

The French Space Operations Act One year of implementation

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Introduction

The “French Space Operations Act” (hereinafter referred to as the “FSOA”)² was adopted by the French Senate on 22 May 2008 and entered into force on 10 December 2010. It was associated with the execution of the “Authorization Decree”³, the reformed Decree on the French Space Agency (CNES)⁴, and the Decree on “Space-based data”⁵ which were adopted on 9 June 2009.

Basically, the French Space Operations Act establishes a coherent national legal framework which sets forth an authorisation and monitoring regime for Space operations carried out under French jurisdiction and/or for which the French Government bears international liability either under UN Treaties (namely the 1967 Outer Space Treaty, the 1972 Liability Convention and the 1976 Registration Convention) or under its European commitments with ESA and its Member States.

Then, the Act directly reflects international agreements signed by France with ESA, and in particular those related to the Guiana Space Centre (hereinafter referred to as the “GSC”)⁶, as well as implements commitments taken by France under the Declaration on the Launchers Exploitation⁷ to other European States participating to the Ariane, Vega and Soyuz programs.

The following article will mainly focus on a review of the authorization and control regime under which every operator falling within the scope of the FSOA must obtain an authorisation from the competent administrative authority after technical assessment delegated to CNES, the French Space agency.

1. – Scope of application: Entities and Space Activities subjected to the FSOA

The FSOA is only applicable to Space operations altogether with Space operators. The relevant definitions are given in Article 1:

- The term “Space operator” (hereafter operator) refers to any natural or juridical person carrying out a Space operation under its responsibility and independently;
- The term “Space operation” refers to any activity consisting in launching or attempting to launch an object into Outer Space, or in ensuring the commanding (control) of a Space object during its journey in Outer Space, including the Moon and other celestial bodies, and, if necessary, during its return to Earth;

Therefore, several other actors of the Space sector are excluded from the scope of the FSOA since they do not fall within the scope of the definition of a “Space operator”. These entities are:

- the Ministry of Defence as regards ballistic missiles,
- The Space industry (manufacturers), except in case of in-orbit delivery.

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² Loi n° 2008-518 du 3 juin 2008 relative aux opérations spatiales. JORF 04.06.2008

³ Décret n° 2009-643 du 9 juin 2009 relatif aux autorisations délivrées en application de la loi n° 2008-518 du 3 juin 2008 relative aux opérations spatiales.

⁴ Décret n°2009-644 du 9 juin 2009 modifiant le décret n°84-510 du 28 juin 1984 relatif au Centre national d'études spatiales.

⁵ Décret n° 2009-640 du 9 juin 2009 portant application des disposition prévues au titre VII de la loi n° 2008-518 du 3 juin 2008 relative aux opérations spatiales

⁶ Contract signed between ESA and CNES on 25 March 2009 assuring the availability of the CSG launch range for ESA programmes and activities and for the exploitation of Ariane, Vega and Soyuz launchers from 2009 to 2013.

⁷ Paris, 30 March 2007

Similarly, some Space-related activities such as human spaceflights, suborbital flights, the command of Space interstellar vehicles (probes) as well as sounding rockets and balloons are not considered "Space operations" and are regulated by Air Law or other specific agreements.

Major organisations in Europe are also excluded, despite their Space operation responsibilities, because of their governmental status:

- CNES as far as its own operations are concerned has been specifically exempted (under Art. 27) from the obligation to obtain a formal authorization. The rationale for this exemption was to avoid conflicts of interests and duplication of CNES administrative control, since approval of Space programs and activities is already endorsed by its board of directors where the Government is represented and has the last say. However, Technical Regulation and other security requirements (public health, security of property and persons..) are fully enforceable regarding CNES activities.
- ESA and the EU as Intergovernmental Organizations (with privileges and immunities...) .

