

The Development of Space Technology and International Cooperation in Relation to the Exploration of the Moon

Case Study: Argentina and China

*Luis Fernando Castillo Argañarás**

Abstract

The objective of this paper is to carry out an analysis to determine to what extent international cooperation is helping Argentina to develop Space technology in the framework of the cooperation agreements signed between Argentina and China under the Chinese Exploration Program of the Moon.

I. Introduction

Space technology has caused an important impact in the field of International Relations. The Law has provided a tool such as international cooperation for technological development; for example, Resolution 2625 (XXV) of the UN General Assembly, entitled “Declaration on the Principles of Friendly Relations and Cooperation between States”, enforced on 24th October 1970, and the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and the Interest of all States Taking into Particular Account the Needs of Developing Countries (Resolution 51/122). Both of them include principles and rules of behavior. Among their principles, they include the duty of States to cooperate with another in accordance with the United Nations Charter and the 1967 Space Treaty.

* National Council of Scientific and Technical Research (CONICET) of Argentina and Universidad Argentina de la Empresa (UADE), Argentina, lcastillo@uade.edu.ar. Special thanks to Daniela Costa, attorney at law and legal translator, for her collaboration in the English version of this paper. dcosta@thelinguacorp.com.

The agreements signed between Argentina and China for exploration of the Moon in the context of their bilateral relations and the creation of a Comprehensive Strategic Partnership will be analyzed as case study. In that context, the Agreement on Construction, Establishment and Operation of a Deep Space Station of China in the Province of Neuquén (Argentina) was signed between Argentina and China on April 23rd, 2014. Previous to this, an agreement between the National Commission on Space Activities (CONAE) of Argentina and the public company China Satellite Launch and Tracking (CLTC) had been signed on July 20th, 2012. On the basis of these agreements, the Framework Agreement for Cooperation in the field of Space Activities was signed in Beijing on February 4th, 2015.

The objective of this paper is to carry out an analysis to determine to what extent international cooperation is helping Argentina to develop Space technology in the framework of the cooperation agreements signed between Argentina and China under the Chinese Exploration Program of the Moon.

II. The Relations between Argentina and China and the Establishment of a Comprehensive Strategic Partnership

Argentina and China initiated diplomatic relations on February 15, 1972. From then on, the bilateral relations between both countries have grown gradually. By 2014, China became the “second commercial partner of Argentina, just surpassed by Brazil”.¹

With its “Go Out, Go Global” policy fostered as of 1999 in the context of its Going Global Strategy, China became greatly interested in the world economy and allocated a significant flow of direct investment overseas. Argentina was attractive for China given its natural resources.

Cristina Fernández de Kirchner’s administration signed several agreements for the protection of foreign investments with the government of the People’s Republic of China, as well as agreements for the establishment of a Chinese Deep Space Station in Neuquén.²

During the state visit of President Xi Jinping to Argentina from July 18 to 20, 2015, the Joint Declaration between the Republic of Argentina and the People’s Republic of China on the Establishment of the Comprehensive Strategic Partnership was signed on July 18.

At that time, taking into consideration the level of development of the bilateral relation and aiming at its future projection, both Heads of State

1 DINATALE, Martin, “El Gobierno redefine su esquema de alianzas estratégicas” in *La Nación*, Buenos Aires, 27th September, 2014. Available at <http://www.lanacion.com.ar/1730777-el-gobierno-redefine-suesquema-de-alianzas-estrategicas> (last query 25th November, 2016).

