New Perspectives on International Administrative Cooperation in Regard of the Development of Private Human Spaceflight

Jean-Marie de Poulpiquet[*]

This paper will mainly discuss new perspectives in international administrative cooperation, using the example of launching authorizations. These perspectives are opened by the convergence of two facts. The first is the very large field of national regulations on launching authorizations: they are intentionally large, so as to avoid the launching States seeing their responsibility committed by giving a mean of control to other States. The second fact is the development of private human spaceflight, which implies an intensification of space activities and thus an increase of requests for authorization. As one of the characteristics of the space sector is that it is multinational, it will be necessary to look at the question of multi-authorizations and the possible ways to improve the system by simplifying procedures.

The first objective of this paper is to describe the present situation with regard to launching authorizations and report on the legal situation of multinational space operations. It will be followed by an exploration of present and possible means of simplification on improvement of complex situations. This will obviously be treated from the perspective of an international organization dedicated to space activities, which could be qualified as a "substantial evolution"; the lessons learned in the aviation sector about international cooperation on authorizations delivery serve as a point of comparison. But this is not the main point: this paper will in fact focus on the "preliminary steps" of such substantial evolution in administrative cooperation that is the present legal means of cooperation, their usefulness and their limits. After the studying of the ways of achieving procedural harmonization, the principal question

[*] National Centre for Space Studies, Université Toulouse 1 Capitole, SIRIUS Chair
jean-marie.de-poulpiquet@ut-capitole.fr

which this paper will try to answer is that of the eventual possibility of mutual recognition of launching authorizations.

International cooperation is one of the most structuring topics in international law applicable to the activities on outer space[1]. It can imply a specific commitment by States, for example with obligations of information or mutual assistance. The importance of international cooperation is due to the very fact that outer space is not subject to national sovereignty: thus a rational use of outer space necessitates, at least, a coordinated approach. This fact is understandable in the context of the adoption of the fundamental instruments of international law. Indeed, as soon as space activities began it became clear that "the legislation of outer space should transcend the merely bilateral level."[2]

The need to protect and promote international cooperation appears also as one of the great concerns of scholars writing on space law. The question then becomes one of how to achieve a specific and effective result in this field.

This question takes on a particular meaning when it appears in the context of the development of private human spaceflight. Private human activities in space, and especially private space flights, have long been presented as a structuring change for the juridical approach to space use: they have been treated in depth by scholars, and have caused adaptations to the space law framework on the international level as well as the national level. The development of space activities by private entities clearly has a strong international dimension: for example, in a satellite launch the owners of the satellite, the launcher and the infrastructure, as well as the buyer and the funder, can all be of different nationalities.

The development of private space flights heralds a new step in space use, one of whose characteristics is the intensification of activities in space. If the complexity of industrial operations outlined above concerns also the framework of private space flights, the questions relative to the articulation of national norms on an international level will certainly take on even greater importance. There is now a need to question the usefulness of an approach based on international cooperation on State's regulatory competences, given both the international structure of private activities and the fact that this kind of activity implies a strong relation with States on the national level, within the general framework of competences that can be grouped together under the heading of administrative supervision. The term "governance" could also be used, if it is understood to be "a set of means of policy and administrative

[1] Cologne Commentary on Space Law Vol. 1, Stephan HOBE (dir.), Carl Heymanns Verlag 2009, p. 174, 19-22 ; A. KERREST, "Espace extra-atmosphérique - Cadre juridique de droit public", JurisClasseur Droit international, Fasc. 141-10, 26 mars 2010, pts 53/53

[2] Cologne Commentary on Space Law Vol. 1, Stephan HOBE (dir.), Carl Heymanns Verlag 2009, p. 4, numéro 11

management within a specific part of a given whole"[3], although the exact meaning of the term governance is still not clear[4].
It is clear that international cooperation on space activities is still heavily focused on space activities run directly by States (I). This can lead to some reflections on the topic of international administrative cooperation (II).

