



Science Policy Research and Advice in CASISD

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Outline

- I. Evolution of Institutes of Science and Development of CAS**
- II. Science Advice on National Innovation-driven Development**
- III. Some Advice for Promoting Sino-German S&T Cooperation**

Chinese Academy of Sciences

CAS Academic Division Presidium

Special Committees

- Consultation and Evaluation Committee
- Enforcement of Scientific Ethic Committee
- Academic Works and Publications Committee
- Science Popularization and Education Committee

Academic Divisions

- Division of Mathematics and Physics
- Division of Chemistry
- Division of Life Sciences and Medicine
- Division of Earth Sciences
- Division of Information Technological Sciences
- Division of Technological Sciences

Administrative Bureaus

Research Institutions (100+)

- Institute of Physics
- Institute of Chemistry
-
- **CASISD/CASIPM**

University of CAS
USTC

Information Center / Library

Enterprises

CAS has the function of think-tank in the fields of S&T and Engineering S&T, to provide science advices to Central government.

Mechanism of Science Advice to Government

Academies

Research Funding agencies

NSF/ERC/NFSC/JST/DFG...

IGFA Belmont Forum

GRC

Institutions for Policy Research

FhGISI

CASISD

NISTEP

MIOIR

SPRU

STEPI

KISTEP

Rathenau

CASTeD

**Learned Bodies
Societies**

I. Evolution of Institutes of Science and Development of CAS

1. To establish CASISD (non-legal entity) in Feb. 2015 to build high level S&T think tank.
 2. To restructure CASISD (legal entity) by **renaming the CASIPM in Jan. 2016 so as to implement National Top Think Tank Construction Pilot Program**".
- Mission Change: From Think tank-oriented **Research Institute** to Research-based **Think Tank**

Institute of Policy and Management of CAS

1. S&T Development Strategy & Policy
 2. Innovation Development Policy & Management
 3. Sustainable Development Strategy & Policy
 4. Public Security & Emergency Management
- 12 Research Divisions.
5 tasks-oriented CAS Research Centers.

Institutes of Science and Development of CAS

1. Decision-making advisory for top authorities
2. S&T development Strategy and
3. Innovation Development Policy,
4. Eco-Civilization and sustainable development
5. Key S&T issues of national E&S&S development
6. Science advices with systematic solutions

Research Units + Research Support Units + Decision-making Service Units

Institute of Policy and Management of Chinese Academy of Sciences (CASIPM) established in June 1985