2 Cristina Fernández de Kirchner was the President of Argentina from December 10, 2007 to December 9, 2015.

decided to establish the China-Argentina Comprehensive Strategic Partnership, thus beginning a new stage in this bi-national partnership.³

Eduardo Daniel Oviedo points out that “since 1993, the terms ‘strategic relations’ or ‘strategic association’, ‘strategic partnership’ or ‘strategic association relations’ are engraved in treaties or joint communications signed by the government of the People’s Republic of China with some members of the international community”.⁴

According to Carola Ramón-Berjano, the notion of “partnership” was adopted by the Chinese diplomacy in the aftermath of the Cold War. Since then, the creation of this kind of alliances has become one of the most remarkable features of the Chinese diplomacy, by establishing a hierarchy, and therefore differentiating, between the liaison status in terms of the interests pursued by Beijing and the degree of response and affinity of its counterpart as regards certain fundamental issues in its diplomatic relations.⁵ There is a series of terms on the basis of which the Chinese diplomacy defines the different status of partnership characterizing its foreign policy. Four of them are core terms, *i.e.* “Partner”, “cooperative”, “strategic” and “comprehensive”, whereas other seven ones are secondary terms (“friendly”, “significant”, “traditional”, “mutual benefit”, “multidimensional”, “all time” and “collaboration”).⁶ On the basis of its four core terms, the Chinese diplomacy defines four categories of partnership that combine two or three of the terms mentioned above. In descending order of importance, these are: “cooperative partnership” (*hezuo huoban*), “strategic partnership” (*zhanlüe huoban*), “comprehensive strategic partnership” (*quanmian hezuo huoban*) and “cooperative strategic partnership” (*zhanlüe hezuo huoban*).⁷ “Comprehensive” (*quanmian*) means that the bilateral relation will encompass not only political and economic issues, but also the scientific dimension (technological, cultural, sports, etc).⁸ In this regard, Carola

3 As regards the agreements signed with China, see: CASTILLO ARGANARÁS, Luis F, “Go Out, Go Global”: La Experiencia Argentina en Inversión Extranjera Directa de China en Recursos Naturales (2007-2014). Una Visión desde el Derecho Internacional. In *RECORDIP. Revista Cordobesa de Derecho Internacional Público*, Vol. N° 2, 2014, Universidad Nacional de Córdoba, Facultad de Derecho. Argentina. (Available at: <https://revistas.unc.edu.ar/index.php/recordip/article/viewFile/10090/10756>.)

4 OVIEDO, Eduardo Daniel, “China: Visión y Práctica de sus Llamadas Relaciones Estratégicas” in *Estudios de Asia y África*. XLI: 3, Centro de Estudios de Asia y África. El Colegio de México. 2006, Pp. 385.

5 RAMÓN – BERJANO, Carola et al, *El Relacionamento de China con América Latina y Argentina. Significado de la Alianza Estratégica Integral y los Recientes Acuerdos Bilaterales*. Documento de Trabajo N° 96. Consejo Argentino para las Relaciones Internacionales. CARI. Argentina. October, 2015, Page 12.

6 *Ibidem*.

7 *Ibidem*.

8 *Ibidem*.

Ramón-Berjano concludes that “the ‘comprehensive strategic partner’ status that China has assigned to Argentina is one of the most relevant ones within its international alliances scheme”.⁹

In view of the foregoing, on February 4, 2015, the Presidents of both countries signed the Joint Statement on Strengthening Comprehensive Strategic Partnership between the Republic of Argentina and the People’s Republic of China. Among other issues, section 4 of such Statement specifically refers to the scientific-technological cooperation and space cooperation.

III. Space Agreements between China and Argentina

On April 23, 2014, the Cooperation Agreement between the Government of the Argentine Republic and the Government of the People’s Republic of China on the Construction, Establishment and Operation of a Deep Space Station of China in the Province of Neuquén, Argentina, within the Framework of the Chinese Moon Exploration, was signed.¹⁰

The Preamble emphasizes that Argentina and China are parties of the Treaty on the Principles Governing the Activities of the States in the Exploration and the Use of Outer Space, including the Moon and other Celestial Bodies signed on January 27, 1967. Both governments recognize the importance of the development of space science and technology for the benefit of their people and the whole of humanity, and that it is the interest of the Governments of Argentina and China to work jointly on the development of space technology for peaceful purposes and to cooperate in the field of Space activities for their mutual benefit.