2. – The ordinary-law authorization procedure

2.1 Persons required to obtain an authorization from the administrative authority

Under Article 2, the following persons are required to obtain a prior authorization from the administrative authority (the Minister in charge of Space Affairs):

1° Any operator, whatever its nationality, intending to proceed with the launching of a Space object from the national territory or from means or facilities falling under French jurisdiction, or intending to proceed with the return of such an object onto the national territory or onto facilities falling under French jurisdiction" (*i.e. Space object launching or return services from or onto the French territory or jurisdiction*);

2° Any French operator intending to proceed with the launching of a Space object from the territory of a foreign State or from means or facilities falling under the jurisdiction of a foreign State or from an area that is not subject to the sovereignty of a State, or intending to proceed with the return of such an object onto the territory of a foreign State or onto means and facilities falling under the jurisdiction of a foreign State or onto an area that is not subject to the sovereignty of a State"; (*i.e. Space object launching or return services occurring outside the French territory or jurisdiction, but performed by a French citizen, and consequently giving potentially rise to an indemnification by the French State under the 1972 Liability Convention*)

3° Any natural person having French nationality or juridical person whose headquarters are located in France,

- intending to procure the launching of a Space object or any French operator
- intending to command (*i.e. to operate*) such an object during its journey in Outer Space.

On the contrary, any foreign operator which procures a launch of a Space object using the services of a French launching operator (Arianespace for instance) falls outside the scope of the FSOA authorization regime (as a non French citizen as referred to in Article 2 §3 above-mentioned). Only the relevant French launching service operator shall apply for the authorization to launch according to Article 2 §1 (Arianespace for instance).

Pursuant to Article 3, the transfer of the control of a Space object also requires a governmental authorization in the following situations:

- "The transfer (*by selling or any other means*) to a third party of the control of a Space object which has been authorized pursuant to the FSOA (*i.e. a French registered satellite*) is subject to prior authorization,

- any French operator intending to take the control (*by purchase or any other means*) of a Space object whose launching or control has not been authorized under the FSOA (*i.e. a foreign satellite*) shall obtain to this end a prior authorization. “

2.2 Conditions for granting authorizations

The FSOA does not regulate in details the authorisation procedure and does not comprehensively describes the requirements to be fulfilled; instead, it refers to the Authorization Decree for further details on the procedure to be followed. Authorizations to launch, command or transfer the command of a Space object or to proceed with its return on Earth are granted by the administrative authority and are subjected to the following conditions (Authorization Decree, Art.1):

- Administrative or “political” requirements

The applicant and if necessary, his shareholders, must present moral, financial and professional guarantees. Furthermore, authorizations shall not be granted if the operations or the envisaged systems are likely to jeopardise the interests of National Defence or the respect by France of its international commitments.

- Technical requirements

The systems and procedures to be implemented must be compliant with the Technical Regulation (TR) set forth in order to ensure the safety of persons and property, the protection of public health and of the environment. Such Technical Regulation was issued by the Minister in charge of Space Affairs, following a proposal from CNES, pursuant to Articles 4 §1 and 28 f) the FSOA.

The Guiana Space Center Safety Regulations (REI - *Règlement d’Exploitation des Installations du CSG*) also have to be respected if the Space system is to be operated from the GSC (Guiana Space Center).

The applicant must provide a description of the Space operation to be conducted as well as the systems and procedures that the applicant intends to implement. In addition, the applicant must submit a file including:

- The general notice of compliance with Technical Regulation,
- The internal standards and quality management provisions,
- Risk management plans aiming at ensuring the safety of property and people, as well as the protection of public health and the environment,
- Hazard studies and environmental impact studies aiming at mitigating (fall of Space objects, damage to the environment, Space debris mitigation, collision avoidance etc.), and
- The risk management measures as well as the emergency measures planned.

Due to the unique and independent technical expertise of CNES, especially in the launchers area, and the lack of resources and means of the Minister in charge of Space Affairs on such technical fields, the assessment of compliance of the Space systems and procedures with the Technical Regulation was delegated to CNES (Art. 28 f) and g) of the FSOA).