I. Evolution of Institutes of Science and Development of CAS

CAS



Academic Committee

CASIPM

Academic Degree Committee

Administrative Department

5 CAS Research Centers

Supporting System

4 Research Departments

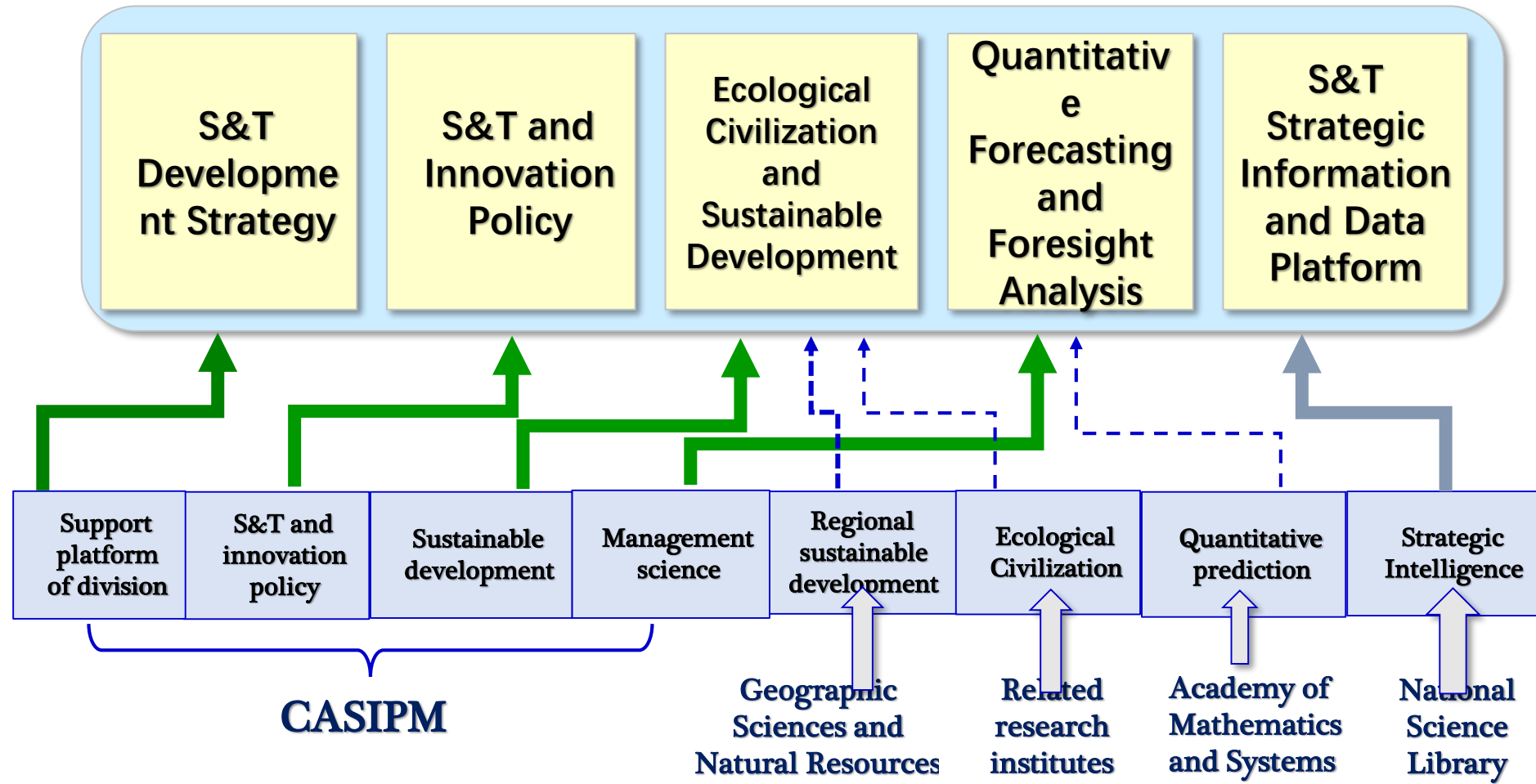
Journals & Associations

**12 Research Divisions
7 Research Centers**

1. S&T Development
2. Innovation Development
3. Sustainable Development
4. Public Security & Managet.

School of Public Policy and Management of CAS University

Integration of High Quality Resources across CAS



Institutes of Science and Development of CAS in 2015

Research fields and directions

S&T Development Strategy

- S&T Roadmap, Scientific outlook and Technology foresight, S&T system and mechanisms, S&T evaluation, etc.

S&T and Innovation Policy

- Theories and methodologies of innovation development, Industry and entrepreneur policy, Regional innovation, IP management, etc.

Sustainable Development Strategy

- Ecological-Civilization theory, Sustainable development strategy and policy, Energy and climate change, National spatial planning, etc.

System Analysis and Management

- Quantitative forecasting methods and policy simulation, System analysis method, Big data management decision, etc.

S&T Strategic Information and Data Platform

- Tracking international S&T strategy and trends, Analyzing the trend of technology frontier, Building shared data platform, etc.

CAS Science and Technology Think Tank Council

CASISD Research Layout

Advisory Committee

Academic Committee

Decision-making Service Unit

- ✓ Department of Major Task Integration
- ✓ China Innovation Strategy and Policy Research Center
- ✓ Department of Think Tank Development Research

Research Support Unit

- CASAD comprehensive research support centers**
- ✓ CASAD Support Center for Consulting Research
 - ✓ CASAD Support Center for Disciplinary Research
 - ✓ CASAD Support Center for Scientific Norms and Ethics Research
 - ✓ CASAD Support Center for Science Popularization and Education Research
 - ✓ CASAD Department of Research Integration
- CAS research support center**
- ✓ Third-Party Support Center for Evaluation Research

- ✓ Talent Research Center
- ✓ CAS Innovation and Development Research Center

Research Unit

- ✓ Institute of Science & Technology Development Strategy
- ✓ Institute of Innovation Development Policy
- ✓ Institute of Sustainable Development Strategy
- ✓ Institute of System Analysis and Management
- ✓ Institute of Science & Technology Strategic Information
- ✓ Institute (Center) of Industry Science & Technology Innovation

