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AVIATION

CONSOLIDATION IN EUROPE'S AIRLINE INDUSTRY - THE ROLE OF THE EU COMPETITION WATCHDOG

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Introduction

Following deregulation of the airline industry in the US through the Airline Deregulation Act signed into law in 1978, the number of airlines in the US first expanded, with the advent of new carriers employing new business models, only to contract to three legacy carriers and one large nationwide low cost carrier in 2013. The three legacy carrier groups American Airlines, Delta and United together with low cost carrier Southwest jointly control more than 80% of the US market. In Europe, deregulation came 15 years later, in 1993. New airlines entered the market, in particular in the low cost segment, but only very few airlines exited. In particular, only very few national carriers ceased to operate, among them Slovak Airlines in 2007, FlyLal in Lithuania in 2009, the Catalonian airline Spanair and Malevin 2012. As a result, the European industry is much more fragmented in comparison to the US. The 5 largest airlines in the EU, i.e. Lufthansa, AirFrance/KLM and International Airlines Group (British Airways and Iberia), as well as Ryanair and easyJet, account for only 50% of the EU market.

Among the remaining 50% there are still dozens of legacy carriers, some of them still state controlled, some of them privatised, and many of them ailing as a result of the economic crisis, the rise of low costs carriers (LCC) and the difficult market environment of the past years. It is mainly small-to-medium airlines, in particular legacy carriers of the new Member States which suffer the most from ill-adapted business models and cost structures. Indeed, most of the EU's mid-size airlines are unprofitable because they have inherited rigid high cost structures from the past and do not have the scale, a sufficiently large domestic market or the network that would allow them to survive in a competitive environment.

Restructuring, co-operation and mergers are therefore badly needed to improve the viability of the European airline industry. However, all these strategies may involve the EU competition watchdog. And contrary to what some populist voices are calling for, there are no intentions to move to a laxer competition control[1]. European competition policy has to ensure that industries do not live off monopolistic rents, either by co-operation agreements or by mergers; and it keeps governments from supporting failing companies without respecting the stringent conditions of the EU state aid law.

This article takes a closer look at the current approach of the European Commission to rescue and restructuring aid, co-operation agreements and mergers in the passenger

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airline market, and the conclusions that can be drawn from this approach for further consolidation.

State Aid to ailing carriers

The temptation of governments to protect their national airlines is strong, especially in times of crisis. However, favouring underperforming companies or keeping them alive upsets the entry and exit process and hampers productivity and therefore growth. Therefore, the European Commission is called upon to verify that either state support of national flag carriers does not constitute state aid in the meaning of the EU competition rules or is in line with the state aid rules on rescue and restructuring.

Public interventions in companies that carry out economic activities can be considered free of state aid in the meaning of the EU rules when they are made on terms that a private player operating under market conditions would have accepted (the market economy investor principle – MEIP)[2]. If for instance a capital increase is carried out simultaneously and under the same terms and conditions by public bodies and private investors who are in a comparable situation (paripassu transaction), it can normally be considered that such transaction is in line with the MEIP. If no actual private investor is available as a reference, either co-financing the same project or in a comparable project, ex-ante profitability is analysed for a hypothetical private investor. If the MEIP is not respected, the public intervention constitutes state aid in the meaning of Article 107 of the Treaty on the Functioning of the European Union (TFEU) because it procured an economic advantage to the beneficiary that its competitors did not have.

The Commission will then proceed to assess, whether such aid can be found compatible with the common EU rules which allow certain categories of aid. State aid to airlines in difficulty is assessed on a case-by-case basis for strict compliance with the legal requirements of the Rescue and & Restructuring-Guidelines[3].

The European Commission has currently six formal State aid investigations open against national carriers which once were the national flag carrier. At the stage of opening an in-depth investigation, the Commission has doubts that these measures were carried out in line with the MEIP and, provided the measures constitute State aid, that they are compatible with the internal market. These measures can take the form of subsidised loans with below market interest rates, capital injections without or with minimal participation of the private shareholders, acquiring assets at above market prices, etc.

Airline	Amount in €	Decision	Date
Adria Airways	capital injection of 85.5 million	Opening of in-depth investigation	20 November 2012
airBaltic	Subsidized loans of 82 million, capital increase	Opening of in-depth investigation	20 November 2012
Cyprus Airways	Capital increase of 31.3 million; 63 million debt to equity swap, 8.6 million employee beneiftscheme	Opening of in-depth investigation	4 February 2014
Estonian Air	capital increases of 40.7 million;	Opening of in-depth investigation	4 February 2014
LOT	200 million capital increase	Opening of in-depth investigation	6 November 2013
Scandinavian Airlines SAS	revolving credit facility 400 million	Opening of in-depth investigation	19 June 2013

Open State Aid Cases in the airline sector[5]

In case the measures constitute state aid, they may still be declared compatible under the Guidelines on Rescue and Restructuring aid. However, as this kind of aid is highly distortive of competition as it artificially keeps a company in the market that would otherwise have exited it, the European Commission is rather strict in approving aid under this heading. The Rescue and Restructuring Guidelines require that the restructuring plan enables the beneficiary to become viable in the long-term on the basis of realistic assumptions. This is to avoid that a company keeps asking for public support. As public funding gives a company an economic advantage that its competitors do not have, the plan must foresee measures to reduce the distortions of competition induced by the state support, such as the reduction of capacity or market share. Furthermore, to avoid free riding, the beneficiary needs to make a significant own contribution to the costs of restructuring. Finally, restructuring aid may be granted only once over a period of ten years ('one time, last time' principle). The Commission has accepted rescue and restructuring aid recently in the cases of Air Malta[5] and Czech Airlines[6]. In both cases, however, the collateral was a capacity reduction consisting in the withdrawal from certain profitable routes, the sale of planes and the surrender of landing slots at European airports to avoid any undue distortion of competition.

In addition to these cases where the European Commission has opened or concluded a case there are several legacy carriers which are recording losses and have accumulated high debt, among them Alitalia and Croatia Airlines. Taking all these companies together, in 12 out of the 28 Member States of the EU the legacy carrier was in need of financial support from the government to ensure survival in an increasingly competitive European market for air transport. These cases demonstrate that smaller airlines which are not part of a large group and have only a small home basis face a difficult time in this industry. It may also be a signal that it may no longer be sustainable to have an independent flag carrier in each Member State which operates a network connecting the country with direct flights to all major European capitals and cities in the world. Instead, cooperation or outright takeover may be a solution to reach the critical mass and reach long-term viability again.

Alliances and Antitrust

Cooperations among airlines are commonplace. The level of cooperation between airline companies in today's market place varies from alliances based on strategic agreements, which are often world-wide in scope, to structural cooperation based on joint ventures. While alliances can range from a relatively low degree of cooperation, involving for example the sharing of frequent flyer programmes ('FFPs') or lounge access, to intermediate forms based on code-sharing, joint ventures are highly integrated arrangements, such as multilateral revenue or profit sharing joint ventures setting common prices.

Cooperation agreements can bring about benefits for passengers such as an improved product offering and better connectivity. However, there are certain forms of cooperation which could harm passengers, in particular if existing competition between the partners is eliminated. For instance, the Commission is currently investigating a particular type of code sharing arrangement whereby airlines sell seats on each other's' own flights between their own hubs ("parallel hub-to-hub code-sharing") instead of competing with each other[7].

Joint ventures have the highest potential to be scrutinised by competition authorities,

in particular if competition on overlap routes is eliminated completely.
As long as joint ventures among airline companies are not full-functioning in the sense of the European Merger Control Regulation ("EUMR"), they are dealt with under Article 101 TFEU, which prohibits anticompetitive agreements. Although the legal instrument is different depending on the nature of the co-operation, the Commission has to strike a balance between procompetitive efficiencies of those agreements or of corporate restructuring and potential negative effect for travellers under both Article 101 and the EUMR.

After a long investigation period, the Commission adopted commitment decisions for non-full functional joint ventures within two of the three major worldwide alliances, oneworld in 2010[8], and Star Alliance in 2013[9]. The investigation into the third one, Skyteam, was opened in 2012[10], and is currently ongoing. The joint ventures within those three alliances involve revenue/profit-sharing and joint management of schedules, pricing and capacity on all routes between North America and Europe among their members.

This type of co-operation has developed partly in response to existing regulatory barriers which prevent cross-border mergers between airlines at international level. Mergers involving non-EU airlines are hampered by nationality clauses in bilateral air services agreements due to which a merging airline risks losing valuable air traffic rights. Furthermore, some countries maintain explicit foreign ownership and control restrictions. Thus, the United States limit foreign ownership of their airlines to 49% and foreign control to 25%. Similarly, non-EU citizens may own only up to 49.9% of EU airlines and must not effectively control it[11]. If an airline does no longer fulfil the ownership and control rule, the competent national licensing authority suspends or revokes the airline's operating licence.

As a result of such co-operation, the parties to the JV will to a large extent act as a single entity on those transatlantic routes, which would deprive the market of the competitive pressure that was previously exerted by them on each other and on other competitors. The Commission therefore cleared those JVs subject to legally binding commitments. In one world, its three members British Airways, American Airlines and Iberia setting up the JV, offered commitments on six transatlantic routes making landing and take-off slots available mainly at London airports Heathrow or Gatwick to facilitate the entry or expansion of competitors, providing access to their frequent flyer programmes on the relevant routes, allowing fare combinability and offering special prorate agreements in relation to the routes of concern[12].

Similarly, the European Commission cleared a revenue-sharing joint venture between the three Star Alliance members Air Canada, United and Lufthansa subject to commitments to address the Commission's concerns that the parties' cooperation under the joint venture may be in breach of EU antitrust rules and harm premium passengers on the Frankfurt-New York route. Those commitments consisted mainly in making slots available at Frankfurt and New York airports and offering to enter into fare combinability and special prorate agreements with competitors on this route.

Merger Control

The ultimate form of consolidation are mergers. As opposed to alliances, mergers lead to the full integration of airlines and have a greater potential to reap synergies and

offer benefits to travellers, but also to harm consumers. In the early days of European merger control, mergers among airlines were rather rare due to regulatory barriers. Following a judgment of the ECJ in late 2002 which forced Member States to replace the nationality clause in bilateral agreements with a "Community Clause", the risk of losing the traffic rights of the target airline was removed, and consolidation inside the EU gained momentum[13].

A considerable number of outright mergers have already happened in the EEA. The Commission has examined 20 mergers in the air transport sector since 2004, 16 of which were between EU carriers. The Commission welcomes consolidation in the sector as long as it does not happen at the expense of consumers[14]. Therefore, several of these mergers were only cleared after the parties to the merger offered sometimes substantial commitments to alleviate concerns that the merged airline would enjoy excessive market power and consumers would be faced with reduced choice and higher prices on certain routes. These commitments took the form of slot releases at congested airports, interline and bloc-space agreements, access to Frequent Flyer Programs etc[15]. These cases show that consolidation in the airline sector is possible with proper remedies to safeguard consumers' interests.

Harm to consumers is usually the greatest if the merging airlines are based in the same Member State and have the same airport as their home base and hub. It is therefore not surprising that those three cases which led to a prohibition decision were cases of exactly that type (Ryanair/Aer Lingus I, Ryanair/Aer Lingus III and Olympic/ Aegean I).

A rare exception to this rule is the recent Commission decision in Aegean/Olympic II. As in the first attempt two and a half years prior to the second attempt to merge, Aegean and Olympic were the closest competitors on the Greek markets for the domestic air transport of passengers. On five domestic routes Olympic and Aegean were the only operators. This would have normally led to yet another prohibition decision. However, the Commission accepted the so-called failing firm deference (FFD) of the parties and cleared the merged unconditionally[16]. The FFD is only rarely accepted by the Commission and requires that three criteria are fulfilled[17]. The Commission's in-depth investigation demonstrated that this was the case.

Absent the takeover by Aegean, Olympic would have gone out of business rather soon. Second, the market investigation confirmed that there was no other credible purchaser other than Aegean interested in acquiring Olympic. Third, there has also been no expression of any credible interest in the acquisition of Olympic's assets including its brand. Consequently, the most likely scenario was that absent the transaction Olympic's assets would have left the market completely. The Commission therefore concluded that any competitive harm caused by Olympic's disappearance as an independent competitor would not be caused by the merger, and authorised the merger.

Some of the airline mergers vetted by the Commission led to larger groups centred around the major legacy carriers, such as the Lufthansa group, the International Airlines group (IAG) founded by British Airways and Iberia, and Air France – KLM. All three are also members of competing global alliances. Further consolidation with a better chance of winning regulatory approval would therefore come from acquisition of mid-size airlines by one of these three larger European airline groups. However, the experience of the Lufthansa Group has shown how difficult it is to profitably integrate

ailing airlines into the operations of a larger group. Lufthansa has even resold one of its acquisitions, bmi, only three years after it acquired full control[18]. Europe's larger airlines seem to have a limited capacity to digest mid-size airlines, both from an operational and a financial perspective, in times when they come under increasing competitive pressure from LCCs and State-owned gulf airlines.

Minority Shareholdings

An alternative to EU airlines acquiring smaller regional airlines, in particular those which are in a bad shape and are struggling to find strategic partners, would be strategic partners from outside the European Union. However, any acquisition of a stake in a EU carrier by a non-EU airline is limited to 49.9% and effective control by an EU national.

Minority stakes by non-EU carriers without conferring control are therefore currently perfectly possible and are not subject to EU merger control, but are dealt with under Article 101 or, as the case may be, under national merger control rules. Minority investments of this kind can improve the financial position of the carrier concerned in the short-to-medium term and allow it to offer better connections to the long haul networks of its international partner.

