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### THE FUTURE OF REGIONAL COOPERATION

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# International Cooperation in China's Space Undertakings

## *Melting Down Political Obstacles through Legal Means*

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### Abstract

China's space cooperation are growing over the years, however, are obviously limited due to the lack of mutual confidence mainly caused by ideological and military concerns. The more assertive feature of foreign policy under President Xi Jinping is bringing new motivation of striving for achievement in cooperation in space realm. The XI government should melt down the political obstacles through legal means: the improvement of national legislation and space governance mechanism; more effective and targeted information exchange; careful choices for the cooperation formalities and more detailed drafted cooperation agreements.

### 1. Background Introduction

The necessity and importance of space cooperation lies in its inherent international nature. Self-reliance served as a pillar for China's space activities, but it was more like a had-to choice mainly due to legal and policy constraints based on political considerations. Since 1978, China have adhered to the policy of opening up to the outside world and have been increasingly more open and actively engaged in cooperation with other nations. International space exchange and cooperation is one of the principles in its space policy. Its 2000, 2006 and 2011 White Paper on Space Activities provided consistent elaborations on this principle, which indicates China's sincerity in promoting the collaboration for peaceful use of outer space.<sup>1</sup> With its growing space capabilities, China can offer a variety of options for international cooperation, such as space objects launches by Changzheng rockets, service provided by Beidou Navigation Satellite system, manned

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1 <http://www.scio.gov.cn/zfbps/index.htm>, last accessed on 18 November 2016.

flights on Tiangong space station, and lunar exploration through Chang'e program and its newly announced Mars program.<sup>2</sup>

China's diplomatic strategy, as put down by the former president, Deng Xiaoping in the 1980s, is "hiding our capabilities and biding our time". The foreign policy of Xi Jinping, the current national leader, has shown greater proactivity and confidence with more emphasis being placed on constructive engagement with international institutions. During the last four years, China has increasingly manifested the diplomatic thinking of a strong power, strategic designs that keep pace with the times, and strong measures to tackle new challenges as well as to promote favorable changes for its continuing development.<sup>3</sup> This more assertive feature of foreign policy under XI will bring new motivation of striving for achievement in space cooperation activities. These activities would demonstrate that China considers seriously its obligations under the principle of international cooperation and its pledge for a responsible power, because the improved transparency through cooperation would contribute positive energy to the worldwide concern issue of space security and sustainable development of space activities. They could also present the chances for China to learn more about legal rules formulation and dispute resolution, and accumulate experience and human recourses. Space cooperation should and is being inclusive, at some extent, into the proactive institution establishment and agenda-setting efforts, such as Asian Infrastructure Investment Bank, the negotiation and assignments of a series of free trade agreements, and the initiation of "the Silk Road Economic Belt and the 21<sup>st</sup>-century Maritime Silk Road".

## **2. A Critical Overview of China's Space Cooperation**

### **2.1. The Features of China's Cooperation Agreements**

Since the 1980s, cooperation agreements have been concluded by the central governments, space agencies or other entities between China and Belarus, Bolivia, Brazil, ESA, France, Germany, India, Italy, Laos, Malaysia, Russian Federation, UK, Ukraine, U.S., and Venezuela and other countries.

First, the titles are various: agreement, framework agreement, pact, protocol, additional protocol, and understanding of memorandum. There is clearly a lack of consistency as for the content besides the common features of simple, general-drafted political documents with an indication of friendly relationship. A few of them on specific projects have led to material

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2 The Mars exploration program will include three components: an orbiter, a lander, and a rover with a planned launch occurring sometime in 2020, as National Space Administration director Xu Dazhe confirmed in April 2016.

3 J. YANG, China's "New Diplomacy" under the Xi Jinping Administration, China Quarterly of International Strategic Studies, Vol. 1 (1), p. 1, 2015.

cooperation. For instance, there are 13 implementation agreements between China and Brazil, mainly on earth resources satellites.

Secondly, these agreements are usually signed by Ministry of Foreign Affairs (MFA) and National Space Administration (NSA). Some other governmental or military organs can also take initiation in the scope of their authority, such as the Manned-space Flights Agency and Beidou Navigation Office.

