

National Space Law

The Case of France and New Challenges for Space Activities

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Abstract

Space activities are risked and the increase level of commercial and private interests in outer space lead States on developing national legal frameworks for space activities, particularly with regard of their responsibilities. Moreover, there is a general duty to bring domestic law into conformity with obligations under international treaties. Nowadays, States face up to new challenges, in particular concerning the proliferation of space debris, destructive collisions, the crowding of satellites, the growing saturation of the radio-frequency spectrum, end-of-life satellites and space tourism. Hence, several activities of States consist in strengthening or developing their national space laws and policies, as well as in reforming or establishing the governance of national space activities. In France, space policy rests essentially on National Space Agency (CNES) and space activities are led by the domestic space law of the 3rd June 2008, entered into force the 10th December 2010. This law sets rules in a context of privatization of space activities and the opening of the Guiana Space Centre to other launchers than Ariane, such as Soyouz (Russia) and Vega (Italy).

1. Introduction

The International public law laid down the principles of exploration and use of Outer Space.¹ The principle of freedom of use of outer space covers scientific, governmental and commercial activities. This principle applies to launch activities, control of satellites in orbit and exploration activities. But it finds its limit with the principle of non-appropriation of Outer Space by States, the principle of peaceful uses of outer space for the benefit of mankind² and the international responsibility of States for space activities that they conduct.

Indeed, space activities are risked and the increase level of commercial and private interests in outer space lead the States on developing national legal

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1 Article I Outer Space Treaty 1967.

2 Article IV Outer Space Treaty 1967.

frameworks for space activities such as launch activities or control of satellites in orbit.

Furthermore, there is a principle in general international law to bring internal law into conformity with obligations under international treaties. Articles 26 and 27 of the 1969 Vienna Convention on the Law of Treaties, provides that every treaty in force is binding upon the parties to it and must be performed by them in good faith – “*pacta sunt servanda*”. Moreover, a party may not invoke the provisions of its internal law as justification for its failure to perform a treaty. States have the obligation to introduce treaties in its national legal order. It is an obligation based on results, rather than means. But, States are generally free to choose the manner to insert treaties into their domestic order. Thus, we can say that every State can choose different legal techniques for implementing its treaty obligations in its national law, and often, international treaties are not fully self-executing and they may require implementing and complementing by national legislation.

This is the case for the United Nations Treaties on outer space. I will mention the three principals: the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space (OST), the 1972 Convention on Liability for Damage caused by Space Objects and the 1975 Convention on Registration of Objects Launched into Outer Space. Concerning State’s international obligations, a particular attention has to be heard to the principles contained in Article VI of the OST on international responsibility of States for national activities in outer space, including the Moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions of the Treaty. Space activities of non-governmental entities require authorization and continuing supervision by the appropriate State. This is one of the reason that spurs States on adopting a national space law, in view of their international responsibilities for space activities. In regard to international space law, this responsibility may be committed in case of violations of international obligations by public or private entities, and therefore the obligation to compensate damage according to the special regime set forth in Articles VI and VII of the OST and in the 1972 Convention. Consequently, national space activities have to be conform to international space Treaties and States have to be sure, at national level, that these activities are covered by law in case their responsibilities is engaged.

Another principle tied to responsibility is the principle of jurisdiction of space objects. In order that space objects stay under control of a national jurisdiction and so under State control, it is expected that they are registred by this State. Registration has a jurisdiction constitutive effect on space objects. Furthermore, the State of registry has to exert its control on space object, and in according to Article I of the 1975 Convention, the State of registry is the launching State. The Article provides that a “launching state” means a State which launches or

procures the launching of a space object; a State from whose territory or facility a space object is launched. Following Article II, para. 1, the launching State has to register the space object in a national registry. The para. 2 of the same article provides that if there are two or more launching States in respect of any such space object, they shall jointly determine which one of them shall register the object in accordance with the Convention.

The registration follows two essential aims for the security and viability of space activities:

- enabling the identification of the State of launching and allowing victims to submit a claim for compensation against this State in the event that a damage occurs (1972 Convention);
- ensuring that space activities are submitted to a national control and jurisdiction.