The concept of control used in transport regulations may, however, be different from the one used under the Merger Regulation[19]. A case in point is Delta/Virgin where the US airline Delta acquired 49% of the British carrier Virgin Atlantic. Despite being the minority shareholder, due to certain additional contractual rights and the agreement between Delta and Virgin Atlantic to also enter into a metal neutral profit sharing joint venture in relation to services between the UK and the US, Canada and Mexico, the Commission concluded that the transaction conferred joint control on Delta over Virgin Atlantic for the purposes of EU merger control[20].

Moreover, the existing case law of the Commission and Member States as well as economic research show that in some instances the acquisition of a non-controlling minority shareholding in a competitor may influence the latter's competitive conduct even without gaining control and can harm competition and consumers. For instance, the UK Competition Commission found that Ryanair had the ability to influence the commercial policy and strategy of Aer Lingus, in particular because it was likely to impede or prevent Aer Lingus from being acquired by, or combining with another airline, and ordered Ryanair to reduce its minority stake in Aer Lingus from 29.8% to 5% [21]. Against this background, the Commission is currently considering whether the Merger Regulation should be amended to allow the Commission to also look at non-controlling minority shareholdings[22].

Conclusion

The current European landscape of passenger transport airlines is not sustainable. The market is too fragmented and lacks scale. Many national airlines, in particular mid-size airlines from the new Member States, are in financial difficulties. State aid to keep loss-making, failing national airlines in the air becomes increasingly difficult, both because of budgetary constraints of the Member States and the limits set by the relevant state aid rules on rescue and restructuring. The likely result, if no State aid were granted, would be the exit from the market of those airlines. While this option may appear unattractive from the perspective of national politics, experience has

shown that the end consumer would suffer very little from the exit of unprofitable airlines from the market. In spite of the disappearance of a number of regional airlines in Western Europe over the past 15 years, the number of regions connected to the air transport network has continued to increase as other carriers have taken their place, in particular LCC. A similar outcome could be observed following the exit of the Hungarian legacy carrier Malev in early 2012.

A more attractive form of consolidation, at least for the healthier regional, mid-size airlines would be to team up with a strategic partner in an alliance or merger. As Commissioner Kroes stated, the Commission welcomes airline consolidation in Europe and supports these forms of consolidation as long as they do not lead to higher prices or reduced choice of carrier on overlap routes, so that consumers can continue to enjoy the benefits of liberalisation of air transport in the EU[23]. On the basis of the existing case law it is evident that the most problematic mergers are those which combine airlines from the same Member State using the same airport as their hub. Cross-Member State mergers, on the other hand, have so far all been cleared by the Commission, sometimes subject to comprehensive commitment packages. While consolidation to US levels is rather unlikely in the near future, the Commission has demonstrated its determination to actively monitor the industry and to intervene if airline concentration in the EU reached anti-competitive levels.

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[1] Commission Vice President J. Almunia, Competition policy for the post-crisis world: A perspective. SPEECH/14/34 of 17/01/2014.

[2] See Case C-482/99 Stardust Marine, [2002] ECR I-4397, paragraph 69. see also Case C-303/88 Italy v Commission, [1991] ECR I 1433, paragraph 20.

[3] Community guidelines on State aid for rescuing and restructuring firms in difficulty OJ C 244, 01/10/2004, p. 2–17

[4] See IP/12/1246 Adria Airways, IP/12/1245 air Baltic, IP/12/702 Air Malta, IP/14/107 Cyprus Airways, IP/12/981 Czech Airlines, IP/14/106 Estonian Air, IP/13/1045 LOT, IP/13/567 SAS.

[5] See Press release of the Commission IP/12/702: capital increase of 130 million approved as restructuring aid.

[6] See Press release of the Commission IP/12/981:100 million debt to equity swapapproved as restructuring aid.

[7] The Commission has opened proceedings against co-operation agreements between Lufthansa and Turkish Airlines and between Brussels Airlines and TAP Air Portugal which have agreed to sell seats on each other's flights on the Germany-Turkey routes and on the Belgium-Portugal routes respectively, where both companies already operate their own flights between their own hubs. See IP/11/147 of 11 February 2011.

[8] See Press release of the Commission IP/10/936.

[9] See Press release of the Commission IP/13/456.

[10] See Press release of the Commission IP/12/79.

[11] According to Article 4 (f) of Regulation (EC) No 1008/2008 of 24 September 2008 on common rules for the operation of air services in the Community, in order to obtain an EU operating licence, Member States and/or nationals of Member States must own more than 50 % of the undertaking and effectively control it.

[12] For an overview and assessment of commitments accepted by the Commission, see de Broca, Mielecka Riga, Subocs, Chapter 15 Transport, in Faull/Nikpay, The EU Law of Competition, 3rd edition, 2014, 15.108 et seq.

[13] Stehmann, Merger control in specific sectors, Chapter 4 Transport, 8.670-8.671. Drauz/Jones, EU Competition Law, 2nd edition 2012.

14 Commissioner NeelieKroes said on the occasion of the conditional clearance decision in Lufthansa/Swiss: "I welcome airline consolidation in Europe, but it should not lead to higher prices or reduced choice of carrier". IP/05/837

[15] For a more detailed analysis of the value of the various types of commitments the Commission accepts in such cases, see Stehmann Merger control in specific sectors, Chapter 4 Transport, 8.736 et seq. in Drauz/ Jones, EU Competition Law, 2nd edition 2012.

[16] See press release of the Commission IP/13/927.

[17] See Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, Official Journal C 31, 05.02.2004, p. 5-18, at para.90.

[18] See case M.6647 IAG/bmi, Commission decision of 30.3.2012.

[19] "The concept of control under the Merger Regulation may be different from that applied in specific areas

of Community and national legislation concerning, for example, prudential rules, taxation, air transport or the media." Commission Consolidated Jurisdictional Notice under Council Regulation (EC) No 139/2004 on the control of concentrations between undertakings, OJ C95 of 16.04.2008, at para. 23.

[20] See para. 14 of Decision COMP/M.6828 - DELTA AIR LINES/ VIRGIN ATLANTIC of 20.6.2013. The remaining 51% are held by the Virgin Group.

[21] See Competition Commission Press release "CC requires Ryanair to sell shareholding in Aer Lingus down to 5 per cent" of 28 August 2013. This decision by the CC has been upheld by the Competition Appeal Tribunal on 7 March 2014 but can be challenged in the UK Court of Appeal before becoming final.

[22] See the Commission Staff Working Document "Towards a more effective EU merger control", http://ec.europa.eu/competition/consultations/2013_merger_control/index_en.html

[23] See FN 15 and also IP/09/29.

AVIATION

THE NEW EUROPEAN COMMISSION GUIDELINES FOR STATE AID TO AIRPORTS AND AIRLINES

Davide Grespan *

On 20 February 2014 the European Commission adopted the new Guidelines for State aid to airports and airlines (hereinafter "the Guidelines"). The guidelines entered into force upon their publication on the Official Journal on the 4th of April 2014. The new Guidelines replace two pre-existing Communication of the Commission on State aid in the aviation sector: the Community guidelines on financing of airports and start-up aid to airlines departing from regional airports (OJ 2005 C 312/1) (hereinafter the "2005 Aviation Guidelines") and the Communication on the application of Articles 92 and 93 of the EC Treaty and Article 61 of the EEA Agreement to State aids in the aviation sector (OJ 1994 C 350/5) (hereinafter the "1994 Aviation Guidelines").

The Guidelines are part of the State Aid Modernisation plan (hereinafter "SAM"), a plan launched by the European Commission aiming at reviewing virtually all State aid frameworks in order to ensure that those rules are aligned with the priorities of Europe's growth strategy, Europe 2020 (Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the EU State aid Modernisation (COM (2012) 209 final).

The Guidelines are a thick forty-page document and cover many aspects, ranging from State aid for airports and airlines to aid of social character in airport transport services granted directly to passengers for social reasons.

The Guidelines start with a long introduction describing the legal and economic development that occurred in the aviation sector in the last two decades and how market forces have gradually developed in this sector. The Guidelines recall the creation of an internal market for air transport services and underline that even though most airports in Europe are still in public hands, their activity, once considered falling outside the realm of economic matters, has developed more and more as a competitive economic activity. They stress also the dramatic changes faced in the airlines business, once dominated by flag carriers, whilst today Low Costs Carriers ("LCC") have acquired in Europe a market share exceeding that of incumbent operators. This first section of the Guidelines describes also the economic importance of air transport and its positive economic and social externalities.

This introduction is important because, in substance, it contains a summary of the Guidelines and spells out the rationale behind most of the rules contained therein. In this very section, the Commission announces and explains the rationale of one of the salient novelty contained in the Guidelines, i.e. the fact that for the past and for a

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The views expressed in this paper are purely those of the author and in no circumstances can be considered the expression of a position of the European Commission.

further transitional period, the Commission will consider that operating aid to airports can be declared compatible with the internal market. In substance, this approach to operating aid is predicated on the need to allow for a gradual shift to a new fully competitive market reality, while avoiding disruption in the provision of transport services essential for the society.

In what follows, I will shortly describe the main rules contained in the various chapters of the guidelines for the different types of State aid to airports and airlines. In so doing, I will highlight the most important novelties introduced by the Guidelines.

Investment aid to airports

The Guidelines recall that the Court of Justice gradually clarified as of 2000 that the provision against remuneration of airport services to airlines by airports managers (public or private, active on a national or local basis) is an economic activity and, as such, falls within the scope of competition law, including State aid rules.

This means that the financing by public authorities of the construction of airport infrastructures for the provision of airport services against remuneration to airlines and other airports clients constitutes State aid unless it meets the Market Economy Operator test. In a nutshell, if the sums are put at the disposal of the airport operator at conditions that would be acceptable to a private market investor (i.e. if the investor can reasonably expect an adequate economic consideration from that investment taking into account the degree of risk involved), then no State aid issue arises. On the other hand, when that test is not met, then the public financing of the construction of airport infrastructure by public authorities constitutes State aid for the purposes of Article 107 (1) TFEU.

At the same time, the Guidelines (just as like the 2005 Aviation Guidelines) recognise the positive externalities of airports in terms of increasing mobility of European citizens, combating air traffic congestion at major hubs and facilitating regional developments. On that basis, the Guidelines consider that granting investment aid to airports can be considered as compatible with EU Law and, as such, justified.

The first novelty of the Guidelines is to define the conditions for compatibility of investment aid to airports in line with the general intellectual framework for compatibility of State aid outlined in the SAM.

This means that the Member State willing to grant investment aid to a given airport must identify in a clear way an objective of common interest (increasing mobility of European citizens, combating air traffic congestion at major hubs or facilitating regional developments, for instance) and explain how the aid contributes to the achievement of such an objective.

In this respect, the Guidelines explain that the financed airport infrastructure should have good prospect of being used in the medium terms. They also state in clear terms that duplication of unprofitable/unused airports does not contribute to any objective of common interest. Therefore, the Commission will have doubt about the compatibility of investment aid in favour of an airport that is located in the same catchment area of another airport that has spared capacity.

The idea that the Member State must show that the aided airport infrastructure has good prospect of use in the medium term was already contained in the 2005 Aviation

Guidelines, and already in one case the Commission prohibited the grant of investment aid for the conversion of an airport from military to civil because it was located about 25 km away from another airport with large spare capacity (Decision of 11th of February 2014 concerning the development of Gdynia-Kosakowo airport - IP/14/138). However, the Guidelines spell out those concepts in a much clearer way both with regard to the requirement that the aid must contribute to the achievement of an objective of common interest as well as with regard to the idea that the duplication of unprofitable airports would cause an unjustified distortion of competition and a misuse of taxpayers' money.

Second, the State must also show that there is a need to grant State aid to the airport as market forces alone would not deliver the desired result. The Commission considers that due to the high fixed costs smaller airports have difficulties in attracting the capital required to ensure their development. Therefore, the bigger the airport (in terms of passengers) the lesser the need for State intervention for financing airport infrastructure should be. Accordingly, based on data provided by the industry, the Commission sets out a grid of maximum investment aid intensity, which is inversely proportional to the dimension of the airport. Thus, the highest aid intensity (75% of the investment costs) is considered as appropriate for airports with less than 1 million passengers, whereas airports with more than 5 million passengers should not be entitled to any investment aid (save in exceptional circumstance, e.g. in case of relocation of an existing airport to a new site).

Establishing maximum aid intensities for investment aid to airports is an important development. The 2005 Aviation Guidelines were silent in this respect. The matter was dealt with by the Commission on a case-by-case basis. The fact of having a maximum aid intensity established in advance ensures a certain degree of proportionality of the aid; equal treatment and level playing field between airports of the same size and at the same time ensure predictability for airport operators and public authorities.

Moreover, the concrete amount of investment aid that an airport can receive will be established on the basis of a financial analysis of each airport's investment plan. As a result, the maximum aid intensity will in effect limit the amount of aid only where that financial analysis alone would have led to granting more State aid. In summary, the idea is that the aid in order to be compatible should be proportional, i.e. limited to the minimum. So if the financial analysis of the investment project of a given airport shows that the project can be realised with an aid lower than the maximum aid intensity allowed for that airport size, than the aid will be limited to the lower amount.

The Commission also recognises the additional difficulties that airports in remote regions may face and accordingly allows for a 20% increase in the maximum aid intensity for those airports.

Third, Member States will also be required to demonstrate that the measure is an appropriate policy instrument to achieve the objective of common interest pursued, and show that they have considered other instruments or forms of aid.
Fourth, Member State should show that the aid as an incentive effect, in the sense that it gives an incentive to the airport operator to realise an investment that otherwise the airport operator would not have realised . The incentive effect of the aid should be demonstrated by the fact that the airport operator did not start the reali-

sation of the plan before asking for the aid and by a financial analysis of the investment project (based on a counterfactual or a funding gap analysis) showing that the investment would not be sufficiently profitable in the absence of the aid. This is also an important development of the Guidelines. The 2005 Aviation Guidelines did not mention any specific rule about incentive effect. However, in its decision practice the Commission checked that the aid had some incentive effect since this is a general requirement of compatibility of aid inherent in the Treaty.

