



## Viewpoint

# The 2019 Notice on Promoting the Systematic and Orderly Development of Commercial Carrier Rockets: The First Step Towards Regulating Private Space Activities in China

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## ABSTRACT

In June 2019, the Notice on the Promotion of a Systematic and Orderly Development of Commercial Carrier Rockets was issued. The enactment of the Notice represents an important moment in the development and management of the Chinese space program: on one side, it marks the first regulatory steps taken by Chinese authorities to govern the ongoing process of privatization of Chinese space activities, specifically the production and operation of private space launchers; on the other side, it constitutes the latest addition to the largely outdated corpus of Chinese space law. In this light of its significance, the purpose of this viewpoint is to discuss the Notice's background, highlight its positive features and shortcomings, and envision its expected impact on domestic space projects.

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## 1. Introduction

Until recently, China remained a notable exception in the field of space activities, being the only major space player lacking a structured national space law. Indeed, while other space-faring countries had all enacted some sort of domestic space legislation (including the United States, Russia, France) or were at least in the process of doing so (India<sup>1</sup>), China's space law had for nearly two decades merely consisted of two low level regulations dealing respectively with the launch and registration of space objects. This situation started to change in 2019 when the Notice on Promoting the Systematic and Orderly Development of Commercial Carrier Rockets (hereinafter, the Notice) was issued [1]. Even though the Notice does not deal with what many would consider as a 'space activity' *per se*, as it addresses the research and production of space carrier rockets, it may certainly be viewed as the latest addition to

the *corpus* of Chinese space law because of its relation with existing Chinese space legislation and its impact on the realization of domestic space projects. Most importantly, the Notice is the most visible regulatory outcome of the process of privatization that is slowly, but gradually, changing the nature of Chinese space activities. Such a process is indeed creating the need for Chinese regulators to put in place an adequate framework to govern it, so as to ensure its orderly development and smooth co-existence with Chinese law. In this context, the area of commercial space launches has gained prominence due to the number of companies that have entered this field and the success that some of them have already achieved.

In light of these significant developments, the purpose of this viewpoint is to analyze the Notice by describing its political and legal background, reviewing its provisions and assessing its impact on present and future Chinese space activities.

## 2. Background to the 2019 notice on promoting the Systematic and Orderly Development of Commercial Carrier Rockets

This section analyses the three main factors that have influenced the drafting of the Notice, respectively: a) the privatization of

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<sup>1</sup> Since 2017, the Indian Parliament has been considering a Space Activities Bill.

Chinese space activities; b) the process of military/civil fusion; c) Chinese space law.

### 2.1. The privatization of Chinese space activities

In recent years, Chinese space activities have experienced important changes; while it is undeniable that large State Owned Enterprises (SoEs), such as the China Aerospace Science and Technology Corporation (CASC)<sup>2</sup>, the China Aerospace Science and Industry Corp (CASIC)<sup>3</sup>, and the Chinese Space Agency (CNSA) still play a dominant role, private entities have entered the space domain and begun engaging in all sort of space-related endeavors, from the manufacturing of small satellites to the launching objects into space.

Several elements have positively contributed to the privatization of Chinese space activities, including the entrepreneurial nature of Chinese entities and the decision by SoEs to focus on ambitious space exploration projects, a move that has opened up opportunities for new (private) players. One should, however, not underestimate the role played by the Central Government in supporting this process, particularly through the enactment of policies and regulatory measures that facilitated the involvement of companies and investors in space projects.

The issuing of the 2014 Guiding Opinions of the State Council on Innovation of Investment and Financing Mechanisms in Key Fields to Encourage Social Investment [2] is arguably the regulatory action that contributed the most to kick off the process of privatization of Chinese space activities; indeed, for the first time, an official State Council's<sup>4</sup> document openly encouraged private capital to participate in the construction of civil space infrastructure and, specifically, called private entities to develop, launch, and operate commercial remote sensing satellites and provide commercial services. The impact of the Opinions is evident if one considers that since 2014 Chinese companies have raised an amount close to US\$2 billion (more than RMB 13 billion), including US\$1 billion (around RMB 6.7 billion) in private funding, and nearly an equal investment from government sources, and that, over the same period of time, more than 100 commercial space companies have been established in China [3].

