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Regulation of Sub-orbital Space Tourism in Europe: A Role for EU/EASA?

Tanja MASSON-ZWAAN*

Taking into account that several plans related to sub-orbital space tourism exist within European Union (EU) Member States, the article outlines the European Space Agency's (ESA) position about this activity and how that may influence the way space tourism will be treated under EU law. The extent of the competence and legislative powers of the EU under the Lisbon Treaty will be addressed according to three scenarios, that is, treating sub-orbital space tourism as tourism, as aviation or as space activity under the Treaty. Observing that sub-orbital space tourism will probably be regarded as aviation within the EU context, the possible involvement of the European Aviation Safety Agency (EASA) will then be discussed.

1. INTRODUCTION

Technological novelties never stop challenging lawyers' abilities to adapt themselves and the law to new and unforeseen situations, especially so with regard to activities taking place up in the sky and beyond. First, a law for activities in the air was formulated. Next, a law of outer space came into being. Tomorrow, we may well be confronted with a novelty that does not quite fit into either of these categories or maybe falling under both. That new activity is often referred to as (sub-orbital) 'space tourism'. Is it aviation or spaceflight or something new and hybrid that we should call perhaps 'aerospace flight'? Are the vehicles that will be used aircraft or spacecraft, or something new and hybrid, to be called perhaps 'aerospace craft'?

The first commercial spaceport capable of transporting humans into outer space is currently being built in New Mexico, USA and is scheduled to open in late 2010.¹ Several 'space tourism' ventures are taking shape – somewhat slower than expected at the time of the ground breaking Ansari X-Prize in 2004, but they are, and most are based in the United States.²

For understandable reasons in a time of economic downturn, other regions in the world would like to share in this new 'space dream' and benefit from the commercial gain that would allegedly come with space tourism. Thus, projects for spaceports are emerging

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¹ See <www.spaceportamerica.com/>.

² See a useful overview of private spaceflight companies, involved in various aspects, at <http://en.wikipedia.org/wiki/List_of_private_spaceflight_companies>. See also <http://en.wikipedia.org/wiki/Space_tourism>.

in the UAE,³ Singapore,⁴ the Netherlands' Antilles⁵ and elsewhere. Plans in more or less advanced form also exist in several countries in the European Union (EU), such as Sweden,⁶ France,⁷ Spain,⁸ and the United Kingdom.⁹ Similarly, there are companies in Europe that intend to build space tourism vehicles, such as EADS-Astrium,¹⁰ and those like Virgin Galactic that plan to take passengers up to space from, for example, Spaceport Sweden in Kiruna. Also, there are already several travel agents in Europe, selling tickets for space travel.¹¹

One of the interesting questions that arise is who will be competent to regulate this activity. Related to this is of course the question whether sub-orbital space tourism will be regarded as an aviation activity or as a space activity and whether air law or space law applies to it. This article discusses the position of the European Space Agency (ESA), reviews some of the implications of the Lisbon Treaty that recently entered into force¹² for the competence of the EU in this field and addresses the possible role of the European Aviation Safety Agency (EASA).

2. AVIATION OR SPACE ACTIVITY, AIR OR SPACE LAW?

Can international (air or space) law, in combination with national (aviation or space) legislation, currently regulate space tourism? Preliminary to that question, it must be decided whether the initial sub-orbital variety of space tourism will be regarded as aviation or as space activity under international or national law. Here, a 'functional' approach is chosen, that is, air law is applied if sub-orbital space tourism is regarded as aviation, and space law is applied if it is treated as a space activity. The 'spatialist' approach, where air law would be applied to the portion of the flight taking place in the airspace, and space law to the part of the flight taking place in outer space, is not practical – not in the least because there is still no internationally agreed delimitation between air space and outer space.

³ See <www.parabolicarc.com/2009/07/30/abu-dhabi-spaceport-part-virgin-galactic-investment-deal/>.

⁴ See <www.spaceportsingapore.com/spoverview.html>.

