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**Committee on the Peaceful
Uses of Outer Space**

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Item 15 of the provisional agenda*

**Review of international mechanisms for cooperation
in the peaceful exploration and use of outer space**

**Responses by Member States to the set of questions
provided by the Chair of the Working Group on
International Mechanisms for Cooperation in the Peaceful
Exploration and Use of Outer Space**

Note by the Secretariat

In accordance with the recommendations of the Working Group at the fifty-fourth session of the Subcommittee in 2015 (A/AC.105/1090, Annex III, para. 9), member States of the Committee and international intergovernmental and non-governmental organizations having permanent observer status with the Committee were invited to provide comments and responses to the questionnaire, as contained in the Report of the Legal Subcommittee in its fifty-third session, (A/AC.105/1067, Annex III, para. 10).

The present conference room paper contains replies by Japan and France to the set of questions.

* A/AC.105/C.2/L.297.



Japan

English]
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Examples of lessons learned from the past international mechanisms for cooperation on peaceful exploration and use of outer space

1. Introduction

Japan submits this “Examples of lessons learned from the past international mechanisms for cooperation on peaceful exploration and use of outer space” in response to the Note Verbale from the Secretary-General of the United Nations dated 26 August 2015 (Ref.: CU 2015/218(A)) and in connection with Agenda Item 15 of the 55th Session of the Legal Subcommittee: Review of International Mechanisms for Cooperation in the Peaceful Exploration and Use of Outer Space.

Among a considerable number of the past successful international mechanisms for cooperation on peaceful exploration and use of outer space over the decades, Japan introduces lessons learned from two typical international mechanisms for cooperation:

(1) Contributions to International Space Station (ISS) program; and

(2) International cooperation for sustainable development using space-based technology, taking into account that the outcome of the Subcommittee’s Working Group on the Review of International Mechanisms for Cooperation in the Peaceful Exploration and Use of Outer Space should be considered in the view of “UNISPACE+50” theme (A/AC.105/L.297).

2. Contributions to International Space Station (ISS) program

2.1 Overview of mechanism

The International Space Station (ISS) program is an example of the most leading multilateral cooperation efforts between the US, Russia, Europe, Canada and Japan. Japan has made several contributions to the ISS program by developing and operating the Japanese Experiment Module “Kibo” and the H-II Transfer Vehicle (HTV). It should be noted that the ISS program is undertaken based on an intergovernmental agreement signed in 1998, entitled “Agreement among the Government of Canada, Governments of Member States of the European Space Agency, the Government of Japan the Government of Russian Federation, and the Government of the United States of America concerning Cooperation on the Civil International Space Station” or “IGA” and several bilateral Memorandums of Understanding (MOUs) under the IGA.

IGA provides a long-term international cooperative framework among its Partners, on the basis of genuine partnership in the detailed design, development, operation, and utilization of the ISS for peaceful purposes and in accordance with international law, while MOU specifies its management structure to ensure effective planning and coordination as well as the roles and responsibilities of each Partner. In accordance

with Article 2 (2) of MOU which stipulates that the Government of Japan shall produce elements that will significantly enhance the Space Station's capability, Japan has offered "Kibo" which has a unique facility exposed to the space environment. In addition to fulfil Japan's role in the ISS program, Japan has launched HTV which is an unmanned cargo transfer spacecraft that has been delivering supplies to the ISS since 2009. One HTV is planned for launch each year.

Under the IGA and MOU, each Partner has corresponding utilization rights, responsibilities over the operation of the elements, jurisdiction and control over the elements and personnel of each Partner, and coordinates important issues using appropriate mechanisms such as the Multilateral Coordination Board (MCB). It is highlighted that the success of this very complicated program both in the technical and administrative level for the past 18 years is owed to its solid legal foundation under the IGA and MOU, and could thus serve as one of the most successful models of international mechanisms.

2.2 Lessons Learned

2.2.1 In 2009, as construction of the International Space Station (ISS) approached completion, and the program's MCB reflected on the process, they thought it would be valuable to future exploration programs to capture the lessons learned over the ISS design, development, assembly, and operation phases. Following the inputs from the National Aeronautics and Space Administration (NASA), the Canadian Space Agency (CSA), the European Space Agency (ESA), the Japan Aerospace Exploration Agency (JAXA) / Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the Russian Federal Space Agency (FSA), this effort were summarized as "International Space Station Lessons Learned as applied to Exploration", as of July 22, 2009 at Kennedy Space Center, NASA.