I. Present Forms of International Cooperation in the Space Sector

Within the present structure of international cooperation, as can be seen in the applicable law, the role of the State is that of promoter and even administrator of space activities (A), while the development of the more distant role of supervisor of activities has still not been translated into the context of space activities (B).

A. The Classic Conception of International Cooperation in Space Activities: the State as Originator or Director of a Project

Cooperation between States is one of the recognised characteristics on the space sector. It was already mentioned in the first article of the Outer Space Treaty[5], the foundational agreement of space law. As is revealed by an attentive reading of the Outer Space Treaty, international cooperation within the framework of space law is mainly oriented towards scientific research. Indeed, the specific rights and duties contained on the text relative to international cooperation aims at preventing potential damage caused by research in outer space (article IX), or the diffusion of information about the results of such scientific work (article XI). In this perspective it should be underlined that, without being an exclusive state prerogative, scientific research has been strongly linked with state structures, either by the way of funding or by the way of direction. This is what explains the Treaty's focus on the directive role of States.

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[3] J.-F. Mayence, "Gouvernance et coopération dans le domaine des activités spatiales", in Ph Achilleas (dir.), Droit de l'espace, Larcier, Bruxelles, 2009, page 48, translation by the author

[4] The term "governance" is not clearly define for now. It is in particular its wideness what is controversial. As an example the definition given by Pr. R. Jakhu is wider than the one used in this article : "For the purpose of this Conference, governance refers to the manner of governing or regulating, and it covers not only legal frameworks and legal systems, but also incorporates political, economic, sociological, cultural and other relevant aspects of space activities", 2nd Manfred Lachs International Conference, Thursday, May the 29th, 2014. http://www.mcgill.ca/iasl/manfred-lachs-conference-2014/program

[5] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, adopted on 19 December 1966, opened for signature on 27 January 1967, entered into force on 10 October 1967

In the same way, the mechanism presented[6] as typical for international cooperation is the International General Agreement (IGA) that governs the use of the International Space Station (ISS). It is obvious that the ISS is a largely scientific project, and that the principal players implied are the States parties to the agreement.

The European Space Agency statutes are also revealing in this respect, taking in consideration that ESA's role is crucial for space industry. Article II of the Convention for the establishment of a European Space Agency (30 May 1975) provides that "The purpose of the Agency shall be to provide for and to promote, for exclusively peaceful purposes, cooperation among European States in space research and technology and their space applications, with a view to their being used for scientific purposes and for operational space applications systems." It then appears that ESA role is to promote specific projects that enter under the field of its competence.

Finally, a project described as representative of international space cooperation fits exactly our description as regards both scientific purpose and strong State involvement: "Noteworthy for its results in the last five years, and as a sound example of international cooperation, is a national scientific mission being developed by SAC-C. This satellite — as its predecessors SAC-A and SAC-B which have already concluded their missions — was built in Argentina by a local state company […]. SAC-C was launched and positioned in low orbit by NASA on 21 November 2000. […] The mission is using French technology (ICARE-NG)."[7]

It can be seen from all this that States do have a particular place in the context of international cooperation. It is necessary to qualify this role. The present systems of space law govern situations in which States can be qualified as "producers", that is when their own funds or entities are implicated in the project, or as "project managers", that is when projects are created in response to the State's own needs, and so are designed for its own objectives. As was recently written: "we cooperate on projects, but not in a structural manner"[8].

It has to be said that this manner of exercising international cooperation is exemplary. Indeed it has characterised space activities since its origins. Such experience is therefore a precious advantage for potential developments of the kind of cooperation described below. It could thus be very appropriate to

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6 Oliver HUTH, "Inter-Party Agreements", in Hobe, S. (Ed.) Proceedings of the Project 2001 Plus Workshop "Current Issues in the Registration of Space Objects", 20/21 January 2005, Berlin, Germany, Cologne, March 2005, p. 84

7 International Law Association, Report on the Toronto Space Law Conference, 2006, p. 15

8 S. Sur, "L'espace entre ciel et terre", Questions Internationales, n°67, mai-juin 2014, p. 8, translation by the author

provide a formal structure for this kind of feedback, a task that necessitates close collaboration with the different space agencies.

