

# Legal Issues of International Cooperation in the Operation of China's Space Station

Jie Long\*

## Abstract

China's Space Station (CSS) will be established in 2022, making China the third country to be able to build and operate the space station independently. The international cooperation of the CSS has initiated. International cooperation in the CSS operation is an effective way to promote the long-term sustainability of space activities and realize a community with a shared future for humankind. As China has not yet promulgated its national space law, international cooperation in the CSS operation will inevitably encounter legal problems. In the context of the lack of relevant legislative basis and practical operation experience in China, to carry out international cooperation and maintain the long-term sustainable operation of the CSS, it is necessary to learn related legal experiences and make corresponding institutional arrangements.

**Keywords:** China's Space Station; international cooperation; legal issues; long-term operation

China plans to complete the construction of a human-crewed space station with a body mass of 60 tons in 2022, making China the third country capable of independently building and operating a space station.<sup>1</sup> Running the space station well is an inevitable requirement of China's manned space development strategy and a manifestation of promoting a community with a shared future for humanity in outer space.<sup>2</sup>

---

\* Shenzhen University, China.

1 "China's Space Program: A 2021 Perspective" (*The State Council Information Office of the People's Republic of China*, January 2022), <<http://www.cnsa.gov.cn/english/n6465645/n6465648/c6813088/content.html>>, accessed 30 September 2022.

2 "China calls for building community with a shared future in outer space" (*Xinhua News*, 2022-01-28), <<https://english.news.cn/20220128/4f0a6dd084c244718aa2d360c8eb9011/c.html>>, accessed 30 September 2022.

## 1. Analysis of the Constitution of the Space Station's Legal System

As a large space object, the space station has the characteristics of long in-orbit service time and complex technical composition. Such features determine that the legal constraints and challenges faced by the space station operation are much more complicated than ordinary space objects.<sup>3</sup> The construction of the legal cooperation framework may include both the existing international treaties and the emerging soft law; it will even integrate and reflect the domestic legislative experience of relevant space countries and generate new problems and situations with the operation of the space station. Therefore, the research on the international cooperation legal framework related to the space station's operation will be dynamically continued throughout the space station's operation.

The composition of the legal framework for the space station operation includes three dimensions: First, the treaty system and the emerging soft law; Second, international legislation and national practice; Third, the existing international law system and potentially leading legal issues. Based on these three dimensions, the rules involved in international cooperation in the operation of the space station include: (1) General international conventions (Charter of the United Nations, etc.); (2) Space treaties (Outer Space Treaty, Registration Agreement, etc.); (3) International Space Station (ISS) Intergovernmental Agreements, ISS Inter-agency memoranda, implementation agreements and other documents of the ISS (1988 ISS Agreement,<sup>4</sup> 1998 Agreement,<sup>5</sup> etc.); (4) Resolutions of existing international organizations (Outer Space Declaration, Principles of Nuclear Power Sources, Space Debris Mitigation Guidelines, etc.); (5) Soft law process ("long-term sustainability of outer space activities", "code of conduct for outer space activities", "space situational awareness", etc.); (6) National space legislation of space-faring countries.<sup>6</sup>

In the entire system of international law related to the operation of the space station, there are not only the contents of the generally applicable international laws but also the particular rules and regulations for space

---

3 Andrew D. Watson, William G. Schmidt, "Legal Issues Surrounding the International Space Station", (1997) 7 US A.F. Acad. J. Legal Study 159, 159-175.

4 Agreement on Cooperation in the Detailed Design, Development, Operation, and Utilization of the Permanently Manned Civil Space Station, U.S.T. (on file at the National Aeronautics and Space Administration Headquarters library, Washington, D.C.) (29 September 1988).

5 Agreement among the Government of Canada, Governments of the Member States of the European Space Agency, the Government of Japan, the Government of the Russian Federation, and the Government of the United States of America Concerning Cooperation on the Civil International Space Station, 1998.

