

Air-Rail Alliances in the Context of Liability and Environmental Protection: Selected Legal Issues

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Abstract

Since the deregulation of airlines in the 1970s and 80s the aviation industry has constantly tried to find new ways to engage with the increasingly competitive aviation market by expanding their outreach through strategic partnerships and global alliances. Over the past 10 years airlines have strengthened their partnerships with railway companies to offer more convenient connections for passengers to their hubs and link remote areas to their route network. These Air-Rail Alliances have helped airlines to stay competitive in the modern aviation market. This short paper will briefly examine two legal issues pertaining to Air-Rail Alliances, namely whether an airline can be held liable in case of an accident during the train leg of the journey and how Air-Rail Alliances help airlines to meet their carbon emission reduction goals under the European Union Emissions Trading Scheme (EU ETS) and the ICAO Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). Especially during the COVID-19 pandemic, Air-Rail Alliances proved to be a good vehicle for airlines to replace specific flights in their network. The paper will first explain basic terminology relating to the airline's business before explaining the structure of Air-Rail Alliances in more detail. Afterwards, it will address the question as to whether an airline can be held liable in the case of an accident during the train leg of the journey. The paper will answer this question by arguing that airlines cannot be held liable under international aviation law, but rather the train operator can under the *lex loci* of the state in which the accident occurred. Finally, the paper will discuss the structure of both the EU ETS and CORSIA and argue that Air-Rail Alliances are a valuable tool for airlines to meet their carbon dioxide reduction goals. It will be highlighted that the CORSIA is flexible and adaptive enough to take the unprecedented consequences of the COVID-19 pandemic into account and underline how the law can be adaptive in such a changing environment.

Keywords: *Emissions, EU, Air Law, Environment, Aviation, CORSIA, Liability, Carbon Emissions, Air-Rail Alliance.*

Résumé

Depuis la dérèglementation des compagnies aériennes dans les années 1970 et 1980, l'industrie de l'aviation a constamment essayé de trouver de nouveaux moyens de collaborer avec le marché de plus en plus compétitif de l'aviation, en développant leur rayonnement à travers des partenariats stratégiques et des alliances mondiales. Au cours des dix dernières années, les compagnies aériennes ont renforcé leurs partenariats avec les compagnies ferroviaires pour offrir des

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correspondances plus pratiques aux passagers de leur hub et connecter des territoires isolés à leur réseau d'itinéraires. Ces alliances Air-Rail ont aidé les compagnies aériennes à rester compétitives sur le marché de l'aviation moderne. Ce court article examinera rapidement deux problématiques juridiques relatives aux alliances Air-Rail, à savoir si une compagnie aérienne peut être tenue responsable en cas d'accident durant l'étape ferroviaire du voyage, et comment les alliances Air-Rail aident les compagnies aériennes à respecter leurs objectifs de réduction d'émissions de CO₂ dans le cadre du système d'échange de quotas d'émission de l'Union européenne (SEQE-UE) et du régime de compensation et de réduction de carbone pour l'aviation internationale (CORSIA). Particulièrement durant la pandémie de COVID-19, les alliances Air-Rail se sont avérées être un bon moyen pour les compagnies aériennes de remplacer certains vols de leur réseau. L'article expliquera d'abord la terminologie basique relative au commerce des compagnies aériennes, avant d'expliquer la structure des alliances Air-Rail plus en détail. Ensuite, il traitera de la question de savoir si une compagnie aérienne peut être tenue responsable en cas d'accident durant l'étape ferroviaire du voyage. L'article répondra à cette question en affirmant que les compagnies aériennes ne peuvent être tenues responsables dans le cadre du droit aérien international, mais que l'exploitant du train peut l'être en vertu de la *lex loci* de l'État dans lequel l'accident s'est produit. Enfin, l'article débattrra de la structure du SEQE-UE et du CORSIA, et affirmera que les alliances Air-Rail sont un outil de valeur pour les compagnies aériennes afin de respecter leurs objectifs de réduction d'émissions de CO₂. Il sera souligné que le CORSIA est souple et capable de s'adapter suffisamment pour prendre en considération les conséquences sans précédent de la pandémie de COVID-19, et démontre la manière dont le droit peut être adaptable dans un tel environnement en évolution.

Mots-clés : *Émissions, UE, Droit aérien, Environnement, Aviation, CORSIA, Responsabilité, Émissions de carbone, Alliance Air-Rail.*

Introduction

Since the deregulation of the airline industry in the 1970s and 80s the global aviation industry has grown exponentially. What began as a short and moderately successful first “flight” of 36 meters by the Wright Brothers at the beginning of the 20th century, developed into a multi-billion-dollar industry that constitutes the backbone of our modern economy.

Airlines that used to enjoy a monopoly and protected position within their respective countries, often secured through politically charged negotiations resulting in Air Transport Agreements (ATAs), have increasingly come under pressure to compete with low-cost carriers like Spirit Airlines, Ryanair and EasyJet. The corresponding decrease in ticket prices made aviation accessible to everybody and airlines became common carriers transporting millions of people and goods across the globe.

Over the past 20 years many of the big airlines scrambled to adapt to this new environment and tried to save costs while still ensuring a consistent revenue generating stream of passengers and cargo. Airlines sought out new strategic partnerships to guarantee their financial “survival”.

Air-Rail Alliances are a good example of these strategic partnerships. Airlines enter into a codeshare agreement with railway companies, assign them a regular flight number and make them accessible to book through their booking portals. Passengers get a regular ticket, their luggage is often checked through from the train to their final destination and frequent flyer benefits, such as lounge access, carry over to the railway portion of their ticket.

The continued investment in rail infrastructure, the corresponding development of rail networks and the use of ever-faster train connections have significantly reduced travel time and established railway companies as viable partners for airlines. Even though these partnerships have increased in recent years (see below), the legal literature has largely neglected these emerging forms of cooperation.

Therefore, this paper will look at these strategic alliances in more detail, focus on two important legal areas that are directly impacted by such partnerships and serve as a first step to encourage more legal discussing Air-Rail Alliances.

