China-Europa Forum
中 欧 论 坛 2007

WT15 – The management of scientific and technical choices

Session 1

The Chinese vision

- How science and technology can shape youth future ?
- We import more and more science and technology : do we have to continue imitating other countries ?
- Example : Shenzhen success story in which 90% research is from the enterprise 90% of research output is made by the enterprise IP policy is left free to the firms In Shenzhen main driving forces for the technological development are enterprises, market and market driven innovation and universities. Elsewhere in China, apart from high tech, most private firms are reluctant to invest their money in basic research
- Both Chinese government and universities take IPR seriously.
- There are two sets of criteria to assess technologies, economic and social (safety sustainability and environment). Environment concern is of growing influence and also deeply rooted in Chinese past. There is a growing awareness in China on safety and environmental issues. These questions are taken on board at the highest level in China. Some specific initiatives on biosafety have already been implemented. China is under environmental pressure but it seems that traditional knowledge might help to cope with this challenge.
- Currently, economic factor is the direct driving force for science and technology ; education might become the long run driving force ?
- Although technology has been prioritised in China, some scholars remain critical for philosophical reasons. Acceptability of science and technologies in Chinese society is favoured by the current philosophical background.
- Decisions refer to central political power (state or provinces) but they can rely on on local initiatives. This implies, in some cases, disparities in technological and economic development between the different regions.

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The European questions addressed to Chinese

- Need for alternative science and technology do you have in China, different from the west
- What are the protection for the independence of science and technology ? Sometimes freedom of scientists is facing limitations by the government.
- How to deal with a huge diversity ? coordinated policies though the different regions ? What is innovation to you ? Is it always high tech or can it be also local initiative ?
- IPR seem to be a hard topic. It is important for certain sectors but not for the whole economy. Patenting university researches may sterilise some fields of research. Monsanto had some patents revoked by the european patent office.
- Some environmental issues, like traffic, are very difficult to manage through market. Some signals from the market should be rejected
- Is there a technological battle which China wants to win ?

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The European vision

- There is no coherent science policy at national or european level. S&T research agenda is set by corporations which have short term wealth creating aims. Lack of a shared vision in Europe which may function as an important guide to approach the future (if it would exist). Society is not served by the existing research agenda. We, as a society need to recapture the S&T agenda.

- Development of educational resources at all levels will for a long time be the main driving force for economic development in China and Europe. This underlines the need to find new approaches for interface and collaboration.

- Democracy and technology : challenge of making a european « public » to relate policies to :-methodology, -EU institution awareness

- Unfortunately, S&T are not considered as part of culture, in the anthropological sense. It is necessary to reshape the domains of expression and knowledge through their interactions aimed at different forms of innovations and democratisations.

- Co-ordination of STI policies among governance levels (regional, national, EU) and the inclusion of societal concerns (representatives of the civil society); as well as horizontal co-ordination: between different policy areas (again, at all levels: regional, national, EU).

- Co-operation for production and utilisation of knowledge; among EU member countries, among different partners (business – academia – policy-makers – new research actors); not only commercialisation!

- Science and technology task is to prepare the future. Foresight is needed first. But the future is likely to be quite different from the past.. The last 50 years were driven by competitivity, consumption and markets. Because of global warming and resources depletion, the next 50 years may be devoted to reduce overconsumption, restore nature care and built cooperation instead of

relying on competition. While the « grand » societal questions/problems such as depletion of resources, biodiversity, global warming, climate change – seem to be rising in importance, yet S&T seem to be locked in their own logic, and not capable of « timely » answer. This is partly a result of scattered resources and lack of concentration of means. Sustainability and technology : integration of sustainability and social issues into the EU tech/innovation research activities.

- Mechanical versus holistic approach of science ; competition leads to uniformity. Symbiotic relationship. We should celebrate diversity.

- Methods exists that can be transferred.. For instance, citizen's conference. Consensus conference : Citizen panel 16 people diverse group. 3 week ends : catalog ; experts invitation ; conclusion written in consensus. Other method : scenario workshop. Common idea on what should happen, but it does not happen : ex urban ecology. 40 civil servants and citizens. After looking at existing results, they built their own scenario. 2 conditions : -it has to be taken seriously by politicians. - team accepted as independant and relevant.

- Science instrumentalised is not a factor of democracy.

- Biological approach leads to more and more complex views

- Common space expert production (ex : open source) how to develop a global cooperation. Interactive value production. Democratisation and utilizing creativity.