B. Another Form of Cooperation in Positive Law of Outer Space

Private space activities are run in the framework of a national regulatory framework. This situation is mandated by article VI of the Outer Space Treaty: "The activities of non-governmental entities in outer space, including the Moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty."

The authorisation mechanism is therefore one of the key elements of this administrative framework. The necessity of cooperation on the field of this prerogative is underlined by space industry firms, who plead for a mutual recognition of licence and control procedures, at least within the European framework: "The licensing and control procedures should be mutually recognized by States, at least within Europe. Cross-recognition would avoid the accumulation of costs incurred through red tape in different States."[9]

These firms raise the issue of the increase in cost of access to space, a problem which is precisely one of the most challenging for the future of space activities. For example, as the Organisation for Economic Co-operation and Development (OECD) noted in a report on the future of space applications, "the industry's ability to cut costs" is, among other elements, one of the "three factors [that] are likely to play a key role in the future development of satellite broadband."[10] The recent success of the SpaceX Company, and the enthusiasm this provoked, also highlights this problem, all the more so the project is explicitly aimed at reducing the cost of access to space. This is indeed precisely what private human flights are aiming at: to give an access to space to a wider range of people. In that business model the cost control is a key-point.

To our knowledge, no mechanism of international administrative cooperation has yet been enforced. An excellent indicator of this phenomenon is the lack of signed Inter-Party Agreements, as has been underlined by a space law expert who sees a lack of real will to sign this kind of agreements: "Despite the recognized utility and necessity of IPAs […] one can observe a certain reluctance of space faring nations to conclude such agreements."[11]

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[9] K.U. Hörl and K. Gungaphul, "Problems Related to 'Change of Ownership' with Respect to Registration Convention", in Hobe, S. (Ed.) Proceedings of the Project 2001 Plus Workshop "Current Issues in the Registration of Space Objects", 20/21 January 2005, Berlin, Germany, Cologne, March 2005, p. 84

[10] OCDE, L'espace à l'horizon 2030 : quel avenir pour les applications spatiales?, Paris, OCDE, 2004, p. 47

[11] Oliver HUTH, "Inter-Party Agreements", préc.

One can, nevertheless, see positive signs among States about international administrative cooperation. Some national laws have set up what might paradoxically be called "*unilateral* cooperation mechanisms". Thus, French law[12] provides in its article 4, 4°: "The conditions in which the administrative authority may exempt the applicant from all or any part of the compliance procedure provided for in subsection 1, when an authorization is requested with a view to an operation to be conducted out of the territory of a Foreign State or out of means and facilities falling under the jurisdiction of a Foreign State and when the national or international commitments, legislation and practices of that State include sufficient guarantees in terms of safety of people and property, protection of public health and the environment, and liability."[13] Thus while the French State retains its competence to authorise the operation, this authorisation will be given on the basis of an appreciation by a separate authority on the compliance procedure. The second example is that of Australian law, which explicitly includes "exemption mechanisms […) when a space activity has been licenced by a foreign State"[14].

Finally, in the case of supervision of space activities, one can argue that the difficulties the Globalstar company faced over its registration in 2011 could have been dealt with more adroitly if a common administrative framework had existed. Such a framework could be one element of an answer relevant to the questions concerning change of jurisdiction and control which are often raised[15]. However, as has been underlined above, although the possibility of concluding agreements on the exercise of jurisdiction and control already exists (article II.2 of the 1975 Convention on the registration of space objects), in practice the signing of such agreements rarely occurs.

Having seen on one hand the lack of real administrative cooperation, and on the other hand its usefulness, we must now examine the means that could aid reflection on possible ways to create an innovative international administrative cooperation framework in the space sector.