Japan raised 10 lessons learned including possibilities to apply for the space exploration program, from the political, management and operational point of view. Among these, important aspects in relation with international mechanisms for cooperation would be as follows:

(1) Management Framework

In the ISS Program, program integration was effectively conducted through the United States' leadership. Also, the ISS program has a Government-level commitment from all the Partners called the IGA, as mentioned in 2.1, which has greatly contributed towards maintaining support for the ISS program from each participating government and to the program's stability, despite its complexity and long duration.

This framework would provide some models for the future space exploration architecture. If the architecture is to be one complex system such as the ISS, the interdependency of the program will increase. In this case, as we learned from the experience of the ISS, a treaty-level international commitment could be effective since a withdrawal or delay of the program due to a cooperating agency's circumstances could prove critical.

Even if the architecture is to be a "program of programs" (integrated series of disparate programs), it would be effective to construct such an international

framework for cooperation, so that each participating country could view their contribution toward achieving common global goals.

(2) Commercial engagement to support exploration

In the ISS Program, as NASA has been utilizing Commercial Orbital Transportation Services (COTS) for its transportation, the commercial engagement is starting to contribute toward decreasing the program costs and stimulating the space industry. Also, Japan has been incorporating the commercial utilization scheme by using Kibo.

It seems important to consider the possibility of commercial engagement from an early phase of the space exploration study. As in the ISS Program, cargo transportation and commercial use of lunar outposts could be considered. These activities would be requested to be conducted amid international harmony and within the responsibility and rights of each participating agency.

2.2.2 In addition to the above lessons learned, it should be noted that IGA articles provide a number of useful conditions to facilitate international cooperation. For example, Article 18 (Customs and Immigration) enabled a country to achieve tax exemption for imports of goods and software which are necessary for implementation of IGA, which contributed to the effective and efficient implementation of the ISS program. In addition, Article 19 (Exchange of Data and Goods) and Article 20 (Treatment of Data and Goods in Transit) provides necessary conditions to protect technical data and goods, which enabled some companies to secure business secrets and confirm predictability in the activities they implement on board the ISS.

3. International cooperation for sustainable development using space-based technology

Space-based technology for sustainable development has become a central issue recently in COPUOS, and Japan attaches great importance to these activities for many years. In recent years, JAXA has been seeking to create a new type of partnership with various entities that rest outside the space related community, entities that have undertaken development assistance for developing countries.

Among such type of partnership, Japan introduces two categories of international mechanisms for cooperation: (1) cooperation with United Nations related entities: (a) United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and (b) United Nations Educational, Scientific and Cultural Organization (UNESCO), and (2) cooperation with Multilateral Development Bank: Asian Development Bank (ADB), with a view to bridging the discussion with the “UNISPACE+50” theme in the Working Group on the Review of International Mechanisms for Cooperation in the Peaceful Exploration and Use of Outer Space.

3.1 Overview of mechanism

3.1.1 Cooperation with United Nations related entities

(1) United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)

In December 2008, JAXA and ESCAP concluded “Memorandum of Understanding between the Japan Aerospace Exploration Agency and the United Nations Economic and Social Commission for Asia and the Pacific” to establish cooperation to assist countries in the Asia-Pacific region with peaceful applications of space technology to address the most important development issues concerning the region such as disaster management, bridging the digital divide, water resource management, adaptation to climate change and so on.

This MOU defines that any specific activities under this MOU shall be covered by project documents agreed by JAXA and ESCAP. Since 2009, JAXA and ESCAP have conducted several joint projects on the basis of the project documents. Under this joint projects, JAXA has been effectively raising awareness and promoting outreach activities of the “Sentinel Asia”, the Wideband Internetworking Engineering Test and Demonstration Satellite “KIZUNA” (WINDS), Global Satellite Mapping of Precipitation (GSMaP) and so on, by taking advantage of diverse and close ties with disaster risk management ministries/entities/agencies in Asia-Pacific region which ESCAP have, since ESCAP is the only United Nations related entity in this region.

This MOU also defines to convene periodic consultations to review the cooperative activities.

Under this MOU, the main activities undertaken by JAXA and ESCAP are as follows:

(a) Disaster Management

- JAXA and ESCAP co-hosted the Joint Project Team Meeting (JPTM) of the Sentinel Asia.
- ESCAP promoted outreach activities of the Sentinel Asia for non-participating member countries.