A specific and simplified authorization regime (see 2.4 below) laid down in Article 4 §4 provides for a partial or total exemption of technical assessment for operations (such as launching services) which are to take place from the territory of a foreign State or under a foreign jurisdiction (pursuant to Art. 2 §3 first situation). Although such activities are performed and controlled outside French jurisdiction, they are nevertheless likely to involve French liability and France’s obligation to indemnify, as Launching State (being the State “which procures the launching of a Space Object”) under the UN 1972 Liability Convention. In such case, the administrative authority may exempt the applicant from all or any part of the technical compliance procedure, provided that the international commitments as well as the internal legislation and practices of the said foreign launching state (or the relevant operator’s contractual provisions) include sufficient guarantees regarding the safety of persons and property, the protection of public health and the environment, and regarding liability matters.

2.3 Timings for applying and granting authorizations

Authorizations for operational systems already commercially exploited or about to be exploited are granted within very short periods of time, namely between four months and one month depending on

whether the operator has already obtained a licence attesting the compliance of the said systems or procedures with the Technical Regulation (see §2.4 below). Within these periods, CNES is the entity responsible for carrying out the technical compliance assessment and reporting it to the Minister in charge of Space Affairs within a period of 2 months to fifteen days, again, depending on whether a licence has previously been issued.

In order to anticipate the authorization procedure for a contemplated Space operation or Space system under development, the operator (or any interested person) also has the possibility to submit its innovative system or subsystem under development to CNES's technical assessment. According to this kind of "pre application procedure" provided for in Article 11 of the Authorization Decree, CNES assesses if the said system or subsystem complies with the Technical Regulation. This process results in the issuance by CNES of Certificate(s) of preliminary technical conformity with the Technical Regulation which are opposable to the Minister in charge of Space Affairs, constituting a valid reference when later applying for an authorization. It is important to remember that such procedure is optional and independent from the formal application procedure. However, once the process has begun, it becomes compulsory and opposable to both sides.

The FSOA does not impose any specific deadline on the operator to apply for an authorization. In practice, applications are usually submitted months and even years before the actual launching which could give rise to a certain legal uncertainty. Therefore, the authorization is granted subject to the respect by the operator of specific requirements ("prescriptions") after the issuance of such authorization (FSOA, Art. 5). The control of the fulfilment by the operator of such specific requirements is conducted, following different stages, from the preparation of the operation up to the beginning of the operation itself and until its complete achievement.

2.4 – The different kind of existing authorizations under the FSOA

Depending on the experience of the operator, the country where the operation is performed or the degree of maturity of the Space system, different kinds of authorizations/licenses are provided for. The 2009 Authorization Decree, in application of Article 4 of the FSOA, specifies in particular the conditions under which such authorization/licenses may be granted:

- standard authorization: ordinary-law regime, decision is made within 4 months.
- simplified authorization: specific authorization for foreign operations exempted from complying with the Technical Regulation (FSOA, Art. 4.4 see § 2.2 here above.)

A licence system (i.e. a global framework authorization for a determined period of time to given operators for given operations) is implemented in order to facilitate the issuance of authorization to experienced operators or systems duly qualified:

- Licenses certifying that a Space operator complies with moral, financial and professional requirements;
- Licenses attesting the compliance of given systems or procedures with the Technical Regulation;
- Licenses equivalent to authorizations for standard satellite operations only which basically constitute an "authorization presumption".

3. – The monitoring of Space operations and the enforcement of relevant legislations

3.1 - The enforcement of relevant Space legislations

During the preparation and carrying out of the Space operation, several obligations falls on the operator who must:

- respect relevant provisions of the FSOA, Authorization Decree, CNES Decree, Technical Regulation (and the REI-GSC when applicable) as well as the specific requirements ("prescriptions") provided for in the authorization (FSOA, Art. 5);

- inform CNES of any events not anticipated under the authorization or any technical failure affecting the conditions of the Space operation as authorized (Authorization Decree, Art. 7).