2. New Challenges of Present-Day

The new global space challenge requires the implementation of national frameworks giving indeed to the States means to control space operations. Article VI OST lays down the obligation for States to control that national activities are carried out in conformity with the provisions set forth in this Treaty. As regards non-governmental activities, their authorization have to go hand in hand with their continuous monitoring. However, this new global space challenge is taking place less and less through a capacity of economic guidance of the sector (shareholding or public order), which requires a reinforcement of the legal framework of space activities.³

National laws are also essential to define the conditions of implementation of the financial responsibility for the State of launching. The fact that an activity undertaken by a company leads the State in which it is installed to become *ipso facto* “State which makes launch” and thus, to confer to it a major responsibility, makes necessary legislative measures allowing to ensure the conditions of this launch. States can also limit risks of commitment of their responsibility by imposing rules of the solvency of companies concerned, for example by instituting obligations of financial warranty or insurance.

But the act of these rules can also be the occasion to secure activities of national companies by bringing them a warranty of the State, for example if the compensation for victims would exceed a certain amount. Such a system has for interest to give in facts just a subsidiary character to the liability of State of launching while guaranteeing a limitation of companies’ financial risk.

3 Rapport n° 161 (2007 – 2008) de M. Henri REVOL, fait au nom de la Commission des Affaires Economiques, déposé le 15 janvier 2008, concernant le Projet de loi relatif aux opérations spatiales. Retrieved from: <https://www.senat.fr/rap/l07-161/l07-161.html>.

These various justifications of the interest to implement a national legal framework for space activities have not escaped to several countries, which recently introduced one or are working on it, in particular for those which are “Launching States” and I think namely to the United States with “Commercial Space Launch Act” adopted in 1984, Russia with the Federal Law on space activities adopted in 1993, and France with the Law n° 2008-518 adopted in 2008. Other States have successively endowed national space laws⁴ such as Argentina, Australia, Austria, Belgium, Brazil, Canada, Chile, China, Germany, Italy, Japan, Kazakhstan, Netherlands, Norway, Republic of Korea, South Africa, Spain, Sweden, Ukraine, United-Kingdom of Great Britain and Northern Ireland.

The aim is to answer at two main requirements: on one hand, to incite and guarantee private sector investments in space and, on the other hand, to ensure the conformity of practices of non-governmental operators with international commitments underwritten at State level. These legal instruments share several essential characteristics. They have jointly to define a mode specifying the responsibility for space operators because of damage caused to third parties and to oblige them to subscribe an insurance or to provide a warranty. They also aim at specifying methods of intervention of State’s warranty in case of damage whose compensation exceeds certain amounts. Moreover, some of these laws settle the questions of intellectual property, insurance and warranty which fall to space operators and set construction standards applicable to the launchers and satellites.

My paper treating more specifically of the French space law, I would return on it in detail later.

It is noted that these similarities are not exclusive and differences exist between legislation, in particular with regard to the modality of control exerted on space activities by public authority. The scope of the texts also differs according to the specific context of each State. Thus, a difference is noted on fact of knowing if the State has a launch base under its jurisdiction. I think in particular of France with Kourou which is in French Guiana, to Italy with the platform of San Marco-Malindi in Kenya, which is operated by the “Centro Ricerche Aerospaziali” under the Agreement between the Italian Space Agency (ASI) and Sapienza University of Rome and Nairobi (but it is not currently used as a launch site), or Russia with Vostotchny, Baïkonour and Plesetsk.

Thus, the scope of application *rationae materiae* differs. Some of them are only relating to launch operations or return on Earth of space objects and do not cover the operations of control of orbital systems, as it is the case in the

4 National Space Laws. Retrieved from: <http://www.unoosa.org/oosa/en/ourwork/spacelaw/nationalspacelaw/index.html>. http://www.esa.int/About_Us/ECSL_European_Centre_for_Space_Law/National_Space_Legislations.