Operating aid to airports

The Commission recognises that in this sector it can be justified to grant operating aid to airports for a ten years transitional period and under some conditions, in order to ensure a smooth transition to a fully competitive market reality while avoiding traffic disruption. The purposes of an operating aid must be of common interest and are similar to the ones accepted for investment aid (increasing mobility of European citizens, combating air traffic congestion at major hubs or facilitating regional developments). Again the Commission starts from the idea that smaller airport may need more aid to cover their operating costs. Thus, airports with less than 700.000 passengers are entitled to get higher amounts of operating aid, whilst airports with more than 3 million passengers should not need any operating aid.

The aid should allow the airport to increase its traffic or take the measures necessary to ensure that, at the end of the transitional period, it can achieve full coverage of its operating costs. The path towards full costs coverage will be different for every airport and will depend on the initial funding gap of the airport, established on the basis of the airport's business plan. The maximum aid intensity will be limited to 50% of that funding gap (the Commission provide a formula for calculating the operating aid) and to 80% for airports with an annual traffic of up to 700.000 passengers. After the transitional period of 10 years, operating aid to airport will not be considered compatible any longer (except aid for services of general economic interest).

In a nutshell, the idea is to allow for a limited and predetermined amount of operating aid over the transitional period, in order to allow a smooth transition, whilst creating an incentive for airport manager to restructure and improve their economic results so that at the end of the transitional period they will no longer need operative aid. Airports with annual traffic up to 700.000 passengers can receive operating aid with a higher intensity for four years after the entry into force of the Guidelines and then their situation will need to be reassessed. Therefore, those airports are not subject to the 10 years transitional period.

Also with regard to operating aid, the Guidelines take a sceptical approach when the aid is granted to an airport that is in the same catchment area of another airport with spare capacity. In substance, the Member State should demonstrate that all airports in the same catchment area would be able to achieve full operating cost coverage at the end of the transitional period. The Commission shows that it is aware that in some cases the positive stance towards public support for the development of airport infrastructures has indeed led to the creation of redundant airports close to existing ones. This phenomenon does not serve any objective of common interest. Rather it distorts competition between airports in the same catchment area and represents a waste of State resources.

In addition, the Guidelines contain an amnesty for operating aid granted to airport before the entry into force of the Guidelines. Such aid is considered compatible to the

full extent of uncovered operating losses. The conditions for declaring that aid compatible are generous.

This is indeed a Copernican revolution when compared to the 2005 Aviation Guidelines and the traditional approach to operating aid endorsed by the Court of Justice case law, which considers that in general operating aid is incompatible.

Operating aid is aid that covers the ordinary running costs of an undertaking. According to long standing jurisprudence such aid is generally considered incompatible with the Treaty because it does not give the undertaking any incentive to do something that it would not do otherwise. For this reasons it is usually considered that operating aid cannot contribute to the achievement of an objective of common interest, save in exceptional circumstances (such as aid granted in outermost regions, or some aid granted in a digressive way and for a limited period, or aid granted to cover the net costs of the provision of a service of general economic interest). The 2005 Aviation Guidelines followed this orthodox approach and essentially left very little room to the Commission for declaring operating aid to airports compatible.

The market reality however developed otherwise, and in many instances public authorities in all Member States continued to subsidise a number of airports with operating aid, i.e. continued to cover the operating expenses of those airports in order to avoid their closure. At the same time the Commission did not have any occasion to take a concrete decision on operating aid granted to airports following the adoption of the 2005 Aviation Guidelines.

Faced with that reality, the Commission diametrically changed its approach and recognised that an abrupt enforcement of the ban on operating aid (contained in the 2005 Aviation Guidelines) would have probably resulted in the closure of a very high number of airports across Europe, with major traffic disruptions for passenger and negative effects on the whole economy.

The solution chosen by the Commission appears sound. It takes stock of the market reality. It does not try to apply State aid rules in a vacuum or in a legalistic and bureaucratic way (as it is often argued in some circles). At the same it tries to bring some discipline in this matter in a gradual and smooth way, in order to ensure that in time public resources will be granted where they are really needed and not wasted in subsidising airports that will never be self-standing and that are not necessary for ensuring connectivity of European citizens.

Services of General Economic Interest ("SGEI")
The Guidelines deal with the imposition of public service obligations on airports and on airlines for the provisions of air transport services.
As regards airports, the Guidelines remind that in some cases Member State can classify the overall management of an airport as an SGEI where part of the area potentially served by that airport would be otherwise isolated from the rest of the Union to an extent that would prejudice its social and economic development. Of course, in order to come to that finding it will be necessary to examine other transport means serving the area.

In these situations, public authorities may impose a public service obligation to ensure that the airport remains open to commercial traffic. This also implies that the net costs of that obligation may be compensated in accordance with the rules con-

cerning the compatibility of State aid granted for SGEIs (notably the Commission Decision 2012/21/EU of 20 December 2011 on the application of Article 106(2) of the Treaty on the Functioning of the European Union to State aid in the form of public service compensation granted to certain undertakings entrusted with the operation of services of general economic interest, OJ L7, 11.1.2012, p.3 – the "SGEI decision") and the Commission Communication on a European Union framework for State aid in the form of public service compensation (2011) (OJ C8, 11.1.2012, p.15 - the "SGEI framework").

Accordingly, State aid for SGEIs granted to airports where the annual average traffic does not exceed 200 000 passengers over the duration of the SGEI entrustment is exempted from notification pursuant to the SGEI decision.

Moreover, the Guidelines add that for other areas that may suffer from a certain degree of isolation (island, outermost regions, etc.) it may be justified to define specific public service obligations.

Those provisions concerning SGEIs entrusted to airports are substantially a restatement of the rules contained either in the 2005 Aviation Guidelines or of the SGEI decision.

Unfortunately, the Guidelines do not clarify what consequences may have for airlines the fact that an airport operator receives State aid covering its operating or investment costs, which is compatible under SGEI rules. It would appear likely that if an airport is considered as an SGEI, the pricing policy of that airport vis-à-vis the airlines will be influenced by the fact that its costs are shouldered by the State. As mentioned, the Guidelines do not say much about that issue but simply state that the scope of the public service obligations imposed on airports should not encompass the development of commercial traffic.

With regards to public service obligations imposed on airlines, the Guidelines recall that those public service obligations can be imposed on specific routes or group of routes in accordance with Regulation (EC) No 1008/2008 of the European Parliament and of the Council of 24 September 2008 on common rules for the operation of air services in the Community (OJ L 293, 31.10.2008, p. 3). In any case, State aid rules must be respected. Accordingly, compensation granted for air services to islands where the average annual traffic does not exceed 300 000 passengers are exempted from notification to the Commission pursuant to the SGEI decision. For the rest the SGEI framework is applicable.

The important point to stress in this respect is that small airports, that are essential to ensure connectivity of isolated areas but are and will be unable to cover their operating costs may still receive State aid on the basis of the SGEI rules after the transitional period.

Relations between airports and airlines

Another important novelty of the Guidelines is the presence of a chapter devoted to the financial relationship between airports and airlines. The 2005 Aviation Guidelines did not say much about that issue. However, in a situation where airports received and will keep on receiving important amounts of State aid and airlines are the main customers of those airports, it was natural that sooner or later the Commission had to look into that matter from a State aid perspective. Actually, the Commission started

to analyse the financial relations between airlines and airports in a number of investigations, which started under the 2005 Aviation Guidelines. The argument of some complainants was in essence that the State aid granted to some airports had indeed been used to attract airlines and thus the real advantage had passed on to those airlines.

The Guidelines set out from the idea that the mere fact that an airport operator receives or has received State aid does not automatically imply that its customer airlines are also aid beneficiaries. If the conditions offered to an airline at a given airport would have been offered by a profit-driven airport operator, the airline cannot be deemed to receive an advantage for the purposes of State aid rules.

Chapter 3.5 of the Guidelines explain how the Commission is going to assess that question. In the Commission view, there are essentially two ways to apply the Market Economy Operator ("MEO") test in these circumstances. In both cases the Commission will examine all the financial flows between the airport and the airlines (e.g. airport charges paid by the airlines to the airport and marketing payments or discounts offered by the airport to the airline as well as the non-aeronautical revenues accruing to the airport thanks to the airlines presence) so that what is relevant is the net result of the relations between the airline and the airport taken globally.

The first way to apply the MEO test is a benchmarking exercise, i.e. comparing the price offered by the airport to a given airline with those of similar airports, in order to identify what is the market price for the airport services in question. The second way is to conduct an ex ante analysis of the financial arrangements concluded by the airport and the airlines. If that analysis shows that the arrangements in question will lead to a positive incremental profit contribution for the airport, then they do not imply State aid for the airlines. The Commission, however, is rather sceptical that the benchmarking exercise can lead to the identification of a meaningful market price at present. Indeed, for the moment, a large majority of Union airports benefit from public funding to cover investment and operating costs which influence their pricing policy, and, at the same time, also the privately owned airports can be influenced by the prices charged by the majority of publicly subsidised airports. Thus, even though benchmarking would be in theory a suitable method for establishing the market price for airport services, the Commission puts more emphasis on the ex ante analysis of the arrangements between the ariport and the airlines.

In this respect, the Commission explains that in order to prove that the arrangements satisfy the MEO test the airport should demonstrate that, when setting up that arrangement (for example, an individual contract or an overall scheme of airport charges), it expected to be capable of covering all costs stemming from it, over the duration of the arrangement, with a reasonable profit margin on the basis of sound medium-term prospects. This is the so called incremental cost approach.

As already mentioned the relations between ariports and airlines must be assessed globally. So all the revenues/costs stemming from the airline's activity should be taken into consideration. With regard to costs, the Guidelines explain that all expected costs incrementally incurred by the airport in relation to the airline's activity at the airport should be taken into account. Such incremental costs could encompass all categories of expenses or investments, such as incremental personnel, equipment and investment expenses induced by the presence of the airline at the airport. For instance, if the airport needs to expand or build a new terminal or other facilities

to accommodate the needs of a specific airline, such costs should be taken into consideration when calculating the incremental costs. In contrast, costs which the airport would have to incur anyway independently from the arrangement with the airline should not be taken into account in the MEO test.

Moreover, in an effort to clarify the matter further, the Guidelines explicitly set out that where an airport operator benefits from compatible aid, the advantage resulting from such aid is not passed on to a specific airline if the following conditions are met: the infrastructure is open to all airlines (this includes infrastructure which is more likely to be used by certain categories, like low cost operators or charters) and not dedicated to a specific airline; and the airlines pay tariffs covering at least the incremental costs. Furthermore, the Commission considers that under such conditions, even if there would have been State aid to the airlines, such aid would in any event be compatible with the internal market for the same reasons that justify the compatibility of the aid at the level of the airport. Where an airport operator benefits from incompatible investment aid, the advantage resulting from such aid is not passed on to a specific airline if the following conditions are met: the infrastructure is open to all airlines and not dedicated to a specific airline; and the airlines pay tariffs covering at least the incremental cost. The Commission considers that under such conditions a sectoral advantage to the airline industry or other users cannot be excluded but should not lead to recovery from specific airlines or other users.

This approach means in practice that the investment costs of building idle airport capacity is not taken into consideration when establishing what prices airlines should pay to exclude that they receive State aid. Such costs are left for the community and ultimately for the tax payers. Such an approach can probably be justified by the fact that (as already mentioned) the development of airports infrastructure was not considered to be an economic activity for a very long time and by the positive externalities of such infrastructures. Moreover, especially when that airport capacity was built with compatible State aid, it would appear odd to consider that the same costs should again be paid by the airlines.

On the other hand, the investment costs of bespoken infrastructure, i.e. clearly built for a given airline, will be taken into account in assessing if the airline benefits from State aid. One may wonder what standard of proof the Commission will apply in order to assess whether a given airport infrastructure was developed for a given airline. Will circumstancial evidence suffice or a written agreement stating that a given airport facility will be built and reserved for a given airline will be required?

Moreover, when assessing airport/airline arrangements, the Commission will also take into account the extent to which the arrangements under assessment can be considered part of the implementation of an overall strategy of the airport expected to lead to profitability at least in the long term.

This caveat clarifies that it is not sufficient for each airport/airline arrangement to cover the expected incremental costs deriving from that arrangement to exclude that it contains State aid. Indeed, because the majority of airport costs are fixed, an airport operator could reach with each airline an arrangement which covers its incremental costs, and still be expected to remain loss making for ever. That would clearly not be comparable to the behaviour of a market operator.

This chapter of the Guidelines may appear complex. However, the matter dealt with

is certainly not simple. Moreover, some commentators have criticised it because it would be too generous vis-à-vis airlines. Indeed, the incremental costs linked to the operation of an airline in a given airport can be very low, notably when the airport has idle capacity. In any case, it is a pretty detailed chapter and therefore it fulfils the purpose of any Guidelines, i.e. to give guidance on how the Commission will apply State aid rules in a given situation.

Start up aid

The 2005 Aviation Guidelines recognised the need to grant start-up aid to give an incentive to airlines to fly to relatively smaller and untested airports within the EU or increase the frequency on a given route. The 2005 Aviation Guidelines contained a long list of compatibility requirements that had to be fulfilled in order for start up aid to be considered compatible.

The Guidelines maintain the possibility for Member States to grant start up aid. However, they simplify the compatibility conditions, put them in harmony with the approach outlined in the SAM and innovate their content.