⁵ There are actually two projects for spaceports in the Dutch Caribbean: one is *Space Experience Curaçao* (SXC), see <<http://spaceexperiencecuracao.com/nl/>>; the other is *Spaceport Caribbean*, see <www.spacehorizon.com/spaceportpartners.html>. The idea of both projects is to use the existing Hato Airport for sub-orbital air-launched spaceflights.

⁶ See <www.ssc.se>.

⁷ See <<http://spatioportfrance.free.fr/>>. However, the project is reported to be on hold.

⁸ See <www.galacticsuite.com/>.

⁹ See <www.spaceportscotland.org/>.

¹⁰ See <www.space.com/business/technology/AstriumEadsweb_061307.html>. Note that EADS would not, like Virgin Galactic, operate the vehicle itself, but sell it to future 'spacelines'. The project suffers from lack of funding, and in April 2009, it was reported that the EADS spaceplane has been put on hold, see <www.usinenouvelle.com/article/eads-astrium-met-son-avion-de-tourisme-spatial-en-sommeil.161803>.

¹¹ For instance 'Your Galaxy', the Benelux agent for Virgin Galactic based in Amsterdam, <www.yourgalaxy.eu>. Similarly, in March 2009, five Scandinavian travel companies were appointed as 'Accredited Space Agents', see <www.ssc.se/?id=9504&cid=14435>.

¹² Signed at Lisbon, 13 Dec. 2007. The Treaty of Lisbon amends the EU's two core treaties, the Treaty on European Union and the Treaty establishing the European Community. The latter is renamed the Treaty on the Functioning of the European Union (TFEU). OJ 2008/C 115/47. See <<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:115:0047:0199:EN:PDF>>.

As is well known, there are many differences between air law and space law,¹³ mainly because air law is based on the complete sovereignty of the State over the airspace above its territory, while space law is based on the principle of freedom of use and exploration and rules out any claims of sovereignty. The legal regime governing aviation is very detailed and well defined in terms of liability, registration, jurisdiction, traffic and transit rights, certification of aircraft and crew and other matters, hence if sub-orbital space tourism were regarded as aviation, there would be no lack of rules. If however it would be considered as a space activity and would consequently be governed by space law, the legal scenario will be quite different and gaps may exist, because the rules are far less detailed whereas they mostly regulate the relations between States.¹⁴

Unfortunately, neither air law nor space law provides definite answers, either in international instruments or in national laws, about whether or not space tourism may be covered by the respective legal regime. At the international level, space law provides no definition or delimitation of space nor a precise definition of spacecraft or space object, but it would appear to be relatively easy to conclude that space tourism could fall under the space law regime. In international air law, there does exist a definition of aircraft,¹⁵ but there is again no definition of where air space ends; to be covered by air law, the definition of aircraft may require re-interpretation to include sub-orbital space flights.

At the national level, virtually every country has its own aviation legislation, but to my knowledge space tourism is not addressed in any of them.¹⁶ In recent years, several countries, also in Europe, have enacted national space legislation, but rarely do they directly address 'space tourism'.¹⁷ Sweden, which may be the first EU State to become involved with space tourism through its launch site in Kiruna, may treat

¹³ See I.H.Ph. Diederiks-Verschoor, Similarities with and differences between air and space law, primarily in the field of private international law, in *Recueil des Cours*, Collected Courses of the Hague Academy of International Law, 1981, III, Volume 172, Nijhoff, 1982, 317–423.

¹⁴ The Outer Space Treaty did foresee that private entities would engage in space activities in Art. VI Outer Space Treaty, which makes a state internationally responsible for activities carried out by non-governmental entities, provided that it authorizes and supervises such activities. Yet one of the most essential topics for private operators, namely their exposure to second- or third-party liability is not addressed. The Treaty, as well as the Liability Convention, only addresses liability at the level of the states involved: there is no cap on the liability of operators and no opportunity for passengers or third parties to present claims for compensation directly to the private operator. Since liability is not the main focus of this article, it will not be further addressed here.

