



New scientific data rules in China: China claims "data sovereignty"



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Background

In recent years, China has become the world's most prolific producer of scientific research publications. Rapid growth in scientific data output is viewed as being essential for technological innovation. However, in the age of big data, and consistent with the huge amount of recent legislation on cybersecurity and data protection in China, the Chinese government has been thinking about a national-level policy that would regulate the generation, collection, use and sharing of scientific data.

In response to China's growing role in many research fields worldwide, and with the aim of standardizing a management mechanism for scientific data, on 17 March 2018, the State Council released the *Scientific Data Administrative Measures* ("**Scientific Data Administrative Measures**") which came into effect on the same day. The Scientific Data Administrative Measures impact all scientific data generated through research within China, whether or not such research has been funded by the Chinese government. Rather ominously, the Scientific Data Administrative Measures state that scientific data must meet the 'secure and controllable' principle, (which, in other sectors, has been interpreted to mean 'Chinese controlled') albeit alongside more positive principles like 'full use', and promoting openness and sharing, which means it must not be used for engaging in activities that endanger national security, the public interest and rights and interests of others.

The Ministry of Science and Technology ("**MOST**"), has indicated that the purpose of the Scientific Data Administrative Measures is to strengthen and standardize China's management of scientific data, to secure data relating to state secrets, national security and the public interest, and to enhance the availability of data.

The Scientific Data Administrative Measures capture a wide scope of activities including Chinese government-funded collection,

generation, processing and sharing of scientific data, as well as any activities relevant to scientific data that entities or individuals carry out within China.

What is the scope of "scientific data"?

Under the Scientific Data Administrative Measures, the term "scientific data" is broadly defined as, in fields like natural sciences and engineering technology science (but the list is open ended):

- data generated through basic research, application research pilot development tests or other such life production-type data; and
- raw data and derivative data obtained through monitoring and observation, investigation, inspection and testing, and used for scientific research.

Broadly speaking, therefore, "scientific data" includes both raw data and derivative data. All individuals and entities in China which engage in activities relating to scientific data and which fall into the circumstances set out in them are subject to the Scientific Data Administrative Measures.

What are the obligations imposed on research institutions?

The Scientific Data Administrative Measures set out a series of obligations applicable to research institutions, higher education institutions, commercial research agencies and other enterprises (collectively "**Research Institutions**") as well as individual researchers, namely:

- Submission of scientific data to a scientific data center operated by a MOST-designated entity. Research Institutions **must** submit scientific data generated from Chinese **government-funded** technology programs ("**Government Programs**") to the relevant scientific data center. The scientific data center is a new agency introduced by the Scientific Data Administrative Measures,

which will be formed and operated by a MOST-entrusted entity.

- Research Institutions **must** submit any scientific data generated from non-Government Programs ("**Private Programs**") to the relevant scientific data center in accordance with the relevant provisions if the data concerns state secrets, national security or the social and public interest, but they are **encouraged** to submit other scientific data generated from Private Programs to the relevant scientific data center too. Trade secrets are not carved out of data that has to be disclosed where the data also constitutes state secrets or concerns national security or the social and public interest, although there is a provision stating that scientific data involving state secrets, national security, the social and public interest and personal privacy must not be made public, a review, presumably by MOST, will be carried out and the scope of access minimized. This still means the Chinese government will be able to access scientific data generated by private programs containing trade secrets where the data also relates to state secrets, national security or the social and public interest where there is a duty on private programs to disclose. The concern here is that it is the MOST entity that will make a decision whether or not to publish on the basis of its assessment and has the power to publish data containing trade secrets. Presumably the onus will be on Private Programs to identify trade secrets in submitted data.
- Perhaps the most troubling of all the provisions in the Scientific Data Administrative Measures is Article 24, which states that: "where government policy making, public safety, construction of national defense, environmental protection, fire prevention and control, public benefit scientific research and so forth need to use scientific data, legal persons must provide

the same without charge; where it is truly necessary to charge, the fee charging scale must be based on the legally stipulated procedures and the non-profit-making principle to fix a reasonable scale, and make the same public and accept supervision". This is contrasted to the position on where scientific data is needed for business activities, where the parties must sign a services contract for consideration.

- Submission of scientific data before publishing a thesis in a foreign journal. In cases where scientific data is generated through Chinese Government Programs, the author of the thesis must submit relevant scientific data to his/her working institution before publishing a thesis using the scientific data in a foreign journal.
- Establishment of a data storage system. Research Institutions must establish a scientific data retention system, and be equipped with facilities necessary for data retention, management, service and security.
- Classification of scientific data. Research Institutions must classify scientific data, determining the security level, secrecy period, access conditions, access scope, and relevant evaluation procedures.