First this article will introduce the reader to the basic terminology, explain what codeshare agreements are and how they are used in the modern aviation industry. It will then examine the advantages of such Air-Rail Agreements before exploring potential liability issues that might arise from incidents during the train leg of the journey. Afterwards, the paper will look at how and why Air-Rail Alliances can help airlines to meet their carbon emission goals, reduce their environmental footprint and how this system is sufficiently adaptive to deal with the impact of the unprecedented COVID-19 pandemic. These areas discussed are of prime concern for an airline, which is why, albeit different in their natures, they are addressed in the present article. The author is aware of these differences, nevertheless it is prudent to write about them in one article in order to facilitate more legal discussion in this regard and highlight the increasing emergence of Air-Rail Alliances.

I. Basic Terminology

The *Convention on International Civil Aviation* (Chicago Convention) does not regulate economic activity or establish a system for the exchange of traffic rights.¹ This is entirely left to the states to negotiate individually. A state may give a foreign aircraft permission to enter its

¹ *Convention on International Civil Aviation* (07 December 1944) 15 UNTS 295 (entered into force 04 April 1947) [*Chicago Convention*]. Cf Paul Stephen Dempsey, *Public International Air Law*, 2nd ed (Montreal: Centre for Research in Air and Space Law, 2008) at 512; Benjamyn I Scott & Andrea Trimarchi, *Fundamentals of International Aviation Law and Policy*, 1st ed (New York: Routledge Taylor & Francis Group, 2019) at 101.

sovereign territory through so-called Air Service Agreements (ASA).² In such an agreement, reciprocal market access is, usually bilaterally, granted for the benefit of the respective designated airline(s) of the parties.³

Additionally, at the time of the Chicago Conference, states also negotiated and signed the International Air Services Transit Agreement (IASTA). In the IASTA, signatories multilaterally agreed to exchange the first two freedoms of the air, namely the privilege to fly across the territory of a state without landing and the privilege to land for non-traffic purposes.⁴ In contrast, in an ASA, states exchange traffic rights, that is, the right to carry passengers and cargo for remuneration.

The international route network offered by airlines, which passengers have come to appreciate and rely on, was established through a detailed system of ASAs negotiated and signed by individual states.⁵

Although the modern aviation industry appears to be interconnected, providing an international route network for passengers and enabling them to go from point A to point B seamlessly, there is in fact no single air carrier that is legally able to create a global network on its own.⁶ That is mainly due to the nationality rule: An airline can only be designated by a state under an ASA if the airline is substantially owned or effectively controlled by nationals of the designating state.⁷ Further, many ASAs additionally require that the airline must also be legally established and have its principal place of business in the designating country.⁸ This principle is reinforced by

² See also Pablo Mendes de Leon & Benjamin Ian Scott “An Analysis of Unmanned Aircraft Systems Under Air Law” in Aleš Završnik, ed, *Drones and Unmanned Aerial Systems*, (Ljubljana: Springer International Publishing AG, 2015) at 196.

³ See Juan Carlos Salazar & Peter van Fenema, “International Air Transport Agreements” in Paul Stephen Dempsey & Ram S Jakhu, eds, *Routledge Handbook of Public Aviation Law*, (New York: Routledge Taylor & Francis Group, 2017) 252 at 252. In recent history, a new form of ASAs has emerged. The so-called Open Skies Agreements allow for unlimited market access of air carriers between the signatories. This is different from older ASAs which limited the numbers of airlines that could be designated by the signatories. See e.g. U.S. Department of State, “Open Skies Agreements”, online: [U.S. Department of State <2009-2017.state.gov/e/eb/tra/ata/index.htm>](https://www.state.gov/e/eb/tra/ata/index.htm).

⁴ See *International Air Services Transit Agreement*, 07 December 1944, 84 UNTS 389, art 1 (entered into force 30 January 1945). The IASTA has currently 134 parties. See ICAO, “International Air Services Transit Agreement signed at Chicago on 7 December 1945”, online (pdf): [ICAO <www.icao.int/secretariat/legal/list%20of%20parties/transit_en.pdf>](https://www.icao.int/secretariat/legal/list%20of%20parties/transit_en.pdf).

⁵ Currently there are more than 5000 bilateral Air Service Agreements world-wide. For more details see European Union, “Competition in air transport – workshop proceedings” (25 April 2018), online: [Publications Office of the European Union <op.europa.eu/en/publication-detail/-/publication/4e3557f5-48fb-11e8-be1d-01aa75ed71a1/language-en>](https://publications.european.eu/en/publication-detail/-/publication/4e3557f5-48fb-11e8-be1d-01aa75ed71a1/language-en).

⁶ See Brian F Havel & Gabriel S Sanchez, *The Principles and Practice of International Aviation Law*, (New York: Cambridge University Press, 2013) at 123. See also Scott & Trimarchi, *supra* note 1 at 112.

⁷ Dempsey, *supra* note 1 at 593; Havel & Sanchez, *supra* note 6 at 123.

⁸ *Ibid.* See also EC, *Air Transport Agreement between the United States and the European Community and its Member States* (2007) OJ, L 134/4, art 4.

national legislation that prohibits foreign ownership and ensures national control over the respective airline.⁹

These nationality rules prevent airlines from having a stand-alone global network served by wholly owned subsidiary companies established in other countries. As Havel and Sanchez accurately summarise it: “Airlines, in a phrase, do not do business like any other business”.¹⁰

This forced many airlines to enter into interlining agreements, codeshare agreements and global alliances to simulate a global network.

a.) Interlining

Interlining is a commercial agreement between two airlines in which one airline is allowed to market and sell seats and services provided by another airline.¹¹ IATA defines interlining as “travel or potential travel involving multiple airlines on a single ticket, bought in a single transaction, using a single currency, which offers a passenger through-checked baggage, and a high degree of flexibility as to the choice of timing, routing and carrier”.¹²

Under an interline agreement, Austrian Airlines (OS), for example, would be allowed to market and sell seats on a London – Manchester flight operated by British Airways (BA). The crucial difference to a codeshare agreement is that the airline which sells the ticket is not allowed to place its designator code onto the operating airline’s flight.¹³ In our example Austrian Airlines would only be allowed to sell and market the flight under a BA flight number but not as an OS flight. The “net distinction” between the two airlines, therefore, remains.¹⁴

Another aspect of this net distinction is that, unlike in codeshare agreements, passengers receive two contracts of carriage for their journey (albeit only one ticket).¹⁵

⁹ Havel & Sanchez, *supra* note 6 at 123.