First of all, start-up aid can only be granted for new routes and not for increasing the frequency of existing ones, as it was the case under the 2005 Aviation Guidelines. This important innovation seems logical, as it can be assumed that the difficulties in opening a new route are more important than those in increasing the frequency of an existing one. The very expression "start-up aid" would indeed seem to refer to starting something completely new.

Start up aid can contribute to the objective of improving connectivity of regions and increase citizens mobility as well as facilitate regional development.

The Guidelines admit that there may be a need to grant start up aid for regional airport in order to promote their activity. As a general rule start-up aid can be declared compatible only if it is granted for routes linking an airport with less than 3 million passengers per annum to another airport within the Common European Aviation Area. However, the rules are more flexible for airports located in remote regions. In that case, the aid can be granted for routes linking the region to another airport (within or outside the Common European Aviation Area) and irrespective of the size of the airports concerned.

Routes to airports with 3 to 5 million passengers per annum not located in remote regions can be considered compatible with the internal market only in duly substantiated exceptional cases. However, above 5 million passengers the aid cannot be considered compatible, save for routes located in remote regions.

It should also be demonstrated that the same objective would not be reached with less distortive means and that the route receiving the aid has prospects of becoming profitable for the airline without public funding after 3 years (or the airline has to provide an irrevocable commitment to the airport to operate the route for a period at least equal to the period during which it received start-up aid).

In order to ensure that the aid has an incentive effect, the operation of the new route must start only after the application for aid has been submitted to the granting authority and it must be shown that in the absence of the aid it is likely that the level of economic activity of the airline at the airport concerned would not be expanded.

In order to ensure proportionality of the aid and equal treatment among airlines, the aid amount will be calculated on the basis of the airport charges in respect of the given route. Start-up aid may cover up to 50 % of airport charges in respect of that route for a maximum period of three years. With the 2005 Aviation Guidelines the aid intensity had to be calculated on the marketing costs of launching the new route. That approach created the difficulty of establishing what exactly these costs were. The Guidelines simplify the matter considerably by referring to the airport charges, i.e. to a figure which is easily identifiable.

Finally, in order to limit negative effects on competition and trade a route will not be eligible for start-up aid when that connection is already operated by a high-speed rail service or by another airport in the same catchment area under comparable conditions, notably in terms of length of journey. Likewise start-up aid cannot be combined with any other type of State aid granted for the operation of a route.

Conclusion

The new guidelines on State aid in the aviation sector have been awaited for quite some time. In the face of the fast market development witnessed by the aviation sector in the last decade, it became gradually clear that the 2005 Aviation Guidelines were not fit to handle in a sensible way many state aid issues that arose. In the meanwhile the Commission received a large number of complaints and accordingly opened a large number of State aid investigations concerning airports and airlines. With the adoption of the guidelines, it can be expected that the Commission will take its decisions more rapidly and close in a relatively short time most of those investigations. An analysis of the future decisional practice of the Commission will show how the institution applies the Guidelines in practice and will tell if they strike the right balance between ensuring connectivity of regions and European citizens, while limiting distortion of competition.

AVIATION

THE REGULATION OF PERSONAL INJURIES IN INTERNATIONAL CARRIAGE BY SUBORBITAL VEHICLES UNDER AIR LAW

Benjamyn Ian Scott *

1. Introduction

The introduction of the Airbus A380 in 2007 was an evolutionary step in the current trend that has gripped aviation over the last century. Airbus' 21st century 'flagship' is demonstrative of this trend, as it is the world's largest commercial aircraft currently flying today; it is more efficient with a range of up to 15,700 km; and it is more economically friendly, as it has the capacity to carry up to 853 passengers, which allows for higher market share, increased slot profitability and improved revenue opportunities. Although there have been several setbacks since the A380's conception, there are currently 128 in active service with airlines, such as, Emirates and Air France, with a total of 324 aircraft being ordered worldwide[1]. However, the twenty-first century is potentially beginning to see a paradigm shift in passenger transportation. In the emerging industry of suborbital transportation, there has been a move away from bigger, high-capacity vehicles and a move towards faster transportation; London to Sydney in four hours[2]. Furthermore, with the obvious association that Virgin Galactic, the company leading this developing industry, has with Virgin Atlantic, as well as KLM with Space Expedition Corporation (SXC), it is hard to ignore the connection between aviation and suborbital activities. It is, therefore, reasonable to predict that such activities will have a large impact on the aviation sector. Whilst suborbital passenger transportation has yet to actualise into an industry, it is something that airlines, associations such as the International Air Transport Association, aircraft manufactures, airports and States should take seriously, if they want to make use of this developing area and not get left behind.

Although this new activity has been vested by many with the title of 'space', it will be shown that it does not legally fit comfortably under the category of either 'air' or 'space' and because of this, its "development is bound to unsettle certain legal concepts and categories that took painstaking effort to put in place in the last century"[3]. It is the purpose of this essay, in light of this legal uncertainty, to explore the legal consequences of regarding this activity as a branch of aviation within the context of personal injuries[4]. Thus, allowing for a proactive approach to be adopted towards developing the law appropriately in this emerging area, as well as making concerned parties, such as the airlines wishing to partake in this area, aware of potential issues.

The first stage in achieving this goal will be to define suborbital activities and to explore examples, thus allowing this work to have greater context and highlight the status of the industry. Following this, it will be explored whether suborbital vehicles are either 'aircraft' or 'space objects', thus illuminating the relevant laws applica-

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ble to this developing industry. The focus of this essay is on liability for personal injuries, so the third stage will analyse national laws currently in existence that are applicable to this context. Consequently, this section will focus primarily on the United States. The fourth stage will look at international law, more specifically the Montreal Convention of 1999 [hereinafter: MC99][5], and how this international instrument may prove incompatible with the relevant national laws. The fifth stage will explore the scope of the MC99 by analysing the terms 'international carriage' and 'agreed stopping place', and assessing whether they apply to personal injury cases during suborbital activities. Finally, the impact of the findings will be evaluated.

2. Suborbital Activities

In order to examine the potential liability regimes for suborbital activities, the practicalities of suborbital passenger transportation must be examined, therefore allowing it to be further understood. Suborbital activities can be expressed, in simple terms, as where a vehicle reaches an altitude capable of supporting orbit, but orbit is not achieved due to a lack of velocity[6]. Subsequently, it takes place in areas that host both air and space activities. It is, therefore, not apparent which legal regime encompasses this activity.

Space tourism is the leading example of suborbital activities. Whilst it has experienced many setbacks in its short history and is still in its infancy, it is nevertheless claimed to be "about to happen"[7]. The European Space Agency (ESA) defines 'space tourism' as "suborbital flights by privately-funded and/or privately-operated vehicles and the associated technology development driven by the space tourism market"[8]. It is attracting a lot of attention, for example, the Google X Prize Foundation offered incentives to entrepreneurs, in the form of the Ansari X Prize worth $10 million. On 4th October 2004 Scaled Composites was awarded the prize for reaching an altitude exceeding 100km twice in two weeks. Virgin Galactic has since teamed up with Scaled Composites and together they are leading this industry with SpaceShipTwo[9]. The test flight programme begun in 2009 and in January 2014 they successfully accomplished their third rocket-powered supersonic flight[10]. This progress has been enough to persuade over 600 people to book a ticket and pay a deposit of $20,000, with the first trip scheduled for 2014.

Virgin Galactic's progress is the most advanced, with SXC and its wet leased Lynx II vehicle being close behind, but there are several other credible efforts, for example, France, Spain, and the United Kingdom (UK) have all submitted plans to establish spaceports[11]. As well as spaceports, there are plans in Europe to build suborbital vehicles, for example, by EADS-Astrium and Reaction Engines Limited. The industry may be in its infancy, but nevertheless it is an active one with evidence to suggest that it will develop to become fully-fledged.

The initial suborbital activities can be expressed as point A to A. In other words, this is where the point of departure and arrival are the same. However, point A to A suborbital tourism is just the beginning, as there are plans to move the industry to point A to B. Virgin Galactic has the ambition to become the 'new Concord'[12] by offering a four-hour service between London and Sydney[13]. Whilst the technology has yet to actualise, it is predicted that in another 10 to 15 years it will have developed sufficiently enough to allow fully global travel for around $20,000[14]. This type of activity is no longer tourism and is now international commercial passenger transportation, that which will directly compete with incumbent airlines. Thus, there is a strong connec-

tion between suborbital and air operations, which airline companies, aircraft manufactures and States should take seriously if they wish to exploit this lucrative and developing practice.

3. Aircraft vs Space Object

It has been demonstrated that suborbital tourism is a credible industry, with opportunities for it to develop into a passenger transportation service, like that operated by airlines and because of this, it may be desirable to construct a passengers' liability regime to regulate it[15]. As mentioned above, suborbital flights may pass through both the airspace and outer space, and because of this, there may be a desire to apply liability rules from pre-existing laws. Alternatively, there may be a desire to create a *sui generis* liability system. This section will be utilised to highlight this ambiguity and show the possibility of suborbital vehicles falling under the definition of 'aircraft'.

Legally separating the air and space with a demarcation line, the spatialist approach, may be considered as a means of determining which law applies. Numerous States in the United Nations Committee on the Peaceful Uses of Outer Space's (UNCOPUOS) have expressed this position in the document on *Matters Relating to the Definition and Delimitation of Outer Space*[16]. However "[t]here is no universally agreed precise legal, technical or political definition of either the boundaries separating airspace from outer space or of the term outer space itself". Therefore, the spatialist method does not currently provide a solution. Furthermore, even if there was a demarcation line, it does not automatically follow that the full body of air law would attach itself to suborbital activities. This is because the Chicago Convention, for example, applies to aircraft[18]. If a suborbital vehicle is not considered an 'aircraft', but is within the demarcated air space, then this will leave a lacuna in the regulation of suborbital activities.

There is a trend to adopt a functionalist approach when attempting to resolve this issue, as a partial solution can be found in the relevant international law. All five of UNCOPUOS' Treaties make specific reference to 'space objects'. If a suborbital vehicle is classified as a 'space object' then it follows that space law applies. However, the UNCOPUOS' Treaties only provide a partial definition as they declare that "[t]he term 'space object' includes component parts of a space object as well as its launch vehicle and parts thereof"[20]. However, the Liability Convention supplements this vague definition as it makes specific and numerous references to launches. Thus, it is possible to interpret that a launched object intended for either orbital or suborbital may be classified as a space object. If this is the case, then a suborbital vehicle is closer to a space object than an aircraft during the ballistic portion of its activities[21]. It is, therefore, possible to define a suborbital vehicle as a space object.

In the context of international air law, the International Civil Aviation Organization (ICAO) in an Annex to the 1944 Chicago Convention [hereinafter: CC44] has provided the standard definition which holds that an aircraft is "[a]ny machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface"[22]. During SpaceShipTwo's assent, whilst attached to its transport vehicle WhiteKnightTwo and during its gliding decent, satisfies this definition. SXC's Lynx II will also satisfy this definition during its unpowered gliding decent. Some members of the European Aviation Safety Agency (EASA) support this rationale as they stating that "sub-orbital aeroplanes deriving support from the atmosphere for the largest part of their flight, are considered as aircraft"[23]. There are

indications elsewhere to suggest that air law will subsume suborbital activities. ESA, aware that suborbital activities do not fit comfortably under the headings of 'air' or 'space', takes the position that "space tourism will be carried out substantially in the airspace of a given country, and therefore the civil aviation regulatory authorities of the countries concerned and the competent agencies of the European Community should be at the forefront of the setting up of a regulatory framework for Space Tourism in Europe". This is not to say that space law is irrelevant, but this definition "seems to imply that ESA sees the currently foreseen suborbital flights as an aviation activity to which air law must be applied and would at a later stage look at the possible application of space law for the regulation of orbital space tourism"[25]. It is, therefore, also possible to define a suborbital vehicle as an aircraft.

It has been shown that some suborbital vehicles, such as SpaceShipTwo, function as an aircraft for a portion of its journey and can consequently be defined as an aircraft. A vehicle does not cease to be an aircraft the moment it stops deriving support, such as when it is being taxied, parked or if it has crashed. This is because the Annex declares that a vehicle is an aircraft if it is capable of *deriving support*, rather than constantly *deriving support*. This rationale is followed in the MC99 as the Treaty can be invoked even before the aircraft has left the runway[26]. Thus, it follows that a suborbital vehicle does not cease being an aircraft just because it temporarily stops achieving lift through a reaction with the air.

It seems apparent that suborbital vehicles can be classified as both aircraft and space objects. For this reason, international air law can be applicable throughout the vehicle's journey. There is a growing trend to treat these activities as an extension of aviation, but there will need to be extra legal steps taken in order to determine which body of law will apply. Therefore, it is possible for air law to govern personal injuries during suborbital activities.

4. United States

Whilst international law has remained static on suborbital activities, this is not the case for the US that has "shown determination to assist its private sector to take a leading role in the development of space tourism"[27]. The most significant legal step taken by the US is to write the "entrepreneurial and commercial value of ... space tourism … into the DNA of virtually all national and international instruments"[28]. The US has declared that the Federal Aviation Administration (FAA) is the responsible authority for suborbital activities. The US performs the licensing and regulating of commercial space activities through a branch of the FAA; the Office of Commercial Space Transportation. Since 1989, it has issued over two hundred licences for launch and reentry activities, and since 1996 eight non-federal launch sites or commercial spaceports[29]. A State is sovereign: it is free to create its own national laws, as long as it is within its constitutional powers and does not conflict with its international legal obligations. Therefore, it is possible for different legal systems to govern suborbital activities depending on the participating State[30]. Therefore, suborbital activities within the US have become regulated under US national law.