From a regulatory perspective, Chinese authorities have taken a step-by-step approach towards privatization that has consisted in: a) selecting areas where privatization should be allowed; b), issuing general policies to sustain this process and channel investments in it; c) letting the selected sector to mature for few years; d) finally, enacting more specific measures to tackle the issues that have emerged through this process. Significantly, the management of the area of private space launching has followed this approach. Indeed, after being selected as one of the first sector to be opened to

privatization, the 2014 Opinions specifically called private entities to invest in the development of space launch capabilities and to provide commercial services. This call was positively answered, with over 10 companies, including *inter alia* LinkSpace, OneSpace, iSpace, LandSpace, and ExPace, being established in the period 2014–2020 with the goal of providing launching services in low Earth orbit (LEO) to domestic and, possibly also, foreign customers. Furthermore, thanks to the promising business prospects associated with these projects, many of these companies have successfully completed several rounds of funding [4].

Notably, some private space launch providers have already achieved visible results. So far, the most successful one has been ExPace, which has undertaken several launches of its Kuaizhou-1A rocket carrying satellites for multiple Chinese clients.<sup>5</sup> One should, however, stress that the achievements of Expace have been largely due to the technical and financial support from CASC, a support that derives from the fact that ExPace acts, in practice, as a CASC's subsidiary and it is 'private' only from a nominal standpoint. Among the companies that do not have direct ties to governmental bodies, the only other space launch carrier provider capable of delivering a satellite in orbit has been iSpace that, on July 25, 2019, placed into a 300 km-altitude orbit an amateur radio satellite and a technology verification payload for China Central Television [5]. Other companies have either launched suborbital rockets (OneSpace) or completed take-off/landing tests (LinkSpace).

### 2.2. The process of military/civil fusion

Military-civil fusion (MCF) can be defined as a strategy aimed at making China an economic, technological and military superpower through the fusion of military and civil resources [6]. The implementation of the MCF has become a landmark objective of Xi Jinping's presidency and a crucial element to achieve the 'Chinese Dream' of turning the country into a major and influential global player [7].

One of the key features of the process of MCF, as elaborated in the 2016 Opinion on the Integrated Development of Economic Construction and National Defense Construction [8], is its multi-domain nature, meaning that the sharing of resources should involve a broad range of military and economic assets. Accordingly, the expression "military" includes every aspect of the national defense and force building endeavor, including armed forces, national defense technology, industry, facilities, while the term "civil" refers to fields in the economic and social system that are closely related to national defense and force-building, such as the national science and technology as well as emerging domains and such as cyberspace, and artificial intelligence. In this context, space has been identified as a 'critical domain' and one of the three key components, together with transportation and information, to achieve full MCF [9]. In particular, the fusion between civil and military resources is intended to: a) accelerate the coordinated development of space infrastructure to meet the demands of military and civilian entities; b) accelerating the implementation of a number of major projects such as heavy-lift launch vehicles, space nuclear propulsion units, far space exploration and spacecraft in-orbit servicing and maintenance systems; c) facilitate the development of national policies for satellite remote sensing data and the promotion of resources sharing of satellite resources and data between military and civilian enterprises [10]. In practice, as far as

<sup>2</sup> The China Aerospace Science and Technology Corporation (CASC) is a large State-owned enterprise that operates through over 130 companies and industrial plants distributed across China. CASC is the main contractor of the Chinese space program and is primarily engaged in the research, design, manufacture and supply of space technologies and systems, as well as in the provision of international commercial space launch services.

<sup>3</sup> CASIC is a state-owned, strategic, high-tech enterprise, that consists of more than 140 companies, industries and R&D centers distributed nationwide. CASIC is the main contractor of China's aerospace defence program with a particular focus on the production of short- and medium-range ballistic missiles and cruise missiles. CASIC plays an active part in many space endeavors both manufacturing various components parts and providing technical support to ongoing missions.

<sup>4</sup> The State Council is the highest administrative body of the People's Republic of China. It carries out the laws enacted and decisions adopted by the National People's Congress and its Standing Committee. Among its functions, the State Council: a) formulates administrative measures, enacts administrative regulations and promulgates decisions and orders.

<sup>5</sup> For instance, on January 16, 2020, Expace's Kuaizhou-1A successfully delivered in orbit Yinhe-1 a low Earth orbit (LEO) communication satellite for China's GalaxySpace, see at <https://www.spacetechnia.com/chinas-expace-launches-5g-satellite/>.

the space launch sector is concerned, these policies have enabled private actors to access know-how and sensitive technology, such as rocket technology, previously inaccessible to them. This in part explains how certain private companies managed to launch objects into space only within few years after their establishment.