6 Bin Cheng, *Studies in International Space Law* (Oxford: Clarendon Press, 1997); John E. Catchpole, *The International Space Station* (Chichester: Springer & Praxis, 2008) 1-12.

activities; there are inter-state treaty systems and intra-state institutional arrangements.<sup>7</sup> Meanwhile, based on the current international legal system, to fundamentally ensure that the legal system could guarantee the operation of China's Space Station, it is necessary to fully consider the progress and development of future space technology and the specific requirements of the construction of the space station, and leave sufficient space for the application of the existing legal rules.

## **2. Main Legal Issues of Space Station Operation**

During the on-orbit operation of China's Space Station, the first legal issue is ensuring that it carries out activities and operations by international law in the existing international space law framework. Specifically, the current legally binding treaties on China's activities in outer space mainly include the Outer Space Treaty, the Registration Agreement, the Rescue Agreement, and the Liability Convention. The legal issues faced by China's space station during its in-orbit operation mainly include the following aspects: (1) Registration of the space station; (2) Jurisdiction control and legal application of the space station; (3) Rescue of objects and personnel on the space station; (4) State responsibility and liability related to the space station.<sup>8</sup>

In combination with the construction and operation experience of the former Soviet Union space station (from the Salyut series to the "Mir" space station) and the United States ("Skylab"), and the operation experiences of the ISS, international cooperation and possible commercialization involve more legal and regulatory issues, mainly involving the following aspects: (1) Selection and training of space station personnel; (2) Rights and obligations of the crew of the space station; (3) Safety guarantee for the operation of the space station; (4) Dispute settlement of the space station; (5) Intellectual property protection of the space station; (6) Import and export control of space station equipment; (7) Commercial development and utilization of the space station.<sup>9</sup>

## **3. Suggestion on Resolving the Legal Issues of China's Space Station**

Considering the relevant legal issues in the operation of the space station, the specific rule implementation and application process includes numerous legal theory and national practice; it is necessary to sort out the specific legal

---

7 Frankle EA, "Legal Aspects of Space Station Utilization", (1999) 42 Proc on L Outer Space 18, 19-21; Malpass SR, "Legal Aspects of the United States/International Space Station", (1991) 14(1) Hous J Int'l L 183, 185.

8 Francis Lyall, Paul B. Larsen, *Space Law: A Treatise* (Farnham & Burlington: Ashgate Publishing, 2009).

9 Galloway E, "The Space Station: United States Proposal and Implementation", (1986) 14(1) J Space L 14, 23.

experience and framework construction in the operation practice of the ISS through the summary of the existing treaty system, and combine the specific situation of China's future space station construction and operation, thus carrying out countermeasure research and giving reasonable suggestions. Based on the premise of ensuring the safety of space assets and abiding by international legal rules, safeguarding, and protecting the space interests of countries participating in the space station project to the maximum extent, and realizing the smooth and sustainable development of the CSS, possible solutions and suggestions on critical legal issues involved in the operation of the CSS are as follows.

### 3.1. Registration of the Space Station

The primary legal problem faced by the CSS when it is put into operation is the registration of the space station. Compared with the Mir space station of the former Soviet Union and the ISS in service,<sup>10</sup> the CSS has its uniqueness, which leads to the registration of the CSS being different from the registration practices of the existing space stations. To fulfil China's treaty obligation and guarantee the order of space transportation, it is necessary to study and clarify the time, specific content, and form of the CSS registration. On 8 February 2001, the Chinese Ministry of Foreign Affairs and the former Commission of Science, Technology and Industry for National Defence issued the "Measures for the Administration of Registration of Space Objects" (hereinafter referred to as the "Measures"),<sup>11</sup> which is a direct manifestation of China's fulfilment of international treaty obligations after it accedes to the Registration Convention in 1988. On 8 June 2005, China submitted a note verbale to the Secretary General of the United Nations informing that China had established a register of space objects launched into

---

10 Zhukov GP, "Registration and Jurisdiction Aspects of the International Space Station", (1999) 42 Proc on L Outer Space 75-80; U.S. Congress, Office of Technology Assessment, "Space Stations and the Law: Selected Legal Issues-Background Paper", OTA-BP-ISC-41 (Washington, DC: U.S. Government Printing Office, August 1986).