The US is regulating suborbital activities, including liability for damage caused by such activities under its own national law. The Commercial Space Launch Amendments Act (2004) took the position to protect the industry as it "should encourage private sector launches, reentries, and associated services and, only to the extent necessary, regulate those launches, reentries, and services"[31]. This can be expressed, within the con-

text of personal injury, through the legally required 'fly at your own risk' clause. The FAA will only allow a holder of a licence to launch or reenter a space flight participant if:

> "(A) The holder of the license or permit has informed the space flight participant in writing about the risks of the launch and reentry, including the safety record of the launch or reentry vehicle type …
> (B) The holder of the license or permit has informed any space flight participant in writing, prior to receiving any compensation from that space flight participant …
> (C) … The space flight participant has provided written informed consent to participate in the launch and reentry …"[32]

This clause obliges the licensed entity to inform the participant in writing about the launch and re-entry risks, which include the safety record of the launch or re-entry vehicle, in order to fully inform the participant. Following this, the participant must respond in writing indicating whether or not they consent to the risk. This has since been elaborated upon at a federal level. For example, Florida's federal law declares "[a] spaceflight entity is not liable for injury to or death of a spaceflight participant resulting from the inherent risks of spaceflight activities, so long as the required warning is given to and signed by the participant"[33].

The informed consent clause acts as a liability waiver, so it follows that an individual[34] who experiences personal injuries cannot claim for damages. This point has again been advanced at the federal level; for example, the Florida Informed Consent for Spaceflight Act declares the exclusivity of this waiver, so alternative forums of redress cannot be sought[35]. The waiver does not cover injuries if the suborbital operator:

> "1. Commits an act or omission that constitutes gross negligence or willful or wanton disregard for the safety of the participant and that act or omission proximately causes injury, damage, or death to the participant;
> 2. Has actual knowledge or reasonably should have known of a dangerous condition on the land or in the facilities or equipment used in the spaceflight activities and the danger proximately causes injury, damage, or death to the participant; or
> 3. Intentionally injures the participant"[36].

Therefore, US law has been developed to allow the new industry to grow, by protecting it from expensive liability claims, as was the case with airline activities when the Warsaw Convention [hereinafter: WC29] was drawn up in 1929. The industry has unsurprisingly adopted this approach and requests that customers sign a liability waiver in the contract of carriage.

The applicability of the informed consent waiver may not be as absolute as the industry might want. This is because informed consent has two components; information and consent. Whilst these types of activities appear to be very clinical and precise, as well as being advertised as safe, it must not be forgotten that it is still a new and dangerous activity. For example, Virgin Galactic's activities have resulted in three deaths and three critical injuries[37]. There have currently been no commercial subor-

bital activities, this is a new emerging technology and there is a lack of knowledge transfer due to tight competition. How, therefore, can the risk be informed? Consequently, the participant may only be consenting to the activity, but they may not be consenting to the real risk. Thus, any informed consent waiver may be unenforceable.

The waiver may also be unenforceable within European States. Under the Council Directive 93/13/EEC on Unfair Terms in Consumer Contracts declares that a term in a contract that aims at "excluding or limiting the legal liability of a seller or supplier in the event of the death of a consumer or personal injury to the latter resulting from an act or omission of that seller or supplier"[38], may be regarded as unfair. This has been interpreted into UK law under the Unfair Terms in Consumer Contracts Regulations[39]. Schedule 2(1)(a) declares that "excluding or limiting the legal liability of a seller or supplier in the event of the death of a consumer or personal injury to the latter resulting from an act or omission of that seller or supplier" may be considered unfair and pursuant to Article 8, unenforceable. In France under the general principle of civil liability, such a waiver whether by contract or by unilateral declaration, would likely be unenforceable as far as human injury or death is affected. Furthermore, for a contract to be valid under Belgian law, it must be compliant with Belgian public order and imperative laws in order to be valid. Therefore, if a suborbital operator places a liability waiver clause in its contract with the passenger, it may not be enforceable.

5. Exclusivity of the 1999 Montreal Convention

The above examination of liability resulting from the Commercial Space Launch Amendments Act (2004) demonstrates that although the industry is in its infancy, there is a desire by the US to regulate liability in the context of suborbital tourism, through domestic law with a protectionist approach towards the carrier. *Prima facie* this may seem to be within the capacity of the US, however, these national developments may be incompatible with international law in a previously unforeseen way and consequently, may be illegal. This is because, if the MC99 applies, it has exclusivity over any other legal source to deal with personal injury claims.

The MC99 updated the WC29 and the key players of suborbital transport, both the US and European Union Member States are Parties to the MC99[40]. The Convention's Articles contain similar wording for death or bodily injury[41] and as a result the ethos of exclusivity was carried over.

The Courts, in interpreting Article 17, have been active in determining the exclusivity of the MC99. The then UK House of Lords in Sidhu, in dealing with the WC29 stated:

> "The Court decided that Article 17 of the Warsaw Convention provided that the only remedy open to a passenger claiming to have suffered personal injuries arising from an international flight was under the Convention and that the Convention contained an exclusive and exhaustive code governing such actions and excluded actions brought under common law"[42].

This was later affirmed by the UK Supreme Court in Tony Hook vs British Airways regarding the MC99. "In my judgment it is clear from the decision of the House of Lords in Sidhu, there are no exceptions to the exclusivity of the Convention"[43]. The Irish Courts have also affirmed:

> "In this case the actions complained of occurred on the aircraft, on the steps of the aircraft and on the tarmac immediately adjacent thereto. They are consequently encompassed and governed by Article 17 of The Montreal Convention and cannot therefore give rise to the action pleaded by the plaintiff. For these reasons I am satisfied that the plaintiff has no reasonable chance of succeeding in his claim and I therefore order that his claim be struck out"[44].

The US Courts have also been active, for example, in the El Al Israel Airlines Ltd vs Tseng case, the Supreme Court held that "the Warsaw Convention precludes a passenger from maintaining an action for personal injury damages under local law when her claim does not satisfy the conditions of liability under the Convention"[45].

The principle of exclusivity is found in the MC99 and has been accepted by many Courts. Thus, if suborbital passenger transportation can be found to be compatible with the scope of the MC99, then it supersedes national law and has jurisdiction, regardless of States' willingness to act at a domestic level[47].

As noted above, suborbital industries, in their contract of carriage, have included terms that attempt to waive liability. However, under Article 26 of the MC99, this is not legal.

> "Nothing contained in this Convention shall prevent the carrier from refusing to enter into any contract of carriage, from waiving any defences available under the Convention, or from laying down conditions which do not conflict with the provisions of this Convention".

Therefore, under this Article, a carrier can only include terms that do not conflict with the MC99, so any attempt to waive liability will be incompatible with the MC99 and will be illegal. Consequently, if the MC99 applies to suborbital activities, then any term that waives liability in the contract will be void in cases of international carriage.

6. Applying the 1999 Montreal Convention

The applicability of the MC99 depends on the satisfaction of prescribed criteria. Firstly, the transportation vehicle must be an "aircraft"[48]. Secondly, it "applies to all international carriage of persons, baggage or cargo performed by aircraft for reward. It applies equally to gratuitous carriage by aircraft performed by an air transport undertaking"[49]. In addition, there are further requirements that determine the applicability of liability under the Convention. Thirdly, under Article 17 the occurrence in question must be an "accident". Fourthly, that "accident" must have "caused" "damage"[50]. Finally, the "accident" must have taken "place on board the aircraft or in the course of any of the operations of embarking or disembarking"[51]. If these requirements are satisfied, then the liability regime set forth by the MC99 applies. However, it is not obvious if these stages are satisfied and it is in the carriers' financial interest to bring its activities outside the scope of the MC99.

There have been many discussions on whether suborbital vehicles can be defined as 'aircraft' and this, of course, has a great impact on the applicability of the MC99 because, if they are not, then the MC99 does not apply. However, this issue has already

been raised in Section 3 above and it has been shown that there is significant support for these vehicles to be regarded as aircraft. In addition, whilst the Convention does not provide a definition of 'aircraft', there is significant State practice to show that this is not to be interpreted in a narrow way. For example, the MC99 has been applied to include gliders[52], balloons[53] and helicopters[54]. Therefore, this stage of the test can be satisfied.

It is not possible to examine the third and fourth test, as they will have to be dealt with on a case-by-case basis. There is significant case law to provide interpretation to the words 'accident' and 'damage', and the Courts in US and European jurisdictions are well equipped to do this in a new context. Therefore, the third and fourth tests pose no new issues for suborbital transportation. The same line of argument extends for the elements of 'embarking' and 'disembarking'. It is immaterial whether the damage took place on a traditional aircraft or suborbital vehicle. This is because an accident that causes damage is not dependent on the vehicle as, for example, the MC99 can be applicable even before the passenger has set foot on board[55]. Suborbital transport does not raise any new questions here and as a result these points do not need to be explored further.

The final issue is whether or not it is 'international carriage' as defined by Article 1 of the MC99. International carriage can, principally, occur in three situations, namely, (I) A to A carriage via outer space, (II) A to A carriage via outer space with an agreed stopping place in another State, and (III) A to B carriage via outer space. These three situations will be analysed below in light of the applicable provisions of MC99.

(I) Suborbital tourism flights are qualified here as A to A carriage via outer space, such as Virgin Galactic's activities that start and end at Spaceport America in New Mexico, US. Article 1 of the MC99 applies to activities that are "within the territory of a single State Party if there is an agreed stopping place within the territory of another State, even if that State is not a State Party"[56]. For the MC99 to apply, the agreed stopping place, the point in which the vehicle stops ascending and begins to descend, must be in another State[57]. Under liberal interpretations of 'agreed stopping place', like those found in the terms of airline conditions of carriage, it may seem that the apex of the flight is an agreed stopping point. Air China defines it as "those places, except the place of departure and the place of destination, set out in the ticket or shown in our timetables as scheduled stopping places on your route"[58]. KLM has an even more liberal interpretation: "a scheduled stop by the Carrier which is located between the Place of Departure and the Place of Destination as shown in the Schedules"[59]. Point A to A suborbital flights are sold as tickets into 'space' and this may be enough to satisfy the airlines' definitions. However, these definitions are limited as they do not constitute international law. Whilst space is a distinct area, it does not constitute another State. Thus, it would appear that point A to A is not international carriage coming under the terms of the MC99.

Within the context of point A to A services, there is an additional concern. As noted above, there are far fewer potential suborbital providers than proposed 'space ports'. Therefore, there is a high possibility that a foreign operator will conduct these activities. This activity would be cabotage[60]. There is a difference between traditional types of cabotage and this situation. This is because, traditionally, cabotage is point A to B transportation within one State. Suborbital activities would be point A to A within one State. It may be possible to express this deviation as a 10th freedom service. This does not result in an issue under the WC29 or MC99 as Article 1(2) declares that cabo-

tage is outside the scope of the Conventions and, hence, is subject of national law for the establishment of liability.

(II) The most common air service is A to A carriage via another State, that is, a carriage whereby the place of embarkation and disembarkation are located in the same State, for instance, a London-Sydney-London carriage on Virgin Galactic, via outer space, with Sydney as an agreed stopping place. Unlike outer space, Australia is a State; therefore this air service is likely to be considered as international carriage coming under the terms of the MC99 provided that the craft operated by Virgin Galactic is qualified as an "aircraft".

(III) This also appears to be the case for a point A to B journey, such as that between London and Sydney via outer space. If the passenger is transported on a single ticket, then this will be international carriage between two contracting States, namely, the UK and Australia. Thus, such suborbital activities would appear to fall, again, under the scope of the MC99.

The implications of the above findings will be examined in the next section.

7. Consequences

If the MC99 applies, then this will have significant financial consequences as the carrier is exposed to strict liability up to the amount of 113,100 SDR per passenger[61]. Article 21 of the MC99 also introduced the concept of unlimited liability. If the suborbital company causes damage due to "negligence or other wrongful act" and such damage was not "solely due to the negligence or other wrongful act or omission of a third party", then its liability is unlimited[62]. This defence is hardly relied on by airlines. In addition, as this will be a luxury service in the beginning, with prospective participants including entrepreneurs, celebrities and royalty, this could result in the penalties being severe[63].

As signalled above, the MC99 has seen a move away from protecting the airline industry and has granted more protection to the individual with the introduction of unlimited liability. If the MC99 is applicable, it may have significant costs for this infant industry, as was feared with aviation[64]. With this in mind, it may allow carriers, such as Virgin Atlantic and KLM, to petition States to construct a protectionist legal regime governing this activity, like that of the US.

The financial responsibility under the MC99 is unlimited which is significantly more onerous than that proposed under US national law, so financial implications are significant. Suborbital transportation is a new industry with inherent dangers, as was with aviation at the time of the WC29's creation and therefore, the concerns raised can be applied to suborbital activities[65]. Thus, it is not unreasonable for carriers to push for a protectionist legal regime.

International suborbital passenger transportation, like that between London and Sydney, will be competing with services offered by incumbent airlines, including BA. The BA flight will be regulated by the MC99[66]. Therefore, in order for a suborbital operator to compete, it may wish to offer the same level of protection in order to entice customers. Alternatively, market forces may compell the suborbital operator to adopt the MC99 or similar standards of protection as passengers may regard liability protection to be more important than time saving.

8. Conclusion

In conclusion, whilst the suborbital industry has yet to take fee-paying members of the public to the 'edge of space', it has been shown that the foundations have been laid for the industry to become fully-fledged. This will not only create a new market, but it could also encroach on established industries; commercial air transportation. Therefore, developments and issues in this field must be taken seriously and in their wider context. It has been shown that because suborbital activities do not fit comfortably under the headings of 'air' or 'space' activities, its ambiguous position results in its legal status being unclear. In spite of this ambiguity, international air and space law has remained static. However, this is not entirely the case at a national level as the US has constructed an advanced legal regime to deal with commercial activities of this nature with particular attention given to liability.