### 2.3. Chinese national space law

The expression national space law refers to a law that is adopted by a State to govern 'national space activities', a concept that is usually related to activities undertaken: a) by national entities, both of governmental and nongovernmental nature; b) within the jurisdiction of that particular State. Generally, States enact national space legislation to better organize national space activities and to ensure their consistency with international space law [11], particularly with Article VI of the 1967 Outer Space Treaty that requires private space activities to be duly authorized by an appropriate State and continuously supervised by an appropriate State [12].

Countries may take different approaches towards national space law both in terms of its structure and scope; for instance, a State may decide to enact a comprehensive and detailed instrument regulating the whole range of national space activities or to issue legislation addressing selected issues (for example, a remote sensing or a telecommunication law). What it matters most for our discussion is that China remains the only space-faring country lacking a structured national space legislation by having enacted only two regulations dealing, respectively, with the launch and registration of space objects [13]. This means that other important areas such as remote sensing, telecommunication, etc. remains outside of the scope of dedicated legislation. Thus, it is not surprising that, once the research and production of carrier space rockets was opened to private entities, a new law had to be enacted to ensure the orderly development of this process.

From this perspective, it is important to point out that the outdated nature of existing Chinese space law and its limits have been the object of increasing attention by domestic regulators and analysts [14]. Indeed, while the 2001 and 2002 measures cover the main issues related to registration and launch, they contain shortcomings that arguably affect their effectiveness. For example, the precise scope of the space licensing measures is a matter of debate, as one has to wonder whether the licensing requirement is only applicable to the launch of a space object *per se* or if it also extends to the activities performed by the object once in orbit. Furthermore, the Measures oblige the operator to purchase a third-party liability insurance: on one side, there is no indication of the amount to be purchased nor, alternatively, the criteria to determine it; on the other side, it is uncertain if such an obligation is only relevant to the launch itself or also covers damage in orbit.

In light of the above issues as well as the evolving nature of domestic space activities, questions have arisen on how to ameliorate the existing *corpus* of domestic space law, specifically whether by means of a unitary and comprehensive national space law or through a series of individual legislative measures addressing specific issues [15]. Even though in the past few years, drafts of a comprehensive legislation have circulated in China, it appears that the second option has become, at least for the time being, the preferred one.

### 3. The 2019 notice on promoting the Systematic and Orderly Development of Commercial Carrier Rockets

The 2019 Notice on Promoting the Systematic and Orderly Development of Commercial Carrier Rockets which was jointly issued by the State Administration of Science, Technology, and Industry for National Defense (SASTIND); and the Equipment

Development Department of the Central Military Commission ((EDDCMC); this fact confirms the impact of the strategy of military/civil fusion in the space sector, as SASTIND is the body responsible for civil space activities (for instance licensing civil space launches) while EDDCMC deals with various aspect of military space projects. This point is further emphasized by the Preamble as it points out the Notice's role in facilitating the implementation of national strategies, such as the civil-military integration in relation to the production, testing, launching and technical control of commercial rockets [16].

The Notice contains Six Sections. The First Section defines its subject matter and emphasizes its implications from a national security perspective. Specifically, the Notice defines 'commercial carrier rocket-related activities' as the research, development, and production of carrier rockets and the launch of rockets into space for commercial use conducted by various enterprises using their own funds, social capital, or joint venture capital [17]. Additionally, 'scientific research and production activities of commercial carrier rockets' consist of "innovative research and development, research and production, testing and verification, launching services of expendable carrier rockets (including suborbital sounding rockets that carry instruments from 30 to 200 km above the surface of the Earth), reusable carrier rockets, reentry and return launch vehicles, and other system-level or subsystem-level products" [18]. Evidently, the scope of the Notice is rather broad, as it regulates the production of commercial rockets (including sounding rockets) through all the phases of their development, from the research stage to the readiness for launch. The last part of the First Section emphasizes the serious security implications associated with the production and utilization of rockets [19]. Based on this premise and on the fact that all space-faring countries have put such activities under strict supervision, the Notice establishes a three-stage procedure that a commercial rocket enterprise must go through before being entitled to research and produce rockets. Accordingly, activities can be carried out only after: 1) completing registration pursuant to the Administrative Provisions on the Registration of Business Scope of Enterprises; 2) receiving the approval from SASTIND; 3) obtaining a license for the scientific research and production of weaponry [20].