¹⁵ 'Any machine that can derive support in the atmosphere from the reaction of the air other than the reaction of the air against the earth's surface.'

¹⁶ Interestingly, para. 1(2) of the German aviation act (Luftverkehrsgesetz) states that spacecraft, rockets and related objects are considered as aircraft as long as they are within the airspace.

¹⁷ An overview and texts are available at <www.unoosa.org/oosa/en/SpaceLaw/national/index.html>. US law addresses space tourism in a set of rules governing private human spaceflight, offering conditions that are less stringent than for classical transport. These rules apply at least until December 2012, but this period may be extended because commercial space tourism has not commenced as early as was expected. The FAA's Office of Commercial Space Transportation (FAA/AST) issues licenses and mostly focuses on public safety and safety of property. See Code of Federal Regulations (CFR), Title 14, Ch. III, esp. Human Space Flight Requirements (HSFR), 14 CFR §460, <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?sid=6a5153b45a2675c8b05adfd8d7195483&c=ecfr&tpl=/ecfrbrowse/Title14/14cfrv4_02.tpl#300>. See also Melanie Walker, 'Suborbital Space Tourism Flights: an Overview of Some Regulatory Issues at the Interface of Air and Space Law', *Journal of Space Law* 33 (2007): 375.

SpaceShipTwo as a sounding rocket, which under the current act is not regarded as a space activity.¹⁸

Thus, under current international or national air or space law, there is no definite answer yet to the question of the legal status of sub-orbital space flights for tourists. It is therefore relevant to identify possible implications of the recent ESA views on sub-orbital space flights for the regulation of space tourism by the EU.

3. WHO SHOULD REGULATE SPACE TOURISM IN EUROPE?

3.1. ESA'S POINT OF VIEW ON SPACE TOURISM

Naturally, the question about Europe's role and position in the field of space tourism should be looked at not only from the EU point of view. The international organization that has been putting Europe on the map in the space field since several decades, ESA, must also be considered. Indeed, a gradual 'rapprochement' between ESA and the EU has been taking place since 2000, resulting in, among others, the 2003 White Paper on European Space Policy, the 2004 Framework Agreement and establishment of the Space Councils and the adoption of the European Space Policy at the 4th Space Council in 2007.¹⁹ The recognition of each institution's competencies gained a more formal status with the entry into force of the Treaty on the Functioning of the EU, which for the first time codified the competence of the EU in the space field.²⁰

In 2008, ESA made its position on the issue known through a position paper on privately funded sub-orbital spaceflight.²¹ The ESA position paper provides the following definition of space tourism: 'the execution of sub-orbital flights by privately-funded and/or privately operated vehicles and the associated technology development driven by the space tourism market'. It observes that, since space tourism 'will be carried out substantially in the airspace of a given country', the civil aviation authorities concerned and the competent agencies of the EU (e.g., the EASA, see below) should be at the forefront for setting up a regulatory framework for space tourism in Europe. It also states that 'since in the longer term space tourism will involve travelling to outer space, some rules of space law may find application for space tourism'. This seems to imply that ESA sees the currently foreseen *sub-orbital* 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.

¹⁸ See also F. von der Dunk, 'Passing the Buck to Rogers: International Liability Issues in Private SpaceFlight', *Nebraska Law Review* 86 (2007): 400, at 419, and P.J. Blount, 'Jurisdiction in Outer Space, Challenges of Private Individuals in Space', *Journal of Space Law* 33 (2007): 299 at 329.

¹⁹ See <<http://register.consilium.europa.eu/pdf/en/07/st10/st10037.en07.pdf>>.

²⁰ See *infra*. See for an overview of relevant EU space documents, <http://ec.europa.eu/enterprise/policies/space/documents/esp_en.htm>.

²¹ See press release at <www.esa.int/esaCP/SEM49X0YUFF_index_0.html> and position paper at <http://esamultimedia.esa.int/docs/gsp/Suborbital_Spaceflight_ESA_Position_Paper_14April08.pdf>.