Australian Law.⁵ Other States governed various space activities by distinct legislations, in particular because of competences distributed between several government organizations. It is the case of The United States which adopted, on one hand, a legislation specific for launch operations and, on the other hand, two specific legislations for orbital systems. The European laws like those of Austria, Belgium, France or Netherlands, cover launch operations as well as control of satellites operations in space.⁶ Lastly, another difference concerns the concept of “nationality”. Some laws provide a scope *ratione loci* of their dispositions;⁷ where others provide also a scope *ratione personae* and extend to nationals of the State leading space activities apart from the national territory such as the U.S Law, Austrian Law, British Law and French Law. Nowadays, States face up to pre-existing and emerging challenges, in particular concerning the proliferation of space debris (there are more than 16 000 catalogued objects in distinct orbits around earth including rocket bodies, operational spacecraft, mission-related objects, defunct spacecraft parts and other fragments⁸), destructive collisions, orbital congestion, end-of-life satellites, space traffic management, the growing saturation of the radio-frequency spectrum, satellite interference (both intentional and unintentional), a proliferation of new space actors as well as increased militarization and the potential weaponization of space, and space tourism where the question of applicable regime is still opened. These challenges call for committed involvement by spacefaring nations and emerging space powers to ensure greater safety, security, and long-term sustainability of outer space activities.

For this purpose, the European Union proposed, in 2008, a Code of Conduct⁹ following UN General Assembly Resolutions 61/75 (2006) and 62/43 (2007) on “Transparency and Confidence-Building Measures in Outer Space Activities” (TCBMs) and responding to a request by the UN Secretary General to UN members for “concrete proposals” for TCBMs. The draft International Code of Conduct proposes several measures on space operations and the mitigation of debris, including promotion of space safety and sustainability, pursue strategic stability, minimize the risk of accidents, collisions and harmful interference in space, refrain from deliberate damage or destruction of spacecraft, unless in self-defense or to mitigate debris, take

5 Space Activities Act adopted in 1988, Act n°123, 1998.

6 ACHILLEAS (P.)/MIKALEF (W.), *Pratiques juridiques dans l'industrie aérospatiale*, A. Pedone, Paris, 2015, 343p.

7 Belgian Law of 17 September 2005 and Dutch Law of 13 June 2006.

8 UNIDIR Space Security Conference 2016, *Sustaining the Momentum: the Current Status of Space Security*. Retrieved from: <http://www.unidir.org/files/publications/pdfs/space-security-2016-en-654.pdf>.

9 The latest draft of the Space Code of Conduct. Retrieved from: http://www.eeas.europa.eu/non-proliferation-and-disarmament/pdf/space_code_conduct_draft_vers_31-march-2014_en.pdf.

appropriate measures like prior notification and consultations to minimize collisions risks, improve adherence and implementation of the International Telecommunications Union (ITU) regulations, and minimize the creation of long-lived space debris and implementing the United Nations Committee on the Peaceful uses of Outer Space (UNCOPUOS) Space Debris Mitigation Guidelines. The final round of multilateral negotiations in New York in July 2015 failed to produce the desired outcome and revealed major disagreements over the process and appropriate auspices for this politically-binding endeavour.

Various States have continued to implement the transparency and confidence-building measures recommended in 2013 by the United Nations Group of Governmental Experts (GGE) on TCBMs in Outer Space Activities, by publishing information regarding national space policy, registering space objects, holding extensive bilateral and multilateral discussions with other States, conducting information exchanges regarding orbital space objectives.

I will also mention, with the development of space technologies, the militarization and the risk of weaponization of Outer Space which have to be taken into consideration for the sustainability of space activities. On this matter, several initiatives are lead. At unilateral level, any States have declared not to be the first to place weapons in outer space,¹⁰ the “No First Placement of Arms in Outer Space” (NFP) initiative and related resolutions. On multilateral level, major space powers retain and expand cooperation and collaboration on outer space activities. Furthermore, some projects of guidelines, code of conduct, draft of treaty are carried out in this field. I will mention for example the Manual on International Law and Military Activities in Space (MILAMOS launched in May 2016 – McGill University), the draft Treaty on Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force Against Outer Space Objects (PPWT proposed by the Russian Federation and China in 2008), Model Code of Conduct for the Prevention of Incidents and Dangerous Military Practices in Outer Space (Henry L. Stimson Center), The Hague Code of Conduct against the proliferation of ballistic missiles (2002). These questions will be treated, more in details, in the context of another presentation.