Three categories of personnel are involved in the control of Space operations under the FSOA. All this staff is subjected to a specific regime as regards hierarchy, confidentiality and deontology rules.

- FSOA Controllers (FSOA, Art. 28.g) check and assess that systems and procedures implemented by the operator comply with the FSOA Technical Regulation. They intervene during the authorization application process or after, during the preparation phase of the Space operation or its carrying out. Controllers are appointed by CNES' President for a given period of time (usually 3 to 5 years). This staff is in charge of exclusively verifying compliance with the FSOA Technical Regulation and is not allowed to perform any other actions in any other CNES' fields of activities (and reciprocally) during their mandate.
- Commissioned Agents are empowered to proceed to the necessary controls (only after the granting of the authorization, during the preparation and implementation phases of the Space operation) in order to ensure that the special requirements (if any under Art. 5) mentioned in the authorization are fulfilled. As part of their assignment, commissioned agents have at any time access to the buildings, premises and facilities where Space operations are conducted and to the Space object itself. They can require any document or useful item. The operator is informed at the latest when the operations of control begins that he may attend the operations and be assisted by any person of his choice, or that he can be represented for that purpose. The commissioned agents are bound by professional confidentiality under the conditions and penalties set out in Articles 226-13 and 226-14 of the French Penal Code. They are appointed and dismissed by the Minister in charge of Space Affairs on a proposal from CNES' President (FSOA, Art. 7 I. 1° and Authorization Decree, Art. 19, 21, 22 and 23).
- Sworn officers (Judicial police) have Judicial Police powers. In addition to their possibility to access at any time the buildings, premises and facilities where Space operations are conducted and the Space object, sworn officers are authorized, in accordance with the French Code of Criminal Procedure, to investigate and record any breaches of the FSOA provisions, and in particular infringements that give rise to a 200 000€ fine or entail a withdrawal or a suspension of the granted authorization, in accordance with Articles 10 and 12. Sworn officers record these breaches in reports which are considered authentic unless the contrary is proved. Such reports are sent to the *Procureur de la République* (Head of the Prosecution Department of First Instance Courts of General Jurisdiction), the latest deciding either to suit or not the infringer. Sworn officers take an oath, after endorsement by the Head of the Prosecution Department, at the First Instance Court of General Jurisdiction (TGI) under Articles 19, 21, 22 and 23 of the FSOA Authorization Decree.

Diplomatic and administrative authorities are entitled to take emergencies measures aiming at the general goal of protecting people, property, public health and the environment:

- The Minister in charge of Space Affairs may take any emergency measures concerning the launching or the on-orbit command of a Space object (FSOA, Art. 8). The Minister delegates his incumbent powers regarding technical and operational measures to CNES' President (pursuant to Art. 21.2 / L. 331-7 of the French Research Code).
- CNES President is also entrusted with a general safeguard mission at the GSC consisting in controlling technical risks relating to the preparation and performance of launches according to Article 21 of the FSOA. He may take any emergency measures in order to ensure safety of facilities and activities at GSC and may even order the destruction of the launcher (FSOA, Art. 21.1 / L. 331-6 of the French Research Code)

3.2 - Available sanctions in case of breaches

Along with the implementation of an authorization system, the FSOA prescribes sanctions in case of violations of procedures or obligations. Under Article 9 of the FSOA and Article 7 of the Authorization Decree, the administrative authority may withdraw or suspend the authorization granted in case of:

- violation of the applicable legislation (the FSOA, Authorization Decree, TR or the specific requirements “prescriptions” imposed by the relevant authorization) or when the planned operations are likely to jeopardize national Defense or the fulfillment by France of its international commitments,
- events not anticipated in the authorization or technical events affecting the conditions of the Space operation as authorized (see AD, Art. 7 and FSOA, Art. 9)

In such case, the administrative authority may enjoin the operator to take, at its own expenses, the appropriate measures to limit the risks of damage caused by the said Space object.