¹⁰ *Ibid.*

¹¹ Scott & Trimarchi, *supra* note 1 at 112.

¹² IATA Definition cited in Benjamyn I Scott & Andrea Trimarchi, *Fundamentals of International Aviation Law and Policy*, 1st ed (New York: Routledge Taylor & Francis Group, 2020) at 112.

¹³ Scott & Trimarchi, *supra* note 1 at 113.

¹⁴ *Ibid.*

¹⁵ See e.g. Copa Airlines “Interline Agreements”, online: *Copa Airlines* <www.copaair.com/en/web/us/interline-agreements>

Interlining is a concept that has been described as a cornerstone for the industry which has been used almost as long as the aviation industry exists.¹⁶

b.) Code-sharing

Code-sharing is another, more intimate, commercial relationship between two airlines. Under a codeshare agreement, one airline markets, promotes and sells the flight of a partner airline as its own service and places its own designator code on the partner airline's flight.¹⁷ This is the reason why many flights have multiple flight numbers. Under a code-share agreement Lufthansa (LH) can market and sell a flight that is operated by Austrian Airlines (OS) and identified as OS334, as its own LH3432 service.

ICAO defines code-sharing as “the practice whereby one carrier permits a second carrier to use its airline designator code on a flight, or where two carriers share the same designator code on a flight”.¹⁸

Consequently, code-sharing shows similarities to interlining and has been described by ICAO as a form of “preferential interlining”.¹⁹ The crucial difference between interlining and codeshare is that there is no clear “net distinction” between the two airlines anymore. A passenger gets one contract of carriage and ticket, usually from the airline that sold the ticket (the contractual carrier), and the contractual carrier markets the flight of the operating carrier as its own by placing its own designator code on the operating airline's flight.

However, the participating airlines do not offer a single service but rather “each airline pretends that it is offering an integrated service that is in fact partly operated by one or more of its partner carriers”.²⁰

Such codeshare agreements are the cornerstone of the various modern airline alliances and allow airlines to connect traffic to their own flights from destinations which they do not themselves serve.²¹ This creates the impression of a large operational network to the consumer while in fact,

¹⁶ IATA, “The Future of Interline: A new model for seamless customer journeys” (October 2019), online (pdf): [LATA <www.iata.org/contentassets/23426d4b09a0446dbe831601869098a1/future-of-interline-wp.pdf>](https://www.iata.org/contentassets/23426d4b09a0446dbe831601869098a1/future-of-interline-wp.pdf).

¹⁷ See e.g. Michael Milde, *International Air Law and ICAO*, 3rd ed (The Hague: Eleven International Publishing, 2016) at 123. See also Havel & Sanchez, *supra* note 6 at 153; Scott & Trimarchi, *supra* note 1 at 113.

¹⁸ ICAO, *Implications of Airlines Codesharing*, Circular 269-AT/110, s 1.1.

¹⁹ *Ibid*.

²⁰ Havel & Sanchez, *supra* note 6 at 153.

²¹ *Ibid* at 148.

as mentioned above, no airline on its own can operate a truly global network.²² The big advantage for the airline is that it can serve markets, which it normally would not be able to serve, especially when their home state has not secured that route in an ASA.²³

Needless to say, this close commercial relationship has attracted the attention of authorities and anti-trust regulators, which keep a close eye on any codeshare agreement.²⁴

Such codeshare agreements, although geared towards and widely used in the aviation sector, are not, as we will see later, exclusive to business partnerships between airlines.

c.) Global Airline Alliances

Today's aviation industry is strongly governed by global alliances of different air carriers.²⁵ These global airline alliances are geared towards offering passengers a seamless travel experience and give them access to a world-wide network of flights to all corners of the planet.²⁶ Codeshare agreements form the basis of such alliances. However, a global airline alliance goes further than a codeshare agreement. This cooperation between airlines ranges from simply providing check-in and booking services to co-branded airport lounges, common frequent flyer programs and unified marketing structures.²⁷ In other words: "[I]nternational airline alliance in its present advanced form can be described as a merger without a transfer of ownership rights".²⁸ It therefore allows airlines to circumvent the nationality rule that forms part of every ASA by entering in a theoretical merger in every regard but transfer of ownership.²⁹ This makes global airline alliances vital to the modern aviation economy.

Global airlines alliances are not limited to airlines *per se* but can also have non-airline partners (see below). The German National Railway (Deutsche Bahn), for instance, recently joined the Star Alliance Network as a full member.³⁰

²² *Ibid*, Scott & Trimarchi, *supra* note 1 at 113.

²³ Havel & Sanchez, *supra* note 6 at 153.

²⁴ *Ibid*. See also Dempsey, *supra* note 1 at 4.

²⁵ The three alliances are, in decreasing order of number of member airlines, Star Alliance, One World and SkyTeam.

²⁶ Scott & Trimarchi, *supra* note 5 at 115.

²⁷ *Ibid*.

²⁸ Havel & Sanchez, *supra* note 6 at 148.

²⁹ *Ibid* at 150.

³⁰ See Alex McWhiter, "Deutsche Bahn to join Star Alliance on August 1st" (04 July 2022), online: *Business Traveller* <www.businesstraveller.com/business-travel/2022/07/04/deutsche-bahn-to-join-star-alliance-on-august-1/>. This means that Deutsche Bahn became a rail partner of all Star Alliance member airlines. Usually Air-Rail Alliances are negotiated between the respective airline and railway company individually.

After having explored the basic terminologies that are frequently used in discussions surrounding Air-Rail Alliance, this paper will now look towards the emergence of these very alliances in greater detail.