In this way, various activities of State consist in strengthening or developing their national space laws and policies, as well as in reforming or establishing the governance of national space activities. The aim is to improve management, increase competitiveness, develop space activities, respect of international obligations by taking into account guidelines and recommendations, in particular on space debris produced by COPUOS or the Inter-Agency Space Debris Coordination Committee (IADC) as it is possible seeing in the U.S Law, French Law and Austrian Law.

10 UN GA Resolution A/RES/70/27. Retrieved from: http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/70/27.

As I said previously, space national laws need to be developed, adapted and amended in such a manner that they do not conflict with the principles outlined in the Outer Space Treaty and other relevant United Nations instruments relating to space activities, and to ensure the long-term sustainability of outer space activities, which means that the conduct of space activities should balance the objectives of access to the exploration and use of space by all States and governmental and non-governmental entities only for peaceful purposes with the need to preserve and protect the outer space environment in such a manner that takes into account the needs of future generations. Recently, an updating version of draft guidelines for the long-term sustainability of outer space activities has been presented to the Committee on the Peaceful Uses of Outer Space.¹¹ The COPUOS Working Group on the Long-Term sustainability of Outer Space Activities proposed voluntary measures in order to provide a foundation for the development of national and international practice and safety frameworks for space activities. Finally, I will mention the year 2018 which will mark fiftieth anniversary of the first UNISPACE conference, held in Vienna in 1968. UNISPACE+50 aims to chart the future role of the Committee on the Peaceful Uses of Outer Space, its subsidiary bodies and the UN Office of Outer Space Affairs (UNOOSA) at a time, as we know, where space activities are more complex and when more actors, both governmental and non-governmental, are increasingly involved in space.

3. The Case of France

In France, the space policy is primarily based on the National Space Agency (CNES) and space activities are framed by the Law n° 2008-518 of 3rd June 2008 relating to the space operations.¹² Moreover, 3 Decrees have been implemented on June 9th, 2009 concerning authorization; registration/safety at the Guiana Space Centre (GSC); and space data.¹³ The French Space Law is entered into force on December 10th, 2010.

The definition of an independent space policy involved the creation of a National Space Agency, “le Centre National d’Etudes Spatiales” (CNES), in 1961. CNES is a public body with industrial and commercial functions, whose missions are codified in Articles L. 331-1 to L. 331-6 of the Code of Research. CNES has a double function: agency of program and technical

11 “*Updated set of draft guidelines for the long-term sustainability of outer space activities*” A/AC.105/L.301, COPUOS 59th Session, 8-17 June 2016. Retrieved from: http://www.unoosa.org/res/oosadoc/data/documents/2016/aac_105l/aac_105l_301_0_html/AC105_L301E.pdf.

12 Loi n° 2008-518 du 3 juin 2008 relative aux opérations spatiales. Retrieved from: <https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=LEGITEXT000018939303>.

13 MARIÉZ (J.), The Law, Decrees and Technical Regulations on space operations of France, UN COPUOS Legal Subcommittee, Vienna, March 26th, 2010.

centre while bringing a technical expertise to the french government on space field and by ensuring the project management of French space programs. CNES manages also the french participation to the European Space Agency programs.

As a major space power, France is concerned for several reasons by space activities, through space operators whom it shelters and of the space port that it places at the disposal of the European Space Agency.

Moreover, the development of the market of the use of outer space, in particular in the field of telecommunications, reinforced competition and led to important regrouping of european and french space industries (Airbus Defense and space, Thales Alenia Space...). This new configuration of space activities led to the adoption of the Space Law of 2008. In addition, it integrates international treaties on the use of outer space. Knowing that France ratified the three principal Treaties of 1967, 1972 and 1975 previously mentioned, the Agreement on the Rescue of Astronauts of 1968, and signed the Moon Agreement of 1979.