In addition, Article 11 of the FSOA prescribes a 200.000€ fine for any operator who would:

- proceed with the launching or the command of a Space object without authorization,
- proceed with the launching or the command of a Space object in breach of an administrative measure or court decision ordering its ceasing or suspension,
- Take possession or transfer the command of a Space object without authorization.

4. - The liability regime and compensation scheme for damage caused to third parties

The rationale for the liability regime established by the FSOA is to concentrate the burden of liability on the sole operator for any damage caused to third parties by his Space operations (in case the French jurisdiction is competent). This regime stems from the distinction introduced in the Act between the Launching Phase and the Command Phase which allows for an apportionment of liability.

The indemnification regime set up (FSOA, Art. 13) is largely derived from the one established by the UN 1972 Liability Convention:

- Absolute (joint and several) liability for damage on ground and in Air Space,
- Liability on a fault basis for damage caused in Outer Space.

However, the FSOA prescribes specific clearance or limitation of liability (which do not exist in the Liability Convention) for authorized Space operators, except in the event of wilful misconduct:

- Limited period of liability. Operators’ liability obligations end in any case when the requirements set out in the authorization for its own phase of responsibility (i.e. the “launching phase” for a Space Launch Operator, or the “in orbit commanding phase” for a Satellite Operator), are fully fulfilled, or at the latest one year after the date on which these obligations were deemed to be fulfilled according to such authorization. The State then supersedes the operator’s indemnification obligation for any damage occurring after this period.
- Liability apportionment between the French State and Space operators has been construed in the form of an indemnification ceiling, wherever the claim may arise (FSOA, Art. 14 to 19). Should any authorized operator (or exceptionally one of his subcontractors) be sued and condemned by a domestic court or by a foreign court, or should the French State be obliged, under the UN 1972 Liability Convention, to indemnify a foreign victim for damage caused by a Space operation, the French State Guarantees (up to a fixed ceiling) is granted to such operator for any indemnification payment exceeding approximately 60 million€. The French Amending Finance Law of 2008 sets up a bracket between 50 and 70 M€, but this amount was already frozen at 60 M€ for Ariane, Vega and Soyuz by the Declaration on the Launchers Exploitation which has the legal force of an international treaty.
- Cross-waiver of liability and hold harmless provisions. Article 20 confirms the validity of cross-waiver of liability and establishes a “by default” cross-waiver contractual regime between the associated parties to a Space operation:

- No claim between the participants to an authorized Space operation (Launch service operator, Launch site operator, manufacturers, subcontractors...),
- This provision is self-enforceable and mandatory between the participants,
- Sole legal exception: if otherwise expressly agreed in a contract between participants to the on-orbit command of a satellite.

This concentration of liability on the operator along with the enforced cross-waiver of liability shall hold harmless the operator's contractors and subcontractors and prevent them from being sued by third parties, thus it limits their need of an insurance coverage.

The rationale for imposing cross-waivers of liability provisions (FSOA, Art. 20) can be justified by many reasons. Firstly, it serves the general goal of protecting (small) Space manufacturers activity (ratio liability risks/ price of selling). Secondly, it means that each participant involved in the Space operation, directly or indirectly, insures its own risks and loss burden at its own expenses, insurers being bound by such provisions (subrogation). This provision also limits the appearance of disputes while strengthening solidarity between manufacturers which eventually results in savings in legal expenses.

Finally, this exception to usual business practices (no guarantee, limitation of responsibility, no claim possible) is considered acceptable by companies involved in such Space activities (included insurers) because, on the one hand, the FSOA Technical Regulation and CNES' control enable to avoid failure and damage and, on the second hand, because the sole liable for damage *in fine* is the relevant operator dully insured (for the given amount below € 60 million and further indemnified thanks to the State guarantee).

- Insurance. As an equitable counterpart of the above-mentioned State Guarantee, the operator is required under Article 6 to get an insurance coverage for damage to third parties below the aforementioned ceiling (i.e. 60 M€) or to get equivalent financial guarantees. This system benefits to the operator and to any entity having taken part in the Space operation or in the production of the Space object, and namely to the French Government, CNES and ESA.