Thirdly, various entities are involved to implement the cooperation agreements. Besides governmental or military entities, enterprises such as China Aerospace Science and Technology Corporation (CASC) and China Aerospace Science and Industry Corporation (CASIC), and scientific research organs, such as China Academy of Sciences and some universities, carry out most of them.

## **2.2. The Limitation of China's Cooperation Activities**

China's space cooperation activities are growing over the years and have been fruitful in some areas, but are obviously limited.

First, most cooperative space undertakings are project-based, short-term, and relatively simple. There is a need to extend the cooperation into more areas and core programs, such as manned flights, lunar and mars exploration. In broad sense, international cooperation occurs at the global, regional and bilateral levels.<sup>4</sup> However, so far for China, actual cooperation activities have merely happened at the bilateral level. China has exported satellites, made in-orbit delivery of satellites, and provided launch services and ground system for Nigeria, Venezuela, Pakistan, Indonesia, Bolivia, Laos, and Belarus. And some space-related activities present potentials for real cooperation activities, such as the ground station in Argentina for Tiangong Labs. The only long and extensive cooperation exists between China and Soviet Union/Russian Federation, but hardly qualifies as stable and comprehensive.<sup>5</sup> Most importantly, China is excluded from the International Space Station in spite of its capacity and repeatedly stated willingness.

Second, most of its partners are developing countries, but not space powers. Within the ASPSCO, there is an absence of space-faring nations besides China.<sup>6</sup> China and U.S. signed a memorandum of agreement on liability for

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4 Categorization of International Mechanisms for Cooperation in the Peaceful Exploration and Use of Outer Space, A/AC105/C./2015/CPR.15, April 2015, The Working Group on the Review of International Mechanisms for Cooperation in the Peaceful Exploration and Use of Outer Space, convened by the UN Committee on the Peaceful Uses of Outer Space.

5 They have signed several agreements and conducted some cooperation in human spaceflights, space science and deep-space exploration.

6 Beside China, the other members include agencies Bangladesh, Iran, Mongolia, Pakistan, Peru, Thailand, and Turkey. APSCO aims at carry out extensive and deep cooperation within a parallel system of basic activities and optional activities, with a clear reference to the ESA. Since its establishment, its achievements are confined to

satellite launches, which, somehow, did not achieve much. The Sino-EU partnership merely exists in some fields, such as medical or physics experiments. Chinese international trade has experienced rapid expansion: China has been the world's leading merchandise exporter and second leading trader of commercial services for years.<sup>7</sup> Meanwhile, space economy and international space trade market is booming.<sup>8</sup> The trade between China and Japan, Korea, Australia, and the U.S. is closer than ever and of mutual significance. Trade volume between these countries continued to increase and they are mutually among top trade partners, however, the trade of space products, technologies and service has been almost zero.

### 3. The Political Obstacles Behind

China's space cooperation has been constantly constrained by obstacles of political nature domestically and internationally.

#### 3.1. The Domestic Law Is Insufficient to Provide Clear Regulation for Cooperation

China has some regulatory regimes for space activities and it is not a total legal vacuum.<sup>9</sup> But the regulatory regime is principally policy-oriented with administrative regulations as supplementary support.<sup>10</sup> These fragmented

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satellites projects definition, development plan drafting, meetings organization and information exchange, and education and training.