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12 Loi n° 2008-518 du 3 juin 2008 relative aux opérations spatiales, JORF n°0129 du 4 juin 2008.

13 ESPI Translation, in B. Schmidt-Tedd and I. Arnold, "The French Act relating to space activities. From international law idealism to national industrial pragmatism", ESPI Perspectives 11, available online (http://www.espi.or.at/images/stories/dokumente/Perspectives/espi-perspectives_11.pdf)

14 J. HERMIDA and K.-U. SCHROGL, "Change of Ownership, Change of Registry? Which Objects to Register, What Data to be Furnished, When and Until When?", In "Proceedings of the IISL/ECSL Symposium", AIAA, 2003, p. 459.

15 As an illustration: J. HERMIDA and K.-U. SCHROGL, "Change of Ownership, Change of Registry? Which Objects to Register, What Data to be Furnished, When and Until When?", In "Proceedings of the IISL/ECSL Symposium", AIAA, 2003

II. Towards Administrative Cooperation in the Field of Space Law?

The first element to take into consideration is the fact that the problem proposed covers a wider field than that of space law alone (A). The examination of different fields is needed in order to be able to identify the key element to be answered in order to promote the kind of cooperation desired (B).

A. The Shared Challenge of International Administrative Cooperation: Identifying the Problem of Sovereignty

Recent scholarship on the law ruling activities on the internet reveals that this field has clear common points with the problem of space law: "There is a problem about governance of the internet (or in cyberspace): we don't have the instruments, or even the place for dialogue, to allow the different actors implicated in internet activities to discuss their ways of cooperation among themselves. Of course national governments exist and their laws must be applied, but cyberspace is fundamentally transnational, and we don't have the tools to deal with the normative tensions this raises."[16] Some authors, taking their analysis to the fundamentals, note: "In the end, it is above all the question of national sovereignty, as the red line of intergovernmental cooperation, that has limited—and should continue to limit—the efforts both of NATO and the EU" regarding "the implementation of intergovernmental policies in the field of cyber defence."[17]

The confrontation between the sovereignties of States and the need to implement supranational juridical and technical infrastructures is thus the core of the difficulty. However this difficulty is far from being insurmountable, as can be seen from two elements. Firstly, international cooperation is a reality in the space activities field: it has already benefitted from years of experience, which could be translated into new developments. Secondly, a real administrative cooperation could be regarded as a means to promote the exercise of powers exercised in the context of sovereignty.

This second element raises questions about the nature of international relations, the very notion of diplomacy, and the possibilities offered by the international public law towards real international cooperation. Even if we take sovereignty as a purely negative attribute, the fact that no legal power can be exercised by one State on another[18], it remains true that sovereignty is a central element in the determination of how States may exercise power internally.

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16 B. de La Chapelle, "Souveraineté et juridiction dans le cyberespace", Hérodote, 2014/1 n° 152-153, p. 174-184, translation by the author

17 V. Joubert et J.-L. Samaan, "L'intergouvernementalité dans le cyberespace : étude comparée des initiatives de l'Otan et de l'UE", Hérodote, 2014/1 n° 152-153, p. 261-275, translation by the author

18 J. Combacau et S. Sur, Droit international public, 10ème édition, Montchrestien, Paris, 2012, p. 23

Some phenomena escape State control on account of their transnational character, as in the field of internet regulation, or sea regulation in the case of flags of convenience. International cooperation then becomes a way to promote the State's competences, which become more effective when they are exercised in an international context.

The same applies to the problems of regulating space activities, if we consider that the States' objective is to promote space activities, as is evidenced by the political discourse, such as for example the recent commentary: "Excellence in the scientific, technological and industrial fields is necessary in order to achieve a high-profile space activity, such as France has maintained for more than 50 years for Europe's benefit."[19] In this context, international administrative cooperation acquires a new dimension, in so far as it aims to increase the effectiveness of national activities.