5. - Specific Regimes

5.1 - Space-based data systems

Any person intending to operate a Space-based data system has the obligation to declare its activity to the Government. The Government is entitled to limit the scope of such an activity (shutter control), in order to safeguard the fundamental interests of the Nation (particularly Defense and foreign policy interests, as well as France international commitments). The relevant Implementing Decree and Ministerial Order specify:

- the technical characteristics of the concerned data,
- the competent administrative authority and,
- the types of restriction measures the Government may take.

5.2 – CNES situation

5.2.1 – CNES' mandate under the FSOA and CNES activities as a Space agency

CNES' missions under the FSOA focus on the assessment of (technical) compliance of Space operations with the Technical Regulation as well as on registration of French Space Objects as set forth in Article 28⁸ :

“f) To assist the Government in the definition of the Technical Regulation relating to Space operations;

⁸ and introduced in Article L. 331-2 f), g) and h) of the French Research Code

“g) To certify, by delegation of the Minister in charge of Space Affairs, that the systems and procedures implemented by the Space operators comply with the Technical Regulation mentioned in paragraph f);

“h) To hold the register of Space objects on behalf of the Government.”

On the other hand, Article 27 of the FSOA excludes CNES' operations from the scope of the FSOA provisions dealing with the authorization procedure (Title II) and liability matters (Title IV).

As a consequence, public programs and activities carried out by CNES, such as on orbit operations for governmental entities including services on behalf of ESA, EUMETSAT, inter-governmental or inter-agency cooperation, or operations on behalf of the Ministry of Defense are not affected by the FSOA authorization procedure.

It is important to bear in mind though that these activities are naturally subjected to the Technical Regulation insofar as CNES is the author of it and acts as the enforcement authority.

Accordingly, in order to avoid any conflict of interests, to ensure legal compatibility between CNES' various missions as a fully competent Space agency and pursuant to its responsibilities under the FSOA, solutions and remedies were laid down :

- CNES must abandon any commercial or competitive activities or interests in private companies;
- CNES is allowed to supply remunerated services only in a “public service” contract framework;
- CNES organization must set up a “Chinese wall” between its traditional missions (French Research Code, L.331-2 a) to e)) and its new FSOA's responsibilities (French Research Code L. 331-2 f) to h) and L. 331-6 and 7).

Basically, CNES is still allowed to perform the following services:

- Marginal utilization of testing facilities, computing facilities, station network (2GHz)...
- Payload preparation facilities, physics and chemical measures laboratories managed by CNES at GSC.

On the other hand, CNES shall end any questionable supply activity, such as:

- On orbit operation for private entities, French or not (Eutelsat, SES Astra,), or for governments if awarded in a international or competitive call for tender.
- Any supply contract (as sub-contractor) on behalf of a prime manufacturer or a Space operator for a Space system (satellite or launchers) potentially subjected to an authorization or control regime. The same applies for European competitors of the above-mentioned manufacturers or operators in order to avoid any interferences with the European market competition.
- Quality support, computing services (trajectory optimization...) for Arianespace.

5.2.2 - Licenses for allocation of frequencies

CNES as a national space agency, both uses and regulates⁹ frequencies spectrum formerly allocated to France, in the frame of the ITU, for Earth observation, Space research and exploration, meteorology and navigation. Before allocating frequencies, the order of priorities between the different public/private interests has to be assessed. CNES has then to organize a “one-stop shop” to control, in a coherent way, the technical compliance of the Space system project with the FSOA Technical Regulation, altogether with the allocation of frequency required.

⁹ in relation with ANFR (Agence Nationale des Fréquences), the French Frequency Agency.

5.3. - Missions entrusted to CNES and to its President regarding the exploitation of the Guiana Space Center (REI- GSC)

It is to be underlined that through the FSOA, the French Government delegates to CNES and its President the whole of its technical responsibility for authorizing and monitoring Space operations under its jurisdiction. The authority conferred to CNES' President is legally qualified as an "Administrative Police mission" i.e. a set of preventive measures meant to avoid regulatory infringements, as opposed to the "Judicial Police", which purpose is to stop and punish infringements.