The US, acting unilaterally, has constructed a suborbital liability regime, which denies participants from utilising other forums in order to recover damages. The ethos underpinning this regime is the desire to protect this new growing industry, which has had the effect of requiring the customers to waive their rights in the case of personal injuries. This, however, may contradict the US's international obligations as the MC99 may be applicable to A to A services via an agreed stopping place or to A to B services.

In order for the MC99 to be applicable, certain criteria must be satisfied. Firstly, whilst it is possible to define suborbital vehicles as 'aircraft', it has not yet been determined in law whether this is the case. Therefore, the applicability of the MC99 is uncertain. Secondly, whilst point A to A carriage via outer space does not constitute international carriage, this, however, is not the case for point A to A carriage via an agreed stopping place and point A to B carriage via outer space. Consequently, US national law conflicts with the MC99. This may have vast implications for the industry as it would be subjected to unlimited liability and could result in one accident having serious financial implications.

The findings in this essay have wider implications. Firstly, this essay has focused on liability for personal injuries. The scope of the MC99 is larger than this, as it also covers damage to cargo and for delay. Secondly, it may be possible for other air laws to become applicable, such as EC Regulation 261/2004 and its subsequent revisions, which could have further financial burdens. Thirdly, as it is possible for commercial air transport to move into suborbital activities, these findings allow States to anticipate the further blurring of air and suborbital. This will allow States to regulate it appropriately and allow the aviation and suborbital industry to be aware of this and act accordingly.

In overall conclusion, there is a possibility for international suborbital passenger transportation to become an extension of aviation. The two leading companies in this activity, Virgin Galactic and SXC, have strong connections with Virgin Atlantic and KLM. Therefore, there is a possibility that the above mentioned airlines will be leading this developing industry in the area of international suborbital passenger transportation. However, regardless of attempts by the US to limit the carrier's liability in the case of personal injuries, the carrier may have to face the full force of a mature liability regime due to States' international obligations. This may also apply in the case of baggage, cargo, and EC Regulation 261/2004 cases. The application of the MC99 in this case, until now has been unforeseen, thus it has not been a consideration for investing

airlines. However, in a low profit margin industry, such as aviation, the findings in this work have highlighted a potentially financially burdensome situation that airlines should be aware of and enable them to respond accordingly.

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[1] Airbus, 'Orders & Deliveries' – (Viewed: 14th April, 2014) – Sourced: www.airbus.com/company/market / orders-deliveries/.

[2] Australian Business Traveller, 'Virgin Galactic's Suborbital Shuttle: Sydney to London in 4 Hours' – (Viewed: 14th April, 2014) – Sourced: www.ausbt.com.au/virgin-galactic-suborbital-shuttle-sydney-london-4-hours.

[3] Oduntan, Gbenga, *Sovereignty and Jurisdiction in the Airspace and Outer Space: Legal Criteria for Spatial Delimitation*, First Edition, (Routledge, 2012), pages 273 – 274.

[4] Personal injuries include death or bodily injury.

[5] Montreal Convention for the Unification of Certain Rules for International Carriage by Air 2242 U.N.T.S. 309; S. Treaty Doc. No. 106-45 (1999). [Herein after: MC99].

[6] Goedhart, Robert, *Forum for Air and Space Law: The Never Ending Dispute: Delimitation of Air Space and Outer Space*, Volume 4, (Editions Frontieres, 1996), page 61.

[7] Masson-Zwaan, Tanja, 'Liability and Insurance for Suborbital Flights', Proceedings 5th IAASS Conference 'A Safer Space for a Safer World', *ESA SP-699* (2012), page 1.

[8] European Space Agency, 'ESA's position on privately-funded suborbital spaceflight 10th April 2008' – (Viewed: 14th April, 2014) – Sourced: http://esamultimedia.esa.int/docs/gsp/ Suborbital_Spaceflight_ESA_Positio n_Paper_14April08.pdf.

[9] SpaceShipTwo is designed to facilitate two crewmembers and six tourists to altitudes exceeding 100km.

[10] Virgin Galactic, 'News' – (Viewed: 14th April, 2014) – Sourced: www.virgingalactic.com/news/item/ virgin-galactic-flexes-spaceshiptwos-unique-feather-mechanism-in-second-supersonic-flight/. *See*, Aviation Week, Virgin Fires SpaceShipTwo Rockets in Flight' – (Viewed: 14th April, 2014) – Sourced: www.aviationweek.com/Article.aspx?id=/article-xml/awx_04_29_2013_p0-574521.xml.

[11] Masson-Zwaan, Tanja, 'Regulation of Sub-orbital Space Tourism in Europe: A Role for EU/EASA?', *35(3) Air and Space Law 263-272* (2010), page 264.

[12] Etherington, Darrell, 'Virgin Galactic Wants to Do Moon Cruises, Replace the Concorde for Terrestrial Travel' – (Viewed: 14th April, 2014) – Sourced: http://techcrunch.com/2013/10/18/virgin-galactic-wants-to-do-moon-cruises-replace-the-concorde-for-terrestrial-travel/.

[13] Australian Business Traveller, 'Virgin Galactic's Suborbital Shuttle: Sydney to London in 4 Hours' – (Viewed: 14th April, 2014) – Sourced: www.ausbt.com.au/virgin-galactic-suborbital-shuttle-sydney-london-4-hours. "With London and Sydney being just over 17,000 km apart, SpaceShipTwo travelling at 4,000 km/h and the earth far below spinning at 1,700 km/h, that's almost exactly three hours from Sydney Harbour to the Thames". The total time calculated is four hours. Three hours if often quoted as "half an hour for lift off and half an hour to glide down" needs to be added. This then turns "the long-haul Kangaroo Route into a breezy four hour hop – less time than it currently takes from Sydney to Perth". Australian Business Traveller, 'Richard Branson: Commercial Virgin Galactic Spaceflights in 2014' – (Viewed: 14th April, 2014) – Sourced: www.ausbt.com.au/richard-branson-commercial-virgin-galactic-spaceflights-in-2014. Virgin Galactic is not the only company planning such a route. SXC has similar ambitions and plans to be able to travel "anywhere in the world within two hours". Michiel Mol, 'KLM Space' – (Viewed: 14th April, 2014) – Sourced: www.youtube.com/watch?v=LZywFUWtf-s.

[14] Australian Business Traveller, 'Richard Branson: Commercial Virgin Galactic Spaceflights in 2014' – (Viewed: 14th April, 2014) – Sourced: www.ausbt.com.au/richard-branson-commercial-virgin-galactic-spaceflights-in-2014.

[15] The regulation of liability has taken place in similar activities, such as commercial air transport and space activities. Thus, it is reasonable to assume that suborbital activities may follow suit.

[16] UNCOPUOS, 'Compilation of Replies Received from Member States to the Questionnaire on Possible Legal Issues Regarding Aerospace Objects', A/AC.105/635 and Add. 1 to 11, Question 2: Algeria, El Salvador, Fiji, Finland, India, Iraq and Kazakhstan.

[17] The Minister of State, FCO, Hansard, H.C., Vol. 546 W.A. 66, July 23, 1993 (1993).

[18] Convention on International Civil Aviation, 61 Stat. 1180, 15 U.N.T.S. 295 (1944), Article 3(a). [Herein after: CC44].

[19] UNCOPUOS, 'Compilation of Replies Received from Member States to the Questionnaire on Possible Legal Issues Regarding Aerospace Objects', A/AC.105/635 and Add. 1 to 11, Question 2: Costa Rica, Lebanon, Slovakia, South Africa, Syria.

[20] Convention on International Liability for Damage Caused by Space Objects, 1973, 24 U.S.T. 2389, 961 U.N.T.S. 187, Article 1. Convention on Registration of Objects Launched into Outer Space, 1976, 28 U.S.T. 695, 1023 U.N.T.S. 15, Article 1.

[21] Committee on the Peaceful Uses of Outer Space Legal Subcommittee Forty-ninth Session, 'Concept of Suborbital Flights: Information from the International Civil Aviation Organization (ICAO)', A/AC.105/ C.2/2010/CRP.9 (2010), page 2.

[22] International Civil Aviation Organization, Annex 2, 6 & 8 to the CC44.
[23] Marciacq, Jean-Bruno; Morier, Yves; Tomasello, Filippo; Erdelyi, Zsuzsanna; and Gerhard, Michael, 'Accommodating Sub-Orbital Flights into the EASA Regulatory System', 3rd IASS Conference, International Association for the Advancement of Space Safety, Rome, Italy, NASA/ESA Publication, (2008), page 3.
[24] European Space Agency, 'ESA's Position on Privately-Funded Suborbital Spaceflight 10th April 2008' – (Viewed: 14th April, 2014) – Sourced: http://esamultimedia.esa.int/docs/gsp/Suborbital_Spaceflight_ESA_Position_Paper_14April08.pdf, page 2. The position of the European Space Agency does not constitute hard law, as ESA is not a regulating body with legislative power. However, the position has some force because "it is clear that the EU, in pondering its involvement in space tourism regulation, will attach value to the opinions expressed by 'technical expert' ESA." Masson-Zwaan, 'Regulation of Sub-orbital Space Tourism in Europe', *35(3) Air and Space Law 263-272* (2010), page 267.
[25] Masson-Zwaan, 'Regulation of Sub-orbital Space Tourism in Europe', *35(3) Air and Space Law 263-272* (2010), page 266.
[26] *See*, Day v Trans World Airlines, 393F. Supp. 217, 13 Avi. 17,647 (S.D. N.Y. 1975), affirmed, 528F. 2d 31, 13 Avi. 18,144 (2d Cir. 1975), cert. denied (US Supreme Court 1976), page 34.
[27] Oduntan, *Sovereignty and Jurisdiction in the Airspace and Outer Space*, First Edition, (2012), page 277.
[28] *Ibid.*
[29] U.S. Department of Transportation Federal Aviation Administration, 'The U.S. Commercial Suborbital Industry: A Space Renaissance in the Making' – (Viewed: 14th April, 2014) – Sourced: www.faa.gov/about/office_org/headquarters_offices/ast/media/111460.pdf. None of these licences have been submitted to the Secretary-General for registering as prescribed by the Space Registration Treaty. Thus, there is a complete absence of space law. Convention on Registration of Objects Launched into Outer Space , 28 U.S.T. 695, T.I.A.S. No. 8480, 1023 U.N.T.S. 15 (1974).
[30] This system reflects a pre-Warsaw Convention system of liability. Convention for the Unification of Certain Rules Relating to International Carriage by Air 49 Stat. 3000; 137 LNTS 11 (1929). [Herein after: WC29].
[31] Commercial Space Launch Amendments Act, Public Law 108 - 492 108th Congress, 23rd December, 2004 [HR 5382] (2004), § 50901(7).
[32] *Ibid*, § 50905(5).
[33] House of Representatives Florida, Economics Affair Committee, 7th April, 2011, CS/HB 703 (2011).
[34] The term 'individual' also refers to those who can bring a claim under the deceased's estate.
[35] The Florida Informed Consent for Spaceflight Act, F.S. Section 331.501 (2010), Article 2(a).
[36] *Ibid*, Article 2(b).
[37] Chang, Alicia, 'Virgin Galactic Keeps Low Profile after Explosion' – (Viewed: 14th April, 2014) – Sourced: http://usatoday30.usatoday.com/tech/science/space/2007-08-26-virgin-space-tourism_N.htm.
[38] Council Directive 93/13/EEC (1993), Annex (a).
[39] The Unfair Terms in Consumer Contracts Regulations, No. 2083 (1999).
[40] The MC99 entered into force on 4th November, 2003 and currently has 107 State Parties. International Civil Aviation Organization, 'Current Lists of Parties to Multilateral Air Law Treaties' – (Viewed: 14th April, 2014) – Sourced: www.icao.int/secretariat/legal/List%20of%20Parties/Mtl99_EN.pdf.
[41] "The carrier is liable for damage sustained in case of death or bodily injury of a passenger upon condition only that the accident which caused the death or injury took place on board the aircraft or in the course of any of the operations of embarking or disembarking". MC99, Article 17.
[42] Sidhu and Others v British Airways PLC and Sykes vs British Airways PLC AC 430 [1997] *in* Smyth and Company Limited vs Aer Turas Teoranta (Unreported, Supreme Court, 3rd February, 1997), page 28.
[43] Tony Hook vs British Airways plc., EWHC 379 (QB) (2011), paragraph 35.
[44] Mc Auley vs Aer Lingus Ltd. & Ors, IEHC 89 [2011], paragraph 6.8.
[45] El Al Israel Airlines Ltd vs Tsui Yuan Tseng, No. 97-475, 122 F. 3d 99 (1999). The decision in Tseng has been followed by other Court decisions, including: Miller vs Continental Airlines, 260 F.Supp. 2d 931 N.D. Cal. (2003); Air Crash at Belle Harbour, 2003 WL 21032034, S.D.N.Y (2003); and Murillo vs American Airlines, No. 09-22894-Civ, 2010 WL 1740710, S.D. Fla. (2010).
[46] The Canadian Federal Court of Appeal upheld the exclusivity of the MC99 in Thibodeau vs Air Canada. Thibodeau vs Air Canada, FCA 246 (2012). The French Court of Appeal in Airbus vs Armavia Airlines held that "one must hold that the provisions of the [Warsaw] Convention must govern any action against the air carrier." However, the Case went before the Supreme Court and the decision is pending. Airbus vs Armavia Airlines, Ref. 2008 – 0091 (2008).
[47] The exclusivity of the MC99 has been questioned, for example, with the introduction of the European Union's Regulation 261/2004 as amended. However, it is argued by the Court of Justice of the European Union that the Regulation reflects the desires of the Convention: "The Court also finds that the requirement to compensate passengers whose flights are delayed is compatible with the Montreal Convention". Court of Justice of the European Union, 'The Court of Justice has Confirmed its Previous Ruling that Passengers Whose Flights have been Delayed for a Long Time May be Compensated', Press Release No 135/12 (2012), page 2.
[48] MC99, Article 1.
[49] *Ibid*, Article 1.
[50] *Ibid*, Article 17.