11 "The Registration Measures 2001 (CHN) were largely enacted in order to fulfil China's obligations under the Registration Convention. Where China launches or procures the launch of a space object it must register the space object on its own national register, as well as the United Nations register maintained by the UN Secretary-General. The national register is currently maintained by SASTIND through the Chinese National Space Administration (CNSA). As such, all space objects launched within China, or launched jointly by China, are to be registered with SASTIND within 60 days after their launch into orbit." See: "Space Licensing in China", (*ANGELS*), <<https://spacelaws.com/articles/space-licensing-in-china/>>, accessed 30 September 2022.

or beyond Earth orbit, which the China Space Administration maintained.<sup>12</sup> The promulgation of administrative Measures has set China's relatively complete space object registration system. According to the Measures, China has increasingly standardized space object registration practices. In the context of the rapid increase in space activities, administrative Measures and related registration practices have also exposed some controversial issues that need to be resolved.<sup>13</sup> These issues also need to be paid attention to in introducing China's space law and its subsequent supporting laws. Since the CSS is built independently by China and does not involve the participation of other countries, it is appropriate to register it as a whole. As for the applicable domestic rules, before the promulgation of the space law, the above-mentioned administrative Measures should still be applied. At the same time, it is necessary to comply with the recommendations of General Assembly Resolution 62/101 on the registration of space objects.<sup>14</sup>

The international registration of the CSS should clarify the performance of China's obligations as a party to the Registration Convention; that is, after the competent Chinese authorities have registered the space station, they will provide the corresponding registration information to the Secretary General of the United Nations through the Ministry of Foreign Affairs. Specifically, the specific international registration information includes the five contents specified in Article 4 of the Registration Convention.<sup>15</sup> However, to establish and strengthen China's image as a reliable space-faring state and to promote the international standardized management of space objects, it may be considered to provide more registration information about the space station to the United Nations in the registration of the space station in reference to

---

12 Note verbale dated 2005/06/08 from the Permanent Mission of China to the United Nations (Vienna) addressed to the Secretary-General, (2005), <<https://digitallibrary.un.org/record/565970>>, accessed 30 September 2022.

13 "Measures on the Administration of Registration of Objects Launched into Outer Space (Registration Measures) co-enacted by COSTIND and MFA, 2001.

14 Recommendations on Enhancing the Practice of States and International Intergovernmental Organisations in Registering Space Objects, UNGA Resolution 62/101 (17 December 2007).

15 Convention on Registration of Objects Launched into Outer Space, United Nations, Treaty Series, vol. 1023, No. 15020. Article IV, "1. Each State of registry shall furnish to the Secretary-General of the United Nations, as soon as practicable, the following information concerning each space object carried on its registry: (a) Name of launching State or States; (b) An appropriate designator of the space object or its registration number; (c) Date and territory or location of launch; (d) Basic orbital parameters, including: (i) Nodal period; (ii) Inclination; (iii) Apogee; (iv) Perigee; (e) General function of the space object."

General Assembly Resolution 62/101,<sup>16</sup> so as to enhance consistency in format, making the registration content as complete and transparent as possible. For the latest status of the CSS (related information of orbit, re-entry, end-of-life disposal, etc.), the activity plan, orbit entry route, supply system, number of passengers, expected life, and other relevant technical data of the space station should be provided as appropriate.

### **3.2. Jurisdictional Control and Legal Application of Space Station**

China has the right to exercise exclusive jurisdiction and corresponding control over the CSS components after China has registered them in the United Nations by the Registration Convention. International cooperation in the CSS operation has been put on the agenda, and possible civil and criminal legal issues could be involved in international cooperation.<sup>17</sup> The premise for solving these legal issues is to determine the applicable law, and the application of the law is closely related to jurisdiction. Under the premise that China has criminal and civil jurisdiction over the space station, applying Chinese law to the space station would become a possible option.