- ✓ Center for Carbon Neutrality Strategy
- ✓ China High-tech Zone Research Center
- ✓ Hua Luogeng Laboratory (under construction)

Science organizations

- ✓ Chinese Association of Science of Science and S&T Policy Research
- ✓ Chinese Society of Optimization, Overall Planning and Economical Mathematics
- ✓ China Association of Development Strategy Studies
- ✓ China Science Center of International Eurasian Academy of Sciences (to be integrated)

Education and communication section

- ✓ School of Public Policy and Management jointly established with the University of the Chinese Academy of Sciences
- ✓ Center for Information Network and Communication
- ✓ Bulletin of the Chinese Academy of Sciences (Chinese and English editions)
- ✓ Chinese Journal of Management Science
- ✓ Science Research Management
- ✓ Studies in Science of Science, etc.

Cross-disciplinary Committee of Senior Researchers

Integrated Support Center Committee of Senior Researchers

5 Institute Committees of Senior Researchers

Matrix networked model

Main Research Outputs

Decision Advisory Reports

National Top Think Tank Pilot Report

Monthly Express

Science & Technology Frontiers, Monthly Dynamic Report, Science & Technology Policy and Advisory Express

Annual Reports

Science Development Report, High Technology Development Report, China Sustainable Development Report, Research Frontiers

Medium & Long-term Research Series

'Vision 2050: China and the World' research series on science & technology development road maps and foresight on specific field

Special Research Reports

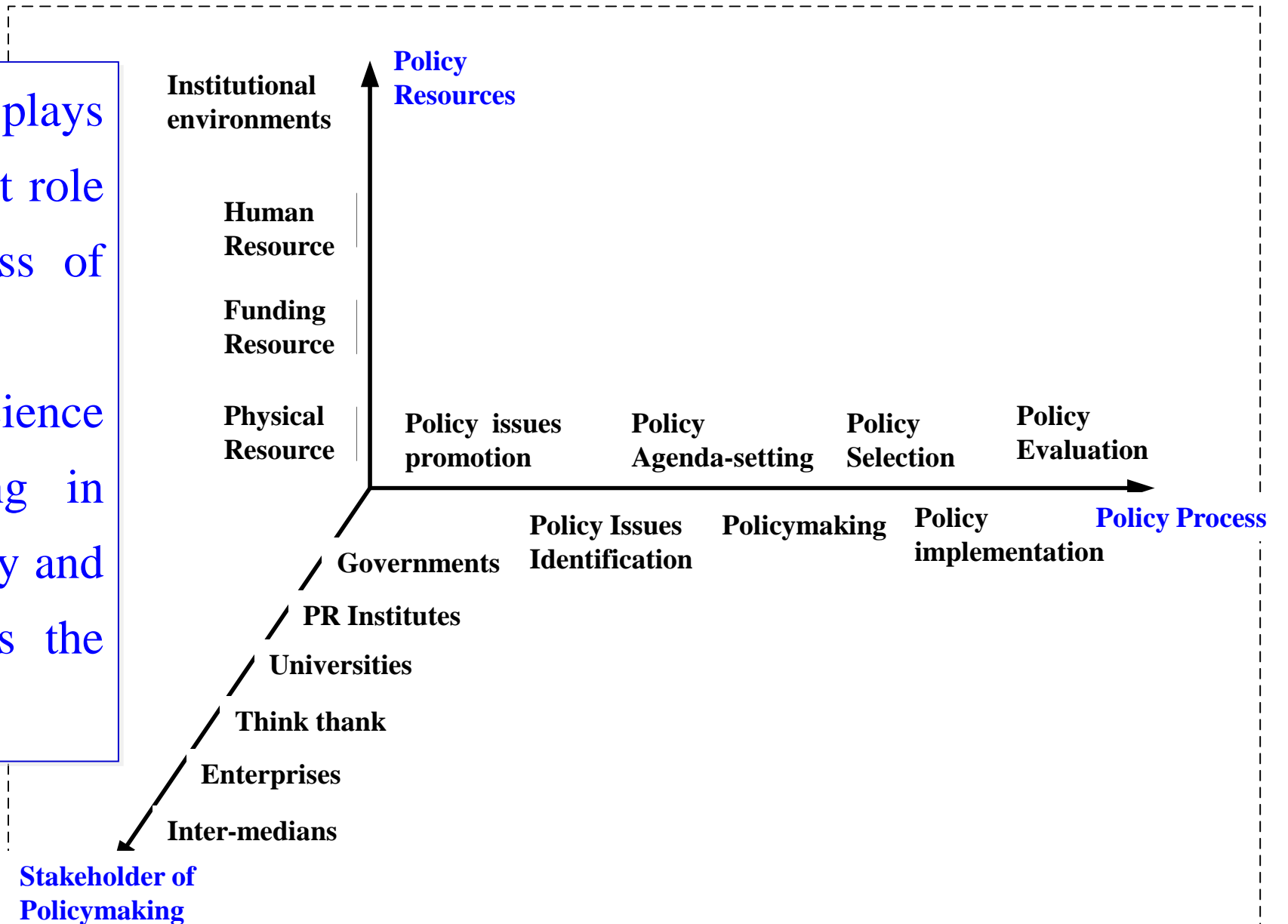
Research on International Science and Technology Competiveness, Green Design, Research on Biosafety Development, Mapping Science Structure