(b) Bridging the digital divide

- JAXA and ESCAP jointly made selection of the agencies applying for the Request for Proposal (RFP) for the utilization of WINDS ground station to receive the large volume data provided by Sentinel Asia.
- ESCAP promoted outreach activities for the application for RFP in this region.

(c) Water resource management and adaptation to climate change

- JAXA and ESCAP promoted utilization of GSMaP by cooperating with ESCAP/WMO Typhoon Committee.
- For example, ESCAP held the workshop on disaster risk reduction using space based technology such as Sentinel Asia, inviting disaster risk management ministries/entities/agencies in Asia-Pacific region. In addition,

ESCAP participated in the session of ESCAP/WMO Typhoon Committee, and promoted the utilization of GSMaP.

- In the occasion of such meeting, JAXA conducted demonstration and training for participating ministries/entities/agencies to utilize GSMaP and so on.

(2) United Nations Educational, Scientific and Cultural Organization (UNESCO)

In June 2011, the Government of Japan and UNESCO have exchanged letters worth up to around 2.6 million dollars to improve flood warning and management capacity of the Government of Pakistan. This project, called “Strategic Strengthening of Flood Warning and Management Capacity (Phase 1)”, was implemented from August 2011 to September 2014.

Under the exchange of letters, on March 2012, JAXA and UNESCO signed the Implementation Partners Agreement for this Phase 1 project.

Under the Phase 1 project, UNESCO conducted required operation in Pakistan, in cooperation with the International Centre for Water Hazard and Risk Management (ICCHARM), Pakistan Meteorological Department (PMD), and Pakistan Space and Upper Atmosphere Research Commission (SUPARCO), to;

- (a) Strengthen the capacity for flood forecasting and flood hazard mapping.
- (b) Develop the platform to share information among parties concerned.
- (c) Support capacity-building on satellite data applications in Pakistan.

To achieve these, JAXA supported UNESCO by providing technical assistances and GSMaP data, and by developing elevation information of land surface, visually presented land surface images, and map of flood area in 2010 by ALOS data. UNESCO undertook the overall management and coordination of this project, and provided JAXA with the cost of purchasing of ALOS data.

In March 2015, the Government of Japan and UNESCO have exchanged letters worth up to around 4.5 million dollars to further improve flood warning and management capacity of the Government of Pakistan. This project, called “Strategic Strengthening of Flood Warning and Management Capacity (Phase 2)”, is to be implemented from April 2015 to September 2017.

(2) cooperation with Multilateral Development Bank: Asian Development Bank (ADB)

In July 2010, JAXA and ADB concluded Letter of Intent (LOI) as a cooperative framework for the collaboration of disaster management, climate change mitigation and adaptation, forest monitoring and water resource management in Asia and the Pacific region by using space-based technologies, mainly in the field of remote sensing.

LOI defines that collaboration between JAXA and ADB may involve the following areas:

- (a) Technical assistance to ADB supported projects using satellite data, including remote sensing in river basin management

(b) Capacity development on the use of satellite data through trainings of persons from national institutions in Asia and the Pacific region

(c) Secondment of JAXA personnel at ADB Headquarters to support the collaboration

(d) Sharing of the results of the collaboration through workshops etc.

In July 2012, JAXA and ADB signed the Partnership Agreement of the technical assistance project “Applying Remote Sensing Technology in River Basin Management”, under the Letter of Intent.

Under the agreement, ADB conducted required operations in Bangladesh, Vietnam and the Philippines, in cooperation with JAXA and the Government of Japan, to;

(a) Develop an early flood forecasting system using GSMaP in upper river basins, and also with elevation information of land surface by ALOS.

(b) Develop early alert (warning) system of flood information using existing mobile/smart phone networks for agencies and the residents (local communities) of areas to be affected.

(c) Support these countries for improved/enhanced capacity of utilizing/maintaining above technologies.

To achieve these, JAXA supported ADB by providing technical and management assistances, GSMaP data, and by developing elevation information of land surface by ALOS data. ADB, as an Executing Agency, supervises consultants, and provides JAXA with the cost of purchasing of ALOS data. The design and development of flood forecasting system as well as application of calibrated data to the system are undertaken by consultants. Counterpart Agencies in each countries apply flood warning system and distribute information to users in these countries.