Since each segment of the CSS to be put into entire operation is independently built and owned by China and is registered by China, the personnel and objects that carry out international cooperation in the domestic segment should be governed by Chinese laws, and the jurisdiction of foreign partners over the nationality of their personnel would give way to China's "quasi-territorial jurisdiction," which can be agreed in advance through specific cooperation agreements. Regarding the jurisdiction allocation and legal application of foreign segments that may be docked at the CSS through the docking port of the CSS in the future, according to the possible ways to resolve the jurisdiction conflict, feasible solutions can be found through bilateral or multilateral agreements under the OST framework.<sup>18</sup>

Suppose a foreign country owns the jurisdiction of the foreign segment connected with the CSS, and the foreign country owns independent jurisdiction and control of the foreign docking segment. In this case, it will also lead to various legal problems like those faced by the ISS, such as the flow of personnel, goods, and data between the foreign segments. These problems have been well solved in the legal framework of the ISS.<sup>19</sup> If the CSS

---

16 Recommendations on Enhancing the Practice of States and International Intergovernmental Organisations in Registering Space Objects, UNGA Resolution 62/101 (17 December 2007).

17 Larsen PB, "Draft Space Protocol and Jurisdiction over Commercial Space Assets", (2011) 54 Proc Int'l Inst Space L 485-489.

18 Zhao Yun, "The Role of Bilateral and Multilateral Agreements in International Space Cooperation", (2016) 36 Space Policy 12-18.

19 Miria M. Finckenor, Kim K. de Groh, International Space Station (ISS) Researcher's Guide (NASA ISS Program Science Office, 2017).

is faced with the coexistence of such multinational jurisdictions in the future, ISS's solutions would have significant reference value.

### **3.3. State Responsibility and Liability Related to the Space Station**

For the CSS, it is necessary to learn from the ISS "cross-waiver of liability regime"<sup>20</sup> to abide by the state responsibility and liability rules of the OST and the Liability Convention, which would help avoid unnecessary international litigation and disputes and promote and encourage countries to carry out more in-depth and extensive cooperation through the CSS. Although the cross-waiver of liability liability system is not stipulated in the OST and the Liability Convention, these two conventions do not explicitly prohibit such an arrangement. Moreover, the purpose of this responsibility regime is consistent with the spirit of the OST, which encourages the exploration, development, and utilization of outer space. For example, paragraph 1 of Article 16 of the 1998 ISS Inter-governmental Agreement clearly states that the purpose of the cross-waiver of liability is "to encourage all participating entities to actively participate in the exploration, development, and utilization of outer space through ISS,"<sup>21</sup> which fully conforms to the principle of common interests of the OST. Therefore, the cross-immunity responsibility regime is a new concrete embodiment of the spirit of the OST principles in the space commercialization era and constitutes the inheritance and development of the Liability Convention.

### **3.4. Safety Guarantee of CSS Operation**

The CSS operation should consider drawing on ISS-related norms and standards to prepare safety assessment norms and documents suitable for China's manned spaceflight project. The operation management stage of the space station is a milestone stage after the completion of construction. On the one hand, the safety of astronauts and the stable operation of the platform is the continuation of the construction achievements of the space station. On the other hand, they are also the practical verification of the future in orbit operation life and reliability of the space station. China is supposed to learn

---

20 1998 IGA, Art.17(2), and 1998 IGA, Art. 17 (3), "In the event of a claim arising out of the Liability Convention, the Partners (and ESA, if appropriate) shall consult promptly on any potential liability, on any apportionment of such liability, and on the defense of such claim." And 1998 IGA, Art.17(3) further provides that "Regarding the provision of launch and return services provided for in Art.12(2), the Partners concerned (and ESA, if appropriate) may conclude separate agreements regarding the apportionment of any potential joint and several liability arising out of the Liability Convention."