The press release states that ESA recognizes the private sector's efforts in the achievement of sub-orbital flights and in the associated technological development and intends to help provide the necessary environment for this industry to flourish, for instance, 'by assisting in the setting up of legal frameworks for operation across Europe, involving civil aviation authorities and other relevant bodies in a debate on this matter'. However, it also takes a 'wait and see' attitude, by stating that 'ESA must be careful not to interfere in a fully competitive market'. Thus, it is not to be expected that ESA will play a pioneering role – a position that is actually quite similar to the approach of NASA in the United States.

ESA is not a regulating body that has the legislative power to enact new rules or harmonize national legislation for space tourism in Europe. Rather, it is a technical organization whose purpose is to provide for and promote cooperation in space research and technology and their space applications (cf. Article 2, ESA Convention). However, in view of the close ESA-EU relationship that has seen the light in recent years, 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.

3.2. THE EU

Ideally, the regulation of private human spaceflight should be addressed at the EU level rather than leaving it to the Member States to create their own rules. And if the Member States are to regulate space tourism at the national level, perhaps some efforts to harmonize these national rules could be undertaken by the EU. The EU has so far not expressed its views on the issue. The question is of course whether the EU has the competence to do so, or whether, alternatively, this is something that remains within the realm of the Member States' own legislative powers.

As mentioned above, the recent entry into force of the Treaty on the Functioning of the European Union (TFEU)²² has codified the competence of the EU in the field of space activities. Although the EU had been working in close cooperation with ESA since approximately ten years, there was no formal legal basis to do so until now.

Looking at the specific articles that are relevant to determine the extent of this 'new' EU competence, it is rather questionable whether the EU could undertake specific action to regulate space tourism, that is, by enacting EU regulations in this field or by harmonizing national laws.

Title 1 of the TFEU addresses EU Competences ('Categories and Areas of Union Competence'). Article 3 deals with the 'exclusive' EU competences, where the Member States have transferred their national competencies to the Union (e.g., monetary policy in Euro countries), whereas Article 4 concerns so-called 'shared' competences (e.g., transport, energy, environment, etc.) and Article 6 concerns 'support' competences (e.g., education, culture and *tourism!*). Only areas that fall under the *exclusive* or *shared* EU competence allow for the adoption by the EU of (binding) Regulations, Directives and Decisions. Article 4.2

²² See *supra* n. 12.

lists the areas of shared competence, which include transport and, hence, aviation.²³ Interestingly, 'Space' is not mentioned in that same paragraph, but in paragraph 3, which states:

In the areas of research, technological development [RTD] and space, the Union shall have competence to carry out activities, in particular to define and implement programmes; however, the exercise of that competence shall not result in Member States being prevented from exercising theirs.

The fact that 'space' is mentioned in Article 4 seems to imply that it is a 'shared' competence. However, since it is not included in the (exhaustive) listing of paragraph 2 but in a separate paragraph 3, the 'space' competence (as well as RTD) seems to be different from the competences in the areas mentioned in paragraph 2. For the 'normal' shared competences listed in paragraph 2, the Member State's competence is 'subsidiary' to the EU competence: the Member State may only exercise its competence if the EU does not (any longer) make use of its competence; this is also referred to as the 'pre-emption principle'.²⁴ For space, the competencies of EU and Member States 'co-exist', meaning that the Member State does not have to sit and wait for the EU to decide whether it will undertake action or not. Space is therefore sometimes referred to as a 'parallel competence'.

Depending on whether one would consider space tourism as tourism, as aviation, or as a space activity, the EU would have a 'support' competence, a 'shared' competence or a 'parallel' competence. If considered as tourism and, hence, as a 'support' competence for the Union, the EU would *not* have the power to enact EU legislation in the field and legislation would be left to the Member States. It is not very probable that space tourism would be considered merely under this angle.²⁵ Rather, it can be expected that space tourism will be considered either as an aviation activity or as a space activity. If considered as an aviation or space activity, the Union would have legislative power.