In addition to the above technical assistance project, several technical projects, to which JAXA contributes by providing expertise of space technologies, have been implemented under the Partnership Agreement, for example:

(a) Accelerating the Implementation of the Core Agriculture Support Program (from May 2013 to December 2015): Satellite-based near real-time drought monitoring system, using GSMaP, MODIS and MTSAT, for the food security in the Mecong river countries

(b) Innovative Data Collection Methods for Agriculture Support Program (from June 2014 to June 2016): Rice crop cultivation mapping and yield estimation using ALOS-2 in Lao PDR, Philippines, Thailand and Viet Nam.

(c) Weather Index-Based Crop Insurance Project (from January 2015 to December 2016): utilization of GSMaP in Bangladesh

3.2 Lessons Learned

(1) Continuity of assistance and consultations in the long-term

Normally the duration of technical projects led by United Nations related entities as well as Multilateral Development Bank is limited (typically 2-5 years). After the project period, donated countries are expected to operate the system using space

technologies with their own efforts. For example, the maintenance of the system produced in the project is required even after the project period.

On the other hand, the officials or experts who learned the operation methods in the donated countries usually move to another section or entities after the project period, so the continuity of expertise in the donated countries is one of the most typical issues. Therefore, it is important to consider a mechanism to assure continuity of assistance and consultations from the donor countries in the long-term.

In this regard, in addition to the specific project documents, an agreement to define cooperative framework which includes the mechanism of periodic consultations as well as capacity development would be beneficial to solve these issues.

Especially, capacity-building efforts such as providing regular training opportunities for operating the system are useful for improving the utilization of the system. It would be efficient to incorporate such activities into the mechanism.

(2) Taking advantage of different expertise of participating entities

Space agency usually has the technical expertise of satellite operation and data application, the calibration method of satellite data, algorithm development and so on, but does not have the expertise of design and development of the systems nor expertise of applying calibrated data to the system. In addition, it does not have enough knowledge, experience nor networks with communities on social development issues in the donated countries.

This is why the combination of different expertise of participating entities such as United Nations related entities / Multilateral Development Bank, private companies working as consultants, universities, local user entities is indispensable. These different roles and responsibilities should be taken into consideration in the mechanism.

To enable this kind of mechanism, it would be important for space community to (a) reiterate with development assistance community, while in many countries the competent ministries of both communities are different each other, and (b) better understand the political priority of development assistance in this country.

France

[English]

[Received on 6 April 2016]

1. What is the main area of your cooperation (e.g., space exploration, scientific research, testing, education and personnel training, global navigation, disaster management through remote sensing, commercial launch services, etc.)?

France carries out cooperation projects in many fields. Its main areas of cooperation are remote sensing and earth observation, space exploration, space science, and space engineering cooperation (shuttles, satellites, balloons). It has also cooperated for a long time with the European Space Agency (ESA) on launching, especially with regard to the Guiana Space Centre (CSG).

2. Is this multilateral or bilateral cooperation (e.g., intergovernmental cooperation, inter-agency cooperation, cooperation between non-governmental entities, mixed cooperation, etc.)?

France's cooperation includes both intergovernmental cooperation and cooperation between space agencies. Some projects are bilateral, while others are multilateral.

The majority of France's intergovernmental cooperation is carried out in a multilateral framework, within the European Space Agency (ESA), to which it is one of the main contributors (for a detailed presentation of the current ESA cooperation mechanisms, see document A/AC.105/C.2/2014/CRP.28).

In this regard, it should be highlighted that the running of the Guiana Space Centre (CSG), Europe's spaceport, is the fruit of cooperation between the French government, on whose territory the base is situated, and ESA, the owner of the infrastructure for the European launchers Ariane and Vega, and the main financial contributor to the CSG. Similarly, France has enjoyed fruitful cooperation with the government of the Russian Federation since 2003, leading to the implementation of the Soyuz launcher at the CSG.

The European Union also provides a major multilateral framework for French cooperation through its flagship programmes GALILEO and GMES.

The French government is involved in various major international space projects, such as the International Space Station and earth observation (ORFEO cooperation with Italy).

In addition, the French government has signed many space cooperation framework agreements with countries including the United States, the Russian Federation, China and Italy.