21 1998 IGA, Art.16(1), "The objective of this Article is to establish a cross-waiver of liability by the Partner States and related entities in the interest of encouraging participation in the exploration, exploitation, and use of outer space through the Space Station. This cross-waiver of liability shall be broadly construed to achieve this objective."

from the mature experience of ISS, pay special attention to the relevant institutions and specially issued regulations and policy documents established by the United States at the national level to ensure the safe operation of ISS, and build the relevant security guarantee mechanism of the CSS in combination with its characteristics.

In addition, as for the external safety threats to the space station, namely, the potential impact of space debris and harmful radio wave interference from other space objects,<sup>22</sup> the CSS should also pay close attention to these two external safety threats during its operation. A series of international legal issues related to space debris and harmful radio interference should also be studied and solved in the CSS operation.

### **3.5. Dispute Settlement of Space Station**

ISS emphasizes efficiency and flexibility in dispute settlement. This efficiency and flexibility are based on maintaining a delicate balance between the fundamental values of international law and space law and do not violate the basic principles and values of the existing international law regime. It provides an excellent example of international disputes over space projects.<sup>23</sup> Suppose there is a dispute between different subjects during the operation of the CSS. In this case, it is a more realistic solution to specify the potential dispute in principle in the cooperation framework, agree in advance in the specific cooperation agreement, and specify in advance at the national legal policy level. It is necessary to conduct in-depth research on the possible diplomatic and judicial dispute settlement methods in the space station operation. Although the two Hague Peace Conferences in 1899 and 1907 reflected the judicialization trend of the international dispute settlement mechanism,<sup>24</sup> it is undeniable that diplomatic methods such as negotiation and consultation, good offices, and mediation as highly flexible dispute settlement methods will still be favoured by the international community for a long time. This situation is not only because diplomatic methods can respond to disputes promptly but also because the compromises and concessions of the parties to the dispute in diplomatic methods are always within controllable expectations.

---

22 Peter Stubbe, *State Accountability for Space Debris: A Legal Study of Responsibility for Polluting the Space Environment and Liability for Damage Caused by Space Debris* (Leiden: Brill Publishing, 2017); Mark Garcia, "Space Debris and Human Spacecraft" (NASA, 4 August 2017), <[https://www.nasa.gov/mission\\_pages/station/news/orbital\\_debris.html](https://www.nasa.gov/mission_pages/station/news/orbital_debris.html)>, accessed 2 October 2022.

23 Problems such as dispute settlement mechanisms, and data exchange and protection policies play a crucial role in sustaining efficiency in the operations of the space station.

24 Jörg Manfred Mössner, "Hague Peace Conferences of 1899 and 1907", in *Use of Force -War and Neutrality Peace Treaties (A-M)*, 1982, 204-211.



When diplomatic methods cannot solve disputes or parties choose to skip diplomatic methods directly, arbitration, as a dispute settlement method with both coercion and freedom of choice, has become the second procedure of the outer space dispute settlement mechanism. The selection of arbitration rules and institutions and arbitration procedures has become a hot topic in academic research, which is also worth further study in the CSS operation.

### **3.6. Intellectual Property Protection of Space Station**

The possible international cooperation framework agreement on the CSS could include a provision on protecting intellectual property rights, mainly protecting patents, copyrights, and trademarks from the CSS. The confidential information of countries on the space station can also be regarded as a trade secret; trade secrets should also be protected when transferring space station technical data. The intellectual property activities involved in specific cooperation projects can be specified in more detail in the implementation arrangements/agreements under the umbrella provisions on IP protection in the framework agreement.<sup>25</sup>