The Preamble further points out that the Government of the People’s Republic of China is conducting a Moon Exploration Program and contemplates future stages of exploration of other celestial bodies in the Solar System, particularly planet Mars, and that in order to guarantee the success of said program, and for the purpose of ensuring visibility and providing support to the interplanetary and astronomy study missions from the Earth, the Government of China shall need, besides the facilities available in its own territory, a Station for ground tracking, command and data acquisition, including an Antenna for research of Deep Space, in South America. Argentina expresses its firm willingness to contribute to China’s Moon Exploration Program, facilitating the installation of a Station in its territory to form part of that country’s Telemetry, Tracking and Command network.

In addition, the Preamble states that it is in the interest of the Government of Argentina to support and promote the national growth of the capabilities related to the scientific and technological development to be generated by the project, considering that the National Commission of Space Activities of

⁹ Ibidem, Page 45.

¹⁰ In force since June 4, 2015.

Argentina (CONAE) will be granted access to a minimum of ten percent of the antenna usage time to develop its own projects.

Under this Treaty, Argentina and China agree to cooperate for the construction, establishment and operation of Ground Tracking, Command and Data Acquisition Facilities, including a Deep Space Antenna, in the territory of the Neuquén Province, Argentine Republic. The Facilities will be built and operated by China to provide ground support to Deep Space Exploration Missions. (Article 1).

The facilities to be built by China in Neuquén are part of the Framework of the Chinese Program for Moon Exploration. China, Asia's giant, entrusted the building and monitoring of the facilities to China Satellite Launch and Tracking (CLTC), a state-owned company, with an estimate investment of USD 300 million. The Terrena Station in Neuquén will be the third one of the Chinese Stations Network for interplanetary exploration. It will begin operations in 2016 and will be the first one outside the Chinese territory.

Prior to this Agreement, the National Commission on Space Activities (CONAE) of Argentina signed two other agreements:

- A bilateral agreement between CONAE and CLTC, signed on July 20, 2012. This agreement defined the location of a plot of land to be granted in gratuitous bailment for the benefit of CONAE for a term of 50 years and for the purpose of the Chinese Program carried out by CLTC. CONAE was granted the use of 10% of the antenna time per year.¹¹
- An agreement between CONAE, CLTC and the Province of Neuquén, signed on December 28, 2012. Neuquén ratified its commitments undertaken in the prior agreement, so confirming the gratuitous bailment. The provision of electrical power, water supply, access routes, connectivity, among others, was ensured for the purpose of infrastructure works.

The Terrena Station will be named “Deep Space 3” and will have a 35-meter diameter antenna and facilities available for operation. It will be located in Bajada del Agrio, nearby Las Lajas, in the Province of Neuquén.

In his statement made for BBC, Félix Menicocci, Secretary General of CONAE, said that “This desert location in Neuquén was chosen because a plain terrain like a giant washbowl, surrounded by a mountainous landscape, was needed so as not to have interference” and “it has to be communicated with routes and optic fiber but, in turn, it has to be isolated enough”.¹²

11 In force since July 20, 2012.

12 PEREZ, Cristina, “Lo que se sabe de la misteriosa base que China está construyendo en la Patagonia argentina”, 16 de marzo de 2016. Available at http://www.bbc.com/mundo/noticias/2016/03/160317_misteriosa_base_china_patagonia_argentina_lb (last query 26th August, 2016).

The equipment will operate with the frequencies granted by the National Communication Commission (CNC) for space use and in compliance with the International Telecommunication Union (ITU).

The Agreement signed between Argentina and China in April, 2014 also sets out that every foreign trade operations conducted by the Government of China for the establishment, construction and operation of the deep space station in the Province of Neuquén, as well the acquisitions and contracting of goods, works, services made in Argentina, shall be exempted from every tax and/or Customs duty, domestic taxes, as well as national taxes on consumption, including VAT (Article 2).