Cooperation is also carried out through the French national space agency, the Centre national d'études spatiales (CNES). CNES is involved through a large number of cooperation framework agreements, with the Japan Aerospace Exploration Agency (JAXA), the Canadian Space Agency (CSA), the Indian Space Research Organisation (ISRO), the UK Space Agency, the German Aerospace Center (DLR), the Mexican Space Agency (AEM), and so on. CNES also implements many projects with its counterparts (satellites, payloads, balloons, exchange of

information and experience, etc.) through memorandums of understanding or implementing arrangements for framework agreements.

3. What is the duration of cooperation?

France has been involved in international cooperation since the start of its space activities, in 1959. The first cooperation agreement, with NASA, was signed in 1961.

4. Does a national space agency play a key role in the cooperation?

The French space agency, CNES, is responsible for implementing France's space policy. As such, it plays a key role in France's international cooperation.

Under Article L.331-2 of the French Research Code, CNES is responsible for "monitoring, in liaison with the French Ministry of Foreign Affairs, international space cooperation problems and making sure that the share of international programmes assigned to France is executed".

In fact, the vast majority of French space projects carried out in collaboration with foreign partners (excluding ESA projects) are implemented by CNES. As mentioned above, CNES is the entity responsible for concluding appropriate cooperation agreements.

5. Does a national authority or institution other than a space agency play an important role in the cooperation (e.g., a scientific institution, meteorological agency, development or financial assistance authority, etc.)?

Various public bodies are occasionally involved in France's space cooperation, especially research laboratories such as the Research Institute in Astrophysics and Planetology (IRAP) and the Côte d'Azur Observatory (OCA), which may be charged with designing a scientific instrument to be carried on a satellite, a space probe or a robot. Other public institutions may also participate in certain cooperation projects where appropriate (the French Aerospace Lab [ONERA], the French Alternative Energies and Atomic Energy Commission [CEA], Météo France, the National Institute of Geographic and Forest Information [IGN], etc.).

6. Are private companies or industries directly involved in the cooperation?

In general, industries are not directly involved in the cooperation. They may be responsible for building a satellite or an instrument, under contracts signed with CNES.

7. Is the cooperation conducted within the framework of:

- (a) The United Nations and its specialized agencies;**
- (b) Independent intergovernmental organizations;**
- (c) Regional or interregional space cooperation organizations or mechanisms;**
- (d) Non-governmental organizations;**
- (e) Other types of forums?**

France mainly conducts its cooperation in the framework of an intergovernmental organization, ESA. Half of France's budget for space activities therefore goes to

ESA. The European Union, as mentioned above, is another major cooperation framework.

France, via CNES, also participates in other multilateral cooperation mechanisms, such as the Inter-Agency Space Debris Coordination Committee (IADC), the International Cospas-Sarsat Programme, and the International Charter Space and Major Disasters, which was initiated by CNES and ESA.

8. Is the cooperative mechanism multilateral or bilateral?

France conducts cooperation in both multilateral and bilateral frameworks.

France's space cooperation is mainly carried out within ESA. It is therefore conducted in a multilateral framework. In some cases, projects may be carried out with several partners, in the framework of multi-party agreements (e.g. JASON-3 project with the United States government agencies NASA and NOAA and the intergovernmental organization EUMETSAT).

9. Is the cooperative mechanism:

(a) A legally binding agreement;

(b) A non-legally binding arrangement (if so, what kind of arrangement);

(c) A combination of both?

French space cooperation projects are, with some exceptions, established through legally binding agreements, whether these are intergovernmental agreements signed by the French government or agreements signed by CNES.

However, the commitments they contain vary between obligations to achieve a result and best effort obligations.

Intergovernmental cooperation agreements are generally framework agreements, establishing the legal conditions in which the cooperation projects will be carried out. The same is true of the framework agreements between CNES and foreign space agencies.

Inter-agency cooperation agreements on specific projects are generally memorandums of understanding. Most of these agreements stipulate that the technical and programme responsibilities of each party shall be fulfilled on the basis of best efforts, or even reasonable efforts. The parties are therefore under no obligation to achieve a result. However, the legal provisions of these agreements, regarding, for example, liability, intellectual property or the exchange of information or goods, are fully binding for the parties.

In addition to these memorandums of agreement, CNES signs letters of intent with its counterparts; these are non-binding instruments in which the partners set out their intentions for future cooperation.