Considering that the composition of the CSS is mainly composed of modules developed by China itself and launched into outer space for assembly, to increase the willingness of other countries to participate in the cooperation within the Chinese register modules, in addition to the connection point of the space station module registration country mentioned in Article 21 of the 1998 ISS Agreement,<sup>26</sup> it can also be stipulated that countries can establish more connection points between intellectual property activities and national jurisdiction through consultation. In the cooperation framework agreement, it can be stipulated that if two or more parties are expected to come up with a joint invention, they must negotiate in good faith about the patent registration application and the sharing of the obligation to maintain the patent. They can establish the connection point according to the proportion of various resources invested by each country or the nationality of the primary inventor and even determine the specific domestic law applicable to patent application and protection in advance. Such diversified provisions can provide more choices and convenience for partner countries in the application and protection of intellectual property rights and promote the commercialization process of the long-term sustainability of China's space station.

---

25 A. M. Balsano, "Space Technology and International Cooperation-The Role of Intellectual Property", (1995) 20 *Air and Space Law* 177-188.

26 1998 IGA, Article 21. Article 21 of the 1998 IGA provides special provisions on IP protection in outer space.

### 3.7. Import and Export Control of Space Station Equipment

Regarding China's space station operation, international cooperation will inevitably lead to the application and trade of space technology, products, and services closely related to national security, state secrets, and the peaceful use of outer space.<sup>27</sup> Suppose China wants to build an effective legal system to control space product trade involving the space station; it is necessary to accelerate the legislative process of China's space trade control regime, improve the control mechanism of China's space product trade, formulate reasonable and adequate control standards for space item trade, and actively participate in the multilateral export control international mechanism, to achieve the rapid and healthy development of China's space product trade.<sup>28</sup> Taking China's international cooperation in space as an opportunity, China is supposed to participate in the international mechanism of multilateral export control actively.

Ten years ago, China had almost no contact with the world's primary multilateral export control mechanisms.<sup>29</sup> China has always been highly vigilant about the multilateral export control mechanism and even questioned its existence and its activities' legitimacy.<sup>30</sup> However, the export control system of space products of the world's major space powers is almost all established under the framework of the world's foremost multilateral export control mechanisms, such as the Nuclear Suppliers Group and the Wassenaar Agreement.<sup>31</sup> Only by adopting a trade control policy of space products consistent with the international community and fully integrating with standard international practices in the export control of dual-use items and technologies, only in this way can the international trade competitiveness of China's space products, including the components of the space station system, be genuinely improved. Therefore, against the background that

---

27 "Commercial space products can be broadly classified into four categories: space launch services, communications and remote sense satellites, related satellite services, and necessary ground-based equipment." See: <<https://www.trade.gov/commercial-space>>, accessed 30 August 2022.

28 China's Space Program: A 2021 Perspective, The State Council Information Office of the People's Republic of China. January 2022

29 Wu Jinhui, "Global export control needs multilateralism", (*China Daily*, 2021-12-31), <<https://global.chinadaily.com.cn/a/202112/31/WS61ce4033a310cdd39bc7e6b7.html>>, accessed 30 August 2022.

30 *Ibid.*

31 The Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Good and Technologies, September 1996. The agreement did not formally list the controlled countries, but only verbally listed Iran, Iraq, North Korea and Libya as the controlled objects. The Wassenaar Agreement is a very loose organization. Member States can decide on their own measures and ways of implementing export control by referring to the common control principles and lists, and approve their own export licenses, which is the so-called principle of "each country handles itself."

China's space station is about to operate openly and cooperatively,<sup>32</sup> China should strive to occupy a place in the international space product trade market, and actively participating in the international mechanism of multilateral export control will be an inevitable choice.