If sub-orbital space flights are to be considered as aviation, as ESA seems to suggest, Title VI on Transport and the whole body of EU aviation rules (*acquis communautaire*) would be applicable with far-reaching powers delegated by the Member States to the EU. If considered a space activity, we have to look at the substantive provisions in Title XIX, dealing with 'Research and Technological Development and Space'. The powers of the Union in the field of space are contained specifically in Article 189, which reads as follows:

1. To promote scientific and technical progress, industrial competitiveness and the implementation of its policies, the Union shall draw up a European space policy. To this end, it may promote joint initiatives, support research and technological development and coordinate the efforts needed for the exploration and exploitation of space.

²³ They are: (a) internal market; (b) social policy, for the aspects defined in this Treaty; (c) economic, social and territorial cohesion; (d) agriculture and fisheries, excluding the conservation of marine biological resources; (e) environment; (f) consumer protection; (g) transport; (h) trans-European networks; (i) energy; (j) area of freedom, security and justice; (k) common safety concerns in public health matters, for the aspects defined in this Treaty.

²⁴ Cf. Art. 2.2: 'When the Treaties confer on the Union a competence shared with the Member States in a specific area, the Union and the Member States may legislate and adopt legally binding acts in that area. The Member States shall exercise their competence to the extent that the Union has not exercised its competence. The Member States shall again exercise their competence to the extent that the Union has decided to cease exercising its competence'.

²⁵ Tourism is addressed in Title XXII, which consists of one article. This Art. 195 sets a very general objective for the EU to complement the action of Member States in the tourism sector. It is not probable that a complex and risky activity such as sub-orbital flights would be treated 'only' as tourism.

2. To contribute to attaining the objectives referred to in paragraph 1, the European Parliament and the Council, acting in accordance with the ordinary legislative procedure, shall establish the necessary measures, which may take the form of a European space programme, excluding any harmonisation of the laws and regulations of the Member States.
3. The Union shall establish any appropriate relations with the European Space Agency.
4. This Article shall be without prejudice to the other provisions of this Title.

What are the implications of this provision for the EU's competence to either enact EU law in the field of space tourism or to harmonize national legislation? First, it seems that the powers of the EU are limited to scientific and technological space activity and may not cover private commercial space activities such as space tourism. But perhaps even more important is the exclusion of harmonization of national laws and regulations in paragraph 2, as it seems to preclude altogether any EU initiatives to harmonize national legislation in the field of space tourism. The reason for this exclusion is not entirely clear, but perhaps it can be explained from the fact that the space business is considered as 'special', with relatively few actors, high strategic importance (national security or defence related) and very high cost and risk.²⁶

Of course, if space tourism were not to be regarded as a space activity but rather as tourism or aviation, the implications would be different, as outlined above. At this stage, it is not possible to predict what the EU position will be. But in the light of ESA's presumed 'aviation' approach to sub-orbital space tourism, it becomes interesting to also have a look at the possible role of EASA.

3.3. EASA

3.3.1. *General Aspects*

EASA²⁷ is the centrepiece of the EU's strategy for aviation safety. Its mission is to promote the highest common standards of safety and environmental protection in civil aviation.

While national authorities continue to carry out the majority of operational tasks – such as certification of individual aircraft or licensing of pilots – the Agency develops common safety and environmental rules at the European level. It monitors the implementation of standards through inspections in the Member States and provides the necessary technical expertise, training and research.

EASA is also responsible for type certification, that is, the certification of specific models of aircraft, engines or parts approved for operation in the EU. The aviation industry benefits from common specifications, cost-efficient services and a single point of contact.

The main tasks of the Agency include:

- giving advice to the EU for drafting new legislation;
- implementing and monitoring safety rules, including inspections in the Member States;

²⁶ See for a useful analysis, 'Economic and Policy Aspects of National Space Legislations in Europe', *ESPI Report* 21 (2009), Ch. 4, <www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf>.