- The budget of EU : 5% of the money going to research in Europe. We had to avoid too much fragmentation. But in biotech, we need to have fragmentation. Therefore we have to combine both orientations, and it is difficult. Communication issued 6 month ago. Expenses in US and Europe are more or less at the same level. It is not true that research budget is public in Europe and private in US. Better cooperation in Europe and with other countries. The right to error : a reason to create the european reserch council, last year. We have a tricky idea of our role in the world. We are responsible for the world future. It goes through co-development.

- Most past important S&T breakthroughs aimed at achieving technological autonomy or meeting new challenges depend upon

  focused, proactive policies initiated by States, not by markets, irrespective of their economic, societal, environmental or military nature. (This applies particularly to emergent fields in which the critical mass of basic knowledge necessary to develop engineering programmes has not yet been reached). The success of such proactive policies depends upon four major prerequisites: a) freedom of basic research selected only for their quality; b) appropriate, pluridisciplinary evaluation avoiding the temptation of science managers to use misleading, alledgedly objective or 'neutral' criteria; c) capacity to mobilize adequate funding to develop discoveries as soon as they are made; d) responsibilization of scientists as soon as a discovery is estimated to become applicable. Examples will be provided to illustrate each of these prerequisites. At present, and in spite of its humanistic traditions, Europe does not pay sufficient attention to these constraints.

The Chinese questions addressed to Europeans

- Science and power, influence of military guidance methods for the use of power. Science and democracy, the right to be wrong ; equal distribution of science budget/ Science and culture. We ignore culture function of science. More cooperation and budget restrictions ?

- Diversity is turning to similarity. 2 centuries ago we could not imagine to be here. In natural science, we have only one answer. Thousand of living species ; genome. Similarity or diversity ? Ethical issues.

- How european scientists inspire youth ?

- Dangers to imitate. Every country could have his contribution. How do you look at most advanced countries than european union.

- Satellites in astronomy, funded by government. Comparison with US

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Similarities

- Two challenges : 1. technology has been prioritised. We should preserve the independence of Science. 2. the trend of taking economy as the driving force for S&T development should be constrained.
- We are aware of the importance of the development of educational resources. We should reshape society and inspire the youth through education of S&T.
- We are aware of both positive and negative aspects of IPR. Therefore, we have to improve our IPR for better development of S&T. It is our common interest.
- The environmental issue is an indispensable point for S&T development. In terms of environmental issue, both China and Europe are taking it seriously on governmental level as well as in society at large.
- Education is a major key driver of the future. S&T play also a major role in the way society is shaped.
- Demography issues is a planetary challenge ; global warming and nature care also.
- Science and techno should be designed to shape youth future and motivate young generations.
- There is a common need for basic research
- Drivers for S&T should not be limited to companies profit ; social and environmental sustainability issues have also to be taken into account
- Knowledge diversity is an important resource. It has to be preserved and exchanged.
- Visions on global environment : Worries are shared, but the priorities are different.
- Innovation capacity in SME's is weak in both areas. Europe can learn from China making connections with the outside world. China may learn from Europe about structured approach of innovation policy.

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Session 4

How to enhance the dialogue between China and Europe ?

Build common scenarios for a sustainable future of the world and explore the possible role of S&T in these scenarios

Joint education activity in the field of STI studies, including policy studies and foresight. Mapping on ongoing activities. Using existing networks for the mapping. Contact the major STI policy centers in Europe and follow up the findings in China. Exchange of students, professors and other research staff. Organizing summer schools to start joint curriculum development. Double degree program between China and EU in this field.

A research structure working on technologies with technicians and artists. The infrastructure is given by universities, technical research centers, and also art schools. Democratisation of S&T through artistic activities, particularly concerning environment and technology.‘ The means : A high level symposium. Experience of distant technologies. Exhibitions and «events». One possible theme, from Shenzhen experience, could be recycling of tools..It could give opportunities to treat waste and also to prepare for use in developing regions. There is a recent burst in creativity in Chinese art, particularly photography.

Comparative research and studies on traditional medicines and different medical practices in China and Europe, toward a new alliance of the two areas.

Joint research activity in the field of STI, such as governance, coordination of policies IPR, Innovation processes, ethics. Mapping Research workshops

Develop common research on the topic of independence of science, ethical issues and science society relations form epistemoligical dimension to organisational settings

Joint research activities in order to better understand the different cultures and their influence on the innovation and development process.

Joint education activities in the field of management and engineering with a strong emphasis on environmental issues.