

INNO
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POLICY



Harnessing strategic international collaboration in STI

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What is internationalization of STI?

1: Generation of knowledge and innovation:

- All international cooperation and coordination, inward and outward investment, inward and outward transfer of knowledge including inward and outward mobility, international use and cost sharing of data and infrastructure;
- by public and private researchers, public organisations, civil society, and private firms;

2: Policies, frameworks and funding to support 1) above which involves activities and measures such as cooperation, coordination, integration of policy and funding bodies (including foundations) in various forms (between and across levels), regulatory issues, removing barriers to internationalization.



International cooperation

- International cooperation as such can be understood as all cooperative relationships between STI performers in non-equity relationships:
- *STI cooperation includes informal and formal agreements that involve exchanges of knowledge on a systematic basis between R&D actors that are organisationally separate.*



Drivers of globalization of STI

- External sourcing of knowledge by firms
- Increasingly mobile students and researchers
- Reduction in communication and transport costs
- New ICT based knowledge sharing and transfer models
- Increasingly global research agenda
- Integration of STI in economic development
- High costs of infrastructures
- Greater speed and specialization of knowledge production



China's transformation: The health challenge (Lu Zhihao, 4 years, 62 kilos)



Transforming China: Health and welfare

- Changing living conditions and a growing middle class lead to new health challenges
- 10% of the Chinese have diabetes, insulin market to grow 20% in coming years
- Great regional differences in income and welfare
- China is ageing: Old age dependency ratio to reach 0,24 in 2030, compared to 0,11 in 2010)
- Welfare programs are being introduced, but diseases, health care, ageing, and health insurance markets will be key in China's S&T priorities



Increasing cooperation in health research

- Highlights a focus on rules for codes of conduct and ethical considerations
 - Institutional responsibility, national guidelines and regulations
 - But needs a joint framework (data security, privacy, rules for trials etc)
- Agreements, treaties and partnerships



Convention on Biological Diversity
United Nations



INTERNATIONAL INSTRUMENTS was agreed on 29 October 2010 in Nagoya, Japan

- **ACCESS TO GENETIC RESOURCES AND THE FAIR AND EQUITABLE SHARING OF BENEFITS ARISING FROM THEIR UTILIZATION TO THE CONVENTION ON BIOLOGICAL DIVERSITY**
- **The Nagoya Protocol is intended to create greater legal certainty and transparency for both provider and users of genetic resources by:**
 - Establishing more *predictable conditions* for *access* to genetic resources
 - Helping to *ensure benefit-sharing* for both parties



Material Transfer Agreements

- A Material Transfer Agreement (**MTA**) is a **document** that can be used when a **researcher** wants to either **send materials** to an **outside party** or **receive materials** from an outside party.
- MTAs define the rights and responsibilities of both the providing and receiving party regarding issues such as permitted use, ownership, publication, intellectual property, and liability (a contract).



Bilateral agreements: Science for diplomacy or effective framework conditions?

- The normal bilateral relations in science are children of foreign policy
- With mostly small budgets and modest ambitions
- What is the aggregate impact of this?
- Do we need a more effective approach to tackle the grand challenges of our time?
- Do we need a new approach to protect the global commons?
 - (Smith, K.: Innovating for the global commons, 2017)



Cooperative approaches

- Expanded external policy dialogues between countries/regions
- Implementation through jointly developed roadmaps
- Better coordination of research funding
- Support to a few global strategic partnerships for research coordination and capacity building
- Support to internationally oriented European Lead Initiatives



Multilateral options?

- Opening up bilateral programs
- Shared institutional solutions
- Expanded mobility
- Global innovation policy based on coherence, standards, IPR  Level playing field
- Multilateral regulations on global challenges that spur STI cooperation: Expanded multilateral funding
- Greater exploitation of variable geometry
- Learn from large-scale platforms



Challenges

- Increasing importance of STI international collaboration
 - But are the national frameworks and funding resources appropriate?
- Reducing transaction costs and barriers
 - But raising them for unethical or otherwise problematic situations
- Sharing benefits: Visibility, impact and innovation
- From national to global «missions»
- Aligning and linking national roadmaps



The way forward

- Dedicated framework conditions
- National frameworks and rules of the game
- Institutional solutions (joint centres, infrastructures)
- Viable cross-national networks and mobility
- Pooling of funding
- Data sharing and open access
- International/multilateral treaties and agreements (Nagoya, Montreal protocols ...)
- **Critical mass and momentum**



Many thanks for your attention!

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