### **3.8. Commercial Development and Utilization of Space Station**

In the future operation of the CSS, various commercial development and utilization possibilities exist.<sup>33</sup> The legal issues that may be faced in this process would be comprehensive and professional. Some of the fundamental legal issues related to the international and national space law systems include the implementation of the principle of common interests of humanity and the principle of international cooperation in the commercial activities of the space station,<sup>34</sup> the delimitation of outer space, the legal status of space tourists in the Rescue Agreement, the sharing of responsibilities between States and private entities in the Liability Convention, and how to ensure and promote the sustainable development of space commercialization through national legislation.<sup>35</sup> In addition, a series of legal issues involved in the commercial cooperation agreement of the CSS needs to be investigated in advance, and corresponding rules and guidelines need to be formulated.<sup>36</sup> In terms of the management and coordination of the commercialization of the space station, it is suggested that the operating space application system establish a particular space commercial project office to coordinate all the implementation processes of the commercial projects of manned space applications.

As a specialized agency for the management of commercial projects of the space station, the space commercial project office coordinates and integrates the resources of the space station, promotes the sharing of the resources of the space station for the academic and industrial circles to the maximum extent, expands the scope of space applications, and encourages the circulation of space technology, space resources, data information, talents,

---

32 "United Nations and China invite applications to conduct experiments on-board China's Space Station" (Vienna Press Releases, 28 May 2018), <<http://www.unis.unvienna.org/unis/en/pressrels/2018/unisos496.html>>, accessed 30 August 2022.

33 Stephan Hobe, "The Impact of New Developments on International Space Law: New Actors, Commercialization, Privatization, Increase in the Number of 'Space-faring Nations'", (2010) 15 *Uniform Law Review* 869-870.

34 Edwin W. Paxson III, "Sharing the Benefits of Outer Space Exploration: Space Law and Economic Development", (1993) 14 *Michigan Journal of International Law* 504-508.

35 Cassidy DE, "Allocation of Liabilities between Government and Private Sector and Implications on Insurance for Space Commercialization", (1990) 33 *Proc on L Outer Space* 23-26.

36 I.H.Ph. Diederiks-Verschoor, "Implications of Commercial Activities in Outer Space, especially for the Developing Countries", (1989) 17 *Journal of Space Law* 115-128.

capital, etc. in the academic and industrial circles, so as to promote the construction of hardware facilities and scientific and technological innovation of the space application system of the space station and maximize the benefits of space applications.<sup>37</sup> The commercial project work office mainly provides services for various commercial projects, which may include the following matters: identifying critical commercial areas, selecting and evaluating commercial projects, professional consulting, financial assistance, handling administrative procedures, science and education, and commercialization promotion activities. Station participants can explore cooperation with commercial companies during the CSS operation. Specific possible ways include: crowdfunding or launching large commercial companies to set up funds to support space application projects; cooperating with internet companies to use their cloud storage capabilities for data storage and application; cultivating the CSS hardware facilities and manufacturers, etc.

#### **4. Concluding Remarks**

This paper first summarizes the legal system of space station operation. In the whole system of international rules related to the operation of the space station, there are not only general applicable international treaties but also special laws and regulations for space activities; there are not only directional principles of space activities but also specific policy guidance for space activities; there are not only treaty system between countries, but also institutional arrangements within countries. The second part of this paper analyses the theoretical basis and practical experience of twelve legal issues involved in the operation of the CSS: registration, jurisdiction control and application of the law, the rescue of space station objects and personnel, state responsibility and liability for compensation, dispute settlement, intellectual property protection, equipment import, and export control. The third part put forward suggestions on the operation of the CSS in terms of laws and regulations. Through the above summary of the existing legal system, combing the specific rule construction in the operation practice of the former Soviet Union, Russia, the United States, and the ISS, combined with the particular situation of the building and operation of the CSS, this paper finally concludes several reasonable suggestions. These proposals are to safeguard and protect the space interests of all countries in the process of international cooperation to the maximum extent, based on ensuring the safety of space assets and abiding by international legal rules to realize the smooth and sustainable development of the CSS.

---

37 F.G. von der Dunk, M.M.T.A. Brus (eds), *The International Space Station: Commercial Utilization from a European Legal Perspective* (Leiden & Boston: Martinus Nijhoff Publishers, 2006) 47-62.