It is important to emphasise that France knows new exposures with legal risks related to space activities, because of the opening policy of the Centre of Kourou to launchers originating of new countries. Today, the Guiana Space Centre sees taking off Russian rockets Soyuz and Italian rockets Vega.

If these two industrial cooperations profit from a rigourous legal framework, negotiated State in State, it remains true that they mark the entry of France in a new era of commercialization concerning space operations. That made necessary the implementation of a national space law applicable to the whole of situations. This is strictly connected to the role of CNES in its mission of ensuring the operations of the Kourou Space Centre, if it can offer or not solid legal basis vis-a-vis to new foreign companies installed on the Guiana Space Centre, which would dispute the authority of the Public Agency or certain measures which would be imposed to them by the agents of the Center.

The Law n° 2008-518 of June 3rd, 2008 relating to space operations mainly aims to ensuring the legal security of all space actors, public or private, by a control of technical risks related to space activities. The text clarifies the rules of commitment of State liability and operators. Any space operations that can involve the responsibility of France as a Launching State must be subjected to prior approval. Operators are responsible for all damage caused to a third party, in space or on ground, for the operations that they lead. A system of administrative and penal sanctions is foreseen. Moreover, State acts as guarantees for possible damage caused to goods, persons or environment beyond a certain amount which is fixed by Finance Act. The space law also treats governance of the Guiana Space Centre; discipline the intellectual property rights applicable to activities carried out in outer space and the legal framework of the use of space data origins, in particular taking into

consideration the requirements of national security.¹⁴ Activities relating to national defense are excluded from its field of application.

Now I would like to analyze the content of the French Space Law.

The following categories of persons shall apply for an authorization:¹⁵

- Any operator that aims at launching a space object from the national territory or from facilities under the jurisdiction of France, or when such an object come back onto the national territory or facilities under the jurisdiction of France.
- Any French operator that aims at launching a space object from the territory of a foreign State or from a place that is not under any State's sovereignty, or when such an object comes back onto the territory of a foreign State or onto a place that is not under any State's sovereignty.
- Any French company that aims at launching a space object, or any French operator that commands such an object during its mission in outer space.

As a result, the procurement of the launch of a non-french satellite by Arianespace from CSG is not subject to French Space Law, Arianespace being already authorized and controlled for such operation. The command phase of such object is also out of French Law's scope.

There are other authorization cases, especially regarding transfert of on-orbit command.¹⁶ In fact, an authorization is required to transfer to a third party the command of a space object (such as GEO satellite) whose launch or command has been authorized in compliance with the French legislation (transfer to a foreign country). Furthermore, any French operator who aims at taking the command of a space object whose launch or command has not been authorized in application of the French legislation has to apply for authorization (transfer from a foreign country).

Article 1 of Decree n°2009-643 of June 9th, 2009 relating to the authorizations delivered by the Law n° 2008-518 of June 3rd, 2008 provides that the request document of authorization is structured in two parts: an administrative part and a technical part.

The Law provides a general principle allowing that authorizations are granted by the Research Ministry in charge of Outer Space Affairs,¹⁷ prior to the space operation and after administrative review by the Ministry in charge of outer space affaires, and technical reviewed by CNES.

14 Articles 22 and 23 of the French Space Law.

15 Article 2 of the French Space Law.

16 Article 3 of the French Space Law.

17 Article 1 of the Authorization Decree.

French Space Law sets up different kinds of authorizations/licenses:¹⁸

- Single authorization for only one operation;
- “Administrative License”: for 10 years maximum. This license attests moral, financial and professional guarantees of the applicant for activities that it leads;
- “Technical License”: certification of technical conformity of the generic systems and procedures used (simplified authorization on a case by case basis to assess differences between the certified generic system and the system used for the operation);
- License equivalent to authorization for standard operations within a determined period (without any authorization on a case by case basis: obligation of information only);
- Simplified authorization (technical control exemptions) for space operations being carried out from a foreign territory.¹⁹

On the other hand, a specific regime exists and allows a preliminary technical assessment (optional consultation prior to and independent from the authorization process) for innovative systems under development.²⁰

Once the authorization is granted, controls are planned during the preparation of the operations, and a safety regime for launch, carried out from the GSC, is set.