The Second Section of the Notice provides additional details about the procedure by indicating that SASTIND is responsible with license management over the projects listed in the catalogue of licensed weapons and equipment.<sup>6</sup> Aiming at facilitating the development of commercial rocket enterprises, scientific research and testing of rockets, on one side, and their production on the other, are regulated separately and subject to different licensing regime (respectively, a 'research license' and a 'production license') [21].

Section 3I of the Notice addresses the actual launch of a commercial rocket and it does so by referring to the 2002 Launching Permits Measures. Accordingly, a commercial carrier operator that intends to launch a rocket shall apply for a license under the Measures, indicating, *inter alia*, its registration of orbital frequencies, debris mitigation measures and the purchase of a valid third-party liability insurance [22]. Furthermore, the commercial entity shall successfully go through a special review from the EDDCMC.

Section 4 of the Notice lays down the rules applicable to the operation of launching and testing sites. With respect to launching, before submitting an application for a launching license, a

<sup>6</sup> SASTIND's license management task is to be conducted in accordance with the Regulations on Administration of the License of Scientific Research and Production of Weaponry.

commercial rocket enterprise shall undergo the following steps: a) complete technical coordination with a nationally recognized launching site; b) prepare a description of rocket launching and space flight; c) strictly observe safety and security provisions applicable in a launching site [23]. With regard to testing and verification that do not involve the launch of a space vehicle, relevant activities shall be carried out by using facilities of governmental authorities and enterprises [24]. In the event of both launching and testing, adequate measures shall be taken to ensure the safety of the land area, airspace and sea area at the launching site, flight testing zone, and landing or recovering zone [25].

Section 5 of the Notice addresses safety and export control matters. Its provisions stress the need for all provincial administrative departments of science, technology, and industry for national defense to effectively control and inspect the scientific research and production safety of the commercial rocket enterprises within their respective jurisdictions. Furthermore, it requires commercial rocket enterprises to strictly observe the administrative regulations on the quality of military products and launching safety as well as any other relevant safety regulation [26]. As far as export control is concerned, the Notice differentiates between research and production, on one side, and the handling of carrier rockets on the other. Accordingly, while researching and producing commercial carrier rockets, their owners may not transfer them in any form to entities that have not received the qualification or a license of scientific research and production of weaponry [27]. Carrier rockets, dual-purpose material, related technologies and services fall under the scope of export control regulations. Thus, when any of this technology or service is transferred to any domestic entities, the enterprise that does so shall clearly indicate the sensitive nature of the transferred material [28]. In the event of overseas transfer of materials, technologies and services, any transaction shall be subject to prior approval by the national export control department and written notification of the transaction shall be kept for ten years for future reference.

The final section of the Notice encourages commercial enterprises to make full use of military facilities, including launching and testing sites, for all the activities covered in the Notice and to entering into an authorization contract and a confidentiality agreement with the relevant state-owned enterprises and public institutions [29].

#### **4. Commentary to the notice on promoting the Systematic and Orderly Development of Commercial Carrier Rockets**

The 2019 Notice on Promoting the Systematic and Orderly Development of Commercial Carrier Rockets constitutes the most elaborated instrument to govern Chinese private space activities as well as the latest addition to the body of Chinese space law.

The Notice was intended to address the issues that had emerged in the process of commercialization of the space launch industry and had the potential to slow down its growth. In particular, questions remained in connection with: a) the exact procedure to be followed in order to be entitled to manufacture space carrier rockets; b) the restrictions imposed by existing Chinese export control regulations; c) the applicability of existing Chinese laws [30].

Before moving forward with the analysis of the Notice, it is important to clarify its legal status, namely if it represents an instrument of binding or recommendatory nature. The reader must be made aware of the fact that, in order to understand the nature of Chinese regulatory instruments, two elements need to be considered: 1) its issuing authorities; 2) its scope. The Notice was jointly issued by SASTIND and the EDDCMC; in principle, it is true that SASTIND (and the EDDCMC) does not have the power to adopt

binding administrative regulations or to enact instruments that establish new rules. However, SASTIND is entitled to issue instruments that clarify the applicability of existing rules to a certain sector or activity and that give an authoritative interpretation of a particular matter. Such clarification/interpretation is binding upon the subjects to which it is addressed. The right of SASTIND to proceed in this direction is confirmed by the 2018 Notice of the General Office of the State Council on Strengthening the Development and Supervisory Administration of Administrative Regulatory Documents [31] and further reinforced by the fact that SASTIND operates at Deputy Ministerial level, not as a mere administrative body.

