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Strategy Paper for enhancing reciprocity in EU-China Science & Technology Cooperation

ChinaAccess4EU

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Supporting the EU access to Chinese research & innovation programmes

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Imprint

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Executive Summary

Europe and China share a strategic interest in further promoting joint efforts that will augment the quantity and quality of scientific output and technological innovation in both Europe and China, especially in the face of common global challenges.

In recent years, China has made huge investments in its science and technology infrastructure in order to catch up with and ultimately to overtake the West, in an attempt to restore China's once pre-eminent position at the forefront of global invention and innovation. It has an immense talent pool, rapidly improving universities and some excellent state-of-the-art facilities, but faces many difficulties as a still developing country.

The long track record of Science and Technology (S&T) cooperation between the European Union (EU) and China has delivered fruitful results so far and offers considerable potential for the future. It is nonetheless a challenging task for policy-makers to articulate a collaboration framework under which the foreseen cooperation can always be kept on track as expected and which optimally fulfils both sides' expectations.

Chinese partners have been permitted extensive participation in the EU's framework programmes for research, up to and including the current FP7 programme which ends in 2013, and this has been highly effective in building a strong base of collaboration across the natural sciences and engineering and also across the social sciences.

In an effort to improve reciprocity and European access to Chinese funding, the ChinaAccess4EU project has studied Chinese programmes open to European participation and publicised the details of these, together with a series of case studies to identify best practices, on the web and in a series of dissemination events in Europe and in China over the past 2–3 years.

Through surveys and interviews, the ChinaAccess4EU project has also identified a series of challenges and constraints to EU-China collaboration in science and technology that need to be addressed in order to improve future collaboration between the European Union and China.

This Strategy Paper provides a succinct recapitulation of the main project findings and delivers a set of specific recommendations aimed at enhancing Science and Technology (S&T) collaboration. Although the main target audience of this Strategy Paper is EU policy makers, this

document collates a set of practical advice which will be likewise useful to EU researchers interested in collaborating with Chinese organisations, and to Chinese policy-makers and researchers keen to develop greater reciprocity to mutual benefit.

This Strategy Paper makes three **Strategic Recommendations**, namely:

- **Create a Europe-China Research Foundation –** The creation of a Europe-China research foundation would represent the materialisation of a common vision. Such an effort should be jointly funded by the EU and China in order to provide grants supporting basic research. This Europe-China Research Foundation would improve collaboration, facilitate a truer reciprocity and help achieve commonality of interests for both sides. The Foundation could be administered on the Chinese side by the National Natural Sciences Foundation (NSFC) and another EU body. Funding would be allocated to Chinese and European partner applicants selected by European and Chinese peer review panels. The funding schemes should be designed to allow each side to fund its own part of the collaboration in its own way in line with its own rules and practices, and its own funding culture. That way neither side would end up imposing an unwanted and unnecessary bureaucracy upon the other[1]. This recommendation is based on the information collected during the ChinaAccess4EU project, since such joint foundations/programmes funded in a reciprocal way is the tendency at the bilateral level (e.g. Netherlands, Israel, among others) and they have proven to be successful.

- **Set up a China Access Infodesk Office –** The creation of a ChinaAccess Infodesk Office in Europe would provide a central access point of information on Chinese programmes for EU research organizations and ensure the visibility and sustainability of existing EU initiatives such as ChinaAccess4EU. Similar to the China-EU Science & Technology Cooperation Promotion Office (CECO) in China, this would be a real and a virtual meeting point where interested organisations could obtain information about Chinese funding opportunities, get professional advisory services and gain an insight into **critical factors for success** when considering cooperating with Chinese counterparts. At the same time, under the umbrella of this organisation funding organisations from Member States could share their experience. This would facilitate the objective of Best Practice sharing. The Infodesk Office would also raise the visibility of European research and innovation in China by providing a focal point as well as a space for everyday exchange of information and

[1] This has proved to be a successful international cooperation philosophy in the United Kingdom Royal Society.

interaction. The China Access Infodesk Office would also ensure that the material gathered for the ChinaAccess4EU project would continue to remain useful to the scientific community, forming the core of its database.

- **Follow a strategy of Diversification –** It is important to go beyond Beijing and other major Chinese cities in S&T collaboration. China has many hotspots of scientific excellence (for instance in universities and research centres in the provinces of Jiangsu, Anhui and Shan'xi) and they offer considerable potential for enhancing S&T cooperation. The 34 Chinese provinces are supported by government Science and Technology Bureau which have specific strategies and corresponding budgets to support research and development in targeted areas, creating major opportunities for collaborative projects. These regions are sometimes more eager to collaborate with the EU which could make the access easier for EU researchers than the most well-known S&T regions in China.

For the formulation of this Strategy Paper the ChinaAccess4EU partners benefited from the valuable support of external experts, who generously shared with the consortium their experience and advice. This advice, together with information gleaned in the project's surveys, has led to the production of a series of other detailed recommendations which are listed in this paper.

The ChinaAccess4EU partners offer this Strategy Paper as a reference document for EU policy-makers and researchers alike in the hope of further developing EU-China S&T collaboration in a sustainable and mutually beneficial manner.

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Introduction

When mentioning the concept of reciprocity, many questions can arise. For example, does it refer to guaranteeing the same degree of involvement (e.g. in terms of total participants) and commitment (e.g. access to information, allocation of financial resources, clear participation rules, etc.) from both sides *from the beginning* or does it rather refer to only ensuring that the cooperation will *in the end* be of equal benefit to both sides?

The analysis of the issues surrounding the above forms a core part of this Strategy Paper, which will deliver a set of recommendations. But firstly it is necessary to start with a short recapitulation of most important issues shaping the European Union (EU)-China Science and Technology (S&T) cooperation in order to provide a common baseline.

After the first fruitful and successful years of scientific and technological exchange between the EU and China, Chinese officials promised to encourage the participation of European researchers in their funding programmes. In the same vein, in its "Recommendations for thematic priorities in cooperation with China", the Strategic Forum for International Cooperation (SFIC) insists on the necessity for the EU to "support its general R&I [Research and Innovation] diplomacy, and specially the improvement of framework condition for a win-win partnership in innovation with [China]."[2]

In order to provide a basis for a more reciprocal form of collaboration, it is essential first to understand how the partner thinks and how his system works. This is a pre-condition to ensure that each side comes to the negotiating table with lucidity, clear objectives and realistic demands. This Strategy Paper points out some crucial aspects of China's S&T landscape, its current situation, system and priorities that need to be taken into account in order to pave the way towards a sustainable S&T collaboration framework that matches both sides' expectations.

At this point, it is useful to recall the reasons why it is important—even indispensable—for Europe to work together with China on science.

In our interconnected world, the geography of science is changing as science becomes more global; knowledge is nowadays shared so fast and efficiently and the centre of gravity is shifting eastwards. Thus, international collaboration has become a key issue and scientists seek collaboration with those most knowledgeable in their field, wherever they are. Support measures

[2] See SFIC recommendations on thematic priorities in cooperation with China., Annex 1, p. 2