II. Air-Rail Alliances – Selected Legal Issues

This section will look at two selected legal issues arising from an Air-Rail Alliance. It will first explain the structure of such a partnership, before examining the question of the applicable legal regime in case of liability claims arising from an accident during the train leg of the journey. Afterwards, this section will explore the positive environmental impact such Air-Rail partnerships can generate.

a.) Structure of Air-Rail Alliances

An Air-Rail Alliance is a partnership between an air carrier and railway company that enables an airline to replace costly domestic air services with high-speed rail travel and connect revenue generating passengers to major flight hubs.³¹ This undertaking is usually accomplished via a codeshare agreement or business partnership. The airline markets, sells and advertises the rail connection as their own service placing a flight number on the train.³²

Passengers can often check-in their luggage at the train station, access the respective railway lounge based on their booking class or frequent flyer status, collect frequent flyer miles and the boarding pass is issued together with the train ticket.³³

This partnership generates benefits for both, the airline and the passenger. The airline can operate more economically and serve a domestic market more efficiently by enabling connections to places that would normally not have direct access to an international airport. The consumer has the advantage of one booking, and the security that comes with it in case of delays, as well as convenient access to typical airport services such luggage service and a dedicated check-in. To this end, the International Air Transport Association indexes train stations and puts a station code on them, similar to airports.³⁴

³¹ See e.g. Francesca Street “Why airlines want you to go by train” (3 December 2019), online: *CNN travel* <www.cnn.com/travel/article/air-rail-alliances/index.html>.

³² See “Austrian AIRail”, online (pdf): *OEBB* <www.oebb.at/dam/jcr:023bf354-c823-4e66-9920-3e2b4f251e8d/folder-airail.pdf>.

³³ *Ibid.* See also: Austrian Airlines, “AIRail Rail and Fly”, online: *Austrian Airlines* <www.austrian.com/gr/en/airail-and-fly>.

³⁴ Example: Dorval near Montreal has the IATA Station code XAX, Vienna Airport Train Station VIE.

Air-Rail Alliances have grown to become a global concept and there are many dedicated Air-Rail Alliances such as United Airlines and Amtrak³⁵, China Eastern and CRH³⁶, Lufthansa, American Airlines, Emirates and Deutsche Bahn³⁷, Austrian Airlines and OEBB³⁸, Swiss International Airlines and SBB³⁹, Air France and SNCF⁴⁰, KLM and Delta and Thalys.⁴¹ In similar fashion, VIA Rail Canada partnered with several international airlines, such as Royal Jordanian, Cathay Pacific, LOT, Qatar Airways and Hainan.⁴² VIA Rail connects passengers, in partnership with the Union Pearson Express Rail, to Toronto Pearson and through the Airport Shuttle from the VIA Dorval Train Station to Trudeau International Airport in Montreal.⁴³

However, the Air-Rail partnership itself is only one component and depends on a railway infrastructure at the departure/destination airport. This is one of the reasons why the vast majority of airports either come equipped with a rail connection or are subsequently upgraded with one. The Airport Express in Hong Kong links the airport with the city center, where passengers can transfer to other transportation, and the Austrian National Railway (OEBB) utilises the VIE Airport Train Station to offer service to the rest of Austria directly through their national train network.⁴⁴ Additionally, there is a dedicated City-Airport Train which links the airport with Vienna City Centre and the regional network. In similar fashion, Sydney International Airport is equipped

³⁵ See United Airlines, “Amtrak”, online: *United Airlines* <www.united.com/ual/en/us/fly/mileageplus/earn-miles/amtrak.html>; United and Amtrak downsized their partnership and United customers are no longer able to earn United MileagePlus Miles.

³⁶ See Wang Ying, “China Eastern Airlines, China State Railway Group join hands to unveil new service” (25 August 2020), online: *ChinaDaily* <www.chinadaily.com.cn/a/202008/25/WS5f44bf4ca310675eafc5569e.html>

³⁷ See Lufthansa “Rail&Fly”, online: *Lufthansa* <www.lufthansa.com/de/en/rail-and-fly>; American Airlines, “Rail & Fly”, online: *American Airlines* <www.aa.com/i18n/plan-travel/rail-and-fly.jsp?locale=en_DE>; Emirates, “Codeshare partnership with Deutsche Bahn”, online: *Emirates* <www.emirates.com/us/english/travel-partners/deutsche-bahn/>.

³⁸ See Austrian Airlines, “AIRail Rail and Fly”, online: *Austrian Airlines* <www.austrian.com/gr/en/airail-and-fly>.

³⁹ See Swiss, “Airtrain”, online: *Swiss* <www.swiss.com/ch/en/book/partner-offers/airtrain>.

⁴⁰ See AirFrance, “Air&Rail combined trips”, online: *Air France* <www.airfrance.fr/FR/en/common/resainfovol/avion_train/reservation_avion_train_tgvair_airfrance.htm>.

⁴¹ See KLM “KLM, Thalys and NS Dutch Railways have joined forces to replace flights between Brussels and Amsterdam Airport Schiphol” (13 September 2019), online: *KLM* <news.klm.com/klm-thalys-and-ns-dutch-railways-have-joined-forces-to-replace-flights-between-brussels-and-amsterdam-airport-schiphol/>; Delta, “Delta launches Air+Rail program offering convenient and seamless train service between Amsterdam and Brussels, Antwerp” (11 August 2021), online: *Delta* <news.delta.com/delta-launches-airrail-program-offering-convenient-and-seamless-train-service-between-amsterdam-and>.

⁴² See VIA Rail Canada, “Our Partners”, online: *ViaRail* <www.viarail.ca/en/travel-info/transport-services/intermodality/overview>.

⁴³ See Via Rail, “Montreal – Trudeau Airport Shuttle”, online: *ViaRail* <www.viarail.ca/en/travel-info/transport-services/intermodality/montreal-trudeau-shuttle>; Via Rail, “Via Rail and UP Express Partnership”, online: *ViaRail* <www.viarail.ca/en/upexpress>.

