28c51df023c6fb/ai-white-paper.pdf> and

Eccenca GmbH, “Why Are Knowledge Graphs Essential to Your Data Management? A Quick Introduction”, 31 May 2020. <https://www.youtube.com/watch?v=2vkTTNDft5s&feature=youtu.be>

¹⁸⁴ See, Michael Mills, “Artificial Intelligence in Law: The State of Play 2016”, <https://www.neotalogic.com/wp-content/uploads/2016/04/Artificial-Intelligence-in-Law-The-State-of-Play-2016.pdf>

commonly arise under the MC. Moreover, the investigatory time currently needed to ascertain relevant facts, often in multiple jurisdictions, or with multiple supply chain participants could well be available in moments at the touch of a single button. There is no doubt that interesting times lie ahead for the air cargo and global multimodal supply chain.

8. Transformational Opportunities for Air Cargo in Law

As a foundational principle, it is imperative for aviation and other modal law to keep pace with industries it regulates. In the same manner that the concept and vision of one unified multimodal global supply chain has been discussed, it is appropriate to consider a similar concept and vision from a legal perspective of “one chain, one law”. Implicit in this proposition is the need to consider the commercial, logistical, relational and technological aspects of air and other modes of cargo not from a unimodal legal perspective, but from a multimodal legal perspective so that any unifying legal regime offers maximum clarity of purpose and operation, supports the commercial enterprise, and reduces opportunities for disparity and dispute to a minimum.

Extant unimodal regimes arose as creatures of simpler times. The different modes of carriage in the cargo industry depended principally on documentary exchange and were driven by paper transactions. Modes of transport were, for the most part, segregated and non-communicative save for documentary transfer and communication. Digitalization and e-commerce were either aspirational or far-off concepts on a modally segregated horizon. There were fewer industry participants in any aspect of carriage. The role of the freight forwarder was different than today particularly as it has transitioned from agent to include ego and alter ego of carrier, principal, and key customer. Air carriage of cargo has undergone significant transition from airport to airport to door to door, and new market service providers combine various modes of carriage as unique and highly competitive selling points under one company logo. Against this background, it seems only natural that consideration is given to the merger of extant unimodal cargo transport regimes into a single multimodal regime that can seamlessly integrate the operational, logistical, technological, commercial, relational, and legal issues associated with their component modes of carriage.

As discussed in section 6.1, the failure of the UNCIMTG was due largely to a complicated liability system that was not considered carrier or forwarder friendly, particularly with regard to disparate liability limits and rights of recourse. Since then, however, the global supply chain has continued to take giant commercial, relational, operational, logistical, and technological leaps which justify revisiting the prospect of a single universal regime covering all modes of international carriage.¹⁸⁵ It is important that such a regime accommodates the evolution of a new transport paradigm based on a digitally transparent, unified, global, multimodal integrated supply chain, particularly with regard to the pace at which multimodal digitalization and combined modal transport is developing.

Of course, the essential question remains: have contemporary changes in the global cargo industry already renewed or will renew an appetite for such a universal scheme? Clearly, numerous issues which impeded adoption of the original UNCIMTG are no longer relevant as the global cargo industry is now focused on a new generation of issues which brings all modes of cargo transport closer to each other in relationship, structure and operation. As earlier discussed, a significant

¹⁸⁵ See, Marian Hoeks, *Multimodal Transport Law. The Law Applicable to the Multimodal Contact for the Carriage of Goods*, (Wolters Kluwer, 2010), at 22.

example, is that airlines routinely provide door to door services either in a *de facto* capacity of freight forwarder or by operating *alter ego* with at least one additional mode of carriage, usually road.¹⁸⁶ In these commercial iterations, airlines have shifted from a competitive stance with forwarders to a concept of service partner and the division between carriers and freight forwarders is not distinguishable by shippers and consignees. Issues which do remain, such as the role of forwarder as agent or principal, may immediately be resolved if provisions such as those espoused in the UNCIMTG are adopted.¹⁸⁷

Even if the goal of industry-wide acceptance of a universal modal regime is not immediately achievable, incremental steps towards unification may still be achieved. A first step would be to consider whether, given their essential symbiotic relationship, air cargo and road carriage interests should coordinate to remove cargo liability issues from the MC and incorporate them into a separate, combined convention with CMR. Regardless of any multimodal revisionary effort in parallel, such an initiative is attractive considering the economically interdependent operational relationship between the two modes of transport and, in any event, the urgent need to update the CMR. The fact that the drafting philosophies and common legislative grounds of the MC and the CMR are closer than, for example, the MC and/or CMR and the Hague-Visby Rules, adds merit to such an effort.