The above framework fits perfectly with the structure and scope of the 2019 Notice and enables us a better understanding of its true implications. The Notice was not intended to elaborate new rules to govern the development and production of commercial carrier rockets; on the contrary, it was meant to establish a step-by-step procedure to regulate that process that is based on existing rules that are combined, for the first time, in a unitary and comprehensive framework. Such a procedure is binding upon the private entities interested in operating in this sector. Ultimately, the 2019 Notice represents a binding civil/military regulatory instrument regulating the nascent commercial carrier rockets industry [32].

After having clarified the legal status of the Notice, the analysis may now proceed with a review of its positive features and shortcomings. First, the Notice represents without a doubt a positive development from the perspective of the private sector, as it shows the strategic relevance that the Chinese Government gives to the development of a private space launch industry as well as its willingness to provide continuous support to it. Second, the Notice clarifies the procedural steps that a company is required to take in order to research and develop rocket launch technology; in this regard, the indication of the responsible authorities, the relevant laws and the expected timeframe to complete the procedure are particularly significant. Importantly, up to 2019, the lack of a clear framework not only caused widespread uncertainty among the entities that were already engaged in the production of space launch rocket technology but also had a discouraging effect on those subjects that were considering entering this sector. Third, the enactment of the Notice demonstrates the awareness of Chinese authorities on the need to adapt existing Chinese space law to the present reality and needs of Chinese space activities. From this point of view, the Notice answers the private sector's call for clearer rules governing the research and production of space carrier rockets [33]. Criticism that the Notice does not truly innovate in the way these activities are regulated is largely unfounded; indeed, as it has been explained, the Notice was not intended to set out new rules but to combine existing provisions relevant to the development of commercial carrier rockets into a unitary procedure. Fourth, the Notice's provisions align China to the way other countries regulate the participation of private entities in the manufacturing and launch of space commercial carrier vehicles [34]. For example, according to the Notice, orbital launches must be conducted at "approved" sites, which means one of the four national launching sites in Jiuquan, Xichang, Taiyuan, and Wenchang; this requirement is similar to the one in place in the United States where orbital launches must be undertaken at government facilities. Another positive feature of the Notice concerns the steps taken to ensure that the production and use of private space launch carriers does not undermine national security; accordingly, commercial carrier rocket enterprises are prohibited from: a) producing any kind of assault weapon; b) hiring foreign nationals or allowing them into manufacturing facilities; c) exporting rocket technology.

Moving the discussion to the less positive features of the Notice, a number of shortcomings emerge when its provisions are



reviewed individually or in connection with pre-existing legislation. As a starting point, it is arguable that the procedure to research and produce carrier rockets is overly complex and burdensome. Based on this premise, two considerations can be made: first, it is questionable whether such a procedure is suited to achieve the Notice's goal to attract new players towards the space launch industry or it has, instead, the opposite effect; second, the procedure seems to be aimed at 'confirming' the characteristics and capabilities of the entities that are already involved in the research and production of space carrier rockets rather than at putting in place the conditions to attract more companies to enter this field. Indeed, while the former entities have already demonstrated their ability to comply with the stringent report and licensing requirements established by the Notice, it is doubtful that the latter might be able to do so in the near future.

Among the core issues of the Notice there is the fact that it deems commercial carrier rockets as 'weapons and regulates them pursuant to military regulations; while the sensitive nature of the items at stake renders the cautious position taken by Chinese regulators fully understandable, one may wonder whether the development of 'dual-use' technology that is intended to be used primarily for civil purposes could have been regulated in a more flexible manner, for example by including the possibility of a 'fast-track' procedure for companies that have demonstrated the ability to comply with the Notice's stringent requirements. In this regard, it seems appropriate to mention the case of the French national space legislation where a simplified licensing procedure for those operators that have demonstrated their ability to comply with technical, moral, financial and professional requirements is in place [35]. Another element of flexibility that the Notice could have included is the possibility for an entity that has already been licensed to produce a certain kind of carrier rocket to use the same model for further research or for testing purposes without having to apply for an additional research license; notably, the Notice makes no reference to such a possibility. One may also wonder about the exact scope of the Notice; as per Section 1(3) its provisions apply to research and production, testing and verification, launching services of expendable and reusable carrier rockets (including suborbital sounding rockets that carry instruments from 30 to 200 km above the surface of the Earth). Thus, it is not entirely clear how the Notice would apply to private companies building larger rockets or if they existing categories are intended to protect China's existing state rocket industry from direct competition from the private sector.