[51] *Ibid*, Article 17.
[52] Mount Beauty Gliding Club Inc. vs Jacob, VSCA 151 [2004].
[53] Disley v Levine, 45 1 WLR 785 (CA) [2002].
[54] Case C-6/14, Request for a preliminary ruling from the Oberster Gerichtshof (Austria) lodged on 9 January 2014 – Wucher Helicopter GmbH, Euro-Aviation Versicherungs AG v Fridolin Santer.
[55] *See*, Day v Trans World Airlines, 393F. Supp. 217, 13 Avi. 17,647 (S.D. N.Y. 1975), affirmed, 528F. 2d 31, 13 Avi. 18,144 (2d Cir. 1975), cert. denied (US Supreme Court 1976).
[56] MC99, Article 1. *See*, Arkwright Mutual Insurance Co. vs Federal Express Corp., Civ. No 99-3618 E.D.Pa. (2001).
[57] International carriage does not have to be between Member States to the MC99, rather it must be between "States". This has been affirmed by the US Court. Jones v USA 3000 Airlines, No. 4:08-CV-1855 (CEJ) (2009).
[58] Air China, 'Article 1 – 'Definition' - (Viewed: 14th April, 2014) – Sourced: www.airchina.com.cn/www/en/html/index/general_conditions_o/general_passenger/1006/.
[59] KLM, 'Articles 1 to 5 of our General Conditions of Carriage for Passengers and Baggage' – (Viewed: 14th April, 2014) – Sourced: www.klm.com/travel/nl_en/customer_support/booking_conditions_carriage/article_1_to_5.htm.
[60] This has implications under Article 7 CC44 and for cabotage rights as they are very rarely given to foreign air carriers, with the most notable exception being the European internal market regime based on EU Regulation 1008/2008.
[61] This took effect on 1st January, 2010 and this is due to remain until 2014 when it is open for review and possible revision. Grief, Nick and Losy, Alex, 'The Montreal Convention 1999: An Increase in the Limits of Liability', *6 Journal of Business Law 529-532* (2010), page 532.
[62] MC99, Article 21.
[63] If the suborbital company is liable for loss of earnings, then with such a rich and famous waiting list, the liability could easily be in the high $ millions. Pearn, James, 'Virgin Galactic Passenger List' – (Viewed: 14th April, 2014) – Sourced: www.j2p2.com/virgin-galactic-passenger-list.
[64] *See*, WC29. Article 50 of the MC99 declares that "States Parties shall require their carriers to maintain adequate insurance covering their liability under this Convention". This may mitigate some of the impact of an Article 17 claim. However, insurance is an additional cost and due to the inherent dangers found in suborbital activities, insurance has a potentiality to be very high. MC99, Article 50.
[65] *See*, Trans World Airlines, Inc. v Franklin Mint Corp., 466 U.S. 243, 246-47 (1984).
[66] International Civil Aviation Organization (ICAO), 'Current Lists of Parties to Multilateral Air Law Treaties' – (Viewed: 14th April, 2014) – Sourced: www.icao.int/secretariat/legal/List%20of%20Parties/Mtl99_EN.pdf.

SPACE

ISRO'S SPACE JOURNEY

Ajey Lele*

India's space programme could be viewed as a product of country's science culture and quest for social progress. It is obvious that any programme of strategic significance would also have strategic culture associated with it. India is perhaps the only developing state to have a successful space programme of significant size. India received its independence from the British colonial rule in 1947. Indian space programme could be said to have begun during early 1960s with launch of its first sounding rocket in 1963. Over the years Indian space programme has come long way. On 05 November 2013 India has successfully launched the first phase of its mission to Mars. This paper explores this journey of five decades: a period between hopeful beginnings to making foray out into the deep space where the developed states are also trying to find their feet.

Historically, India always had a scientific culture. Various studies in the fields of mathematics, cosmology and astronomy were undertaken during the ancient times. After independence the budgetary concerns was one of the important reason for limited investments into science and technology. At the same time the political leadership of the state should be given a due credit for allowing the development of scientific thought in the state by providing encouragement, opportunity and reasonable (affordable) financial support.

Universally, it has been observed that every space programme has its own narratives, own visions, own perceptions and own heroes. In case of India the space vision was broadly articulated as, "India's space programme would be civilian in nature, with focus on the application of space technology as a tool for socio-economic development of the country. Indian investments have a logic of using this programme for developing space technologies in fields such as communications, meteorology, and natural resource management". There was clarity in the minds of India's political and scientific community that investments in space are essential for the social developments in the country. Dr.Vikram Sarabhai and Prof Satish Dhawan are the chief architects of India's space programme.

The first Indian satellite 'Aryabhatta'[1] was launched on April 19, 1975 with the help form the erstwhile USSR. After this India took five more years to develop its own rocket launcher for delivering the satellite out into space. On July 18, 1980 a satellite 'Rohini 1' was launched using indigenous rocket launcher called Satellite Launch Vehicle (SLV) from a site located in Southern parts of India. With this launch India joined the coveted club of space-faring nations.

ISRO began the development of its launch vehicles programme during early 1970s. The first experimental Satellite Launch Vehicle SLV-3 was developed in 1980. An Augmented version of this, ASLV, was launched successfully in 1992. ISRO has made tremendous strides in launch vehicle technology to achieve self-reliance in satellite

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launch vehicle programme with the operationalization of Polar Satellite Launch Vehicle (PSLV) and Geosynchronous Satellite Launch Vehicle (GSLV)[2]. Particularly, the PSLV vehicle has established itself as the most reliable vehicle and its last 25 consecutive launches have been successful. PSLV has repeatedly proved its reliability and versatility by launching 64 satellites / space crafts (29 Indian and 35 foreign satellites) into a variety of orbits so far.

In respect of launch vehicle technology India is in a position to put approximately 2000 kg satellites mostly into the low earth orbit (LEO). For last 30 years India is taking assistance from France to launch its heavy satellites (communications and meteorological satellites) into the geostationary orbit.

India's experience with its GSLV technology has not been very encouraging. ISRO is yet to acquire mastery with this vehicle. For many years India has been trying to develop the cryogenic engine technology without much success. In the 2010 ISRO suffered a major setback when two of their GSLV missions failed. However, there is long history in regards to India's quest form cryogenic technology. In the year 1992, India was denied the transfer of cryogenic technology which Russia was proposing to do. The Russian administration was pressured by the US administration on the pretext that India could use this technology to build-up its missile forces. It was argued that transfer of such technology is against the provisions made in the missile technology regime (MTCR). Unfortunately, India was not able to successfully fully develop cryogenic for many years. In January 2014, ISRO successfully launched a nearly two-tonne satellite using its Geosynchronous Satellite Launch Vehicle (GSLV-D5). The importance of this launch was that it was powered by an indigenous cryogenic engine.

India is designing and developing various satellite systems for many decades. During 1980s ISRO began developing multipurpose satellite systems and during initial years the satellites developed used to have communication, meteorology and few other payloads in one systems. The Indian National Satellite (INSAT) system which are placed in Geo-stationary orbits is one of the largest domestic communication satellite systems in Asia-Pacific region. Established in 1983 with commissioning of INSAT-1B, it initiated a major revolution in India's communications sector and sustained the same later. INSAT space segment consists of 24 satellites out of which 10 are presently in service. The system with a total of 168 transponders in the C, Extended C and Ku-bands provides services to telecommunications, television broadcasting, weather forecasting, disaster warning and Search and Rescue operations[3].

India, being an agricultural economy, depends significantly on weather conditions. The entire country keenly waits for the monsoon season (June to September), which contributes about 80 percent of India's yearly rainfall. Doing advance prediction about the monsoon rains, and tracking and forecasting its progress for four months after its arrival, has always been a tricky job for the meteorologists. Monsoon weather pattern always have their own vagaries. India, with widely varying terrain, is even found witnessing floods and droughts simultaneously in different areas of the country. Hence investments in the meteorological satellites is crucial for India. On July 26, 2013, India's dedicated meteorological satellite INSAT-3D was successfully launched. India already has two operational meteorological satellites in space: the KALPANA and INSAT-3A satellites of India have been in service in geostationary orbit for the past decade[4].

Earth observation and remote sensing satellites constitute an important segment of

India's space programme. Indian Remote Sensing (IRS) satellite system was commissioned with the launch of IRS-1A, in 1988. Presently, there are eleven such satellites in operation. IRS is the largest civilian remote sensing satellite constellation in the world providing imageries in a variety of spatial resolutions, spectral bands and swaths. The data is used for several applications covering agriculture, water resources, urban development, mineral prospecting, environment, forestry, drought and flood forecasting, ocean resources and disaster management[5].

In the area of satellite based navigation India is developing the Indian Regional Navigational Satellite System (IRNSS). The first satellite in this system was launched on July 1, 2013 and second satellite on Apr 4, 2014. In total seven satellites of the IRNSS constellation will be launched and the full constellation will be up during 2015 timeframe. The IRNSS is designed to provide accurate position information service for terrestrial (cars, goods transport, buses) aerial (flights) and maritime (shipping) navigation for users in India as well as neighbouring regions extending up to 1,500 km from India's borders/boundaries, which will be its primary service area. The IRNSS will provide two types of services: Standard Positioning Service (SPS) for all users; and Restricted Service (RS), an encrypted service provided only to authorized users. The IRNSS System is expected to provide a position accuracy of better than 20 m in the primary service area[6].

In the arena of deep space (the region beyond 100,000 km from the earth's surface) India is found making significant investments. The basic emphasis has been to invest into the Moon and Mars missions.

India's intention to look towards lunar orbit was articulated by the Indian Prime Minister Mr Atal Bihari Vajpayee during his Independent Day speech on Aug 15, 2003 when he declared 'India plans to reach the moon'. On October 22, 2008, India successfully launched its first satellite probe towards the Moon called Chandrayaan-1. The mission was aborted after 9 months during Aug 2009 due to loss of signal. However, as pert he Indian space community, by that time India had already achieved 95% of its mission objectives. This satellite had carried sensors from India, the USA, Canada and Bulgaria. For its second probe (Chandrayan-2), India has signed an agreement with Russia's Federal Space Agency, Roscosmos, for a joint lunar research and exploration mission. This mission is expected to take place around2014/15. Chandrayan-2 mission will consist of the spacecraft and a landing platform with the Moon rover. The platform with the rover will detach itself after the spacecraft reaches its orbit above the Moon and would land on lunar soil. India will be responsible for the orbiter and Russia for the Moon rover[7].

India's first mission to Mars named as *Mars Obiter Mission* (MOM) successfully began its travel towards the red planet on 05 November 2013. It would take around 300 days of time for this mission to reach to its destination itself and the process of observing Mars would start after that. It is important to appreciate that reaching Mars is not a child's play and MOM has a travel a significant amount of distance to reach Mars. Just to put in context, the distance from Earth to Moon is four lacks kilometres and it is 200 times more in case of Mars. The scientific community in ISRO could face few anxious moments during the travel and execution of this challenging mission.

ISRO has few other interesting projects lined-up for near future. One of them is the ASTROSAT project which is aimed at design, development, fabrication and launch of an astronomical observatory for studies of cosmic sources. ASTROSAT is envisaged to

be a National Observatory which will be available for astronomical observations to any researcher in India. Although most of the observation time will be for the use of Indian researchers, a part of the ASTROSAT observation time will also be made available to International astronomical community on a competitive basis[8]. This satellite is expect to be launched by 2014/15. ISRO has also undertaken projects like SRE (Space Recovery Capsule) where a satellite was recovered back successfully back to earth after its stay in space for few days during 2007. With this ISRO has successfully demonstrated its capability in respect of re-entry technologies which are must for any human mission to space. However, presently it appears that ISRO is concentrating more on robotic missions than venturing into human missions.

Overall, India has made significant amount of investments into outer space arena and have done advance planning for future programmes. India's space programme is mostly of indigenous in nature. ISRO has achieved significant success in various areas in space development however, they need to strive more make their programme a real world-class.