⁴⁴ See Hong Kong International Airport, “Airport Express”, online: *Hong Kong International Airport* <www.hongkongairport.com/en/transport/to-from-airport/airport-express.page>; OEBB, “Travelling to Vienna Airport”, online: *OEBB* <www.oebb.at/en/regionale-angebote/ueberregionale-angebote/anreise-zum-flughafen>.

with a train station that is served by regional trains through the airport link.⁴⁵ Another good example is Narita Airport in Tokyo. The Airport is equipped with two modern train station that are served by the Keisei and JR Line, both of which offer a national highspeed railway network.⁴⁶

In these Air-Rail partnerships the passenger usually gets one ticket and connects directly from the flight to the train or vice-versa. Booking agents can reserve all legs together in one single booking and the passenger receives one reservation. This is very similar to when a passenger holds a ticket with multiple flight connections. Therefore, it raises the question of how liability issues are to be addressed in the case of air-rail alliances, since these partnerships look very similar to “normal” flight connections.

b.) Liability Issues

Should an accident occur during the train portion of the journey, the question arises as to how the legal consequences should be addressed. In an Air-Rail Alliance, as mentioned above, the airline markets and sells the connecting train journey as a codeshare “flight”.⁴⁷ Since these arrangements are largely the same as if there were two flights involved, the only difference being that one leg is operated by a train rather than an aircraft, we must briefly discuss whether liability claims can be brought under international air law, more specifically the Warsaw Convention of 1929⁴⁸ and the Montreal Convention of 1999.⁴⁹

The Warsaw Convention of 1929 and the Montreal Convention of 1999 are the two most prominent instruments for second-party liability. Both legal regimes become applicable in the case of international carriage of persons, baggage and cargo gratuitously or for reward.⁵⁰ International carriage is defined as transportation, in which the place of departure and destination is in the territory of two different state parties to the convention or, should the departure and destination be within the same country, an agreed stopping place in the territory of another party.⁵¹ A “national

⁴⁵ See Vienna International Airport, “City Airport Train / CAT”, online: *Vienna International Airport* <www.viennaairport.com/en/passengers/arrival__parking/city_airport_train_cat>.

⁴⁶ See Narita Airport, “Rail”, online: *Narita Airport* <www.narita-airport.jp/en/access/train>.

⁴⁷ The following may serve as an example: a passenger books a flight from the Austrian city Linz to New York via the website of Austrian Airlines (OS). OS would market and sell both legs of the journey under their own flight number. The first leg would get a specific flight number such as OS3528 (operated by OEGB) and the second leg would get OS84 (operated by Austrian Airlines).

⁴⁸ *Convention for the Unification of certain rules relating to international carriage by air*, 12 October 1929 (entered into force 13 February 1933) [*Warsaw Convention*].

⁴⁹ *Convention for the Unification of Certain Rules for International Carriage by air*, 28 May 1999, UNTS 39917 (entered into force 4 November 2003) [*Montreal Convention*].

⁵⁰ *Warsaw Convention*, *supra* note 48, art 1; *Montreal Convention*, *supra* note 49, art 1.

⁵¹ *Warsaw Convention*, *supra* note 48 Art 1; *Montreal Convention*, *supra* note 49, art 1.

connecting leg” of the journey still falls under the scope of both conventions provided that both parties deemed it as one undivided single operation.⁵²

Could a national train connection sold as a codeshare flight therefore fall under the Warsaw or Montreal Convention? The short answer to this question is ‘no’. Both the Warsaw and Montreal Convention, in their Article 1 clearly stipulate that they are applicable to international carriage performed by aircraft.⁵³ Further, both conventions expressly deal with combined carriage, that is carriage performed partly by air and partly by any other means of transportation, and exclude the part of the journey that is not performed by air from the regulatory regime established by the conventions.⁵⁴

Even though these specific train connections may appear as codeshares and look similar to ordinary codeshare flights, they are in fact fundamentally different. Apart from the obvious design differences and the fact that one is a terrestrial while the other is an airborne service, trains do not have a nationality like aircraft do.⁵⁵ Aircraft bear the nationality of the state of registry, and international rules are therefore necessary. This concept of nationality does not exist in the realm of railway travel.⁵⁶

This leads us to the applicability of the *lex loci*⁵⁷ of the state in which the incident occurs even when the journey crosses state lines. This would be the most suitable option for trains as the location of the accident, and thus the applicability of the appropriate legal regime, would rarely ever be in question. Aircraft, on the other hand, travel at high speeds at high altitudes, potentially crossing different state lines within minutes, making the nationality of aircraft important from a legal point of view.⁵⁸ Should there be an accident involving a train, even when the train was acting as a codeshare sold by an airline, the accident is governed by the *lex loci* and plaintiffs will have to bring claims under the law of the state in which the accident occurred. However, trains are considered to be among the world’s safest modes of transportation and accidents remain a rarity.

⁵² *Ibid.* Simply put: if I book a ticket from Munich to New York via Frankfurt, the Munich-Frankfurt leg still falls under the scope of the conventions although it is a purely national flight within Germany.

⁵³ *Warsaw Convention*, *supra* note 48 art 1; *Montreal Convention*, *supra* note 49, art 1.

⁵⁴ *Warsaw Convention*, *supra* note 48, art 31; *Montreal Convention*, *supra* note 49, art 38.

⁵⁵ Cf P Paul Fitzgerald, “*In Defense of the Nationality of Aircraft*” (2011) 36 *Ann Air & Sp L* 81 at 85; *Chicago Convention*, *supra* note 1, art 17.

⁵⁶ Fitzgerald, *supra* note 55 at 85.

⁵⁷ *Lex Loci* is a latin term, which translated would mean “Law of the Place”. In legal literature it is used to describe the applicability of the national law of the country in which an incident occurred.