From an institutional point of view, one needs to ask what are the roles of the different players, roles that depend on one's conception of diplomacy and of the players who run it. International cooperation is of course part of the framework of international relations, and thus of diplomacy. But administrative cooperation requires one to somehow transcend diplomatic relations in the strict sense, that is to say "external representation of the State by a specialised service"[20]. Administrative cooperation calls for a kind of constancy on relations. One needs, then, to establish and then put into effect a balance: one between the inevitable diplomatic context of which administrative cooperation forms a part, and the need to establish a platform characterised by a certain kind of flexibility. Such an approach thus requires, even before cooperation as such, an internal policy which will amount to "redefining the relations between the Foreign Office and technical administration according to the diversification of State's foreign policies"[21].

B. The Challenge of Administrative Cooperation: Possible Answers

In the first place one would have to reject the solution of a world-wide organisation with the job of adopting binding solution, at least for the present. It is clear that sovereignty shows an irreducible character which tends to put a brake on the integration of competences. It would then be pointless to propose a solution leading to the renunciation of competences before preliminary steps were completed. Indeed it is probable that the question of the competence of the United Nations Organisation, and of its specialized entities such as the Committee for Peaceful Uses of Outer Space and the Office for Outer Space Affairs, will tend to stagnate, considering the

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19 Vœux de G. Fioraso au Groupe Parlementaire Espace ; http://www.enseignementsup-recherche.gouv.fr

20 J. SALMON, Dictionnaire de droit international public, Bruylant, 2011, « Diplomatie », définition D, p. 342, translation by the author

21 Idem, p. 344.

difficulties faced in the work of adapting the law of outer space[22]. Perhaps the example of systems implementing practices that preserve the States' ultimate competence could be considered as the most practicable model.

A first step, outside formal institutional contexts, would be the already evoked possibility of cross-recognition of mutual authorisations relative to space activities: this could be formed by a "network" of bilateral agreements on the bases of more general agreement about technical norms. Those norms are already characterized by a strong international dimension, as can be seen with the ISO standards, as shown by this statement: "the recent publication of the recent norm ISO 24113:2011 about space debris reduction is an example illustrating this international cooperation"[23].

Another system of international administrative cooperation, slightly more formalised, is that of the Missile Technology Control Regime, which is presented as "an informal and voluntary association of countries which share the goals of non-proliferation of unmanned delivery systems capable of delivering weapons of mass destruction, and which seek to coordinate national export licensing efforts aimed at preventing their proliferation"[24]. This association proposes guidelines, organises meetings and endeavours to promote dialogue. In this sense, the MTCR looks like the COPUOS. However the control regime goes further in the specific field of weapons of mass destruction by proposing a real administrative cooperation system: prior consultations by MCTR members over exports, notification of refusal decisions or export licenses, the effect of these decisions on partner States. What clearly appears here is, on the one hand the diffusion of information with respect to weapons of mass destruction and on the other hand a desire to harmonize practice in this field, based on juridical tools[25].

Another possible source of inspiration for space is the International Civil Aviation Organisation[26]. The ICAO presents some interesting characteristics with respect to international cooperation by its decision processes. The States party to the ICAO founding Convention are free to declare themselves bound or not bound by the international standards proposed in ICAO, following the rule that a State cannot be bound by a rule to which he has not adhered. But

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22 Cf. par ex. M. BENKO and K.-U. SCHROGL, The UN Committee on the Peaceful Uses of Outer Space: Introducing the Agenda Item "Review of the Status of the Five Legal Instruments Governing Outer Space" and Other Recent Developments, Z.L.W., vol. 47, n°4, 1998, p. 525 s.

23 B. Lazare, "Mise en orbite de la sécurité. L'impact réel de la réglementation", ISO Focus+, Octobre 2011, p. 25, translation by the author

24 http://www.mtcr.info

25 For a more detailed study : A. Idiart, in Ph Achilleas (dir.), "Le contrôle des exportations de biens et de technologies spatiales", Droit de l'espace, Larcier, Bruxelles, 2009, p. 322 s.