The starting point of such a new air-road convention would be that the progressive technological developments in transport of cargo by air and road increase intermodal transparency and certainty and make it easier to identify the factual specifics of loss, damage, destruction, delay or other failure in the chain of transport whether during air or road carriage or otherwise. With such knowledge, the essence of the Warsaw Convention regime and the MC of *prima facie* liability without proof of fault in exchange for limitation of that liability is potentially obviated. At a minimum, contemporary multimodal cargo issues are progressively more unsuitable for inclusion in a regime which focuses primarily on passenger liability.

The potential benefits of consolidation of extant international unimodal regimes, whether limited to MC and CMR or expanded on a universally accepted multimodal basis, include but are certainly not limited to:

1. **An opportunity to consider whether *prima facie* liability in exchange for limitation of liability (as well as provision to exceed limits of liability) remain desirable principles.** In the event they are considered to remain essential underpinnings of a consolidated regime, there would be opportunity to standardise limitations of liability, creating a uniform liability system across both (or all) modes, including freight forwarders, rather than to perpetuate varying limits of liability (capped or otherwise) based purely on the location of occurrence of loss, damage destruction or delay within the transport;
2. **Standardisation of causes of action and defences across the two (or more) modes of carriage which adequately reflect the contemporary structure and operation of the global multimodal supply chain.** In this context, new defences such as *force majeure*

¹⁸⁶ See, RP 1601, *supra* no 48, Art 9.

¹⁸⁷ Article 1(2) UNCIMTG, *supra* no 41.

may be warranted or even whether the nature of global (or other) crises may be deemed sufficiently important in an economic sense as to have its own, unique defence. Such consideration may avoid the need to argue over impossibility and reasonable or necessary measures as a defence. The existing CMR defence of “circumstances which the carrier could not avoid and the consequences of which he was unable to prevent” would be a good starting point;¹⁸⁸

3. **The disparate limitation periods between CMR and MC suggest that the standardisation of the limitation periods across both modes of carriage is appropriate.**¹⁸⁹ With the technological potential to monitor the movement of cargo during the entire period of transportation and thereby identify the cause of the loss, the 3-year limitation period of the CMR in cases of wilful misconduct is excessive.;
4. **An opportunity to provide for door to door application of a uniform liability system.** The differing views of national courts on the geographical limits of application of the MC and the multimodal application of CMR suggest that this is one of the most pressing issues to be considered;¹⁹⁰
5. **Mechanisms, standardisation, and provisions for the right of disposition, notifications of claims and claims handling, including claims for indemnity, between modal participants which adequately reflect the nature of the carriage, communications capabilities, and the availability of data and information related to the carriage;**
6. **Creation of a predictable, transparent, liability system that complements an evolved multimodal supply chain** rather than impeding it by requiring costly factual inquiries regarding the mode of carriage, the operator of the vehicle and/or the location of the loss, damage, destruction or delay.

In addition to the opportunity to transform and standardise disparate international modal conventions, there is similar opportunity to transform and standardise an abundance of disparate legal documents of transport¹⁹¹ and related interparty agreements¹⁹² which are effectively limited in scope and application to their individual modes of transport and logistical support. This standardisation is particularly relevant for the air waybill which is designed as a unimodal document but is currently used as an *ad hoc* multimodal document by airlines and freight forwarders. In any new air-road or more extensive transport paradigm, standardisation will be a fundamental principle supportive of the commercial, relational, operational, and logistical iterations of the actual carriage of cargo.

9. Conclusion

¹⁸⁸ See, *supra* section 5.1.

¹⁸⁹ See, *supra* section 2.2.