⁵⁸ *Ibid.*

This also greatly benefits the airlines, as they are not liable under the Warsaw and Montreal Conventions for any accidents that might occur during a train connection. Apart from contractual liability that could arise from the individual contract of carriage between the airline and the passenger, usually the train operator will be the addressee of any liability claims according to the *lex loci* of the state in which the incident occurred.

c.) Environmental Impact

Let us now direct our attention towards the environmental implications of Air-Rail Alliances and how they help airlines meet their carbon emission targets under the European Union's Emission Trading Scheme (EU ETS) and the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).⁵⁹ This section will first look at the EU ETS before discussing CORSIA and highlight the difference between these two initiatives.

The aviation industry is among the world's biggest emitters of greenhouse gases.⁶⁰ A typical one-hour flight generates around 8500kg of carbon dioxide (CO₂) and the greenhouse gas emissions in the European Union alone increased by 95% from 88 to 171 million tonnes over a period of 26 years from 1990 to 2016.⁶¹

It comes as no surprise that the aviation sector became a target of adaptive climate legislation and was included in the EU ETS. The EU ETS aims to curb the net greenhouse gas emissions in the European Union by at least 43% until 2030.⁶²

Under the EU ETS the European Commission defines carbon emissions caps, which decrease every year.⁶³ These caps are then divided and shared between markets in the European Union in the form of Tradable Allowances (1 Allowance equals 1 Tonne of CO₂).⁶⁴ Each company

⁵⁹ The European Union Emissions Trading Scheme was established by Directive 2003/87/EC. See *DIRECTIVE 2003/87/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC* [2003], OJ L 275/32.

⁶⁰ If the industry were a country, it would be among the top ten CO₂ producing countries. See European Commission, "Reducing emissions from aviation", online: *European Union* <ec.europa.eu/clima/policies/transport/aviation_en>.

⁶¹ See European Environment Agency, European Aviation Safety Agency, & Eurocontrol, "European aviation environmental report 2019" (2019), online (pdf): *EASA* <www.easa.europa.eu/eacr/system/files/usr_uploaded/219473_EASA_EAER_2019_WEB_LOW-RES.pdf>.

⁶² See European Commission, "EU Emissions Trading Scheme (EU TS)", online: *European Commission* <ec.europa.eu/clima/eu-action/eu-emissions-trading-system-eu-ets/revision-phase-4-2021-2030_en>.

⁶³ See European Union, "EU ETS Handbook" (2015) at 16, online (pdf): *European Commission* <ec.europa.eu/clima/system/files/2017-03/ets_handbook_en.pdf> [EU Handbook].

⁶⁴ *Ibid.* See also Patrick Bayer & Michaël Aklin, "The European Union Emissions Trading System reduced CO₂ emissions despite low prices" (2020) 117:16 *Proc Natl Acad Sci USA* 8804 at 8804.

gets a certain number of allowances each year and has an obligation to not exceed the total amount of CO₂ it is allowed to produce under the EU ETS.⁶⁵ If the CO₂ is higher than the allowance, the company can either purchase more allowances from another company that has not exceeded its maximum or, in the past, could offset its CO₂ emission by “offset credits”.⁶⁶

Although the aviation market is a prime producer of carbon emissions it was originally excluded from the scope of the EU ETS.⁶⁷ Only after many consultations and compromises was Directive 2008/101 passed, extending the scope to include the aviation sector in the EU ETS.⁶⁸ The aviation industry subsequently joined the EU ETS in 2012 and the scheme applies equally to EU and non-EU airlines that operate to, from and within the European Union or an EEA-EFTA country.⁶⁹ This step was not achieved without criticism, particularly from non-EU airlines, which challenged the EU Law as being incompatible with international law. In 2010 the European Court of Justice upheld the legality and validity of the EU ETS making it applicable to non-EU carriers when they serve the European market.⁷⁰

The EU ETS mandates that airlines surrender one allowance per one tonne of carbon dioxide emitted per flight without distinction as to its origin or destination or nationality of the

⁶⁵ EU Handbook, *supra* note 63 at 16.

⁶⁶ An offset credit can be claimed by a company if they reduce carbon emissions in another country. Example: A company operates in the EU and Brazil. If it reduces its CO₂ emissions in Brazil, it can claim offset credits for this undertaking and increase its permissible CO₂ in the EU. The ‘offset credit’ has been eliminated under Phase 4 that began in January 2021. All carbon emission reductions must be domestic. See European Commission, “Use of international credits”, online: *European Union* < ec.europa.eu/clima/policies/ets/credits_en >.

⁶⁷ See Brian F Havel & John Q Mulligan, “The Triumph of Politics: Reflections on the Judgment of the Court of Justice of the European Union Validating the Inclusion of Non-EU Airlines in the Emissions Trading Scheme” *Air & Space L* 31:1 1 at 6.

⁶⁸ *Ibid*; see also *Directive 2008/101/EC of the European Parliament and of the Council of 19 November 2008 amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community*, [2008], OJ L 8/3.

⁶⁹ EU Handbook, *supra* note 63 at 89.

⁷⁰ *The Air Transport Association of America, American Airlines Inc., Continental Airlines Inc., United Airlines v the Secretary of State for Energy and Climate Change*, C-366/10, [2011] ECR I-13755. The plaintiffs challenged the validity of Directive 2008/101 and argued that it stands in conflict with aviation related principles of international treaty law and customary international law, in particular the principle of customary international law that each State has complete and exclusive sovereignty over its airspace, the principle of customary international law that no State may validly purport to subject any part of the high seas to its sovereignty, the principle of customary international law of freedom to fly over the high seas, the principle of customary international law that aircraft overflying the high seas are subject to the exclusive jurisdiction of the country in which they are registered, save as expressly provided for by international treaty, the Chicago Convention (in particular Articles 1, 11, 12, 15 and 24), the Open Skies Agreement (in particular Articles 7, 11(2)(c) and 15(3)) and the Kyoto Protocol (in particular, Article 2(2)). The European Court of Justice rejected the arguments of the plaintiffs mainly on the following grounds: The European Union has not signed the Chicago Convention and can therefore not be bound by it, regardless of the fact that all Member States of the European Union are party to the Chicago Convention. Further, the EU ETS has no actual extraterritorial effect but is only based on the conduct that occurs within the European Union. This decision has been heavily criticised outside the European Union. In this author’s opinion, the court merely attempted to find a legally viable way to protect the institutions of the European Union and its legislation – with questionable outcomes. For an excellent detailed analysis of the decision. See Havel & Mulligan, *supra* note 67.