- 7 China overtook Japan as the leading Asian exporter in 2004 and surpassed the U.S. in 2007 and Germany in 2009 to become the world's leading exporter. By 2014, China's merchandise exports accounted for 12 percent of the world's merchandise exports. World Trade Organization, International Trade Statistics 2015, p. 25, [https://www.wto.org/english/res\\_e/statis\\_e/its2015\\_e/its2015\\_e.pdf](https://www.wto.org/english/res_e/statis_e/its2015_e/its2015_e.pdf), 25 September 2016. The total exports in 2015 were \$2.27 trillion, a 14% share of world export. World Trade Organization, World Trade Statistics Review, 2016, p. 44, [https://www.wto.org/english/res\\_e/statis\\_e/wts2016\\_e/wts2016\\_e.pdf](https://www.wto.org/english/res_e/statis_e/wts2016_e/wts2016_e.pdf).
- 8 Consisting of launch and ground services, satellite manufacturing, satellite television and communication, government exploration, military spending, and other interest, the global space economy grew by 9% in 2014, reaching a total of \$330 billion worldwide. Commercial space activities made up of 76% of the global space economy and grew 9.7% in 2014. The Space Report, p. 13-40, Space Foundation, [https://www.spacefoundation.org/sites/default/files/downloads/The\\_Space\\_Report\\_2015\\_Overview\\_TOC\\_Exhibits.pdf](https://www.spacefoundation.org/sites/default/files/downloads/The_Space_Report_2015_Overview_TOC_Exhibits.pdf). No statistics found for space trade, but it is estimated that commercial space has an annual global turnover of 120 billions euro and is one of the fastest growing markets.
- 9 There are two provisional regulations on registration and licensing regimes for civil space objects promulgated by COSTID and MFA, and other administrative regulations on export control, telecommunications applicable to space activities.
- 10 "Note by the Secretariat, United Nations General Assembly," Committee on the Peaceful Uses of Outer Space, Information on National Legislation Relevant to the

rules proved problematic for critical parts of the cooperation process, particularly for obtaining permits to import, export or launch a satellite. The space governance structure is complex and inefficient. The supervisory authority is shared among multiple governmental and military organs lack of coordination.

Take exportation control of aerospace products, technologies and services as an example. There are no specific applicable rules, and in practice they are subject to the regulation for military ones.<sup>11</sup> The export licensing decisions are under the authority of State Administration of Science, Technology and Industry for National Defense (SASTIND), Ministry of Defense, the Ministry of Commerce (CMC) and General Administration of Customs, and Ministry of Foreign Affairs.<sup>12</sup> Their authority overlaps with no formalized inter-agency mechanisms. MFA can be consulted to assess the impact on China's international relations and conformity with China's international legal obligations in "politically sensitive and potentially controversial cases". But these terms are not clearly defined and the case practice is hardly systematic and consistent. It is difficult for the aerospace enterprises, research organs and other entities to pre-evaluate the risks and they are anxious about the possible legal violation. Also, the procedure is long and complicated, and unsuitable for rapid rhythm of international market.<sup>13</sup>

### **3.2. Some States Are Imposing Constraints for Space Cooperation with China Due to Ideological and Military Considerations**

There is no strategic confidence between China and the majority of space-faring nations. The conservative politicians in some nations hold a prejudiced and suspicious attitude towards China as a socialist country and considered it as a rival or even evil. The 2011 Wolf Bill by the U.S congress bans the entire bilateral collaboration between the NASA and the White House Office of Science and Technology Policy (OSTP) with China.<sup>14</sup> The 2013 U.S. National

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Peaceful Exploration and Use of Outer Space, A/AC.105/932, 2 February 2009, [http://www.unoosa.org/pdf/reports/ac105/AC105\\_932E.pdf](http://www.unoosa.org/pdf/reports/ac105/AC105_932E.pdf).

11 The relevant regulatory documents include the Regulation on the Administration of Arms Control (amended in 2002), Regulation on Export Control of Missiles and Missile-Related Items and Technologies, and Measure for the Administration on Import and Export License for Dual-Use Items and Technologies.

12 Regulation on the Administration of Arms Control, article 3.

13 The export licensing procedures are 'three applications, three approvals', i.e., export project, export contract and export license, and a lot of information is required.

14 None of the funds made available by this Act be used for the National Aeronautics and Space Administration or the Office of Science and Technology Policy to develop, design, plan, promulgate, implement, or execute a bilateral policy, program, order, or contract of any kind to participate, collaborate, or coordinate bilaterally in any way with China. After Wolf's retirement, this bill remains intact by his successor John Culbertson. Wolf once compared China with Nazi Germany and called it the evil empire. Culbertson said it is important to keep the Red Chinese out of the American

Defense Authorization Act, the result of its export control system reformation since 2009, continued the prohibition on satellite sales or launches by China. The abortion of China-EU partnership on the Galileo satellite system, refusing the contribution of at least 230 million euros from China, can be attributed to security and military concerns by sharing of sensitive dual-use technology.