10. Is the cooperative mechanism constituted by a framework agreement, either multilateral and bilateral, and is it accompanied by an implementing agreement or arrangements and/or a memorandum of understanding for technical cooperation and coordination within the cooperation?

French cooperation is based on all these types of agreement. Intergovernmental agreements are framework agreements. Inter-agency agreements include framework agreements and implementing arrangements, memorandums of understanding when there is no framework agreement structuring the cooperation, letters of agreement and letters of intent.

11. What kind of provisions do the legally binding agreement and/or non-legally binding arrangement contain? The following types of provisions serve as examples and may be referred to, as appropriate:

- (a) **Best effort clauses;**
- (b) **Jurisdiction clauses;**
- (c) **Financial arrangements or no exchange of funds;**
- (d) **Exchange of technical data and goods;**
- (e) **Provisions which pursue international responsibility and liability;**
- (f) **Cross waiver of liability;**
- (g) **Rules on intellectual property rights and ownership;**
- (h) **Peaceful settlement of disputes clause;**
- (i) **Other types of provision?**

The cooperation agreements signed by France or CNES generally contain all these provisions, except jurisdiction clauses (b).

Provisions which pursue international responsibility and liability (e) are included in intergovernmental agreements where appropriate. CNES, however, cannot commit to provisions regarding France's international responsibility on behalf of the French State.

Other types of provision may be included in cooperation agreements:

- Public disclosure and communication
- Ownership of equipment
- Data policy
- Customs duties

12. Is it clearly provided for in the legally binding agreement or non-legally binding arrangement that the operation of the project shall be conducted in accordance with the United Nations treaties on outer space and in consideration of principles on outer space and related General Assembly resolutions (resolutions on the concept of the launching State, registration practice, national legislation, etc.)?

Intergovernmental agreements signed by France generally refer to the preamble of the 1967 Outer Space Treaty.

Agreements on satellites built jointly by France or CNES and a foreign partner generally stipulate which of the two parties will register or ensure that its government registers the satellite as a space object. The 1975 Registration Convention is usually mentioned explicitly.

France

[French]

[Received on 6 April 2016]

1. Quelle est votre principal domaine de coopération (exploration spatiale, recherche scientifique, essais, enseignement et formation de personnel, navigation mondiale, télédétection aux fins de la gestion des catastrophes, services commerciaux de lancement, par exemple)?

La France conduit des coopérations dans de nombreux domaines. Les principaux domaines de coopération sont la télédétection et l'observation de la Terre, l'exploration spatiale, la science spatiale, la coopération en matière de techniques spatiales (lanceurs, satellites, ballons). Une coopération de longue date est également conduite avec l'Agence spatiale européenne (ASE) en matière de lancement, notamment s'agissant du fonctionnement du Centre spatial guyanais.

2. S'agit-il d'une coopération bilatérale ou multilatérale (coopération intergouvernementale, coopération interinstitutions, coopération entre entités non gouvernementales, coopération mixte, par exemple)?

Les coopérations menées par la France sont tant des coopérations intergouvernementales que des coopérations entre agences spatiales. En fonction des projets, elles peuvent être tant bilatérales que multilatérales.

Au niveau intergouvernemental, la France conduit la majeure partie de sa coopération dans un cadre multilatéral, au sein de l'Agence spatiale européenne, dont elle est l'un des principaux Etats contributeurs (pour une présentation détaillée des mécanismes de coopération en vigueur au sein de l'ASE, cf. document A/AC.105/C.2/2014/CRP.28).

Il convient de souligner à cet égard que le fonctionnement du Centre spatial guyanais (CSG), port spatial de l'Europe, est le fruit d'une coopération entre le Gouvernement français, sur le territoire duquel la base est installée et l'ASE, maître d'ouvrage des lanceurs européens Ariane et Vega et principal contributeur financier du CSG. De même, la France mène depuis 2003 une coopération fructueuse avec le Gouvernement de la Fédération de Russie, ayant abouti à la mise en œuvre du lanceur Soyuz au CSG.

L'Union européenne constitue également un cadre multilatéral majeure de coopération pour la France, à travers ses programmes phare GALILEO et GMES.

Le Gouvernement français s'est également engagé dans des projets spatiaux internationaux d'envergure: la Station spatiale internationale, l'observation de la Terre (coopération ORFEO avec l'Italie).

Le Gouvernement français a également signé de nombreux accords cadre de coopération dans le domaine spatial, avec les Etats-Unis, la Fédération de Russie, la Chine, l'Italie.