26 R. Jakhu, T. Sgobba, P. Dempsey (eds.), The Need for an Integrated Regulatory Regime for Aviation and Space - ICAO for Space? (Springer 2011)

despite this observation, an author notes that rules originated from ICAO are well accepted in practice[27]. Such a system of "proposed" rules thus goes further than the simple recommendations contained in the resolutions of the General Assembly of the United Nations, which are not the object of formal adhesion from States.

A fourth and last system to consider, the International Telecommunications Union, is the one closest to the solution rejected at the beginning of this section, namely an international organisation formally constituted and having binding powers. The ITU is in charge of the allocation of the rare resources that are frequencies and geostationary positions, exerting a role of "arbitration and management" which corresponds to a specific administrative power, since ITU is indeed "empowered with normative competencies that are translated by adoption of international rules and international technical standards. The Organisation also disposes of operational powers in so far as it participates with the States in the management of the use of the radiofrequency spectrum and, for space communications, associated orbits."[28]

In this context, administrative cooperation has reach a level very near to the common exercise of competencies.

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In conclusion, it could be said that the implementation of administrative cooperation mechanisms would be a real progress in the promotion of space industry. Nevertheless, even if the necessity of working in a global scale is often stressed, it is seems that no specific solutions are envisaged for the present.

The promotion of such solutions relies on mechanisms whose analysis is not properly in the field of positive law, present or potential, but concerns rather a field more connected with political science, that is the deeper mechanisms that lead to lawmaking. Despite this it is appropriate to think, at the end of this contribution, about the means that could permit the promotion of the juridical solutions proposed, that is to identify the driving causes of an eventual evolution.

To move up in the chain of causes it is necessary to adopt a starting point, a fundamental observation. This starting point is the lack of any present change in the field of international space law, and in particular the lack of international mechanisms aiming at a more supple administrative environment for the development of private space firms.

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27 R.I.R. ABEYRATNE, Registration of Aircraft: Legal and Regulatory Issues, Annals of Air and Space Law, vol. XXXIV, 2009 p. 204

28 Ph. Achilleas, JCl Droit International, Fasc. 572 : Droit international des télécommunications, 2013, pt. 15, translation by the author

This starting point should be put into perspective with a historical overview of the beginnings of space law. From this was can see that the admirable juridical corpus that structures space activities is the result of the commitment and leadership of certain States, mainly the space-faring nations, and in particular of the United States, Russia (ex-USSR), Canada, and France. These players had a direct interest in the adoption of this texts, so as to reduce uncertainties and worries about space exploration and use through the adoption of a binding juridical framework. The main difference between the former situation and the present one is that the players that would directly benefit from a potential evolution of administrative practices are private ones. States as such are only indirectly interested by this evolution. The conversion that has to be carried out is, then, to transform this indirect interest into a direct one.

This suggests the need for a clear indication, with figures, of the financial advantages to be gained by a more fluid administrative procedure brought about by the implementation of administrative cooperation mechanisms. Such work would permit real leadership in the international scene for the amelioration of the juridical framework[29].

The third and final step of the process lies in a close collaboration between industry, the only player able to furnish the information necessary to demonstrate the usefulness of the changes envisaged, and the players who can effectively present this data to the public. These latter include scholars and specialized institutes that are able to provide the necessary organisation of data, strategic view, and expertise to propose innovative solutions, or even to determine the needs in terms of positive law; and they also include industry associations which, having in place effective means of communication, are essential to the process of distribution of information.

[29] It has been recently said that "High-level political leadership is necessary" in the context "A Framework For Multinational Coordination and Cooperation in the Future Exploration of Space". Graham S. GIBBS, 2nd Manfred Lachs International Conference, Thursday, May the 29th, 2014. http://www.mcgill.ca/iasl/manfred-lachs-conference-2014/program