

FRENCH SPACE OPERATION ACT LESSONS LEARNED FROM ITS IMPLEMENTATION

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GENERAL PRESENTATION OF THE FRENCH SPACE OPERATION ACT

- **3rd June 2008 : ADOPTION of the French Space Operation Act (FSOA)**

4 juin 2008

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Texte 1 sur 129

LOIS

LOI n° 2008-518 du 3 juin 2008
relative aux opérations spatiales (1)

NOR : ESRX0700048L

L'Assemblée nationale et le Sénat ont adopté,
Le Président de la République promulgue la loi dont la teneur suit :

TITRE I^{er}

DÉFINITIONS

Article 1^{er}

Pour l'application de la présente loi, on entend par :
1° « Dommage » : toute atteinte aux personnes, aux biens, et notamment à la santé publique ou à l'environnement directement causée par un objet spatial dans le cadre d'une opération spatiale, à l'exclusion des conséquences de l'utilisation du signal émis par cet objet pour les utilisateurs ;

- **10th December 2010: Entry into force of FSOA**

GENERAL PRESENTATION OF THE FRENCH SPACE OPERATION ACT

RATIONALES OF THE FSOA:

- ★ set up a **secured national regime to authorize and monitor space operations** under French jurisdiction or for which the French Government bears international liability, in accordance with UN Treaties principles (Art. 6 and 7 of the Outer Space Treaty, Liability Convention, Registration Convention)
- ★ reflect international agreements regularly signed between France and ESA since 1975, in particular, those related to the Guiana Space Centre (GSC) and implement commitments taken by France under the Declaration on the Launchers Exploitation (an IGA since 1980) to other European States participating to the Ariane, Vega and Soyouz programs.

GENERAL PRESENTATION OF THE FRENCH SPACE OPERATION ACT

MAIN PRINCIPLES OF THE FSOA:

- ✦ **Prior authorization and monitoring by Government** of Space Operations (launches, in-orbit control or re-entry of space objects) performed by a “Space Operator”, either French or operating from France
- ✦ **Pre application procedure** for systems under development
- ✦ **Liability regime towards third parties** consistent with the 1972 Convention on responsibility. (*French government bears financial consequences beyond the amount of 60 M€ for damages occurring during the launching phase or the re-entry on the Earth*).
- ✦ Liability between persons **taking part** to the space operation is framed by **specific waivers of claim and hold harmless clauses**.
- ✦ Authorization granted by the French minister in charge of Space Policy, upon **administrative and technical assessment**. CNES is delegated the power of assessing the technical conformity of Space Systems to be operated.
- ✦ CNES empowered with the **mission of safety and security of activities at the Guiana Space Center, in particular launch operations** .

FACTS AND FIGURES

2010 – 2015

- **47 authorized launches**
- **12 authorized satellites**
- **1 technical license**
- **several administrative licenses (Arianespace, Eutelsat...)**
- **10 space operators concerned (Arianespace, Eutelsat, TAS, Airbus Defense and Space, University of Montpellier...)**
- **9 certification of technical conformity to the RT for launches carried out by ESA from the CSG (Vega,...)**
- **7 certification of technical conformity to the RT for orbital systems operated by ESA (ATV, Galileo...)**
- **17 CNES decisions on satellites operated by CNES (Pleiade, scientific satellites...)**

FOCUS ON THE CONCEPT OF OPERATOR

“**Space Operator**” means any natural or juridical person carrying out a space operation under its **responsibility and independently** (art 1 FSOA)

★ WHO is considered to be the Operator ?

➤ Two approaches potentially co-exist

- The one deciding on the fate of the system (*abusus*) i.e. end of life manœuvres

*Ex: French Minister of Defense, ESA, Foreign Governments
customer : any interventionnist owner*

- The one having the actual technical control of the system i.e. daily manœuvres at the mission control centre

*Ex: Arianespace, Eutelsat, Satellite manufacturer (in-orbit delivery) :
the current operator*

FOCUS ON THE NOTION OF OPERATOR

“**Space Operator**” means any natural or juridical person carrying out a space operation under its **responsibility and independently** (art 1 FSOA)

★ SOLUTION

- Serial authorizations between several stakeholders (launching Phase/ in-orbit command phase + possibility of successive operators in-orbit)
- Specific Information required under the Registration Decree
- According to the Administrative Authority, in case of disagreement between the parties or confused situation, the **owner** of the satellite is deemed to be the operator

FOCUS ON NANOSATELLITES

Are non-manoeuvable nanosatellites subject and eligible to authorization under the FSOA?

YES

- ✦ **Nanosatellites, as any satellite registered in France, must apply for an authorization**
- ✦ **Despite their lack of manoeuvrability, nanosatellites must respect the Technical Regulation**, that has been specified for such satellites
- ✦ **For unexperimented operators (i.e. universities), CNES, in its role of national space agency, offers an appropriate technical support and training**

CONCLUSION

5 years after the implementation of the FSOA...

- ✦ Operators have not identified increased constraints with regards to the technical regulation that could impair their competitiveness
- ✦ Grant of authorization also confers a « quality label » to the operator, facilitating exports
- ✦ Beyond FSOA technical and legal requirements, operators and industry under a common willingness develop research projects and good practices to come in the wakes of security and responsibility principles borne by national legislation and the UN Treaties => the **Space Care Charter** created in 2015



THANK YOU FOR YOUR ATTENTION!