airline.⁷¹ The number of allowances is always applied to the whole flight regardless of how much time the plane actually spent in European airspace.⁷² Initially, 85% of allowances were allocated free of charge to aircraft operators and the remaining 15% needed to be purchased under the EU ETS.⁷³ In Phase 3 (2013-2020) the free allowances had been reduced from 85% to 82% while 15% still had to be purchased. The remaining 3% were held as a reserve for new market entrants.⁷⁴ Taking into account that the “total number of allowances is capped at a level below historic annual emission for the [aviation] industry, there is likely to be high demand for the allowances on the market”.⁷⁵ Consequently, this makes it an expensive endeavour for the airlines, which further eats away the slim margins with which airlines operate.⁷⁶

The European Union is not the only entity with measures combatting climate change. In 2016, the ICAO adopted Resolution A39-3, which aimed to introduce a global market-based measure to offset carbon emissions in international aviation.⁷⁷ Although CORSIA aims to work towards the same goal as the EU ETS, there is a slight but important difference. As mentioned above, the EU ETS is a cap-and-trade system which limits the number of emission allowances across all covered sectors (i.e. stationary installations and aircraft operators).⁷⁸ The number of these allowances is capped, forcing an absolute reduction of the level of CO₂ emissions across all covered sectors.⁷⁹ CORSIA, on the other hand, is solely an offsetting scheme insofar as it allows offsets of carbon emissions of international aviation above a certain baseline.⁸⁰ This is a more cost-effective solution for airlines, as the emissions reductions that cannot be achieved through the aviation sector can be offset through any other sector where the ability for quicker reductions is greater and the associated costs lower.⁸¹ CORSIA is based on the belief that greenhouse gas

⁷¹ Havel & Mulligan, *supra* note 67 at 6.

⁷² *Ibid.*

⁷³ *Ibid.*

⁷⁴ EU Handbook, *supra* note 63 at 90. These parameters did not change in Phase 4. See European Commission, “Emissions cap and allowances”, online: *European Union* <ec.europa.eu/clima/policies/ets/cap_en>.

⁷⁵ Havel & Mulligan, *supra* note 67 at 7. This prediction proved to be correct. Although, amid the first wave of pandemic lockdowns and the decrease in demand the allowance price fell from 25 to 17 Euros, it started to increase exponentially once airlines started to increase their flight activity. At the date of writing the price for one allowance crossed the 90 Euro threshold. For a detailed graph see <tradingeconomics.com/commodity/carbon>.

⁷⁶ The cost of an airline for compliance in 2017 was estimated to be 189 million Euro. See Carbon Market Watch, “Better pricing of aviation emissions in the EU is needed, and the Netherlands is championing it” (19 February 2019), online (pdf): *Carbonmarketwatch* <carbonmarketwatch.org/wp-content/uploads/2019/02/Better-pricing-of-aviation-emissions-in-the-EU-is-needed-and-the-Netherlands-is-championing-it.pdf>.

⁷⁷ See ICAO, “Resolution A39-3: Consolidated statement of continuing ICAO policies and practices related to environmental protection – Global Market-based Measure (MBM) scheme” (2016), online (pdf): *ICAO* <www.icao.int/environmental-protection/documents/resolution_a39_3.pdf>.

⁷⁸ See EASA, “Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)”, online: *EASA* <www.easa.europa.eu/eaer/topics/market-based-measures/corsia>.

⁷⁹ *Ibid.*

⁸⁰ *Ibid.*

⁸¹ *Supra* note 78.

reductions benefit the climate regardless of which sector they are reduced in and aims to produce carbon neutral growth.⁸² Simply put: it puts the aviation industry under less pressure than the EU ETS. The European Union, not a party to the Chicago Convention and member of ICAO, agreed to fully implement CORSIA from the start of the pilot phase.⁸³

Originally, all aeroplane operators with international flights producing CO₂ emissions greater than 10,000 tonnes from planes with a take-off mass greater than 5,700kg were required to monitor and report their CO₂ emissions during 2019 and 2020.⁸⁴ The average of both years was intended to be the baseline above which carbon emissions had to be offset. However, during the COVID-19 pandemic and border closures, international air travel plummeted and the carbon emissions of the aviation sector decreased by 63%.⁸⁵ This led to heavy criticism by the aviation industry and the ICAO Council agreed to revise the baseline and use the 2019 emissions also for the year 2020 to adapt to the global COVID-19 pandemic.⁸⁶

CORSIA is flexible enough to adapt to the challenges of the COVID-19 pandemic. As mentioned above, ICAO has already revised their benchmark for carbon emissions and mandated that the 2019 average shall be used, thus signalling that the system can be adapted if needed. As far as the EU ETS is concerned, the COVID-19 pandemic played less of a role in its execution as it is designed as a system which is connected to normal market forces (i.e. the total number available and the price of tradable allowances) and geared towards a long-term reduction of CO₂ emissions.

Although some authors argue that the EU ETS needs to be adapted to better take COVID-19 and the financial pressure of the airlines industry into account, this author submits that the system is already perfectly capable to adequately address the negative effects of the pandemic. The price for allowances, after its initial decline at the beginning of the pandemic, stabilised quickly.

⁸² *Ibid.*

⁸³ See European Council, “Aviation emissions: EU confirms its participation in the CORSIA voluntary phase from 2021 and chooses more ambitious option to calculate its offsetting requirements” (25 June 2020), online: *European Council* <www.consilium.europa.eu/en/press/press-releases/2020/06/25/aviation-emissions-eu-confirms-its-participation-in-the-corsia-voluntary-phase-from-2021-and-chooses-more-ambitious-option-to-calculate-its-offsetting-requirements/>.