#### **4. Melting Down Political Obstacles through Legal Means**

The fundamental reason leading to the political obstacles is the lack of confidence, while transparency is the primary means of confidence-building measures to establish and reinforce trust between nations. China should melt down these political barriers through legal means.<sup>15</sup>

##### **4.1. Further Enhance the Transparency of China's Space Activities**

China's space program is not as secret as before. But it is not sufficient to reduce misperceptions. China should retrain the military involvement and promote exploration and utilization of outer space for commercial ends. A recommendable starting point to be seen a reliable space partner is providing information to the COPUOS registry of space objects. China acceded the Registration Convention in 1988 and submitted its first document for registration in 1990. A document submitted in 2005 included the information of all satellites that China has launched into orbit. Thereafter, China's registration happened every year, but some information was absent in accordance with the COPUOS form. In comparison with the U.S. and Russian Federation who usually register on a three-month basis, there is a gap.

##### **4.2. Improvement of National Legislation and Space Governance**

After decades of discussion, aerospace law was incorporated into the legislation plan of China's National People's Congress in 2013 for the next ten years.<sup>16</sup> Although there is no clear time framework, there are reasons to believe that China's aerospace law will finally rush towards the finish line of its untoward marathon. This law will probably include more comprehensive licensing regime, liability regime and general principles on promoting space

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space program. <https://www.gpo.gov/fdsys/pkg/PLAW-112publ55/html/PLAW-112publ55.htm>, 15 August, 2016.

15 Politics can define certain predominantly legal values or institutions as its goal; while the autonomy and independence of law can reversely influence politics. The relation between them has both a progressive and safeguarding function. M. Cerar, *The Relationship between Law and Politics, Annual Survey of International and Comparative Law*, Vol. 15(1), 2009, pp. 19-42.

16 See [http://www.npc.gov.cn/npc/xinwen/sywxw/2013-10/31/content\\_1812101.htm](http://www.npc.gov.cn/npc/xinwen/sywxw/2013-10/31/content_1812101.htm), 27 July 2015.



cooperation and encouraging commercial use of outer space. China should streamline its national space governance structure for coherent and transparent decision-makings and improve the coordination mechanisms between different governmental and military departments. Besides, there is a need for export control rules for aerospace products, technologies and services.

#### **4.3. More Effective and Targeted Dialogue and Information Exchange**

To alleviate unnecessary mistrust, more effective dialogue should be conducted on more pertinent issues regarding space security and safety, IP protection and even human rights. Cooperation prohibition and strict export control has proved unsuccessful in technologies thwart. The possibility of space trade can be incorporated into the on-going free trade negotiation or strategic and economic dialogue. Regular channels of information exchange on military space issues should be established between China and other space nations to increase the predictability of space activities with military potential.

China should be more proactive in response to foreign policies and laws that has an impact on its space cooperation. The Chinese government has missed its chance to liberalize export control without exacerbating their concerns when the Obama administration comprehensively reviewed its export control regime. But it can work with the American government and its allies in business and scientific circles who resent the cooperation ban to evoke the cooperation restrictions.

#### **4.4. Cooperation Agreements with Better Regime Design and More Details**

The formality of space cooperation is quite flexible and is at the states' discretion. The states are free to decide how to carry out concerted action for the peaceful exploration of outer space.<sup>17</sup> The future cooperation agreement should be more than merely a statement of willingness with careful choices for the forms of cooperation and legal terms being tailored to the specificities of cooperation parties. They should have more specific and explicit provisions on the assignment of jurisdiction and control, intellectual property protection, the liability and compensation, and dispute resolution mechanism.

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<sup>17</sup> States are free to determine all aspects of their participation in international cooperation in the exploration and use of outer space, as long as on a mutually acceptable and equitable basis, taking into consideration of the special needs of developing countries. Part II, Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries, UN GA Res. 51/122 of 13 December 1996.

## **5. Concluding Remarks**

China is no more short of political willingness, technological platform and financial resources for space cooperative activities and it is ripe time to break the bottleneck. The proactive and confident diplomatic strategy under Xi's leadership will help foster mutual confidence. The political obstacle could not be eradicated but would possibly be melt down, at least to certain degree, through legal means.