¹⁹⁰ See, *supra* sections 2.2 and 5.2.

¹⁹¹ Including but not limited to air waybills CMR consignment notes, proofs of delivery, transfer documents with terms and conditions of acceptance and carriage.

¹⁹² Including, but not limited to inter-modal transport agreements for contracted carriage between carriers and related service level agreements.

The worldwide health and medical challenges precipitated by the COVID-19 pandemic have brought humanity in many parts of the world to a virtual, isolated, standstill. Yet the true malignancy of the virus has been in its ability to transcend the bounds of physical and mental health and infiltrate, with efficiency, the entirety of Abraham Maslow's hierarchy of needs.¹⁹³ In a span of time which is inversely proportional to its effect, the virus has burrowed deeply into the structural and institutional manifestations of society and lifestyle around the globe. The price has been exorbitant not only in terms of human life but in terms of global economic damage.

It is trite to describe the current pandemic as simply having affected air cargo and the greater multimodal global supply chain. The pandemic initially brought air and other modes of global transport to a virtual standstill in circumstances in which the need for air transport, at least for humanitarian and medical purposes, was crucial and at its apex. But even at its operational nadir between February and May of 2020, the air cargo sector together with the assistance of governments and related industry organisations moved swiftly to respond to the crisis and to remain in the air in order to mitigate, indeed overcome, the effects of the virus.

At the same time, the pandemic has only overlaid an air cargo industry that has been in a continual process of transformation both within its own sector and in conjunction with its companion sectors since its inception. Independent of the current crisis, the air cargo industry has, for as many years as it has operated, done so in the throes of evolution and reinvention. Change has been driven by society's continually increasing demand for an increasing variety of goods and services. In parallel with and in response to the force and fluidity of demand, the global transport industry has responded to unite demand with supply via all its modes. Modal response has been highly competitive but has also produced innovative responses as each mode has transformed itself as necessary, whether independently or in concert with other modes to facilitate the imperative of moving goods globally in an efficient manner.

The increasing pace of development of new and more powerful dimensions of technology has facilitated the abilities of independent transport modes to develop individually, as well as to combine in furtherance of a common transport goal. And so it is that historically unimodal enterprises have transitioned over the years to populate a complex global multimodal supply chain. Along with relational, structural, and operational change, and with the adoption of new technology, digitalization, and Artificial Intelligence in due course, tomorrow's air cargo world and its associated global multimodal partners and supply chain will be much different in form than it is today. Anticipation and conceptualization of these changes is now a constant theme which drives transformation in all modes of carriage.

With the passage of 40 years since the drafting of the 1980 UN Multimodal Convention, 65 years since the drafting of the CMR, and 21 years since the drafting of the MC, and with the significant relational, commercial, operational, logistical, and technological evolution and imperatives in all modes of the international cargo supply chain that have been discussed, it would be prudent to

¹⁹³ See, Saul Mcleod, "Maslow's Hierarchy of Needs", 20 March 2020, <https://www.simplypsychology.org/maslow.html#:~:text=Maslow's%20hierarchy%20of%20needs%20is,hierarchical%20levels%20within%20a%20pyramid.&text=From%20the%20bottom%20of%20the,esteem%2C%20and%20self%2Dactualization.>

reconsider, afresh, the opportunity for unification of the laws governing international transport of cargo for the next generation. At a minimum, the current unimodal treatment of cargo within the Warsaw Convention regime and the MC is ripe for reconsideration as is the treatment of other modes of carriage of cargo in their own unimodal regimes.

The expected persistence of the pandemic, whether in its current form with its still uncertain timeframe, or in an endemic form,¹⁹⁴ bodes for the probability that air cargo, together with the global cargo industry and multimodal supply chain, will continue its evolution in the presence of health and humanitarian crisis or other potential global catastrophe. Such global challenges provide continuing transformational opportunity throughout the cargo industry in commerce and its associated law.

¹⁹⁴ See, World Health Organisation, 'Briefing 13 May 2020', https://www.who.int/docs/default-source/coronaviruse/transcripts/who-pressconference-13may2020.pdf?sfvrsn=ee0d2cde_2