²⁷ See <www.easa.europa.eu>.

- type certification of aircraft and components, as well as the approval of organizations involved in the design, manufacture and maintenance of aeronautical products;
- authorization of third-country (non EU) operators;
- safety analysis and research.

In 2008, the scope of EASA's competence has been extended to air operations, flight crew licensing and oversight of third country operators. As a further step, a second extension of EASA's competence will include the responsibility of the safety regulation of airport operations and air traffic control services.

EASA is an independent EU agency under European law.²⁸ It is accountable to the Member States and the EU institutions. A Management Board with representatives from the Member States and the EU adopts the Agency's budget and work programme. The aviation industry is actively involved in EASA's work through various consultative and advisory committees. There are three main operational Directorates: Rulemaking, Certification and Approvals and Standardization.

3.3.2. *A Community Agency*

EASA is one of the approximately twenty-five community agencies set up by the EU, most of them in the nineties. EU Community Agencies²⁹ differ in size, tasks and responsibilities. Their relations with the EU also differ. These agencies were created to cope with tasks of a specific legal, technical and/or scientific nature. Agencies like EASA are governed by EU public law, are distinct from the EU Institutions and have limited legal personality. When compared to other EU Agencies, EASA forms a category of its own. Some of the agencies, including EASA, directly perform or closely contribute to regulatory activities. Very few among these, again including EASA, issue legally binding decisions, thus assuming full responsibility *vis-à-vis* third parties.³⁰

EASA issues licenses and certificates on its own, not via the EU. As EASA has limited legal personality, it can conclude contracts and agreements.³¹ However, it does not have international legal capacity to enter into international agreements (treaties), contrary to a State or some international intergovernmental organizations.³² Even though in some cases

²⁸ Regulation (EC) No. 216/2008 of 20 Feb. 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, referred to as the 'Basic Regulation' or BR (OJ L79/1, 19 Mar. 2008), at <www.easa.europa.eu/ws_prod/g/rg_regulations.php#BR>.

²⁹ See <http://europa.eu/agencies/community_agencies/index_en.htm>. See for an extensive study, *The Autonomy of European Union Agencies*, M. Groenleer, Eburon (2009).

³⁰ Agencies with varying levels of regulatory powers are EASA, EMEA, EFSA, EMSA, ERA, CPVO and OHIM. Those that issue legally binding decisions are EASA, CPVO and OHIM. For the latter two this consists of issuing EU property rights, whereas EASA issues licenses and certificates.

³¹ See Art. 28.1 BR: 'The Agency shall be a body of the Community. It shall have legal personality'.

³² The ICJ acknowledged in the *Reparation for Injuries* case that apart from states, international organizations can also have international legal personality. *Reparation for Injuries Suffered in the Service of the United Nations (Advisory Opinion)* [1949] ICJ Reports 174 at 178, see <www.icj-cij.org/docket/files/4/1835.pdf>.

EASA has taken over tasks from the Member States, the Member States continue in other fields to bear their own responsibility (and liability) in the EASA system.

3.3.3. *EASA and Sub-orbital Space Tourism*

At present, EASA's mandate does not cover space activities. But if the EU would qualify space tourism wholly or partially as aviation, EASA could play a role with regard to safety and licensing issues.

Interestingly, a group of EASA representatives expressed some ideas (not to be attributed to the Agency) for a regulatory approach to sub-orbital space tourism at the 3rd IAASS Conference held in Rome in October 2008.³³ In the paper, the ESA definition quoted above was accepted, but the authors would see EASA's involvement limited to winged aircraft, including rocket-powered airplanes, calling them 'Sub-orbital Aeroplanes' (SoAs). This excludes rockets and, thus, space tourism ventures using the concept of a vertical take-off. The authors consider that EASA would have regulatory competence over SoAs and would treat them as aircraft in a similar way as Unmanned Aerial Systems (UAS) by complementing existing rules to capture their specific features.