La coopération est également menée par le biais de l'agence spatiale nationale française, le Centre national d'études spatiales (CNES). Le CNES est engagé au travers de nombreux accords cadre de coopération (avec la JAXA, l'Agence spatiale canadienne ASC, l'agence spatiale indienne ISRO, l'agence spatiale britannique

UKSA, l'agence spatiale allemande DLR, l'agence spatiale mexicaine AEM, etc.). Le CNES met également en œuvre, avec ses homologues, de nombreux projets (satellites, charges utiles, ballons, échange d'informations et d'expérience, etc.) par le biais de mémorandums d'accord ou d'arrangements de mise en œuvre des accords cadre.

3. Quelle est la durée de la coopération?

La France mène sa coopération internationale depuis le démarrage de ses activités spatiales, en 1959. Le premier accord de coopération, conclu avec la NASA, a été signé en 1961.

4. Une agence spatiale nationale joue-t-elle un rôle clef dans la coopération?

L'agence spatiale française, le CNES est chargé de mettre en œuvre la politique spatiale de la France. A ce titre, il joue un rôle fondamental dans la mise en œuvre de la coopération internationale de la France.

Aux termes de l'article L. 331-2 du code de la recherche, le CNES a en effet la responsabilité « de suivre, en liaison avec le ministère des affaires étrangères, les problèmes de coopération internationale dans le domaine de l'espace et de veiller à l'exécution de la part des programmes internationaux confiée à la France ».

De fait, la grande majorité des projets spatiaux français menés en coopération avec des partenaires étrangers (hors projets ESA) sont mis en œuvre par le CNES. Comme indiqué précédemment, le CNES est l'entité en charge de conclure les accords de coopération idoines.

5. Une autorité ou institution nationale autre qu'une agence spatiale joue-t-elle un rôle important dans cette coopération (établissement scientifique, agence météorologique, autorité chargée du développement ou de l'aide financière par exemple)?

Différentes entités publiques peuvent être ponctuellement impliquées dans les coopérations spatiales de la France: c'est en particulier le cas des laboratoires de recherche (exemples: IRAP, OCA, etc.), qui peuvent être chargées de la conception d'un instrument scientifique embarqué à bord d'un satellite, d'une sonde spatiale ou d'un robot. D'autres établissements publics peuvent également, en tant que de besoin, participer à certaines coopérations (ONERA, CEA, Météo France, IGN...).

6. Des entreprises privées prennent-elles directement part à la coopération?

Les industriels ne prennent en général pas directement part à la coopération. Ils peuvent être chargés de la réalisation d'un satellite ou d'un instrument, dans le cadre de marchés conclus avec le CNES.

7. La coopération s'exerce-t-elle dans le cadre:

- (a) De l'Organisation des Nations unies et ses institutions spécialisées;
- (b) D'organisations intergouvernementales indépendantes;
- (c) D'organisations ou de mécanismes de coopération régionale ou interrégionale en matière spatiale;
- (d) D'organisations non gouvernementales;
- (e) D'autres instances?

La France conduit sa coopération principalement dans le cadre d'une organisation intergouvernementale, l'ASE. La moitié du budget alloué par la France aux activités spatiales est ainsi versé à l'Agence spatiale européenne. L'Union européenne, comme indiqué précédemment, constitue un autre cadre majeur de coopération.

La France, via le CNES, participe également à d'autres mécanismes multilatéraux de coopération, comme l'Inter-Agency Space Debris Coordination Committee (IADC), le programme COSPAS-SARSAT ou la Charte internationale Espace et catastrophes majeures, dont le CNES est à l'origine avec l'ASE.

8. Le mécanisme de coopération est-il multilatéral ou bilatéral?

Les coopérations menées par la France sont conduites à la fois dans des cadres multilatéraux et dans des cadres bilatéraux.

La coopération spatiale de la France est principalement menée au sein de l'ASE. Elle est ainsi conduite dans un cadre multilatéral. Il arrive également que des projets soient menés avec plusieurs partenaires, dans le cadre d'accords multipartites (exemple: projet JASON-3 avec les administrations américaines NASA et la NOAA et l'organisation intergouvernementale EUMETSAT).