The government of China will carry out its activities in the Argentine territory in compliance with the laws and regulations in force both in Argentina and the Province of Neuquén, and the provisions included in the Inter-Institutional Cooperation Agreement, signed in due time. (Article 3.1) Argentina will not interfere with or interrupt the normal activities carried out with this Cooperation Agreement. Notwithstanding the foregoing, should Argentina have to make decisions that might interfere with China's activities, Argentina undertakes to inform China in advance, and to explore alternative solutions, if necessary, in order to ensure that such activities are not significantly affected. (Article 3.2).

Working relations necessary for the execution of the object of the Agreement shall be governed by the laws of the place in which this agreement is performed. Argentina shall retain the powers as enforcement authority for all labour, health and safety matters, in accordance with applicable regulations (Article 5).

One substantial provision under this Agreement is the fact that Argentina shall not be liable, nationally or internationally, for any Project-related activity performed by the Government of China in its territory, be it through act or failure to act by China or its representatives. The Government of China shall hold Argentina harmless of any duties arising from claims of any nature, at the request of third party, as a consequence of such acts or omissions (Article 6).

As provided in the Agreement, all disputes related to the interpretation and application of the agreement arising during its performance shall be settled through diplomatic channels (Article 7). This provision is ambiguous and vague, considering the wide variety of diplomatic dispute settlement mechanisms available in International Law.

The agreement shall be effective for fifty years, and such effective term may be extended through negotiations between the Parties. The Party wishing to extend the effective term shall notify the other party at least three years prior to the expiration of the agreement (Article 8).

Pursuant to the Cooperation Agreement in the Framework of the Chinese Program for the Moon Exploration between China Satellite Launch and Tracking Control General (CLTC) and the National Commission of Space

Activities (CONAE) of the Argentine Republic to Establish Ground Tracking, Command and Data Acquisition Facilities, Including a Deep Space Antenna, in the Province of Neuquén, Argentina, signed on 20th July, 2012, CONAE shall have the right to: a) the effective use of 10% of the deep space antenna time per year, non-cumulative over the years. To that end, CONAE may install, maintain and operate data processing equipment at its own cost on a non-interference basis with CLTC missions support activities. CONAE shall coordinate this activity with CLTC by a written request sent at least three months in advance, b) the support to Argentina Space missions using the CLTC ground station network, to be agreed upon in separate agreements; c) other instances of cooperation the Parties may agree on in the future (Article 4).

On February 4, 2015, both countries signed the Framework Agreement for Cooperation in the field of Space Activities,¹³ which specifically provided that “The Parties agree to promote cooperation in the exploitation and uses of outer space for peaceful purposes on the basis of mutual benefit in accordance with the laws and regulations of the Parties and the multilateral agreements to which both countries are parties” (Article I).

Pursuant to Article II, the Parties encourage cooperation in the following areas: 1) cooperation in mutually interested space science and deep space exploration projects; 2) joint development of space crafts; 3) joint development of space – born instruments; 4) ground infrastructure for spacecrafts research and development, 5) ground Stations construction and operation for receiving, tracking, telemetry and control of spacecrafts; 6) launch, tracking and control services for spacecrafts including in-orbit tasking and management; 7) cooperation in satellite telecommunication, satellite navigation and satellite remote sensing applications; 8) other areas agree by the Parties.

For the purposes of implementation and monitoring of the cooperation under this Agreement, Argentina appointed the National Commission of Space Activities (CONAE) under the Ministry of Federal Planning, Public Investment and Services, and the other Party appointed the China National Space Administration (CNSA).

A Sub-committee on Space Cooperation shall be established under the Intergovernmental Standing Committee of the Government of Argentina and the Government of China (Article VI).