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[1] This is a name of the great mathematician-astronomers from the classical age of Indian mathematics and Indian astronomy (period 476 AD-550 AD).
[2] http://www.isro.org/launchvehicles/launchvehicles.aspx
[3] http://www.isro.org/satellites/geostationary.aspx
[4] http://www.thespacereview.com/article/2341/1
[5] http://www.isro.org/satellites/earthobservationsatellites.aspx
[6]http://www.dnaindia.com/scitech/report-isro-successfully-launches-india-s-first-navigation-satellite-1855762
[7] Bagla P, Menon S. *Destination moon*. New Delhi: HarperCollins; 2008. p. 81 and Lele A, "A piece of the moon", *Indian Express*, New Delhi, 2007 Nov 24.
[8] http://www.isro.org/scripts/futureprogramme.aspx

MISCELLANEOUS MATERIAL OF INTEREST

OPENING THE AVIATION MARKET TO THE CIVIL USE OF REMOTELY PILOTED AIRCRAFT SYSTEMS IN A SAFE AND SUSTAINABLE MANNER

Alfredo Roma*

The 8 April 2014 the Commission has eventually published the Communication to the European Parliament and the Council in order to obtain the authorisation to proceed to the integration of Remotely Piloted Aircraft System (RPAS) into the common airspace, with the aim to unveil the potential market of these aircraft and permit the European industry to compete in the world marketplace. This Communication – whose first draft dates back to January 2013 – follows the request of the European Summit of 19 December 2013, which called for action to enable the progressive integration of RPAS into civil airspace from 2016 onwards.
The Communication sets out the Commission's views on how to address RPAS operations in a European level policy framework, which will enable the progressive development of the civil RPAS market while safeguarding the public interest. The foreseen actions will involve the following actors: the European Aviation Safety Agency (EASA), the national Civil Aviation Authorities, the European Organisation for Civil Aviation Equipment (EUROCAE), Eurocontrol, the Joint Authorities for Rulemaking on Unmanned Systems (JARUS), the SESAR Joint Undertaking (SJU), the European Defence Agency, the European Space Agency, the RPAS manufacturing industry and operators.
The Commission recognizes that the potential growth can only be unleashed if an enabling legal framework is established at the European and national level, the RPAS technology permits the same safety level of manned aircraft, the security of RPAS operations is ensured and citizens' fundamental rights are protected.
Therefore, the Commission proposes the following actions:

Action 1:
The Commission will examine the regulatory preconditions to integrate RPAS into the European airspace from 2016 onwards, covering the necessary basic regulatory issues to ensure a coherent and effective policy, including on the appropriate scope of EASA competence. Any possible legislative action will be preceded by an impact assessment.
The Commission will request EASA to develop the necessary opinions which could lead to adopting implementing rules, based where possible on international processes, proportionate to risk and subject to effective consultation.
The Commission will ensure that potential manufacturers, operators and other involved organisations have an easy and up to date access to the applicable regulatory initiatives, including through the notification system of Directive 1998/34/EC.

This action comprises the aircraft certification, operating rules, operators and pilots license. The Communication contains a very important statement of the Commission: "*The current division of the RPAS market between the very light and the heavy aircraft is questionable in view of a coherent RPAS safety policy. In this respect, the*

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restricted scope of EASA competence to unmanned aircraft above 150 kg on the basis of traditional airworthiness considerations is an arbitrary cut off point and should be reconsidered". Such division, established by Regulation 216/2008, has been criticised by regulators and operators that suggest a more scientific parameter like, for example, the kinetic energy. EASA and JARUS will coordinate in order to reach the harmonisation of the MS rules for small RPAS.

Action 2:
The Commission will ensure, within the limits of available resources, that identified R&D needs for the integration of RPAS in the ATM Master Plan are taken into account in the SESAR2020 Programme as necessary organisations have an easy and up to date access to the applicable regulatory initiatives, including through the notification system of Directive 1998/34/EC.

The enabling technologies mainly concern: command and control, including spectrum allocation and management, "Detect and Avoid" anti-collision system and security protection against physical, electronic or cyber-attacks especially for telecommunications.

Action 3:
The Commission will ensure that security aspects are covered in the operations of RPAS to avoid unlawful interference, so that manufacturers and operators can take the appropriate security mitigating measures.

In theory, RPAS could be used as weapons, the navigation or communication system signals of other RPAS could be jammed or ground control stations hijacked. Security must be assured also because RPAS will be integrated in ATM.

Action 4:
The Commission will assess how to make RPAS applications compliant with data protection rules. It intends to consult experts and relevant stakeholders; to address the measures in its field of competence, possibly including awareness raising actions, to protect fundamental rights; and to promote measures under national competence.

RPAS may collect a wide number of data, including personal data. Therefore, the right to privacy and protection of personal data must be assured, in particular in the area of surveillance, monitoring, mapping or video recording.

Action 5:
The Commission will assess the current liability regime and third-party insurance requirement. It will, subject to the impact assessment, take the appropriate initiatives to ensure that adequate regulatory provisions are in place.

Even the risk of RPAS accident has to be taken into consideration. The Commission will assess the need to amend the current third party liability regime that has been conceived for manned aircraft. Also specific insurance rules will be examined for RPAS to promote the development of an efficient insurance market where fees correspond to the real financial risk estimated on the basis of accident reporting.

Action 6:
The Commission will define specific actions under Horizon 2020 and COSME to support the development of the RPAS market and will ensure that the actors involved,

in particular SMEs, have a comprehensive view of these tools. It will establish the necessary cooperation mechanisms with the work undertaken by the SESAR Joint Undertaking to avoid overlapping and leverage on the available resources.

Actually, this is the main target of the European Commission since the development of RPAS market will create a substantial number of new jobs and activities, profitable for the EU economy.

The strategy proposed to the European Parliament reflects the Roadmap designed by the European RPAS Steering Group - set up by the Commission in July 2012 - and presented in June 2013 at Le Bourget Air Show. The opinion of the Parliament on Commission's proposals is normally published after one or two years. In this case the time will be even longer due to the European political elections of this year that constitutes a new Parliament.

MISCELLANEOUS MATERIAL OF INTEREST

NOISE POLLUTION AT AIRPORTS: EUROPEAN PARLIAMENT RESOLUTION

Doriano Ricciutelli

During its session of the 16th April 2014, the European Parliament, in accordance with the recent EU reform, voted the Resolution 8/2014 on the Council's position, thereby approving the Regulation which provides operational restrictions aimed at containing noise at the EU's major airports[1].

The initiative was part of the Commission's 'Better Airport', a package of three proposals[2] aiming to improve the competitiveness and sustainability of the EU's airports, which is one of the main goals of the transport infrastructure policy[3].

Another objective of the Regulation is to reach a better management of the noise produced by aircraft, taking into the equation the economic impact of the measure. It also establishes equal objective and measurable criteria for all Member States .

In order to allow the necessary flexibility, the above-mentioned operational restrictions can take the form of general restrictive measures (e.g. a maximum number of movements, or noise quota), or they can result in specific measures for certain type of aircraft, ultimately even their put on the ground. Finally, they can be partial measures like, for example, ad hoc measures for day or night time .

The European Commission will exercise a right of control, i.e. monitor the application by Member States of the operational restrictions .

In conclusion, the revised legislation, which will enter into force in 2016, in line with the White Paper (COM(2011)144)[4], should be able to create a viable co-existence between civil aviation and people living in the vicinity of an airport .

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[1] PT-TA Prov (2014)04129; Regulation N. 598/2011/UE of 16/4/2014 (O.J. of the European union, L173, 12/6/20); position of 24/3/2014, 2014/C128/01. The regulation refers to airports with more than 50.000 movements of civil aircraft per year.

[2] See COM(2013)823. The other proposals pertain to the slots and ground handling.

[3] See memo of the Commission of 17/10/2013.

[4] Roadmap for a single transport spac, “smart procong and taxation”, Phase II (2016-2020).

STATE AID: GREEN LIGHT TO THE FINANCIAL SUPPORT GRANTED TO VERONA AND BRESCIA AIRPORTS

Alessandra Laconi

On the 9th April 2014, the European Commission approved the €12,7 million capital injection into the company "*Aeroporto Valerio Catullo di Verona Villafranca S.p.A.*", managing the Italian airports of Verona Villafranca and Brescia Montichiari, stating that it was compatible with EU state aid rules.

The measure aimed at enabling the company to carry out infrastructure investments over a period of ten years and, according to the European Commission's opinion, improving the mobility of citizens and meeting transport needs in northern Italy, in line with EU transport policy objectives and without unduly distortion of competition in the single market.

Public local entities are the majority stakeholder of *"Aeroporto Valerio Catullo di Verona Villafranca S.p.A"*, which manages Verona and Brescia airports, the first having a traffic of approximately 3 million passengers per annum, while the second is a small regional airport with less than 1 million annual passengers, specialised in cargo transport.

The measure's objective is to strengthen the company's equity to favour infrastructure investments for both airports in the period 2012-2021, including a terminal upgrade and extension, apron extension, requalification of air-side and taxiway facilities, ramp facilities and safety improvements.

The capital injection had been granted in 2012, in breach of the Member States' obligation to notify state aid to the European Commission before it is granted. However, the Commission assessed the compatibility of the investment aid with the applicable guidelines on state aid to airports and airlines (the 2005 Aviation Guidelines).

As showed by the investigation, the supported infrastructure projects contribute to the objective of common European interest by improving the access to the region, tackling congestion of existing airports, and enabling the airports to meet passenger and cargo transport needs in northern Italy.

Furthermore, the business plan submitted by national authorities illustrated that the public support was necessary in order to implement the project because the expected benefits would not cover the investment costs. The aid was also proportional to the described main objectives, as it was limited to the funding gap.

Finally, the Commission concluded that the measure would not cause a significant distortion of competition, considering that there is only a limited overlap with the catchment area of neighbouring airports and the planned investments will help decongesting the neighbouring airports.

MISCELLANEOUS MATERIAL OF INTEREST

LONG HAUL FLIGHTS WILL NOT BE SUBJECTED TO THE APPLICATION OF THE EU-ETS UNTIL 2017

Alessandra Laconi

On the 2nd April 2014, the European Parliament postponed to 2017 the date by which the EU Emission Trading System (EU-ETS) will be applicable to intercontinental flights originated or arriving in the European airports. The decision received 458 votes in favour and 120 against.

Such a category of flights was originally due to be included in the EU-ETS starting from 2013. Then, the Commission's so-called "Stop the Clock" decision temporarily suspended (for the period of only one year) the enforcement of aircraft operators' obligations in relation to flights between the European Economic Area ("EEA") and countries outside the EEA. However, it was only a temporary derogation: in the absence of a subsequent permanent amendment of the EU-ETS, the scheme would automatically revert to its original full scope.

In order to avoid an automatic flip back to the original objective of the regulation – which is highly unpopular with other countries – MEPs voted for a compromising deal to limit the EU-ETS aviation boundary for three more years to flights within the EU only. The project aimed at developing a global aviation sector emissions market-based mechanism (MBM).

The focus will now shift to the extent of progress that International Civil Aviation Organization (ICAO) will make by 2016 to develop a global MBM. As known, ICAO is called to develop a market-based approach to reduce greenhouse gas emissions by the aviation industry through the use of technology, the adoption of carbon standards, and the utilization of sustainable alternatives to jet fuel.

MISCELLANEOUS MATERIAL OF INTEREST

ITALY: NEW APPLICATION PROVISIONS CONCERNING TAXES, CHARGES AND FEES WHOSE NON-PAYMENT PREVENT THE DEPARTURE OF THE FLIGHT

Alessandra Laconi

On the 31st March 2014, the Italian Civil Aviation Authority (ENAC) issued Circular EAL-22 to implement Article 802(2) of the Navigation Code (INC), which provides that ENAC can prevent the departure of aircraft when relevant taxes, charges and fees due by the operator are outstanding.

Notice of any such non-payment is given to ENAC by the relevant airport management company, the Italian Agency for Air Traffic Control (ENAV) or Eurocontrol.

The main purpose of Circular EAL-22 is to specify the application area of Article 802 INC. It clarifies the taxes, charges and fees whose non-payment may lead ENAC to prevent aircraft from taking off.

ENAC is entitled to prevent the departure of any aircraft operated to or from the Italian territory by national, EU or extra-EU carriers. Article 802 INC applies to both Italian and foreign-registered aircraft operated under lease or charter agreements. However, Circular EAL-22 provides that *(i)* public aircrafts, as defined by Article 744 INC, and *(ii)* private aircraft treated as state owned pursuant to Article 746 INC, cannot be prevented from taking off.

ALITALIA AND ETIHAD CONFIRM 49% STAKE DEAL

Alessandra Laconi

The former Italian flag company Alitalia and the Abu Dhabi based airline Etihad recently confirmed that they have reached a deal that will see the United Arab Emirates company acquire a 49% stake in Alitalia.

The large block to be taken by Etihad had triggered concerns with the European Commission, which warned Italian authorities to ensure the United Arab Emirates carrier does not reach a majority holding or, above all, does not exercise an "effective control" of Alitalia. Indeed, EU rules (EU Regulation No. 1008/2008 of the European Parliament and of the Council of 24 September 2008 establishing common rules for the operation of air services in the Community) require that majority ownership and/or the effective control of European airlines remains in European hands. The Italian government has reassured the EC that those rules will be respected.

The examined deal would allow Etihad to expand its roots in the lucrative European market while giving new opportunities to Alitalia, especially for developing a long haul traffic.

It remains to be seen how the stiff conditions concerning job cuts and the restructuring of Alitalia's debt will be defined and put into practice.

The attention of the Commission has been drawn also on the Alitalia stake acquired by Poste Italiane, an Italian state company, to verify whether this operation can be considerate a state aid or not.

FORTHCOMING EVENTS

Legal and Social Impact of Automated Systems in Aviation
(ALIAS Conference – Florence, October 1-2, 2014)

The ALIAS Conference entitled "Legal and Social Impact of Automated Systems in Aviation", will be held at the European University Institute in Florence, in October 1-2, 2014.

The conference will address liability and automation in air transport, focusing on air traffic management, and in particular the innovation challenge faced by the SESAR Joint Undertaking. It will bring together experts from different disciplines and domains of activity, to discuss the many changes in the allocation of liabilities resulting from the automation in such a complex socio-technical system.

More detailed information, including the provisional program and the registration, is available on the website of the conference: aliasconference.wordpress.com

ALIAS II (Addressing Liability Impact of Automated Systems) is an innovative project co-financed by EUROCONTROL on behalf of the SESAR Joint Undertaking with funds from the EUROPEAN UNION as part of Work Package E. You can learn more about ALIAS II by visiting our website at http://www.aliasnetwork.eu

Participants from academia, research centres, industry/SMEs etc. who are interested in the themes of liability and automation are welcome to join the ALIAS Legal Network, a community of experts and professionals sharing knowledge and experiences in the regulation of socio-technical systems, in particular, air traffic management.
Join the network at the following address: http://network.aliasnetwork.eu