Forming strategic partnership and concluding more than **20 cooperation agreements** with well-known universities and institutions, Joining hands with Fraunhofer ISI and University of Vaasa in setting up a China- German and China-Finland Center for S&T and Innovation Cooperation

II. Science Advice on National Innovation-driven Development

Science advice plays special and important role in the whole process of policymaking.

Demands for Science advice are changing in terms of methodology and expertise as well as the capacity/capability



II. Science Advice on National Innovation-driven Development

CASIPM and CASCID

- (1) The “Outline of Medium and Long Term Plan for National Science & Technology Development (2006-2020)” .**
- (2) The 12th FYP for National Innovation Capacity-building**
- (3) The 12th FYP for National Strategic Emerging Industries Development (13th and 14th)**
- (4) The Medium and Long Term Plan for National Major S&T Infrastructure Construction (2012-2030)**
- (5) The “Outline of Medium and Long Term Plan for National Science & Technology Development (2021-2035)”**

II. Science Advice on National Innovation-driven Development

CASISD has played its role as a comprehensive and integrated platform for building a national high-end think tank in science and technology. Serving the CPC Central Committee, the State Council and CAS, it has produced a number of important think tank research results, which provide powerful support for the national macroeconomic decision-making and effective support for CAS innovative development.

Apart from the remarkable contributions to the pilot program of building national top think tanks, CASISD's significantly enhanced influence in decision-making, academic, social and international spheres has been recognized by the Council of National Top Think Tanks, relevant decision makers, CAS, domestic and foreign partners, and the public.

II. Science Advice on National Innovation-driven Development

Targeting the goal of building a top think tank and centering on the major needs of the country, CASISD has carried out research activities with the focus on high-level decision consulting, oriented to major outputs serving macro policy-making, leading innovation, and developing theories and methods

CASISD has undertaken a number of key projects deployed by the Council of National Top Think Tanks and research projects assigned by the departments related to high level decision-making, prospectively launched an array of research projects on science & technology frontiers for future development, and carried out lots of local decision-making consulting projects