Scientific and technical data and information obtained through the conduct of joint experiments by the implementing agencies in the implementation of specific cooperation programs shall be accessible to both Parties and shall be exchanged as soon as practicable. Neither Party shall disclose or transfer such

13 Not in force. See: http://tratados.mrecic.gov.ar/tratado_ficha.php?id=10798 (last query 25th August, 2016).

data or information to a third party without the written consent of the other Party (Article VIII).

All questions in connection with intellectual property protection are set forth in Article IX, which provides that such issues shall be governed in accordance with the laws and regulations of each of the Parties as well as their obligations under international treaties to which both countries are parties. Furthermore, terms on the protection of intellectual property shall be provided in the specific agreement for each project or program developed under the Framework Agreement.

It was further provided that “any differences or disputes between the Parties arising out of the interpretation or implementation of any of the provisions of this Agreement shall be settled amicably by consultation or negotiation between the Parties through diplomatic channels”. (Article XI).

IV. Political Issues

Part of the public opinion had reservations as to some issues of the above-mentioned agreements, one of them being the large antenna that will be installed in the space station and its potential military use. In this regard, the CONAE Secretary General said in the interview with the BBC that “They are neither suitable for military use, nor to tack a missile or any other military device”.¹⁴

It was questioned that none of the agreements between Argentina and China made reference to the peaceful use and that the Chinese company CLTC depends from the Chinese People’s Army. As regards the potential military use of the space station located in Neuquén, it must be borne in mind that both Argentina and China are parties to the 1967 Outer Space Treaty, which provides that all states shall observe peaceful purposes in the use and exploration of outer space (Article 4). In addition, the Preamble of the Agreement signed on April 2014 emphasizes that both governments “are parties of the Treaty on the Principles Governing the Activities of the States in the Exploration and the Use of Outer Space, including the Moon and other Celestial Bodies signed on January 27, 1967”. It must also be reminded that the Framework Agreement for Cooperation in the field of Space Activities between Argentina and China signed in February, 2015, provides the for peaceful purposes of space activities between both pares (Article I).

Much was written by the media about the existence of secret provisions, a situation that was categorically clarified by the Secretary General of CONAE, who said that “such provisions are inexistent. That is a fallacy.”¹⁵

The Secretary General of CONAE was asked about the China’s interest in the Moon, and he stated that “The Chinese government was one of the latest

¹⁴ See footnote 12.

¹⁵ Ibidem.

international players to access the outer space. So, most of all, they need to test their technology and reach the Moon as a first stage. They have shown their interest in obtaining helium 3, a fuel that would be useful to continue their career to Mars, not with manned space travels but with robotic missions.”¹⁶

V. Conclusions

Argentina initiated diplomatic relations with the People’s Republic of China over forty years ago. At present, this Asian country is one of the main commercial partners of Argentina in view of the natural resources of the latter.

Both countries signed different agreements, among which the Joint Declaration on the Establishment of the Comprehensive Strategic Partnership signed on July 18, 2014 and the Statement on Strengthening Comprehensive Strategic Partnership signed on February 4, 2014, stand out, including space cooperation into the political agenda.

In terms of Chinese diplomacy, the Comprehensive Strategic Partnership (qunmian hezuo huoban) implies a high status for any country in the Chinese international relations and alliances scheme.

The 2012 and 2014 treaties that regulate the establishment of the Deep Space 3 base in the Province of Neuquén entail advantages for both countries, but are particularly beneficial for Argentina, which will be able to use a technology that would otherwise not be available for the country, and that will be suitable to conduct space-related research.

The Framework Agreement for Cooperation in the Field of Space Activities signed on February 2015 sets forth the conditions for future international cooperation programs, and specifically regulates all issues in connection with data collection and intellectual property protection.

Through these treaties, both Argentina and China acknowledge the “importance of the development of space science and technology for the benefit of their people and the whole of humanity”, thus turning international cooperation into reality, far from being just an illusion.

16 Ibidem.