⁸⁴ See ICAO, “Resolution A40-19: Consolidated statement of continuing ICAO policies and practices related to environmental protection - Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)”, online (pdf): *ICAO* <www.icao.int/environmental-protection/Documents/Assembly/Resolution_A40-19_CORSIA.pdf>.

⁸⁵ See European Environment Agency, “EU ETS emissions continued to decline during the Covid-19 pandemic” (12 January 2022), online: *EEA* <www.eea.europa.eu/highlights/eu-ets-emissions-continue>.

⁸⁶ See ICAO, “COVID-19 impacts and 2022 CORSIA periodic review”, online: *ICAO* <www.icao.int/environmental-protection/CORSIA/Pages/CORSIA-and-Covid-19.aspx>; The Economist, “Airlines blame covid-19 for rowing back climate commitments” (04 July 2020), online: *The Economist* <www.economist.com/business/2020/07/04/airlines-blame-covid-19-for-rowing-back-climate-commitments>.

Although the price of allowances rose sharply over the past two years, this had less to do with the COVID-19 pandemic than with normal market forces. As mentioned above, the increase in price of an allowance was not something unexpected but rather a key instrument to force airlines to reduce their emissions and invest in cleaner technology. Further, the carbon emissions reduction targets were set at a time when the airline industry was rapidly growing. There is no reason to deviate from this long-term goal, at least not at this point in time. After all, climate change has not stopped recently either.⁸⁷

Additionally, airlines have various alternative ways to reduce their emissions, other than purchasing more efficient aircraft. Air-Rail Alliances are one such convenient alternative for airlines to meet their obligations under both CORSIA and the EU ETS, as it allows them to replace short-haul flights with more efficient train connections and reduce their cargo emissions footprint, thus freeing up more allowances for other flights that cannot yet be replaced by trains.⁸⁸

Lufthansa, for example, has decided to strengthen its partnership with Deutsche Bahn and to start a new express-train service to replace short-haul flights and connect passengers to their hubs.⁸⁹ KLM, in a similar fashion, reduced their Brussels-Amsterdam service from five flights to four flights per week and replaced one flight with a train journey.⁹⁰

If airlines manage to shift enough of their short-haul flights, they are less likely to be forced into a position of having to buy additional allowances, which in turn has a positive influence on their bottom line. This was particularly important during the COVID-19 pandemic when airlines had to drastically reduce their services, either because of government regulations or decreased

⁸⁷ The European Union is of the same opinion. The Council agreed to keep the ambitious emission reduction target of 61% unchanged, reduced the emissions value by 117 million tons and decided to increase the annual reduction rate of the cap by 4.2%. See European Council, “Fit for 55 package: Council reaches general approaches relating to emissions reductions and their social impacts” (29 June 2022), online: *European Council* <www.consilium.europa.eu/en/press/press-releases/2022/06/29/fit-for-55-council-reaches-general-approaches-relating-to-emissions-reductions-and-removals-and-their-social-impacts/>.

⁸⁸ It is estimated that a flight from Berlin to Frankfurt releases an average 105kg of CO₂ per passenger while a train on the same route only generates 15kg per passenger. See European Court of Auditors, Special Report “The EU’s Emission Trading System: free allocation of allowances needed better targeting” at 36, online (pdf): *ECA* <http://www.eca.europa.eu/lists/ecadocuments/sr20_18/sr_eu-ets_en.pdf>.

⁸⁹ See Alexander Michael Pearson, “Lufthansa Embraces Rail Alternative Amid Emissions Pressure” (08 March 2021), online: *Bloomberg Quint* <www.bloomberquint.com/business/lufthansa-embraces-rail-alternative-amid-emissions-pressure>; see also Lufthansa “Lufthansa Express Rail”, online: *Lufthansa* <www.lufthansa.com/us/en/lufthansa-express-rail>; Global Rail Review, “DB and Lufthansa to introduce high-speed connections to Frankfurt Airport” (08 March 2021), online: *Global Rail Review* <www.globalrailwayreview.com/news/118951/db-lufthansa-high-speed-frankfurt-airport/>.

⁹⁰ See KLM “KLM, Thalys and NS Dutch Railways have joined forces to replace flights between Brussels and Amsterdam Airport Schiphol” (13 September 2019), online: *KLM* <news.klm.com/klm-thalys-and-ns-dutch-railways-have-joined-forces-to-replace-flights-between-brussels-and-amsterdam-airport-schiphol/>.

passenger demand. Trains were not effected in the same way and could continue to operate, thus enabling airlines to continue to sell train connections and shift more passengers onto trains.

Conclusion

This short paper attempted to give an overview of two selected legal issues pertaining to Air-Rail Alliances. These alliances are gaining more popularity in the industry as many airlines start replacing their costly, and mostly inefficient, domestic services with train journeys. As this paper highlighted, the benefits for both the consumer and the airlines cannot be overstated. Passengers enjoy the convenience of a “one ticket approach” and many benefits such as check-in, luggage handling and frequent flyer privileges are extended to the train leg of the journey. Airlines on the other hand, can use this alliance to connect passengers from remote areas of the country to their main hubs and benefit from the eco-friendly operation of trains, which helps them meet their carbon emission targets under the EU ETS and CORSIA. This directly translates into cost-savings for airlines, as free allowances can be used for flights that cannot be replaced by trains, and consequently fewer additional allowances must be purchased by the airlines.

In opinion of the author, Air-Rail Alliances are an invaluable tool for the aviation industry that will eventually lead to sustainable growth and make domestic markets, especially in the European Union, even more connected. In the light of the recent COVID-19 pandemic and the resulting downturn in aviation market, these alliances can help airlines to rapidly adapt to the changing environment. The law is suitably flexible to incorporate these changes. Accidents occurring during the train leg of a journey will be governed by the *lex loci*. Depending on the contract of carriage, the passenger can alternatively seek recourse against the airline on a contractual basis.

CORSIA and the EU ETS are already flexible enough to adapt to the changing environment. Combined with a sophisticated network of Air-Rail Alliances, these systems could lead to a sustainable reduction in carbon emissions while being able to “weather an unexpected storm.”