One of the reasons why a more restrictive approach to space tourism than the one taken by the Federal Aviation Act (FAA) seems to be preferred by these authors is that EASA issues Air Operator 'certificates' (AOC), whereas the FAA issues 'licenses'. Certification entails responsibility, while licensing leaves the responsibility with the operator.³⁴ This is a fundamental issue that may well influence the extent of the formal involvement of EASA in the regulation of space tourism in Europe.

The authors claim that EASA would not have competence for 'that (very short) outer space part of sub-orbital flight, unless it agrees with the States to enforce this responsibility on their behalf'. Under Annex II to the 'Basic Regulation' establishing EASA, it has the possibility to exclude certain aircraft from its regulation.³⁵ This exclusion applies for instance to historic aircraft, research, experimental or scientific aircraft, and military or police aircraft. However the approach taken in the EASA paper would be to require full certification for commercial space tourism flights.

It would be worthwhile to study in more detail the implications of involving EASA in the certification of space tourism vehicles in Europe and what the differences between issuing a license (FAA) and issuing a certificate (EASA) would imply in terms of liability exposure for the issuing institution, but that is outside the scope of the present article. It

³³ International Association for the Advancement of Space Safety, <www.iaass.org/>. The paper is titled *Accommodating Sub-orbital Flights into the EASA Regulatory System*, by J.B. Marcicq et al., downloadable at <www.congrex.nl/08a11/presentations/day1_S09/S09_05_Marcicq.pdf>. EASA has in fact been approached by (unnamed) potential applicants, which encouraged it to come forward with a proposed regulatory framework. See also <www.flightglobal.com/articles/2008/10/28/317902/easas-space-tourism-approach-requires-certification.html>. Note that the paper does not give the formal EASA position.

³⁴ *Ibid.*, in heading 2.3. See also Regulation (EC) No. 1008/2008 of the European Parliament and the Council of 24 Sep. 2008 on common rules for the operation of air services in the community, OJ L 293/3 of 31 Oct. 2008.

³⁵ See *supra* n. 26, Art. 4.4 and Annex II.

seems clear however that if space tourism is to be considered, at least initially, as an activity falling within the realm of aviation, EASA would be the appropriate authority to regulate it, including matters of safety oversight, certification, etc.

Because of its higher potential exposure to liability, it may be expected that EASA would not be inclined to adopt a transitional regime as has been done by the FAA in the United States. Thus the position taken in the 2008 paper, that full certification would be required, is understandable. It would however not be desirable for EASA to regulate only that portion of the activity that takes place in the 'air space' – not only because of the absence of an internationally accepted definition or delimitation but also because this would be highly impractical. If necessary, an amendment to the 'Basic Regulation' establishing EASA could be envisaged to include sub-orbital space tourism in the mandate of EASA.

Alternatively, EASA could leave the task of regulating space tourism to the Member States by excluding space tourism vehicles as foreseen in Article 4.4/Annex II of the Basic Regulation, as 'aircraft specifically designed or modified for research, experimental or scientific purposes, and likely to be produced in very limited numbers'. Then, the task of regulating space tourism would be back in the hands of the Member States.

4. CONCLUDING REMARKS

As far as space tourism in Europe is concerned, it appears that ESA is taking the position that sub-orbital flights should be treated as aviation – even though this will surely disappoint many aspiring 'astronauts'! This would imply that aviation law would apply. It would also mean that the EU would have far reaching 'shared' competence (under the pre-emption principle), including legislative competence in this field and that the *acquis communautaire* in the field of aviation would be fully applicable. Lastly, it would make EASA competent (perhaps with an amendment to the Basic Regulation) to engage in matters concerning certification and safety oversight. In that scenario, EASA may require full certification before passengers can take off from Kiruna, Lossiemouth or some other exotic spaceport. Perhaps such a stricter safety regime in Europe will in the end provide more legal certainty for all parties involved than the interim regime that the United States has adopted for this type of activity.³⁶

³⁶ See *supra* n. 16.