III. Some Advice for Promoting Sino-German S&T Cooperation

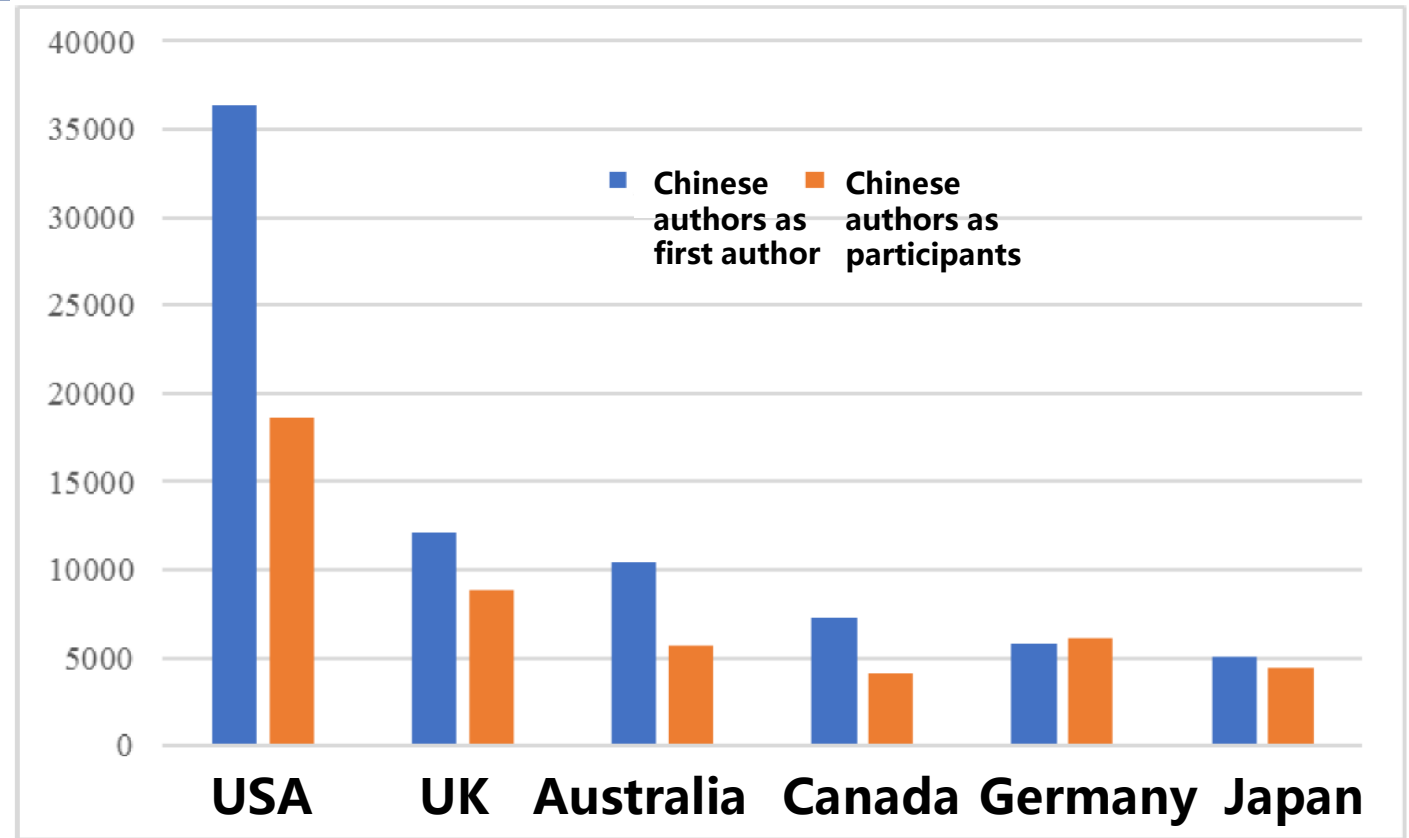


MOST and BMBF jointly held events in Beijing to celebrate the 30th anniversary of the inter-governmental agreement on ST cooperation between PRC and BRD