An aspect that is not specifically addressed by the Notice is the sustainability of private space launch activities, meaning the ability of commercial carrier rocket providers to sustain their operations over an extended period of time. This is, indeed, a relevant point considering the regulatory restrictions that these entities face as well as the highly competitive nature of the space launch market. Taking into account these challenges, it would seem advisable, at least at an early stage, for the government to become a regular customer of private space manufacturing and launching services. Importantly, this is not an uncommon practice for governments to follow; for instance, in the United States, the government, through its agencies, acts as the main customer of private remote sensing products. Significantly, the Chinese government seems to be embracing this approach, as several of the launches undertaken by the private company ExSpace have commissioned by provincial administrative bodies.<sup>7</sup>

<sup>7</sup> For instance, ExSpace has launched a small satellite on behalf of the Jilin Province as part of the Jilin's satellite constellation, see at <https://www.spacetechnology.com/chinas-exspace-launches-jilin-1-gaofen-02a-satellite/>.

Another controversial aspect is the relation between the Notice and the 2002 Launching Permits Measures. This relation derives from Section III of the Notice that clarifies that when a commercial rocket enterprise (that has produced a rocket pursuant to the Notice's requirements) wishes to launch a rocket it shall apply for a license under the Measures. Regrettably, when establishing the relation between these two instruments, Chinese regulators have missed the opportunity to address the shortcomings of the Launching Permits Measures and to, at least, adapt its provisions to the specific characteristics of commercial carrier rockets and the services that they provide. For example, in consideration of the small size of the rockets produced by Chinese entities and their ability to launch only small satellites, regulators could have considered to lower, or even initially waive, the requirement to purchase a third-party liability insurance as per Art. 33 of the Launching Permits Measures. Such a decision not only would have been beneficial to the nascent commercial carrier rocket industry but would have also aligned Chinese legislation with that of other countries.<sup>8</sup> It is also not entirely clear if the insurance requirement only refers to the launching phase or also to the in-orbit portion of the space activity, an important element that may add additional costs to the space launch provider and satellite operators. A final element of concern is the impact of military authorities in the launch and operation of commercial carrier rockets, both in relation to the launch of domestic space objects as well as that of foreign owned spacecraft. As to the first point, the Notice requires to carry out activities exclusively at nationally recognized space launch sites that are controlled by military personnel; several companies have voiced the need for a civil or commercial launch site in order to facilitate commercial launches and reduce launch congestion. Importantly, China's 14th Five-Year Plan includes the goal of building a commercial rocket launch center, a step that, if implemented, would certainly be welcomed from the private launch sector [36]. As to the second point, considering the Notice's requirement to make full use of military facilities and equipment, it remains to be seen the level of legal protection given to foreign entities that decide to launch their space objects on board of private space launch vehicles, especially in terms of preservation of technological and proprietary rights. This might be an important element to be addressed by Chinese regulators, as the involvement of foreign entities might be instrumental to ensure the long-term sustainability of private Chinese space launch activities.

## 5. Conclusion

The enactment of the 2019 Notice represents an important moment in the development and management of Chinese space activities. On one hand, it is a visible manifestation of the changes that have occurred in the space sector, most notably the entry of private entities as active and meaningful players; on the other hand, it demonstrates the awareness of Chinese law-makers on the importance to adapt existing legislation to the needs and challenges of current space actors.

In perspective, as more areas are expected to be gradually opened to privatization, it is foreseeable that Chinese authorities would take additional regulatory steps in the years to come; from this point of view, the 2019 Notice seems to indicate, at least in the short term, a preference towards enacting limited and dedicated regulatory instruments rather than comprehensive and detailed

<sup>8</sup> For example, Art. 7(4) of the 2011 Austrian Outer Space Act foresees the possibility to lower or even waive the insurance requirement if the activity is in public interest, an assessment that is based on the danger of the planned activity and the financial situation of the operator.

national space legislation. This does not mean that efforts aimed at eventually issuing a comprehensive Chinese national space law would, or should, be interrupted; it only signifies that, in order to address pressing regulatory challenges, the release of dedicated instruments is arguably the most efficient solution.

### Authors statement

The authors equally contributed to the research, preparation, writing and finalization of the paper.

### Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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