Therefore, French Space Law sets up a control regime. First of all, a *posteriori* control regime based on specific prescriptions contained in the authorization/license. Authorization granted on the basis of technical information available at the moment of the application needs technical key points to be assessed after the granting of the authorization through specific prescriptions.

The authorizations granted pursuant to the present act may include “prescriptions” set forth for the safety of persons and property, protection of public health and the environment, in particular in order to mitigate risks related to space debris.²¹ Indeed, as a result of activities that France leads in outer space, I might add that it gives its full support to the draft International Code of Conduct for Outer Space Activities proposed by the European Union. The International Code of Conduct aims to safeguard the continued peaceful and sustainable use of outer space for current and future generations, and in a spirit of greater international cooperation, collaboration, openness and transparency.²² Moreover, Permanent mission of France to the United Nations makes clear that space activities are governed

18 Article 4 of the French Space Law.

19 Article 4.4 of the French Space Law.

20 Article 11 of the Authorization Decree.

21 Article 5 of the French Space Law.

22 Article 1 of the latest draft of the Space Code of Conduct – 31 March 2014.

by three principles: freedom access to space for peaceful uses, preservation of the security and integrity of space objects in orbit and consideration for the right of self-defense of States.

France shares the objective of avoiding an arms race in outer-space.²³

France supports the promotion of responsible practices for the long-term sustainability of Outer Space activities, and is a member of the Working Group of GGE on Transparency and Confidence-Building Measures in outer space.

Furthermore, articles 21, 22, 26, 40 and 49 of the decision of 31st March 2011 related to technical reglementations in according with the Decree n° 2009-643 of 2009 regarding authorizations, provide legally binding regulations for the operators about end-of-life satellites, planetary protection, limitation of space debris, collision risk and to avoid intentional destruction of a satellite, resuming international recommendations.

Then, it refers to the control by State's agents, in particular CNES staff, and controls carried out during the preparation as well as during the carrying out of the operation. Finally, CNES President may take any necessary measures to protect people, goods, public health and the environment.²⁴

As far as the registration,²⁵ any space operator provides to CNES informations which are necessary to the identification of the space object, and whose list is fixed by decree of the Minister in charge for space. These informations must be transmitted at least sixty days after launching. CNES allots for each space object launched on a terrestrial orbit or beyond a serial number and registers it on the national register of registration. CNES transmits to the Foreign Minister information resulting from the register of registration required by the Convention of January 14th, 1975. The Foreign Minister communicates this information to the General Secretary of the United Nations Organization.

As regards the regime for responsibility, Article 13 provides that the operator is the only responsible for damage caused to a third party because of space operations which it leads: it is a strict liability for damage caused on ground or in airspace; in the event of damage caused elsewhere than on ground or in airspace, its responsibility can be required only for fault. This responsibility can be attenuated or excluded only with the proof of victim's fault.

Thus, the victim of a damage shall present a claim in a national jurisdiction against the operator.²⁶ The French Law prohibits any recursory action of the operator against a participant in the context of production of the space object or space operation.²⁷

23 Work done in the context of the Conference on Disarmament.

24 Article 5, 7 and 8 of the French Space Law.

25 Article 12 of the French Space Law and Registration Decree.

26 Conseil d'Etat, Pour une politique juridique des activités spatiales, La Documentation française, Paris, 2006, p. 55.

27 Article 19 of the French Space Law.

Regarding the allocation of liability between the French Government and the operators, two cases can be arisen:

- *Case 1:* when the operator is sued and condemned by a domestic court, State guarantee granted to the operator for damages caused to third party by authorized space operations carried out on the French or European territory (except in case of willful misconduct) during the launching phase or during the command phase, according to the terms of the Finance Act.²⁸ For damages caused during the launching phase: above approx. 60M€ (see launchers Exploitation Declaration). For damages caused on Earth or in the airspace during the command phase: above an amount comprised between 50 and 70M€ (to be determined by the authorization). This regime shall also benefit to contractors, subcontractors, customers or insurers for damages caused during the launching phase.
- *Case 2:* when the French Government is sued under UN Space Treaties (1972 Convention), it may make a claim for compensation towards the space operator, whose liability shall be limited to a fixed ceiling equivalent to the aforementioned amounts.²⁹

From a development perspective of space activities at the Guiana Space Centre, it is interesting to see the regime of safety and security. Indeed, CNES' President is entrusted with a general safety and security mission regarding the exploitation and the facilities of the GSC, in the name of the French Government.