III. Some Advice for Promoting Sino-German S&T Cooperation

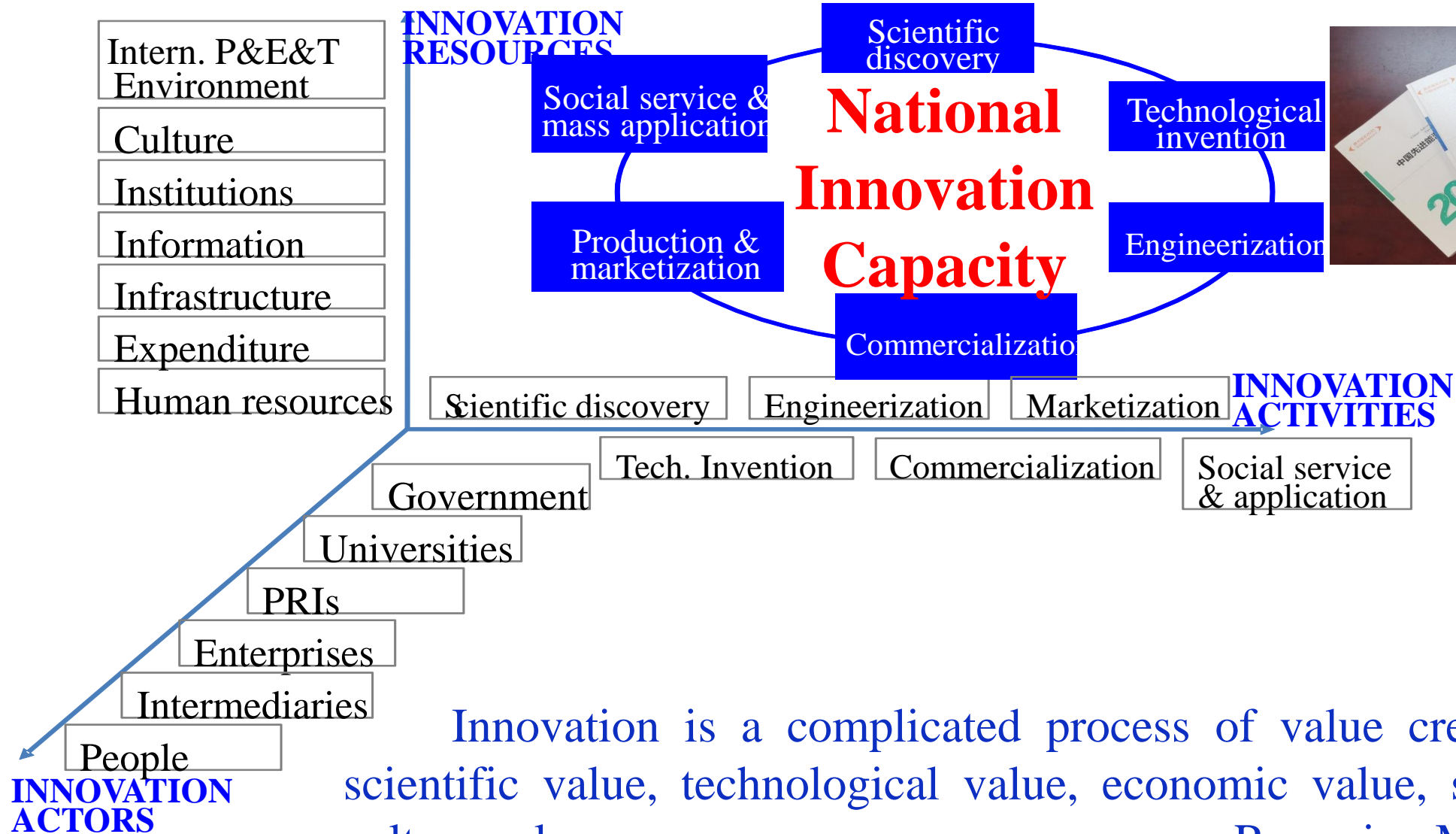
Sino-German S&T cooperation is mutually beneficial

- In 2021, there were 101,951 international co-authored SCI papers with Chinese authors as the first authors, among which **5,792** were co-authored with Germany, ranking fifth in all countries.
- There were 47,298 international co-authored SCI papers with lead author from other countries and Chinese authors as participants, among which **6,148** were co-authored with Germany, ranking third in all countries.



Ranking of co-authored papers produced by Chinese authors as first author or as participants

III. Some Advice for Promoting Sino-German S&T Cooperation



Innovation is a complicated process of value creation, including: scientific value, technological value, economic value, social value, and culture value.

-----Rongping Mu2009

III. Some Advice for Promoting Sino-German S&T Cooperation

1. To strengthen cooperation with the **Helmholtz Association** in the areas such as climate change, life science and healthcare, space science, new energy, new materials, and to promote scientific research cooperation based on large science facilities such as free-electron laser.
2. To strengthen **CAS-Helmholtz** cooperation on construction of large science facilities and related joint laboratories so as to providing physical infrastructure for launching jointly international major scientific programs or projects.
3. To strengthen CAS-Helmholtz cooperation on Science Advice for SDG
4. To strengthen cooperation with the **Max Planck Society** in basic research in the fields of resource environment, life and health, and material science.
5. To strengthen cooperation with the **Fraunhofer-Gesellschaft** in **Applied Basic Research**.



Thank you for your attention!
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