How to ensure open access to Scientific Data?

On a more positive note, the Chinese government has also indicated its intention to enhance the availability of scientific data to the public. MOST will formulate a resource catalogue, and upload the catalogue together with available government-funded data to a connected data exchange platform, so that the public can access the scientific data. In exceptional situations, where the scientific data contains state secrets, trade secrets or personal information, or concerns national security or the public and social interest, the data will not be made available to the public. It is difficult to understand the logic as to why data that is

relevant to the public interest cannot be published. Where it is truly necessary to share the data, a strict evaluation process must be carried out to scrutinize the purpose of sharing, user qualifications and security conditions. However, it is clear that this concept of publishing certain scientific data is secondary to the primary goal of the legislation, which is asserting state control over the scientific data.

The Scientific Data Administrative Measures also standardize the cross-border flows of scientific data. Scientific data can be shared with foreign collaborators in the case of cross-border cooperation or exchanges. However, where the scientific data contains state secrets, the data cannot be shared with the foreign collaborators without special approval from MOST.

Troubling issues

The Scientific Data Administrative Measures do raise some troubling issues:

- How do Private Programs assess what scientific data concerns state secrets (the definition of which is notoriously nebulous and malleable, based on interpretation), or touch on national security or the social and public interest? Does a Private Program have an obligation to submit highly confidential commercially valuable scientific data that potentially contains trade secrets but China may consider relates to the public and social interest, thus negating the commercial value of the same? For example, if the Private Program is doing research on a new molecule that has public health implications, could China require the scientific data to be handed over to the MOST-designated entity because it relates to the public interest? Does this obligation imply having an officer (possibly with legal training or a regulatory background) within Private Programs whose job is to trawl through research data and identify problematic content that might need to be submitted? If so, presumably the

Private Program will need to bear the cost of the same.

- What should a Private Program do if it is doing outsourced work for say a foreign pharmaceutical company and is bound by confidentiality provisions not to disclose, but is required under the Scientific Data Administrative Measures to disclose the data because it relates to the public interest? Will an exception have to be drafted into confidentiality clauses that makes disclosures under the Scientific Data Administrative Measures clearly fall within the carve out for disclosures required by 'applicable laws'?
- Will the requirement for researchers in Government Programs to submit data to their institution before publishing overseas in practice put researchers off from sharing such data with foreign counterparts or publishing such data in any overseas journal, thereby limiting scientific exchanges? Conversely, will overseas scientific researchers be willing to exchange data with their Chinese counterparts (especially in Government Programs), knowing that the latter may have an obligation to turn the data over to the Chinese government?

Conclusion

The introduction of the Scientific Data Administrative Measures follows a restructuring of MOST announced by the State Council on 20 March 2017, pursuant to which MOST will assume greater responsibilities in terms of the funding of science in China. In addition, MOST obtained the mandate to formulate technological development plans and strategies. The Scientific Data Administrative Measures only establish high-level principles and leave room for interpretation and implementation, so we expect to see MOST formulating more detailed implementation rules in the near future.

Overall the Scientific Data Administrative Measures send a mixed message: on the positive

side there is support for openness and sharing of scientific data, but then it is the MOST-designated entity's decision on what gets actually published. It is hard not to see the Scientific Data Administrative Measures against the background of China having made its position clear that it sees cyberspace as the virtual equivalent of physical territory over which China equally claims sovereignty, and see this as another attempt by China to assert "data sovereignty" over yet another area.

Most concerning of all, and hence the provision whose scope needs to be clarified most urgently, is Article 24, which seems to be saying on one reading at least that Chinese government policy makers have an unqualified right to demand that companies in China give them any data that falls within such broad categories of being needed for, amongst others, "policy making, public safety or public welfare" without charge (unless it is truly necessary to charge) and with no defenses or legal basis to resist disclosure, such as on the grounds of the data being a trade secret or disclosure would violate an agreement with a third party.

Contacts



Andrew McGinty
Partner, Shanghai
T +86 21 6122 3866
andrew.mcginty@hoganlovells.com



Maggie Shen
Senior Associate, Shanghai
T +86 21 6122 3883
maggie.shen@hoganlovells.com



Steven N. Robinson
Partner, Washington, D.C.
T +1 202 637 5690
steven.robinson@hoganlovells.com



Sherry Gong
Counsel, Beijing
T +86 10 6582 9516
sherry.gong@hoganlovells.com



Jessie J. Xie
Senior Associate, Beijing
T +86 10 6582 9488
jessie.xie@hoganlovells.com

Alicante
Amsterdam
Baltimore
Beijing
Birmingham
Boston
Brussels
Budapest
Colorado Springs
Denver
Dubai
Dusseldorf
Frankfurt
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