CNES' statutes are modified in this way:³⁰

- General mission to ensure the safety of persons, goods and environment during the preparation and the carrying out of a launch, including a specific power of CNES' President to issue specific regulations dealing with the GSC launch site.
- Mission of coordination dealing with the implementation of applicable security regulations aiming at ensure the security of the GSC facilities and the activities conducted at the CSG by all companies and other entities located at the GSC.

All these missions are defined by specific decree and regulations, especially the conditions under which the President can delegate its powers, if deemed necessary to the GSC Director as well as to the persons responsible for safety and security activities at the GSC.

²⁸ Article 15 of the French Space Law.

²⁹ Article 14 of the French Space Law.

³⁰ Mission added in the current article L.331-6 of the Research Code and implemented in the 1984 CNES Decree.

CNES President sets out applicable safety rules concerning the facilities located within the perimeter of the GSC, as regards the activities of designing, preparing, producing, storing and transporting space objects and their constitutive parts, as well as the tests and operations performed within the perimeter or out of the Guiana Space Centre (Safety regulations – “*Règlement de sauvegarde*”).

Lastly, I would say few words about the technical regulations which concern launch operations and satellite operations, on-orbit command and reentry, associated to a best practices guidelines.

These “Best practices Guidelines” have to be elaborated by CNES in coordination with the space operators and manufacturers.³¹

Technical regulations have to be as close as possible to the European space industry’s current practices regarding security of people and goods and protection of health and of the environment; impose objectives to be reached by the operator instead of a mandatory manner to do so; be based on international norms and standards; be compatible with specific requirements of launch ranges.

It is understood that Governmental space activities, carried out by CNES for the purposes of its public mission (Governmental programs, on-orbit command of governmental satellites, management of public infrastructures), are excluded from the scope of the law. Likewise for defense activities and launch of ballistic missiles.

In Europe, the regime applicable to space activities and national space laws adopted by Member States have also to be seen in a broader context by referring to the legal framework of the European Union. With the entry into force of the Treaty of Lisbon on December 1st, 2009, the institutional organization of space sector was deeply modified: space becomes a competence shared between the Union and Member States; and European Union may develop a space policy, promote common initiatives, support the research and technological development.³² The Treaty also integrates the framework agreement of cooperation with ESA, entered into force in 2004: ESA focus on scientific activities (launching, research, exploration...), the European Union is in charged to reinforce the coordination of resources and programs between ESA and Member States, as well as the developmet of community instruments and programs of financing in order to allow an european investment in long term in space field.

4. Conclusion

States need to develop space for the improvement of their economy and for the evolution of their society. Moreover, they need to strengthening national

31 See also Article 17 “Environmental control”, Special administrative clauses of CNES.

32 Article 189 of the Treaty on the Functioning of the European Union.

space infrastructures and capacity-building, and building partnerships and international cooperation in space activities.

Several States are implementing national space law to respond to the new challenges set by space activities, in order to clarify their responsibility but also to insure the long-term sustainability of outer space activities.

As I mentioned before, the purpose of the French Space Operation Act is to set up a coherent national regime of authorization and control of space operations under the French jurisdiction or to which the French Government bears international liability as a launching State, in accordance with the United Nations Treaties principles. Main objectives are protection of people, goods and space environment.

Coherence between French space policy and European Space policy must be assured. France exerts a technical and industrial leadership and is present in international programmes such as earth observation, exploration, launchers; but today ambitions and new challenges, which space activities address, have to be seen with European and International partners.

A process of harmonization of national space legislations seems to be taking shape regarding common objectives related to space activities.