CNES President missions are set forth in Article 21 of the FSOA and translated in Article L. 331- of the French Research Code as follows:

- CNES' President exercises on behalf of the French Government the special police relating to the operation of the facilities of the Guiana Space Centre. As such, he is in charge of a general mission of safeguard consisting in controlling the technical risks related to the preparation and carrying out of the launches from the Guiana Space Centre in order to ensure the protection of persons, property, public health and the environment, on the ground and during the flight. To this end, he adopts the specific applicable regulations.

Basically, CNES' President would delegate most of this "Administrative Police" competence to the head of the GSC.

- In addition, CNES' President, under the authority of the Government representative in French Guiana, coordinates the implementation by companies and other entities settled in GSC of measures taken in order to ensure the security of the facilities and of the activities undertaken therein, and checks that those companies and agencies fulfil their obligations in this respect.

More generally in case of emergency, CNES President, under Article 21 III of the FSOA translated in Article L. 331-7 of the French Research Code, may take for any Space operation, by delegation of the Minister in charge of Space, the necessary measures to ensure the safety of persons and property, as well as the protection of public health and the of environment."

5.5. - Intergovernmental Organizations: the case of ESA and the EU

As Intergovernmental Organizations, the EU and ESA are not submitted to the FSOA (as a national legislation).

However, they may apply UN Space Treaties related to liability and registration of Space objects (ESA in the 70's).

The EU has a shared Space competence under Article 189 of the Lisbon Treaty but has no competence to harmonize Space legislations of its Member States. The EU may enact rules for Space applications (telecoms, remote sensing) or undertake its own programs (Galileo, GMES).

The EU and ESA must however respect legislations of their Member States dealing with "public order" (see ESA Convention, Art XXII). Accordingly, the EU and ESA may apply on a voluntary basis certain provisions of the FSOA and implementing decrees and regulations.

For instance, the current GSC Agreement (ESA/France) signed on 18 December 2008 establishes a mechanism according to which ESA may follow FSOA Technical assessment carried out by CNES for its new launchers to be operated from the GCS (maiden flight) in order to facilitate, after their qualification achievement, the granting of authorizations for the said systems commercially operated by the Arianespace company.

Following an exchange of letters between ESA/DG and the French Minister in charge of Space Affairs (between 2011 and 2012), this procedure (derived from Art 11 of the Authorization decree, see §2.2 above) has recently been formally resorted to for launchers under ESA's responsibility (Vega..) and could also be extended soon to the on-orbit command of Space systems operated under ESA responsibility from the French territory (ex: ATV from the Toulouse Space Centre). An arrangement between CNES and ESA was also signed in December 2011 regarding the coordination on the safety and qualification process of ESA launch systems to be operated from the Guiana Space Centre.

Conclusion

The adoption of the FSOA finally provides France with a comprehensive legal framework for its activities in Space. The FSOA has been largely welcomed and only one year after its entry into force, already fifteen authorizations have been granted to various operators such as Thales Astrium, Arianespace, Eutelsat, Globalstar etc.

The implementation of the Act has not aroused any particular criticism or debates among Space actors or in the medias which seems to be a sign of its success. The Act has proven to be well-designed and well-implemented.

To many observers, this authorization system has managed to introduce a balanced regime between on the one hand, the necessity to guarantee the legal security and success of private operators' activities, and on the other hand, the constraints resulting from the authorization system in the name of public safety, especially regarding technical requirements.

This legal framework also contributes in particular to the optimization of risks mitigation of the exploitation of news launchers from the European Spaceport (the GSC) such as Soyuz and Vega.

We are confident that the regime will continue to prove its efficiency through future Space operations and contribute to the attractiveness of European Space activities in France and across the world at large.

We also hope that this experience will pave the way for a future harmonization of Space legislations in Europe.