9. Le mécanisme de coopération est-il:

(a) **Un accord juridiquement contraignant;**

(b) **Un arrangement non juridiquement contraignant (dans l'affirmative, de quel type d'arrangement s'agit-il?);**

(c) **Une combinaison de ces deux possibilités?**

Qu'il s'agisse d'accords intergouvernementaux signés par le Gouvernement français ou d'accords conclus par le CNES, les coopérations spatiales sont, sauf exception, établies au sein d'accords juridiquement contraignants.

Pour autant, la nature des engagements qu'ils contiennent peut varier d'une obligation de résultat à une obligation de moyen.

Les accords de coopération conclus au niveau intergouvernemental sont en général des accords cadre, fixant les conditions juridiques dans lesquelles les projets de coopération vont être menés. Il en est de même pour les accords cadre signés par le CNES avec les agences spatiales étrangères.

Les accords de coopération conclus entre agences et portant sur des projets concrets sont généralement dénommés « Mémoires d'accords ». De fait, la plupart de ces accords prévoient que les responsabilités techniques ou programmatiques de chacune des parties sont effectuées sur la base des meilleurs efforts, voire des efforts raisonnables. Il n'existe donc pas d'obligation de résultat à la charge des parties. Les dispositions juridiques de ces accords, relatives par exemple à la responsabilité, à la propriété intellectuelle ou à l'échange d'informations et de biens, sont en revanche pleinement contraignantes pour les parties.

A côté de ces mémoires d'accord, le CNES conclut avec ses homologues de lettres d'intention, qui sont des mécanismes non contraignants par lesquels les partenaires consignent leurs intentions de coopérer dans le futur.

10. Le mécanisme de coopération est-il constitué d'un accord-cadre, de type multilatéral ou bilatéral, et s'accompagne-t-il d'un accord ou d'un

arrangement de mise en œuvre et/ou d'un mémorandum d'accord portant sur la coopération technique et la coordination dans le cadre de la coopération?

Les coopérations menées par la France emploient tous ces types d'accord. Les accords intergouvernementaux seront des accords cadre. Au niveau inter agences sont conclus à la fois des accords cadre et des arrangements de mise en œuvre, des mémorandums d'accord lorsqu'il n'existe pas d'accord-cadre pour encadrer la coopération, des lettres d'accord, des lettres d'intentions.

11. Quels types de dispositions l'accord juridiquement contraignant et/ou l'arrangement non juridiquement contraignant contiennent-ils ? Vous pouvez vous référer aux types de dispositions ci-après, qui peuvent être utilisés à titre d'exemple, le cas échéant:

- (a) **Clause de meilleurs efforts**
- (b) **Clauses attributives de compétence**
- (c) **Dispositions financières ou non-échange de fonds**
- (d) **Echange de données techniques ou de biens**
- (e) **Dispositions visant la responsabilité internationale**
- (f) **Renonciation mutuelle à recours en matière de responsabilité**
- (g) **Règles en matière de droits de propriété intellectuelle et de propriété**
- (h) **Clause de règlement pacifique des différends**
- (i) **Autres types de dispositions?**

Les accords de coopération conclus par la France ou par le CNES contiennent généralement l'ensemble de ces dispositions, à l'exception de la clause b.

S'agissant de la clause e, elle sera prévue le cas échéant dans des accords intergouvernementaux, le CNES ne pouvant s'engager au nom de l'Etat français sur des dispositions traitant de la responsabilité internationale de la France.

D'autres types de dispositions peuvent être prévus dans les accords de coopération:

- Publication, communication au public
- Propriété des équipements
- Politique des données
- Droits de douanes

12. Est-il clairement prévu dans l'accord juridiquement contraignant ou dans l'arrangement non juridiquement contraignant que le projet doit être mis en œuvre dans le respect des traités des Nations Unies relatifs à l'espace et compte tenu des principes relatifs à l'espace extra-atmosphérique et des résolutions connexes de l'Assemblée générale (résolutions sur la notion d'Etat de lancement, la pratique en matière d'immatriculation, législations nationales, etc.)?

Les accords intergouvernementaux conclus par la France visent en général en préambule le Traité de l'espace de 1967.

Les accords portant sur des satellites réalisés conjointement par la France ou le CNES et son partenaire étranger prévoient généralement laquelle des deux parties procèdera, ou fera procéder par son gouvernement, à l'immatriculation du satellite en tant qu'objet spatial. La convention de 1975 relative à l'immatriculation des objets spatiaux est généralement citée expressément.
